

Annual Report July 2009 – June 2010





www.oregonmetro.gov

Transit-Oriented Development Program

The year in review

In a year when private development activity was at a virtual standstill, real estate values were falling and construction financing was unavailable, the Transit-Oriented Development Program continued to build and fund projects, providing a much needed stimulus to the regional economy. TOD projects completed or under construction in the fiscal year 2009-10 leveraged \$42 million in development investments in eight urban centers around the Portland metropolitan area.

The successful completion and opening of four new TOD projects over the past year has helped create more vibrant, walkable communities by adding 225 new residential units and 48,700 square feet of retail, restaurant and community space. Construction is currently underway on 48 apartments for income-restricted seniors and a new light rail station connecting a neighborhood to transit and other regional centers. Funding was approved for two new projects: dormitory housing for 900 students attending Portland State University and 90 workforce housing units in a mixed-use development on the edge of Northwest Portland's industrial area.

The TOD program continues to seek new development partners and work closely with developers of approved TOD projects that were impacted by the collapse of financial markets in 2008. Two projects were formally canceled after the developers withdrew. In this economic climate, substantial public or institutional investment has been essential to move projects forward. In response, the TOD program is partnering more often with other public and non-profit agencies to meet the financing needs for new projects. A TOD program strategic plan is currently being prepared to guide the cost-effective allocation of limited TOD funding. Existing conditions and development economics are being evaluated to develop a system-wide TOD station and corridor typology. This will clarify the types of investments that can most effectively help realize each jurisdiction's local aspirations for these areas. It is anticipated the TOD strategic plan will be completed in fall 2010.

FY 2009-2010

Projects opened	Construction starts
3rd Central	The Knoll
Gresham	Tigard
bside 6	Northwest Civic
Portland	Drive MAX station
Russellville Park Portland	Gresham 3rd Central retail Gresham
Town Center Station Clackamas County	Projects approved
Land acquisitions	Pettygrove
TriMet right of way	Portland
Gresham	College Station

Portland



Program accomplishments

Projects completed

2000

Buckman Terrace Center Commons

2002

Russellville Park I and II Villa Capri West

2004

Central Point

2005 The Merrick

2006

North Flint North Main Village The Crossings

2007

Nexus Pacific University The Beranger The Rocket The Watershed

2009

3rd Central Broadway Vantage bside 6 Patton Park Russellville Park III

2010

Town Center Station

Results 543,000 trips

Transit-oriented development increases transit use by creating places for people to live and work within walking distance of high quality transit. Each year, over half a million more travel trips are made by transit, rather than by car, as a result of projects built with TOD program funding.

2,091 units

TOD projects increase housing choice and affordability by attracting compact residential development near transit and walkable urban centers. The 2,100 housing units constructed to date serve a diverse range of households: 531 units are restricted for households earning up to 60 percent of the area median family income; and 703 of the market rate units are affordable to households earning up to 80 percent of the area median family income.

247,543 square feet

Well-designed, mixed-use buildings with retail, restaurants and offices contribute to placemaking by generating more pedestrian activity, strengthening the customer base, and introducing amenities for urban living. Mixed-use TOD projects completed to date include 106,806 square feet of retail and 140,737 square feet of office space.

\$312,778,391 leveraged

Metro's TOD program stimulates private and public investment by helping to offset the higher costs of compact development. The 20 TOD projects completed to date have leveraged more than \$300 million in total development activity.

Hillsboro Main Street Villa Capri West Pacific University

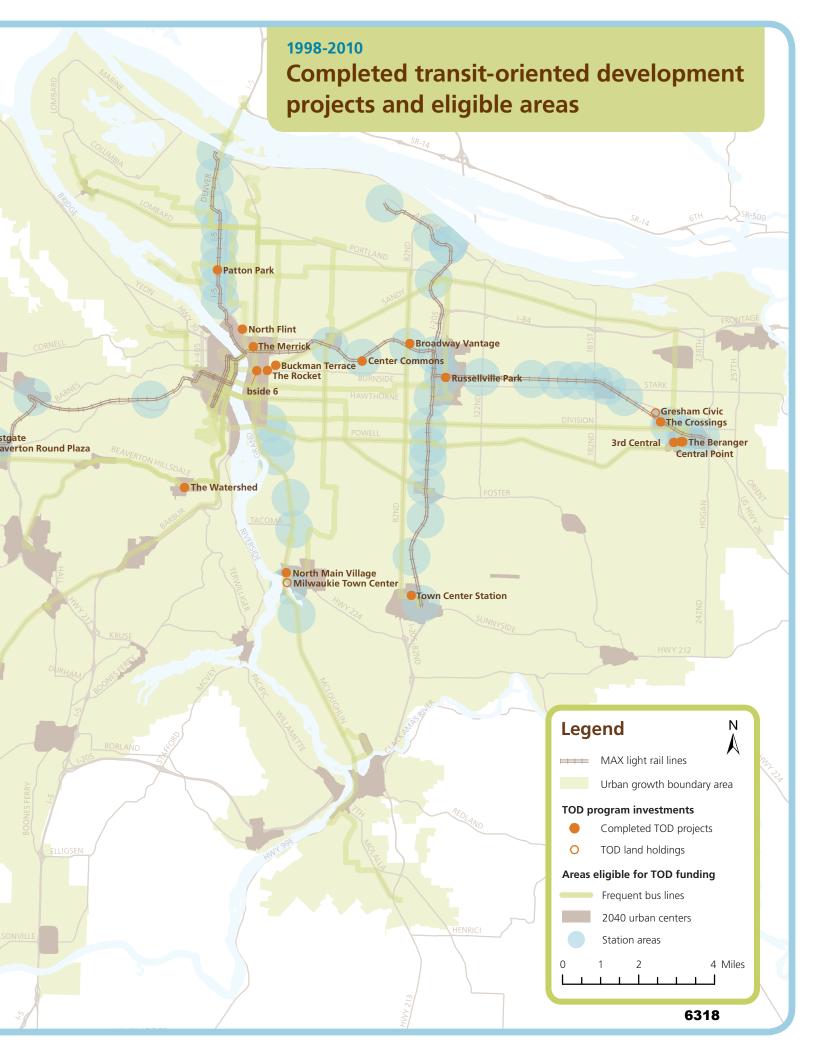
The Nexus

We

322 acres protected

TOD projects completed to date required a total of only 44 acres. If developed conventionally, they would have used 366 acres. Compact development helps preserve farms and forestland.







Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

Your Metro representatives

Metro Council President David Bragdon

Metro Councilors

Rod Park, District 1 Carlotta Collette, District 2 Carl Hosticka, District 3 Kathryn Harrington, District 4 Rex Burkholder, District 5 Robert Liberty, District 6

Auditor

Suzanne Flynn

For more information, call 503-797-1757 or visit www.oregonmetro.gov/tod

Printed on recycled content paper. 10186 Aug. 2010



"I chose 3rd Central Apartments after living in a home with a yard for 30 years. The proximity of everything I need within walking distance of my front door makes this feel like a safe and livable neighborhood."

"From when the Town Center Station project broke ground in

the summer of 2009 to its completion, I estimate more than 300

subcontractors and suppliers were used, with 50 percent of those

John Jones, resident 3rd Central Apartments, Gresham

hired from the Portland area."



Curt Meili Co-owner, Meili Construction Company "Now is the time to be focusing on projects that capitalize on the



transit investments we have all made as taxpayers. More than ever, we need innovative and cost effective space where businesses and people can thrive."

Corey V. Martin Owner, PATH Architecture Inc.

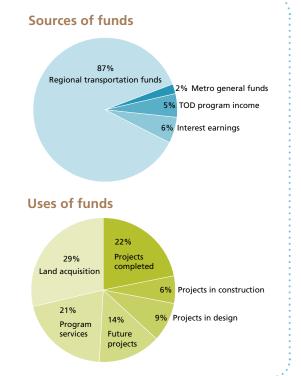


Recent research finds that in comparison to typical suburban development, compact suburban development reduces vehicle miles traveled by 20 percent and urban development reduces VMT by up to 60 percent. As the amount and quality of compact development increases, the reduction in VMT accelerates, resulting in a permanent reduction in greenhouse gas emissions.

Land Use and Driving: The role compact development can play in reducing greenhouse gas emissions Urban Land Institute, 2010

Program financing

Over the twelve years since the TOD program's inception in 1998, program financing has totaled \$29.2 million cumulatively. Regional partners have allocated federal transportation funds to support the TOD program as part of the Metropolitan Transportation Improvement Program planning process. MTIP funds, currently \$2.9 million annually, are then exchanged to provide local funding for project investments and program operations. Historically, other funding sources have included direct federal transportation grants, income from property transactions, interest earnings and Metro general funds.



Travel and the Built Environment

A Meta-Analysis

Reid Ewing and Robert Cervero

Problem: Localities and states are turning to land planning and urban design for help in reducing automobile use and related social and environmental costs. The effects of such strategies on travel demand have not been generalized in recent years from the multitude of available studies.

Purpose: We conducted a meta-analysis of the built environment-travel literature existing at the end of 2009 in order to draw generalizable conclusions for practice. We aimed to quantify effect sizes, update earlier work, include additional outcome measures, and address the methodological issue of self-selection.

Methods: We computed elasticities for individual studies and pooled them to produce weighted averages.

Results and conclusions: Travel variables are generally inelastic with respect to change in measures of the built environment. Of the environmental variables considered here, none has a weighted average travel elasticity of absolute magnitude greater than 0.39, and most are much less. Still, the combined effect of several such variables on travel could be quite large. Consistent with prior work, we find that vehicle miles traveled (VMT) is most strongly related to measures of accessibility to destinations and secondarily to street network design variables. Walking is most strongly related to measures of land use diversity, intersection density, and the number of destinations within walking

Some of today's most vexing problems, including sprawl, congestion, oil dependence, and climate change, are prompting states and localities to turn to land planning and urban design to rein in automobile use. Many have concluded that roads cannot be built fast enough to keep up with rising travel demand induced by the road building itself and the sprawl it spawns.

The purpose of this meta-analysis is to summarize empirical results on associations between the built environment and travel, especially nonwork

distance. Bus and train use are equally related to proximity to transit and street network design variables, with land use diversity a secondary factor. Surprisingly, we find population and job densities to be only weakly associated with travel behavior once these other variables are controlled.

Takeaway for practice: The elasticities we derived in this meta-analysis may be used to adjust outputs of travel or activity models that are otherwise insensitive to variation in the built environment, or be used in sketch planning applications ranging from climate action plans to health impact assessments. However, because sample sizes are small, and very few studies control for residential preferences and attitudes, we cannot say that planners should generalize broadly from our results. While these elasticities are as accurate as currently possible, they should be understood to contain unknown error and have unknown confidence intervals. They provide a base, and as more builtenvironment/travel studies appear in the planning literature, these elasticities should be updated and refined.

Keywords: vehicle miles traveled (VMT), walking, transit, built environment, effect sizes

265

Research support: U.S. Environmental Protection Agency.

About the authors:

Reid Ewing (ewing@arch.utah.edu) is professor of city and metropolitan planning at the University of Utah, associate editor of the Journal of the American Planning Association, columnist for Planning magazine, and fellow of the Urban Land Institute. Robert Cervero (robertc@berkeley.edu) is professor of city and regional planning at the University of California, Berkeley, director of the University of California Transportation Center, and interim director of the Institute of Urban and Regional Development.

Journal of the American Planning Association, Vol. 76, No. 3, Summer 2010 DOI 10.1080/01944361003766766 © American Planning Association, Chicago, IL.

travel. A number of studies, including Boarnet and Crane (2001), Cao, Mokhtarian, and Handy (2009b), Cervero (2002a), Cervero and Kockelman (1997), Crane (1996), Kockelman (1997), and Zhang (2004), provide economic and behavioral explanations of why built environments might be expected to influence travel choices. We do not repeat them here, focusing instead on measuring the magnitude of such relationships. We aim to quantify effect sizes while also updating earlier work, including walking and transit use as outcome measures, and addressing the methodological issue of self-selection.

Little work on this topic to date has generalized across studies or helped make sense of differing results. Without this, readers have glimpses of many trees rather than a panoramic view of this complex and rich forest of research. We authored one previous attempt, a literature review (Ewing & Cervero, 2001), in which we derived composite elasticities by informal inspection, an inherently imprecise process. The current meta-analysis, by contrast, is a more systematic way to combine information from many studies, arriving at weighted averages as bottom lines.

There are now more than 200 built-environment/ travel studies, of which most were completed since our 2001 review.¹ Compared to earlier studies, the newer ones have estimated effects of more environmental variables simultaneously (expanding beyond density, diversity, design, and destinations, to include distance to transit), controlled for more confounding influences (including traveler attitudes and residential self-selection), and used more sophisticated statistical methods. In response to the U.S. obesity epidemic, the public health literature has begun to link walking to dimensions of the built environment. The first international studies have appeared using research designs similar to those of U.S. studies. This collective and enlarged body of research provides a substantial database for a meta-analysis.

The transportation outcomes we studied in 2001, vehicle miles traveled (VMT) and vehicle trips (VT), are critically linked to traffic safety, air quality, energy consumption, climate change, and other social costs of automobile use. However, they are not the only outcomes of interest. Walking and transit use have implications for mobility, livability, social justice, and public health. The health benefits of walking, in particular, are widely recognized (Badland & Schofield, 2005; Cunningham & Michael, 2004; Frank, 2000; Frank & Engelke, 2001; Humpel, Owen, & Leslie, 2002; Kahn, Ramsey, Brownson, Heath, & Howze, 2002; Krahnstoever-Davison & Lawson, 2006; Lee & Moudon, 2004; McCormack, Giles-Corti, Lange, Smith, Martin, & Pikora, 2004; Owen, Humpel, Leslie, Bauman, & Sallis, 2004; Saelens & Handy, 2008; Transportation Research Board & Institute of Medicine Committee on Physical Activity, Health, Transportation, and Land Use, 2005; Trost, Owen, Bauman, Sallis, & Brown, 2002). Transit use is less obviously related to public health, but is still classified as active travel since it almost always requires a walk at one or both ends of the trip (Besser & Dannenberg, 2005; Edwards, 2008; Zheng, 2008). So, to VMT we add walking and transit use as outcomes of interest.²

More than anything else, the possibility of selfselection bias has engendered doubt about the magnitude of travel benefits associated with compact urban development patterns. According to a National Research Council report (Transportation Research Board & Institute of Medicine Committee on Physical Activity, Health, Transportation, and Land Use, 2005), "If researchers do not properly account for the choice of neighborhood, their empirical results will be biased in the sense that features of the built environment may appear to influence activity more than they in fact do. (Indeed, this single potential source of statistical bias casts doubt on the majority of studies on the topic to date...)" (pp. 134–135).

At least 38 studies using nine different research approaches have attempted to control for residential selfselection (Cao, Mokhtarian, & Handy, 2009a; Mokhtarian & Cao, 2008). Nearly all of them found "resounding" evidence of statistically significant associations between the built environment and travel behavior, independent of self-selection influences (Cao, Mokhtarian, et al. 2009a, p. 389). However, nearly all of them also found that residential self-selection attenuates the effects of the built environment on travel.

Using travel diary data from the New York/New Jersey/Connecticut regional travel survey, Salon (2006) concluded that the built environment accounted for one half to two thirds of the difference in walking levels associated with changes in population density in most areas of New York City. Using travel diary data from the Austin travel survey, Zhou and Kockelman (2008) found that the built environment accounted for 58% to 90% of the total influence of residential location on VMT, depending on model specifications. Using travel diary data from northern California, Cao (2010) reported that, on average, neighborhood type accounted for 61% of the observed effect of the built environment on utilitatian walking frequency and 86% of the total effect on recreational walking frequency. Using data from a regional travel diary survey in Raleigh, NC, Cao, Xu, and Fan (2009) estimated that anywhere from 48% to 98%³ of the difference in vehicle miles driven was due to direct environmental influences, the balance being due to self-selection. Using data from the 2000 San

Francisco Bay Area travel survey, Bhat and Eluru (2009) found that 87% of the VMT difference between households residing in conventional suburban and traditional urban neighborhoods is due to "true" built environment effects, while the remainder is due to residential selfselection. So, while the environment seems to play a more important role in travel behavior than do attitudes and residential preferences, both effects are present.

The D Variables as Measures of the Built Environment

The potential to moderate travel demand by changing the built environment is the most heavily researched subject in urban planning. In travel research, such influences have often been named with words beginning with D. The original "three Ds," coined by Cervero and Kockelman (1997), are density, diversity, and design, followed later by destination accessibility and distance to transit (Ewing & Cervero, 2001; Ewing et al., 2009). Demand management, including parking supply and cost, is a sixth D, included in a few studies. While not part of the environment, demographics are the seventh D, controlled as confounding influences in travel studies.

Density is always measured as the variable of interest per unit of area. The area can be gross or net, and the variable of interest can be population, dwelling units, employment, building floor area, or something else. Population and employment are sometimes summed to compute an overall *activity density* per areal unit.

Diversity measures pertain to the number of different land uses in a given area and the degree to which they are represented in land area, floor area, or employment. Entropy measures of diversity, wherein low values indicate single-use environments and higher values more varied land uses; are widely used in travel studies. Jobsto-housing or jobs-to-population ratios are less frequently used.

Design includes street network characteristics within an area. Street networks vary from dense urban grids of highly interconnected, straight streets to sparse suburban networks of curving streets forming loops and lollipops. Measures include average block size, proportion of fourway intersections, and number of intersections per square mile. Design is also occasionally measured as sidewalk coverage (share of block faces with sidewalks); average building setbacks; average street widths; or numbers of pedestrian crossings, street trees, or other physical variables that differentiate pedestrian-oriented environments from auto-oriented ones. Destination accessibility measures ease of access to trip attractions. It may be regional or local (Handy, 1993). In some studies, regional accessibility is simply distance to the central business district. In others, it is the number of jobs or other attractions reachable within a given travel time, which tends to be highest at central locations and lowest at peripheral ones. The gravity model of trip attraction measures destination accessibility. Local accessibility is different, defined by Handy (1993) as distance from home to

Distance to transit is usually measured as an average of the shortest street routes from the residences or workplaces in an area to the nearest rail station or bus stop. Alternatively, it may be measured as transit route density,⁴ distance between transit stops, or the number of stations per unit area.

Note that these are rough categories, divided by ambiguous and unsettled boundaries that may change in the future. Some dimensions overlap (e.g., diversity and destination accessibility). We still find it useful to use the D variables to organize the empirical literature and provide order-of-magnitude insights.

Literature

the closest store.

Qualitative Reviews

There are at least 12 surveys of the literature on the built environment and travel (Badoe & Miller, 2000; Cao, Mokhtarian, et al., 2009a; Cervero, 2003; Crane, 2000; Ewing & Cervero, 2001; Handy, 2004; Heath, Brownson, Kruger, Miles, Powell, Ramsey, & the Task Force on Community Preventive Services, 2006; McMillan, 2005, 2007; Pont, Ziviani, Wadley, Bennet, & Bennet, 2009; Saelens, Sallis, & Frank, 2003; Stead & Marshall, 2001). There are 13 other surveys of the literature on the built environment and physical activity, including walking and bicycling (Badland & Schofield, 2005; Cunningham & Michael, 2004; Frank, 2000; Frank & Engelke, 2001; Humpel et al., 2002; Kahn et al., 2002; Krahnstoever-Davison & Lawson, 2006; Lee & Moudon, 2004; McCormack et al., 2004; Owen et al., 2004; Saelens & Handy, 2008; Transportation Research Board & Institute of Medicine Committee on Physical Activity, Health, Transportation, and Land Use, 2005; Trost et al., 2002). There is considerable overlap among these reviews, particularly where they share authorship. The literature is now so vast it has produced two reviews of the many reviews (Bauman & Bull, 2007; Gebel, Bauman, & Petticrew, 2007).

From our earlier review (Ewing & Cervero, 2001), the most common travel outcomes modeled are trip frequency,

trip length, mode choice, and VMT (as a composite measure of travel demand). Hence, we can describe measured associations between D variables and these outcomes with more confidence than we could for outcomes studied less often, like trip chaining in multipurpose tours or internal capture of trips within mixed use developments.

Our earlier review (Ewing & Cervero, 2001) held that trip frequency is primarily a function of socioeconomic characteristics of travelers and secondarily a function of the built environment; trip length is primarily a function of the built environment and secondarily of socioeconomic characteristics; and mode choice depends on both, although probably more on socioeconomics. VMT and vehicle hours of travel (VHT) also depend on both. Trip lengths are generally shorter at locations that are more accessible, have higher densities, or feature mixed uses. This holds true both when comparing home-based trips from different residential neighborhoods and trips to nonhome destinations in different activity centers. Destination accessibility is the dominant environmental influence on trip length. Transit use varies primarily with local densities and secondarily with the degree of land use mixing. Some of the density effect is, no doubt, due to better walking conditions, shorter distances to transit service, and less free parking. Walking varies as much with the degree of land use mixing as with local densities.

The third D, design, has a more ambiguous relationship to travel behavior than the first two. Any effect is likely to be a collective one involving multiple design features. It also may be an interactive effect with other D variables. This is the idea behind composite measures such as Portland, Oregon's urban design factor, which is a function of intersection density, residential density, and employment density.

Our Earlier Quantitative Synthesis

Using 14 travel studies that included sociodemographic controls, we previously synthesized the literature on the elasticities of VMT and VT with respect to density, diversity, design, and destination accessibility (Ewing & Cervero, 2001). The U.S. Environmental Protection Agency (EPA) incorporated these summary measures into its Smart Growth Index (SGI) model, a widely used sketch-planning tool for travel and air quality analysis. The SGI model measures density as residents plus jobs per square mile; diversity as the ratio of jobs to residents divided by the regional average of that ratio; and design as street network density, sidewalk coverage, and route directness (road distance divided by direct distance). Two of these three measures relate to street network design. Our 2001 study (Ewing & Cervero, 2001) suggested, for example, that a doubling of neighborhood density would reduce both per capita VT and VMT by approximately 5%, all else being equal. We also concluded that VMT was more elastic with respect to destination accessibility than the other three built environmental measures, meaning that highly accessible areas such as center cities produce substantially lower VMT than dense mixed-use developments in the exurbs. However, as noted earlier, our 2001 study relied on only 14 studies, and the elasticities were imprecise, some obtained by aggregating results for dissimilar environmental variables (e.g., local diversity measured as both entropy and jobs-housing balance). In this update, we compute weighted averages of results from a larger number of studies, and use more uniformly defined built-environmental variables.

Meta-Analyses in Planning

Unlike traditional research methods, meta-analysis uses summary statistics from individual primary studies as the data points in a new analysis. This approach has both advantages and disadvantages for validity and reliability, as every standard textbook on meta-analysis explains (Borenstein, Hedges, Higgins, & Rothstein, 2009; Hunter & Schmidt, 2004; Lipsey & Wilson, 2001; Littell, Corcoran, & Pillai, 2008; Lyons, 2003 Schulze, 2004).

The main advantage of meta-analysis is that it aggregates all available research on a topic, allowing common threads to emerge. The pooling of samples in a carefully constructed meta-analysis also makes its results more generalizable than those of the smaller primary studies on which it is based. But meta-analysis has drawbacks too. Combining stronger studies with weaker ones may contaminate the results of the former. Further, meta-analysis inevitably mixes apples and oranges due to the variation among studies in modeling techniques, independent and dependent variables, and sampling units. If we compare only very similar studies, sample sizes can become small, threatening statistical reliability, a problem that we admit characterizes some of the subcategories for which we present results in this article. Last, the studies for a metaanalysis are usually chosen from the published literature. This can result in *publication bias*, since studies that show statistical significance are more likely to be published (Rothstein, Sutton, & Borenstein, 2005). Publication bias may inflate the absolute size of the effects estimated with a meta-analysis.

Addressing these potential weaknesses involves tradeoffs. We sought to minimize publication bias in this metaanalysis by searching for unpublished reports, preprints, and white papers, as well as published articles. Online searches using Google Scholar and the Transportation

Research Information Service (TRIS) were particularly helpful in this regard. We sought to minimize the apples-and-oranges problem by focusing on a subset of studies that employed disaggregate data and comparably defined variables. Yet, our efforts to avoid publication bias may have exacerbated the strong-weak study problem, and our efforts to achieve greater construct validity by segmenting the analysis into subgroups sharing comparably defined dependent and independent variables produced small sample sizes.

More than a dozen studies have applied meta-analytical methods to the urban planning field (Babisch, 2008; Bartholomew & Ewing, 2008; Bunn, Collier, Frost, Ker, Roberts, & Wentz, 2003; Button & Kerr, 1996; Button & Nijkamp, 1997; Cervero, 2002b; Debrezion, Pels, & Rietveld, 2003; Duncan, Spence, & Mummery, 2005; Graham & Glaister, 2002; Hamer & Chida, 2008; Lauria & Wagner, 2006; Leck, 2006; Nijkamp & Pepping, 1998; Smith & Huang, 1995; Stamps, 1990, 1999; Zhang, 2009). Bartholomew and Ewing (2008) combined results from 23 recent scenario planning studies to calculate the impacts of land-use changes on transportation greenhouse gas emissions. Button and Kerr (1996) explored the implications of urban traffic restraint schemes on congestion levels. Cervero (2002b) synthesized the results of induced travel demand studies. Debrezion et al. (2003) measured the impact of railway stations on residential and commercial property values. Nijkamp and Pepping (1998) analyzed factors critical to the success of sustainable city initiatives. Smith and Huang (1995) calculated the public's willingness to pay for cleaner air. Stamps (1990, 1999) applied meta-analysis to the visual preference literature.

Most relevant to the present study, Leck (2006) identified 40 published studies of the built environment and travel, and selected 17 that met minimum methodological and statistical criteria. While Leck's meta-analysis stopped short of estimating average effect sizes, it did evaluate the statistical significance of relationships between the built environment and travel, finding residential density, employment density, and land use mix to be inversely related to VMT at the p < .001 significance level.

Approach

Sample of Studies

We identified studies linking the built environment to travel using the Academic Search Premier, Google, Google Scholar, MEDLINE, PAIS International, PUBMED, Scopus, TRIS Online, TRANweb, Web of Science, and ISI Web of Knowledge databases using the keywords "built environment," "urban form," and "development," coupled with keywords "travel," "transit," and "walking." We also reviewed the compact discs of the Transportation Research Board's annual programs for relevant papers, contacted all leading researchers in this subject area for copies of their latest research, and put out a call for built-environment/ travel studies on the academic planners' listserv, PLANET. Finally, we examined the bibliographies of the previous literature reviews in this topic area to identify other pertinent studies.

We inspected more than 200 studies that relate, quantitatively, characteristics of the built environment to measures of travel. From the universe of built-environment/ travel studies, we computed effect sizes for the more than 50 studies shown in Table 1. These studies have several things in common. As they analyze effects of the built environment on travel choices, all these studies control statistically for confounding influences on travel behavior, sociodemographic influences in particular. They use different statistical methods because the outcome variables differ from study to study.⁵ All apply statistical tests to determine the significance of the various effects. Almost all are based on sizeable samples, as shown in the appendix tables. Most capture the effects of more than one D variable simultaneously. Most importantly, we selected only studies for which data were available for computing effect sizes.

We left out many quantitative studies for various reasons. Many studies did not publish average values of dependent and independent variables from which point elasticities could be calculated. Although we followed up with authors to try to obtain these descriptive statistics, in many cases the research was several years old and the authors had moved on to other subjects. In a few cases, we could not track the authors down or get them to respond to repeated data requests.

Many studies used highly aggregated city, county, or metropolitan level data (e.g., Newman & Kenworthy, 2006; van de Coevering & Schwanen, 2006). Such studies have limited variance in both dependent and independent variables with which to explain relationships. More importantly, it is inappropriate to make causal and associative inferences about individuals based on results obtained from aggregate data, an error called the *ecological fallacy*. As we would like our elasticities to be suitable for use in models predicting individual behavior, we did not use studies relying on aggregate data.

Several studies used statistical methods from which simple summary effect size measures could not be calculated, including some using structural equation models (SEM) to capture complex interactions among built environment and travel variables (e.g., Bagley & Mokhtarian,

Table 1. Studies included in the sample.

	Study sites	Data	Methods	Controls	Self- selection controlled for
Bento et al., 2003	Nationwide Personal Transportation Survey (114 metropolitan statistical areas)	D	LNR/LGR	SE/LS/OT	no
Bhat & Eluru, 2009	San Francisco Bay Area, CA	D	COP	SE/OT	yes
Bhat, Sen, et al., 2009	San Francisco Bay Area, CA	D	MDC/LGR	SE/OT	no
3hatia, 2004	20 communities in Washington, DC	А	LNR	SE	no
Boarnet et al., 2004	Portland, OR	D	LNR/PRR	SE/OT	no
Boarnet et al., 2008	Portland, OR	D	TOR	SE	yes
Boarnet et al., in press	8 neighborhoods in southern CA	D	NBR	SE	no
Boer et al., 2007	10 U.S. metropolitan areas	D	PSM	SE/WE	no
Cao et al., 2006	6 neighborhoods in Austin, TX	D	NBR	SE/AT	yes
Cao, Mokhtarian, et al., 2009b	8 neighborhoods in northern CA	D	SUR	SE/AT	yes
Cao, Xu, et al., 2009	Raleigh, NC	D	PSM	SE/AT	yes
Cervero, 2002a	Montgomery County, MD	D	LGR	SE/LS	no
Cervero, 2006	225 light rail transit stations in 11 metropolitan areas	Ã	LNR	ST/LS	no
Cervero, 2007	26 TODs in five CA regions	D	LGR	SE/ LS/WP/AT	yes
Cervero & Duncan, 2003	Ŝan Francisco Bay Area, CA	D	LGR	SE/OT	no
Cervero & Duncan, 2006	San Francisco Bay Area, CA	D	LNR	SE/WP	no
Cervero & Kockelman, 1997	50 neighborhoods in the San Francisco Bay Area, CA	D	LNR/LGR	SE/LS	no
Chapman & Frank, 2004	Atlanta, GA	D	LNR	SE	no
Chatman, 2003	Nationwide Personal Transportation Survey	D	TOR	SE/WP	no
Chatman, 2005	San Francisco, CA/San Diego, CA	D	LNR/NBR	SE/LS/OT	no
	San Francisco, CA/San Diego, CA	D	NBR	SE/LS/OT/AT	yes
Chatman, 2009	Palm Beach County/Dade County, FL	D	LNR	SE	no
Ewing et al., 1996	52 mixed use developments in Portland	D	HLM	SE	no
Ewing et al., 2009		D	LNR	SE/LS/OT/AT	
Fan, 2007	Raleigh-Durham, NC	D	LINR	SE/LS	yes no
Frank & Engelke, 2005	Seattle, WA	D	LINK LGR-	SE/LS	
Frank et al., 2008	Scattle, WA		LGR	SE	по
Frank et al., 2009	Seattle, WA	D			no
Greenwald, 2009	Sacramento, CA	D	LNR/TOR/ NBR	3E	no
Greenwald & Boarnet, 2001	Portland, OR	D	OPR	SE/LS	no
Handy & Clifton, 2001	6 neighborhoods in Austin, TX	D	lnr	SE	no
Handy et al., 2006	8 neighborhoods in northern CA	D	NBR	SE/AT	yes
Hedel & Vance, 2007	German Mobility Panel Survey	D	LNR/PRR	SE/OT	no
Hess et al., 1999	12 neighborhood commercial centers in Seattle, WA	A	LNR	SE	no
Holtzclaw et al., 2002	Chicago, IL/Los Angeles, CA/San Francisco, CA	А	NLR	SE	no
Joh et al., 2009	8 neighborhoods in southern CA	D	LNR ·	SE/CR/AT	yes
Khattak & Rodriguez, 2005	2 neighborhoods in Chapel Hill, NC	D	NBR	SE/AT	yes
Kitamura et al., 1997	5 communities in San Francisco, CA region	D	LNR	SE/AT	yes
Kockelman, 1997	San Francisco Bay Area, CA	D ·	LNR/LGR	SE	no
	268 light rail transit stations in nine metropolitan areas		LNR	ST/OT	no
Kuby et al., 2004 Kuztovsk et al., 2006	Baltimore, MD	D	LNR	SE	no
Kuzmyak et al., 2006 Kuzmzek - 2009a		D	LNR	SE .	no
Kuzmyak, 2009a Kuzmyak, 2000b	Los Angeles, CA	D	LNR	SE	no
Kuzmyak, 2009b Las & Maudan, 2006a	Phoenix, AZ Septria WA	D	LGR	SE/LS	
Lee & Moudon, 2006a	Seattle, WA	D	LNR	SE/AT	yes
Lund, 2003	8 neighborhoods in Portland, OR		LINK LGR		yes
Lund et al., 2004	40 TODs in four CA regions	D		SE/LS/WP/AT	yes .
Naess, 2005	29 neighborhoods in Copenhagen, Denmark	D	LNR	SE/WP/AT	yes

Table 1. (continued).

		Study sites	Data	Methods	Controls	Self- selection controlled for
Pickrell & S	chimek, 1999	Nationwide Personal Transportation Survey	D	LNR	SE	по
Plaut, 2005		American Housing Survey	D	LGR	SE/OT	no
ushkar et a	ar et al., 2000 795 zones in Toronto, Ontario, Canada A SLE		SE/LS	no		
Rajamani et	al., 2003	Portland, OR	D	LGR	SE/LS	no
Reilly, 2002		San Francisco, CA	D	LGR	SE/OT	no
-	k Joo, 2004	Chapel Hill, NC	D	LGR	SE/LS/OT	no
Rose, 2004		3 neighborhoods in Portland	D	LNR/POR	SE	no
Schimek, 19	96	Nationwide Personal Transportation Survey	D ·	SLE	SE	no
Shay et al., 2006 1 neighborhood in Chapel Hill, NC D		D	NBR	SE/AT	yes	
-	attak, 2005	2 neighborhoods in Chapel Hill, NC	D	LNR/NBR	SE	no
Shen, 2000 Boston, MA		А	LNR	SE	no	
Sun et al., 1	998	Portland, OR	D	LNR	SE	no
	ifton, 2005	Baltimore, MD	D	POR	SE/AT	yes
Zegras, 200		Santiago, Chile	D	LNR/LGR	SE	no
Zhang, 200		Boston, MA/Hong Kong	D	LGR	SE/LS/OT	no
-	ckelman, 2008	Austin, TX	D	LNR/PRR	SE	yes
Data: Methods:	A = aggregate D = disaggregate COP = Copula-b	pased switching model				
methous.		ed estimating equations				
	-	ical linear modeling				
	LGR = logistic re					
	LNR = linear reg			1		
		e discrete continuous extreme value model				
		binomial regression				
	NLR = nonlinea					
	OPR = ordered p					
	POR = Poisson i					· · .
	PRR = probit reg					
		ty score matching			-	
		v score stratification				
		ous linear equations				
		y unrelated regression				
	TOR = Tobit re					
Controls:	A'I' = attitudinal					
	CR = crime varia	ables				
	LS = level of serv	vice variables				
	and reter or set.	ice variables				

SE = socioeconomic variables

ST = station variables WE = weather variables

WP = workplace variables

a. Cao, Mokhtarian, et al. (2009a) notes nine different approaches used to control for residential self-selection. The least rigorous incorporates attitudinal measures in multivariate regression models, while the most rigorous jointly estimates models of residential choice and travel behavior, treating residential choice as an endogenous variable.

2002; Cao, Mokhtarian, & Handy, 2007; Cervero & Murakami, 2010). In SEM, different equations represent different effects of variables on one another, both direct and indirect through intermediate variables. These cannot be aggregated into a single elasticity.⁶

We excluded many studies because they dealt with limited populations or trip purposes (e.g., Chen & McKnight, 2007; Li, Fisher, Brownson, & Bosworth, 2005; Waygood, Sun, Kitamura, 2009). Notably, several recent studies of student travel to school cannot be generalized to other populations and trip purposes. The literature suggests that the choice of mode for the journey to school is based on very different considerations than those for other trip making (Ewing, Schroeer, & Greene, 2004; Yarlagadda & Srinivasan, 2008).

We excluded some studies because they characterized the built environment subjectively rather than objectively, that is, in terms of qualities perceived and reported by travelers rather than variables measured in a standardized way by researchers (e.g., Craig, Brownson, Cragg, & Dunn, 2002; Handy, Cao, & Mokhtarian, 2005). Subjective measures are common in public health studies. While perceptions are important, they differ from objective measures of the built environment and are arguably more difficult for planners and public policymakers to influence (e.g., Livi-Smith, 2009; McCormack et al., 2004; McGinn, Evenson, Herring, Huston, & Rodriguez, 2007). For studies that include both types of measures, we analyzed relationships only for the objective measures.

Finally, we excluded several studies because they created and then applied built environmental indices without true zero values (e.g., indices derived through factor analysis). There is no defensible way to compute elasticities, the common currency of this article, for such studies (e.g., Estupinan & Rodriguez, 2008; Frank, Saelens, Powell, & Chapman, 2007; Livi-Smith, 2009). For the same reason, we excluded several excellent studies whose independent variables, although initially continuous, had been converted to categorical variables to simplify the interpretation of results (e.g., Lee & Moudon, 2006b; McGinn et al., 2007; Oakes, Forsyth, & Schmitz, 2007).

We analyzed studies using nominal variables to characterize the built environment separately from those using continuous variables. Examples of the former include studies distinguishing between traditional urban and conventional suburban development or between transitoriented and auto-oriented development. We only included such studies if they analyzed disaggregate data and controlled for individual socioeconomic differences across their samples, thereby capturing the marginal effects of neighborhood type.⁷

Common Metrics

To combine results from different studies, a metaanalysis requires a common measure of effect size. Our common metric is the elasticity of some travel outcome with respect to one of the D variables. An *elasticity* is the ratio of the percentage change in one variable associated with the percentage change in another variable (a *point elasticity* is the ratio when these changes are infinitely small). Elasticities are dimensionless (unit-free) measures of the associations between pairs of variables and are the most widely used measures of effect size in economic and planning research.

For outcomes measured as continuous variables, such as numbers of walk trips, an elasticity can be interpreted as the percent change in the outcome variable when a specified independent variable increases by 1%. For outcomes measured as categorical variables, such as the choice of walking over other modes, an elasticity can be interpreted as the percent change in the probability of choosing that alternative (or the percent change in that alternative's market share) when the specified independent variable increases by 1%.

Elasticities in Individual Studies in the Sample

We obtained elasticities from the individual studies in our sample in one of four ways, just as in Ewing and Cervero (2001). We either: (1) copied them from published studies where they were reported explicitly; (2) calculated them ourselves from regression coefficients and the mean values of dependent and independent variables; (3) derived them from data sets already available to us or made available by other researchers; or (4) obtained them directly from the original researchers. Most commonly, we used one of the formulas shown in Table 2 to compute elasticities, depending on which statistical method was used to estimate coefficient values.

When regression coefficients were not significant, we could have chosen to drop the observations or substitute zero values for the elasticities, since the coefficients were not statistically different from zero, but we chose instead to use the reported coefficients to compute elasticities, again using the formulas in Table 2. Dropping the observations would have biased the average elasticities away from the null hypothesis of zero elasticity, and thus we rejected this option. Substituting zero values for computed elasticities would have had the opposite effect, biasing average values toward the null hypothesis, thus we rejected it as well. Instead, we used the best available estimates of central tendency in all cases, the regression coefficients themselves, to compute elasticities. This is the standard approach in meta-analysis (see, e.g., Melo, Graham, & Noland, 2009).

Table 2. Elasticity estimation formulas.

Regression specification	Elasticity
Linear	$\beta * \frac{\overline{x}}{\overline{y}}$
Log-log	β
Log-linear	$eta^{st} \overline{x}$
Linear-log	$\frac{\beta}{\overline{y}}$
Logistic ^a	$\beta * \overline{x} \left(1 - \left(\frac{\overline{y}}{n} \right) \right)$
Poisson	$\beta * \overline{x}$
Negative binomial	$\beta * \overline{x}$
Tobit ^b	$\beta * \left(\frac{\overline{x}}{\overline{y}}\right)$
	· (y)

Notes:

 β is the regression coefficient on the built-environment variable of interest, \overline{y} the mean value of the travel variable of interest, and \overline{x} the mean value of the built-environment variable of interest.

a. $\left(\frac{y}{n}\right)$ is the mean estimated probability of occurrence.

b. Applied only to positive values of the Tobit distribution (i.e., where y > 0).

Borenstein et al. (2009) argue against another possibility, using significance levels as proxies for effect size, since they depend not only on effect size but also on sample size: "Because we work with the effect sizes directly we avoid the problem of interpreting nonsignificant *p*-values to indicate the absence of an effect (or of interpreting significant *p*-values to indicate a large effect)" (p. 300).

Ideally, the original studies would have computed elasticities for each observation (trip, traveler, or house-

273

hold) and then averaged them over the sample. Indeed, a few of the researchers who reported elasticities did exactly that (e.g., Bento, Cropper, Mobarak, & Vinha, 2003; Bhat, Sen, & Eluru, 2009; Rodriguez & Joo, 2004). However, since we could not ask all these busy people to go back and compute elasticities, we have instead estimated elasticities at the overall sample means of the dependent and/or independent variables, as indicated in Table 3.

While commonplace, this procedure could introduce a fair amount of error in the elasticity estimates. Elasticities calculated at mean values of dependent and independent variables may differ significantly from the average values of individual elasticities due to the nonlinear nature of many of the functions involved (e.g., logistic functions). "In general, the probability evaluated at the average utility underestimates the average probability when the individuals' choice probabilities are low and overestimates when they are high" (Train, 1986, p. 42). Train (1986) cites work by Talvitie (1976), who found in a mode choice analysis that elasticities at the average representative utility can be as much as two to three times greater or less than the average of individual elasticities. This is a greater concern with discrete choice models than with the linear regression models that Table 1 shows are most commonly used to study the built environment and travel.

Due to the large number studies we summarize here, we show the effect sizes for individual studies in appendix tables for each travel outcome of interest (VMT, walking, and transit use) with respect to each built environment variable of interest (density, diversity, design, destination accessibility, distance to transit, and neighborhood type). All effect sizes are measured as elasticities, except those for neighborhood type, which is a categorical variable. The effect size for neighborhood type is the proportional difference in a travel outcome between conventional suburban neighborhoods and more compact, walkable neighborhoods.

Table 3. Weighted average elasticities of VMT with respect to built-environment variables.

		Total number of studies	Number of studies with controls for self-selection	Weighted average elasticity of VMT(e)
Density	Household/population density	9	1	-0.04
	Job density	6	1	0.00
Diversity	Land use mix (entropy index)	10	0	0.09
	Jobs-housing balance	4	0	-0.02
Design	Intersection/street density	6	- 0	-0.12
Ū.	% 4-way intersections	3	1	-0.12
Destination	Job accessibility by auto	5	0	0.20
ccessibility .	Job accessibility by transit	3	. 0	-0.05
·	Distance to downtown	3 -	1	-0.22
Distance to transit	Distance to nearest transit stop	6	1	-0.05

We consistently report the elasticity values with a positive sign indicating the effects of greater accessibility, which required reversing signs in many cases, as noted in the tables. Thus, for example, a negative elasticity of VMT with respect to measures of destination accessibility in our appendix tables always indicates that VMT drops as destination accessibility improves. Where destination accessibility was measured originally in terms of jobs reachable within a given travel time, our sign is the same as that obtained by the original study. However, where destination accessibility was measured in terms of distance to downtown, for example, we reversed the sign of the elasticity in the original source so that higher values of the independent variable correspond to better, not worse, accessibility.

Where studies reported results for general travel and, in addition, for different trip purposes or different types of travelers, we report effect sizes only for the most general class of travel. Thus, for example, if a study estimated VMT models for all trips and for work trips alone, we present only the former. A few studies analyzed only subcategories of travel, and in these cases, we sometimes present more than one set of results for a given study.

Weighted Average Elasticities

We used individual elasticities from primary studies to compute weighted average elasticities for many dependent/independent variable pairs representing travel outcomes and attributes of the built environment. We show the resulting weighted average elasticities in Tables 3, 4, and 5. We calculated averages where three conditions were met: (1) a sample of at least three studies was available; (2) for these particular studies, dependent and independent variables were comparably defined; and (3) for these particular studies, disaggregate travel data were used to estimate models. The numbers of studies in each sample are as indicated in Tables 3, 4, and 5.

These results should be used only as ballpark estimates, both because of the minimum sample size we chose and because of how we computed weighted average elasticities. We settled on a minimum sample size of three studies⁸ due to data limitations (as in Tompa, de Oliveira, Dolinschi, & Irvin, 2008). While the relationship between the built environment and travel is the most heavily researched subject in urban planning, when studies are segmented by variable type, samples never reach what some would consider a reasonable minimum sample size (Lau, Ioannidis, Terrin, Schmid, & Olkin, 2006). Also, to maximize our

		Total number of studies	Number of studies with controls for self-selection	Weighted average clasticity of walking (e)
Density	Household/population density	10	0	0.07
	Job density	6	. 0	0.04
	Commercial floor area ratio	3	0	0.07
Diversity	Land use mix (entropy index)	8	. 1	0.15
Diversity	Jobs-housing balance	4	0	0.19
	Distance to a store	5	3	0.25
Design	Intersection/street density	7	2	0.39
0	% 4-way intersections	5	1	-0.06
Destination accessibility	Job within one mile	3	0 .	0.15
Distance to transit	Distance to nearest transit stop	3	2	0.15

Table 4. Weighted average elasticities of walking with respect to built environment variables.

Table 5. Weighted average elasticities of transit use with respect to built environment variables.

•		Total number of studies	Number of studies with controls for self-selection	Weighted average elasticity of transit use
Density	Household/population density	10	0	0.07
	Job density	- 6	0	0.01
Diversity	Land use mix (entropy index)	6	0	0.12
Design	Intersection/street density	4	0	0.23
<u>.</u>	% 4-way intersections	- 5	2	0.29
Distance to transit	Distance to nearest transit stop	3	1	0.29

sample sizes, we mixed the relatively few studies that control for self-selection with the many that do not. We advise readers to exercise caution when using the elasticities based on small samples of primary studies (see Tables 3, 4, and 5), but rather than omit the categories for which only small samples were available, we aimed in this analysis to seed the meta-study of built environments and travel, expecting that others would augment and expand our database over time.

We computed weighted average elasticities using sample size as a weighting factor because we lacked consistent standard error estimates from individual studies. Weighting by sample size is by far the most common approach in meta-analyses, since sample sizes are nearly always known (Shadish & Haddock, 1994, p. 264). However, it is not the optimal weighting scheme. Hedges and Olkin (1985) demonstrated that optimal weights are related to the standard errors of the effect size estimates, and this has become the gold standard in meta-analysis. Specifically, because larger standard errors correspond to less precise estimates of effect sizes, the preferred method is to calculate a meta-analysis weight as an inverse variance weight, or the inverse of the squared standard error (Borenstein et al., 2009; Hunter & Schmidt, 2004; Lipsey & Wilson, 2001; Littell et al., 2008; Schulze, 2004). From a statistical standpoint, such weights are optimal since they minimize the variance of the average effect size estimates. They also make intuitive sense, as they give the greatest weight to the most precise estimates from individual studies.

No weighting factor except standard error allows judging whether the resulting weighted averages are statistically different from zero. Since we combine significant and insignificant individual effect sizes, and do not have the data necessary to test for significance, we do not report statistical confidence for any of the results. It is thus possible that any given meta-elasticity is not significantly different from zero. We particularly advise readers to exercise caution in using weighted average elasticities when the elasticities on which they are based are statistically insignificant, as shown in the appendix tables.

Discussion

For all of the variable pairs we discuss here, the relationships between travel variables and built environmental variables are inelastic. The weighted average elasticity with the greatest absolute magnitude is 0.39, and most elasticities are much smaller. Still, the combined effect of several built environmental variables on travel could be quite large.

As in our 2001 meta-study (Ewing & Cervero, 2001), the D variable most strongly associated with VMT is destination accessibility. Our elasticity of VMT with respect to "job accessibility by auto" in this meta-analysis, -0.20, is identical to the elasticity in the earlier study. In fact, the -0.20 VMT elasticity is nearly as large as the elasticities of the first three D variables (density, diversity, and design) combined; this too is consistent with our earlier meta-study.

Equally strongly, though negatively, related to VMT is the distance to downtown. This variable is a proxy for many Ds, as living in the city core typically means higher densities in mixed-use settings with good regional accessibility. Next most strongly associated with VMT are the design metrics intersection density and street connectivity. This is surprising, given the emphasis in the qualitative literature on density and diversity, and the relatively limited attention paid to design. The weighted average elasticities of these two street network variables are identical. Both short blocks and many interconnections apparently shorten travel distances to about the same extent.

Also surprising are the small elasticities of VMT with respect to population and job densities. Conventional wisdom holds that population density is a primary determinant of vehicular travel, and that density at the work end of trips is as important as density at the home end in moderating VMT. This does not appear to be the case once other variables are controlled.

Our previous study (Ewing & Cervero, 2001) did not address walking and transit use, thus we have no benchmarks against which to compare the results in Tables 4 and 5. The meta-analysis shows that mode share and likelihood of walk trips are most strongly associated with the design and diversity dimensions of built environments. Intersection density, jobs-housing balance, and distance to stores have the greatest elasticities. Interestingly, intersection density is a more significant variable than street connectivity. Intuitively this seems right, as walkability may be limited even if connectivity is excellent when blocks are long. Also of interest is the fact that jobs-housing balance has a stronger relationship to walking than the more commonly used land use mix (entropy) variable. Several variables that often go hand-in-hand with population density have elasticities that are well above that of population density. Also, as with VMT, job density is less strongly related to walking than is population density. Finally, Table 5 suggests that having transit stops nearby may stimulate walking (Cervero, 2001; Ryan & Frank, 2009).

The mode share and likelihood of transit trips are strongly associated with transit access. Living near a bus stop appears to be an inducement to ride transit, supporting the transit industry's standard of running buses within a quarter mile of most residents. Next in importance are road network variables and, then, measures of land use

mix. High intersection density and great street connectivity shorten access distances and provide more routing options for transit users and transit service providers. Land use mix makes it possible to efficiently link transit trips with errands on the way to and from transit stops. It is sometimes said that "mass transit needs 'mass'"; however, this is not supported by the low elasticities of transit use with respect to population and job densities in Table 5.

No clear pattern emerges from scanning across the Tables 3, 4, and 5. Perhaps what can be said with the highest degree of confidence is that destination accessibility is most strongly related to both motorized (i.e., VMT) and nonmotorized (i.e., walking) travel and that among the remaining Ds, density has the weakest association with travel choices. The primacy of destination accessibility may be due to lower levels of auto ownership and auto dependence at central locations. Almost any development in a central location is likely to generate less automobile travel than the best-designed, compact, mixed-use development in a remote location.

The relatively weak relationships between density and travel likely indicate that density is an intermediate variable that is often expressed by the other Ds (i.e., dense settings commonly have mixed uses, short blocks, and central locations, all of which shorten trips and encourage walking). Among design variables, intersection density more strongly sways the decision to walk than does street connectivity. And, among diversity variables, jobs-housing balance is a stronger predictor of walk mode choice than land use mix measures. Linking where people live and work allows more to commute by foot, and-this appears to shape mode choice more than sprinkling multiple land uses around a neighborhood.

Controls for residential self-selection appear to increase the absolute magnitude of elasticities if they have any effect at all. This conclusion follows from a simple review of elasticities in the appendix. There may be good explanations for this unexpected result. In a region with few pedestrian- and transit-friendly neighborhoods, residential selfselection likely matches individual preferences with place characteristics, increasing the effect of the D variables, a possibility posited by Lund, Willson, and Cervero (2006).

...if people are simply moving from one transit-accessible location to another (and they use transit regularly at both locations), then there is theoretically no overall increase in ridership levels. If, however, the resident was unable to take advantage of transit service at their prior residence, then moves to a TOD (transit-oriented development) and begins to use the transit service, the TOD is fulfilling a latent demand for transit accessibility and the net effect on ridership is positive. (p. 256) Similarly, Chatman (2009) hypothesizes that "[r]esidential self-selection may actually cause underestimates of built environment influences, because households prioritizing travel access—particularly, transit accessibility—may be more set in their ways, and because households may not find accessible neighborhoods even if they prioritize accessibility" (p. 1087). He carries out regressions that explicitly test for this, and finds that self-selection is more likely to enhance than diminish built environmental influences.

Still, we are left with a question. Most of the literature reviewed by Cao, Mokhtarian, et al. (2009a) shows that the effect of the built environment on travel is attenuated by controlling for self-selection, whereas we find no effect (or enhanced effects) after controlling for self-selection. The difference may lie in the different samples included in our study and that of Cao, Mokhtarian, et al. (2009a), or in the crude way we operationalized self-selection, lumping all studies that control for self-selection together regardless of methodology.

Applications

This article provides elasticities in two forms that may be useful to planners: elasticity estimates from primary studies (in the appendix tables) and average elasticities from our pooled samples (in Tables 3, 4, and 5). If a planner happens to have an application in a location near one of those listed in the appendix tables, if not too many years have intervened since that study was completed, and if the study included the right D variables, he or she can simply borrow an elasticity estimate from the appendix, provided that the appendix table indicates it meets conventional statistical significance criteria. Thus, for applications in Boston in the near future, Zhang's (2004) estimate of the elasticity of walk/bike mode choice with respect to population density (0.11) may be used without modification.

More commonly, geographic and functional gaps in the literature may make the elasticities in Tables 3, 4, and 5 useful to planners. These elasticities may be applied in sketch planning to compute estimates of VMT, walking, and transit use relative to a base case, or in post-processing travel and activity forecasts from four-step travel demand models to reflect the influence of the five Ds.

The literature covers post-processing applications well (Cervero, 2006; DKS Associates, 2007; Johnston, 2004; Walters, Ewing, & Allen, 2000). These new elasticity values can be used in exactly the same way as earlier elasticity estimates.

Sketch planning applications are limited only by the creativity of planning analysts. To illustrate, climate action planning of the type currently underway in California and 18 other states will require VMT estimates in order to

extrapolate current trends and project an alternative lowercarbon future. These states have set greenhouse gas emission reduction targets and, with their metropolitan planning organizations, will need to pull together verifiable plans that include smart growth elements. If planners are willing to make assumptions about the increases in density and other D variables that can be achieved with policy changes, they can use elasticity values from this article to estimate VMT reductions in urbanized areas and to translate these in turn into effects on CO_2 .

Another potential sketch planning application could be to assess health impacts. Rates of physical activity, including walking, are inputs to health assessment models. Again, once planners make assumptions about changes in the D variables under future scenarios, increases in walking can easily be computed using elasticities. Until now there has been no empirically grounded methodology for making such projections.

Elasticities could also be applied to traffic impact analysis. There has been no way to adjust the Institute of Transportation Engineers' (ITE) trip generation rates for walking and transit use, which has left developers of dense developments at urban sites paying impact fees and other exactions at the same rate as their suburban counterparts. The only adjustment previously allowed was for internal capture of trips within mixed-use developments, which did nothing for the typical infill project. Elasticity values can be used to adjust ITE trip rates for suburban developments to reflect how greater densities and other environmental attributes would affect trip making.

The elasticities in this meta-analysis are based on the most complete data available as of late 2009. However, as we acknowledge, sample sizes are small and the number of studies controlling for residential preferences and attitudes is still miniscule. We also do not know the confidence intervals around our meta-analysis results. Users should weigh these shortcomings when applying results to any particular context or local setting. However, they provide a base on which to build. As more built environment-travel studies appear in the planning literature, it will be important to update and refine our results.

Acknowledgments

The authors wish to acknowledge funding for this study from the Development, Community, and Environment Division of the U.S. Environmental Protection Agency. We also wish to acknowledge data and other assistance from the following individuals, hoping we didn't miss anyone: Chandra Bhat, Marlon Boarnet, Rob Boer, Mark Bradley, Jason Cao, Dan Chatman, Cynthia Chen, Mike Duncan, Yingling Fan, Ann Forsyth, Larry Frank, Jessica Greene, Mike Greenwald, Daniel Hess, Ken Joh, Kara Kockelman, Rich Kuzmyak, Chanam Lee, Tracy McMillan, Petter Naess, Mike Reilly, Daniel Rodriguez, Elizabeth Shay, C. Scott Smith, Qing Shen, Xiaoduan Sun, Chris Zegras, Ming Zhang, and Brenda Zhou.

Notes

 A full list of studies is available from the corresponding author.
 Vehicle trips (VT) is not studied as widely as these other outcome measures and is not related to as many important outcomes. However, it is a critical determinant of regulated vehicle emissions, which was the focus of our 2001 literature review.

 The percentage varied depending on which locations were paired and compared, whether urban and suburban locations, urban and exurban, etc.
 Transit route density is measured by miles of transit routes per square mile of land area.

5. Linear regression is used where the travel variable in continuous, Poisson regression where the travel variable is a count, logistic regression where the dependent variable is a probability, and so forth.

6. Several studies applied ordered probit regression to data on counts of walk and transit trips. We excluded all but one of these studies from the meta-analysis because the breakpoint parameters (μ) for the ordered categories were unavailable, which meant we could not calculate marginal effects. These parameters were available for one ordered probit study (Greenwald & Boarnet, 2001), and Jason Cao computed elasticities for us. We used elasticities for the median ordered category. 7. Due to a dearth of solid research, we could not study certain important travel outcomes with meta-analysis. Most notably, this article is silent regarding the effects of the built environment on trip chaining in multipurpose tours, internal capture of trips within mixed-use develop-

ments, and the choice of bicycling as a travel mode. 8. The following quotation from Rodenburg, Benjamin, de Roos, Meijer, and Stams (2009) explains that a meta-analysis in another field settled on seven studies as a minimum sample size:

Some limitations of this meta-analytic study should be mentioned. Although the minimum number of studies to permit a metaanalysis is only three studies (Treadwell, Tregear, Reston, & Turkelson, 2006) and many published meta-analyses contain nine or fewer studies (Lau, Ioannidis, Terrin, Schmid, & Olkin, 2006), the small number of seven studies included in this meta-analytic review limits the generalizability of our findings and the possibilities of examining and adjusting for publication bias by means of more complex analytic methods (Macaskill, Walter, & Irwig, 2001). (p. 605)

References

Babisch, W. (2008). Road traffic noise and cardiovascular risk. *Noise & Health*, 10(38), 27–33.

Badland, H., & Schofield, G. (2005). Transport, urban design, and physical activity: An evidence-based update. *Transportation Research D*, *10*(3), 177–196.

Badoe, D. A., & Miller, E. J. (2000). Transportation-land-use interaction: Empirical findings in North America, and the implications for modeling. *Transportation Research D*, 5(4), 235–263.
Bagley, M., & Mokhtarian, P. (2002). The impact of residential neighborhood type on travel behavior: A structural equations modeling approach. *Annals of Regional Science*, 36(2), 279–297.

Bartholomew, K., & Ewing, R. (2008). Land use-transportation scenarios and future vehicle travel and land consumption: A metaanalysis. *Journal of the American Planning Association*, 75(1), 1–15. Bauman, A. E., & Bull, F. C. (2007). *Environmental correlates of physical activity and walking in adults and children: A review of reviews*. London, UK: National Institute of Health and Clinical Excellence.

Bento, A. M., Cropper, M. L., Mobarak, A. M., & Vinha, K. (2003). The impact of urban spatial structure on travel demand in the United States. (World Bank policy research working paper #3007).

Besser, L., & Dannenberg, A. (2005). Walking to public transit: Steps to help meet physical activity recommendations. *American Journal of Preventive Medicine*, 29(4), 273–280.

Bhat, C. R., & Eluru, N. (2009). A Copula-based approach to accommodate residential self-selection effects in travel behavior modeling. *Transportation Research B*, 43(7), 749–765.

Bhat, C. R., Sen, S., & Eluru, N. (2009). The impact of demographics, built environment attributes, vehicle characteristics, and gasoline prices on household vehicle holdings and use. *Transportation Research B*, 43(1), 1–18.

Bhatia, R. (2004, June). *Land use: A key to livable transportation.* Paper presented at the 40th International Making Cities Livable conference, London, UK.

Boarnet, M. G., & Crane, R. (2001). The influence of land use on travel behavior: Specification and estimation strategies. *Transportation Research A*, *35*(9), 823–845.

Boarnet, M. G., Greenwald, M., & McMillan, T. (2008). Walking, urban design, and health: Toward a cost-benefit analysis framework. *Journal of Planning Education and Research, 27*(3), 341–358.

Boarnet, M. G., Joh, K., Siembab, W., Fulton, W., & Nguyen, M. T. (in press). Retrofitting the suburbs to increase walking: Evidence from a land use-travel study. *Urban Studies*.

Boarnet, M. G., Nesamani, K. S., & Smith, C. S. (2004, January). Comparing the influence of land use on nonwork trip generation and vehicle distance traveled: An analysis using travel diary data. Paper presented at the 83rd annual meeting of the Transportation Research Board, Washington, DC.

Boer, R., Zheng, Y., Overton, A., Ridgeway, G. K., & Cohen, D. A. (2007). Neighborhood design and walking trips in ten U.S. metropolitan areas. *American Journal of Preventive Medicine*, 32(4), 298–304. Borenstein, M., Hedges, I.V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to meta-analysis*. Chichester, UK: Wiley.

Bunn, F., Collier, T., Frost, C., Ker, K., Roberts, I. & Wentz, R.
(2003). Traffic calming for the prevention of road traffic injuries: Systematic review and meta-analysis. *Injury Prevention*, 9(3), 200–204.
Button, K., & Kerr, J. (1996). Effectiveness of traffic restraint policies: A simple meta-regression analysis. *International Journal of Transport Economics*, 23(2), 213–225.

Button, K., & Nijkamp, P. (1997). Environmental policy analysis and the usefulness of meta-analysis. *Socio-Economic Planning Sciences*, 31(3), 231–240.

Cao, X. (2010). Exploring causal effects of neighborhood type on walking behavior using stratification on the propensity score. *Environment and Planning A*, 42(2), 487–504.

Cao, X., Handy, S. L., & Mokhtarian, P. L. (2006). The influences of the built environment and residential self-selection on pedestrian behavior: Evidence from Austin, TX. *Transportation*, *33*(1), 1–20.

Cao, X., Mokhtarian, P. L., & Handy, S. L. (2007). Do changes in neighborhood characteristics lead to changes in travel behavior? A structural equations modeling approach. *Transportation*, *34*(5), 535–556.

Cao, X., Mokhtarian, P. L., & Handy, S. L. (2009a). Examining the impacts of residential self-selection on travel behaviour: A focus on empirical findings. *Transport Reviews*, *29*(3), 359–395.

Cao, X., Mokhtarian, P. L. & Handy, S. L. (2009b). The relationship between the built environment and nonwork travel: A case study of northern California. *Transportation Research Part A*, *43*(5), 548–559. **Cao**, X., Xu, Z., & Fan, Y. (2009, January). *Exploring the connections among residential location, self-selection, and driving behavior: A case study of Raleigh, NC.* Paper presented at the 89th annual meeting of the Transportation Research Board.

Cervero, R. (2001). Walk-and-ride: Factors influencing pedestrian access to transit. *Journal of Public Transportation*, *3*(4), 1–23. **Cervero, R.** (2002a). Built environments and mode choice: Toward a

normative framework. *Transportation Research D*, 7(4), 265–284. **Cervero, R.** (2002b). Induced travel demand: Research design, empirical

evidence, and normative policies. Journal of Planning Literature, 17(1), 3-20.

Cervero, R. (2003). The built environment and travel: Evidence from the United States. *European Journal of Transport and Infrastructure Research*, 3(2), 119–137.

Cervero, R. (2006). Alternative approaches to modeling the traveldemand impacts of smart growth. *Journal of the American Planning Association*, 72(3), 285–295.

Cervero, **R**. (2007). Transit oriented development's ridership bonus: A product of self-selection and public policies. *Environment and Planning Part A*, 39(9), 2068–2085.

Cervero, R., & Duncan, M. (2003). Walking, bicycling, and urban landscapes: Evidence from the San Francisco Bay Area. *American Journal of Public Health*, *93*(9), 1478–1483.

Cervero, R., & Duncan, M. (2006). Which reduces vehicle travel more: Jobs-housing balance or retail-housing mixing? *Journal of the American Planning Association, 72*(4), 475–490.

Cervero, R., & Kockelman, K. (1997). Travel demand and the 3Ds: Density, diversity, and design. *Transportation Research D, 2*(3), 199–219. **Cervero, R.,** & Murakami, J. (2010). Effects of built environments on vchicle miles traveled: Evidence from 370 U.S. metropolitan areas. *Environment and Planning A, 42*(2), 400–418.

Chapman, J., & Frank, L. (2004). Integrating travel behavior and urban form data to address transportation and air quality problems in Atlanta, *Georgia* (Research Project No. 9819, Task Order 97–13). Washington, DC: U.S. Department of Transportation.

Chatman, D. G. (2003). How density and mixed uses at the workplace affect personal commercial travel and commute mode choice. *Transportation Research Record*, 1831, 193-201.

Chatman, D. G. (2008) Deconstructing development density: Quality, quantity and price effects on household non-work travel. *Transportation Research Part A*, 42(7), 1009–1031.

Chatman, D. G. (2009). Residential self-selection, the built environment, and nonwork travel: Evidence using new data and methods. *Environment and Planning A*, 4I(5), 1072–1089.

Chen, C., & McKnight, C. E. (2007). Does the built environment make a difference? Additional evidence for the daily activity and travel behavior of homemakers living in New York City and suburb. *Journal of Transport Geography*, 15(5), 380–395.

Craig, C. L., Brownson, R. C., Cragg, S. E., & Dunn, A. L. (2002). Exploring the effect of the environment on physical activity: A study examining walking to work. *American Journal of Preventive Medicine*, 23(2), 36–43.

Crane, R. (1996). On form versus function: Will the new urbanism reduce traffic, or increase it? *Journal of Planning Education and Research*, 15(2), 117–126.

Crane, R. (2000). The influence of urban form on travel: An interpretive review. *Journal of Planning Literature*, 15(1), 3–23.

Cunningham, G. O., & Michael, Y. L. (2004). Concepts guiding the study of the impact of the built environment on physical activity for older adults: A review of the literature. *American Journal of Health Promotion, 18*(6), 435–443.

Debrezion, G., Pels, E., & Rietveld, P. (2003). *The impact of railway stations on residential and commercial property value: A meta analysis* (Tinbergen Institute Discussion Paper No. TI-2004-023/3). Amsterdam, The Netherlands: Tinbergen Institute.

DKS Associates. (2007). Assessment of local models and tools for analyzing smart-growth strategies: Final report. Sacramento, CA: California Department of Transportation.

Duncan, M. J., Spence, J. C., & Mummery, W. K. (2005). Perceived environment and physical activity: A meta-analysis of selected environmental characteristics. *International Journal of Behavioral Nutrition and Physical Activity*, 2(11), doi:10.1186/1479-5868-2-11.

Edwards, R. D. (2008). Public transit, obesity, and medical costs: Assessing the magnitudes. *Preventive Medicine*, 46(1), 14–21. Estupinan, N., & Rodriguez, D. A. (2008). The relationship between

urban form and station boardings for Bogota's BRT. *Transportation Research A, 42*(2), 296–306. **Ewing, R.,** & Cervero, R. (2001). Travel and the built environment.

Transportation Research Record, 1780, 87–114.

Ewing, R., DeAnna, M. & Li, S. (1996). Land use impacts on trip generation rates. *Transportation Research Record*, 1518, 1–7.

Ewing, R., Greenwald, M. J., Zhang, M., Walters, J., Feldman, M., Cervero, R., ... Thomas, J. (2009). *Measuring the impact of urban form and transit access on mixed use site trip generation rates—Portland pilot study.* Washington, DC: U.S. Environmental Protection Agency.

Ewing, R., Schroeer, W., Greene, W. (2004). School location and student travel: Analysis of factors affecting mode choice. *Transportation Research Record*, 1895, 55–63.

Fan, Y. (2007). The built environment, activity space, and time allocation: An activity-based framework for modeling the land use and travel connection. (Unpublished doctoral dissertation.) University of North Carolina, Chapel Hill, NC.

Frank, L. D. (2000). Land use and transportation interaction: Implications on public health and quality of life. *Journal of Planning Education and Research*, 20(1), 6–22.

Frank, L. D., Bradley, M., Kavage, S., Chapman, J., & Lawton, K. (2008). Urban form, travel time, and cost relationships with tour complexity and mode choice. *Transportation*, 35(1), 37–54.
Frank, L. D., & Engelke, P. (2001). The built environment and

human activity patterns: Exploring the impacts of urban form on public health. *Journal of Planning Literature*, *16*(2), 202–218.

Frank, L. D., & Engelke, P. (2005). Multiple impacts of the built environment on public health: Walkable places and the exposure to air pollution. *International Regional Science Review*, 28(2), 193–216.

Frank, L. D., Kavage, S., Greenwald, M., Chapman, J., & Bradley, M. (2009). *I-PLACE3S health & climate enhancements and their application in King County*. Seattle, WA: King County HealthScape.

Frank, L. D., Kerr, J., Chapman, J., & Sallis, J. (2007). Urban form relationships with walk trip frequency and distance among youth. *American Journal of Health Promotion*, 21(4), 305–311.

Frank, L. D., Saclens, B. E., Powell, K. E., & Chapman, J. E. (2007). Stepping towards causation: Do built environments or neighborhood and travel preferences explain physical activity, driving, and obesity? *Social Science & Medicine*, 65(9), 1898–1914.

Gebel, K., Bauman, A. E., & Petticrew, M. (2007). The physical environment and physical activity. A critical appraisal of review articles. *American Journal of Preventive Medicine*, *32*(5), 361–369.

Graham, D., & Glaister, S. (2002). *Review of income and price elasticities of demand for road traffic.* London, UK: Centre for Transport Studies Imperial College of Science, Technology and Medicine. Greenwald, M. J. (2009). SACSIM modeling-elasticity results: Draft. Unpublished manuscript, Fehr & Peers Associates, Walnut Creek, CA. Greenwald, M. J., & Boarnet, M. G. (2001). The built environment as a determinant of walking behavior: Analyzing non-work pedestrian travel in Portland, Oregon. Transportation Research Record, 1780, 33–43. Hamer, M., & Chida, Y. (2008). Active commuting and cardiovascular risk: A meta-analytic review. Preventive Medicine, 46(1), 9–13. Handy, S. L. (1993). Regional versus local accessibility: Implications for non-work travel. Transportation Research Record, 1400, 58–66. Handy, S. L. (2004). Critical assessment of the literature on the relationships among transportation, land use, and physical activity. Davis, CA: Department of Environmental Science and Policy, University of California, Davis. Prepared for the Transportation Research Board and Institute of Medicine Committee on Physical Activity, Health, Transportation, and Land Use.

Handy, S. L., Cao, X., & Mokhtarian, P. L. (2005). Correlation or causality between the built environment and travel behavior? Evidence from Northern California. *Transportation Research D*, 10(6), 427–444.

Handy, S. L., Cao, X., & Mokhtarian, P. L. (2006). Self-selection in the relationship between the built environment and walking—Empirical evidence from Northern California. *Journal of the American Planning Association*, 72(1), 55–74.

Handy, S. L., & Clifton, K. J. (2001). Local shopping as a strategy for reducing automobile travel. *Transportation*, 28(4), 317–346.

Heath, G. W., Brownson, R. C., Kruger, J., Miles, R., Powell, K. E., Ramsey, L. T., & the Task Force on Community Preventive Services. (2006). The effectiveness of urban design and land use and transport policies and practices to increase physical activity: A systematic review. *Journal of Physical Activity and Health*, 3(1), 55–76.

Hedel, R., & Vance, C. (2007, January). *Impact of urban form on automobile travel: Disentangling causation from correlation.* Paper presented at the 86th annual meeting of the Transportation Research Board, Washington, DC.

Hedges, L. V., & Olkin, I. (1985). *Statistical methods for meta-analysis.* Orlando, FL: Academic Press.

Hess, P. M., Moudon, A. V., Snyder, M. C., & Stanilov, K. (1999). Site design and pedestrian travel. *Transportation Research Record*, 1674, 9–19.

Holtzclaw, J., Clear, R., Dittmar, H., Goldstein, D., & Haas, P. (2002). Location efficiency: Neighborhood and socioeconomic characteristics determine auto ownership and use-studies in Chicago, Los Angeles, and San Francisco. *Transportation Planning and Technology*, 25(1), 1–27.

Humpel, N., Owen, N., & Leslie, E. (2002). Environmental factors associated with adults' participation in physical activity: A review. *American Journal of Preventative Medicine*, 22(3), 188–199.

Hunter, J. E., & Schmidt, F.L. (2004). Methods of meta-analysis: Correcting error and bias in research findings. Newbury Park, CA: Sage. Joh, K., Boarnet, M. G, & Nguyen, M. T. (2009, January). Interactions between racelethnicity, attitude, and crime: Analyzing walking trips in the South Bay Area. Paper presented at the 88th annual meeting of the Transportation Research Board, Washington, DC.

Johnston, R. (2004). The urban transportation planning process. In S. Hanson and G. Guiliano (Eds.), *The geography of urban transportation* (pp. 115–140). New York, NY: Guilford.

Kahn, E. B., Ramsey, L. T., Brownson, R. C., Heath, G. W., Howze, E. H., Powell, K., & Stone, E. (2002). The effectiveness of interventions to increase physical activity: A systematic review. *American Journal of Preventive Medicine*, 22(4), 73–107.

Khattak, A. J., & Rodriquez, D. (2005). Travel behavior in neotraditional neighborhood developments: A case study in USA. *Transportation Research A*, 39(6), 481–500.

Kitamura, R., Mokhrarian, P. L., & Laidet, L. (1997). A micro-analysis of land use and travel in five neighborhoods in San Francisco Bay Area. *Transportation*, 24(2), 125–158.

Kockelman, K. M. (1997). Travel behavior as a function of accessibility, land use mixing, and land use balance: Evidence from the San Francisco Bay Area. *Transportation Research Record*, 1607, 116–125.

Krahnstoever-Davison, K., & Lawson, C. T. (2006). Do attributes in the physical environment influence children's physical activity? A review of the literature. *International Journal of Behavioral Nutrition and Physical Activity*, 3(19). doi: 10.1186/1479-5868-3-19.

Kuby, M., Barranda, A., & Upchurch, C. (2004). Factors influencing light-rail station boardings in the United States. *Transportation Research A*, *38*(3), 223–258.

Kuzmyak, R. (2009a). Estimating the travel benefits of blueprint land use concepts. Unpublished manuscript, Southern California Association of Governments, Los Angeles, CA.

Kuzmyak, R. (2009b). *Estimates of point elasticities*. Phoenix, AZ: Maricopa Association of Governments.

Kuzmyak, R., Baber, C., & Savory, D. (2006). Use of a walk opportunities index to quantify local accessibility. *Transportation Research Record*, 1977, 145–153.

Lau, J., Ioannidis, J. P. A., Terrin, N., Schmid, C. H., & Olkin, I. (2006). The case of the misleading funnel plot. *British Medical Journal, 333*(7568), 597–600.

Lauria, M., & Wagner, J. A. (2006). What can we learn from empirical studies of planning theory? A comparative case analysis of extant literature. *Journal of Planning Education and Research*, 25(4), 364–381. Leck, E. (2006). The impact of urban form on travel behavior: A meta-analysis. *Berkeley Planning Journal*, 19, 37–58.

Lee, C., & Moudon, A. V. (2004). Physical activity and environment research in the health field: Implications for urban and transportation planning practice and research. *Journal of Planning Literature*, *19*(2), 147–181.

Lee, C., & Moudon, A. V. (2006a). Correlates of walking for transportation or recreation purposes. *Journal of Physical Activity and Health. 3*(1), 77–98.

Lee, C., & Moudon, A. V. (2006b). The 3Ds + R: Quantifying land use and urban form correlates of walking. *Transportation Research Part D*, *11*(3), 204–215.

Li, F., Fisher, K. J., Brownson, R. C., & Bosworth, M. (2005). Multilevel modelling of built environment characteristics related to neighbourhood walking activity in older adults. *Journal of Epidemiology and Community Health*, 59(7), 558–564.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis.* Thousand Oaks, CA: Sage.

Littell, J. H., Corcoran, J., & Pillai, V. (2008). Systematic reviews and meta-analysis. New York, NY: Oxford University Press.

Livi Smith, A. D. (2009, January) *Contribution of perception in analysis of walking behavior*. Paper presented at the 88th annual meeting of the Transportation Research Board, Washington, DC.

Lund, H. M. (2003). Testing the claims of new urbanism: Local access, pedestrian travel, and neighboring behaviors. *Journal of the American Planning Association*, 69(4), 414–429.

Lund, H. M., Cervero, R., & Wilson, R. W. (2004). *Travel characteristics of transit-oriented development in California*. Sacramento, CA: California Department of Transportation.

Lund, H. M., Willson, R., & Cervero, R. (2006). A re-evaluation of travel behavior in California TODs. *Journal of Architectural and Planning Research*, 23(3), 247–263.

Lyons, L. (2003). *Meta-analysis: Methods of accumulating results across research domains*. Retrieved June 26, 2009, from http://www.lyonsmorris.com/MetaA

Macaskill, P., Walter, S. D., & Irwig, L. (2001). A comparison of methods to detect publication bias in meta-analysis. *Statistics in Medicine*, 20(4), 641–654.

McCormack, G., Giles-Corti, B., Lange, A., Smith, T., Martin, K., & Pikora, T. J. (2004). An update of recent evidence of the relationship between objective and self-report measures of the physical environment and physical activity behaviours. *Journal of Science and Medicine in Sport*, 7(1), 81–92.

McGinn, A. P., Evenson, K. E., Herring, A. H., Huston, S. L., & Rodriguez, D. A. (2007). Exploring associations between physical activity and perceived and objective measures of the built environment. *Journal of Urban Health*, 84(2), 162–184.

McMillan, T. E. (2005). Urban form and a child's trip to school: The current literature and a framework for future research. *Journal of Planning Literature*, 19(4), 440–456.

McMillan T. E. (2007). The relative influence of urban form on a child's travel mode to school. *Transportation Research A*, 41(1), 69–79.

Melo, P. C., Graham, D. J., & Noland, R. B. (2009). A meta-analysis, of estimates of urban agglomeration economics. *Regional Science and Urban Economics*, 39(3), 332–342.

Mokhtarian, P. L., & Cao, X. (2008). Examining the impacts of residential self-selection on travel behavior: A focus on methodologies. *Transportation Research B, 43*(3), 204–228.

Naess, P. (2005). Residential location affects travel behavior—But how and why? The case of Copenhagen metropolitan area. *Progress in Planning*, 63(1), 167–257.

Newman, P. W. G., & Kenworthy, J. R. (2006). Urban design to reduce automobile dependence. *Opolis: An International Journal of Suburban and Metropolitan Studies*, 2(1), 35–52.

Nijkamp, P., & Pepping, G. (1998). A meta-analytical evaluation of sustainable city initiatives. *Urban Studies*, *35*(9), 1481–1500.

Oakes, J. M., Forsyth, A., & Schmitz, K. H. (2007). The effects of neighborhood density and street connectivity on walking behavior: The Twin Cities walking study. *Epidemiologic Perspectives & Innovations*, *4*(16). doi:10.1186/1742-5573-4-16.

Owen, N., Humpel, N., Leslie, E., Bauman, A., & Sallis, J. F. (2004). Understanding environmental influences on walking: Review and research agenda. *American Journal of Preventive Medicine*, 27(1), 67–76.

Pickrell, D., & Schimek, P. (1999). Growth in motor vehicle ownership and use: Evidence from the Nationwide Personal Transportation Survey. *Journal of Transportation and Statistics*, 2(1), 1–17.

Plaut, P. O. (2005). Non-motorized commuting in the U.S. Transportation Research D, 10(5), 347–356.

Pont, K., Ziviani, J., Wadley, D., Bennett, S., & Abbott, R. (2009). Environmental correlates of children's active transportation: A systematic literature review. *Health & Place*, 15(3), 827–840.

Pushkar, A. O., Hollingworth, B. J., & Miller, E. J. (2000, January). A multivariate regression model for estimating greenhouse gas emissions from alternative neighborhood designs. Paper presented at the 79th annual meeting of the Transportation Research Board, Washington, DC. Rajamani, J., Bhat, C. R., Handy, S., Knaap, G., & Song, Y. (2003). Assessing the impact of urban form measures in nonwork trip mode

choice after controlling for demographic and level-of-service effects. *Transportation Research Record*, 1831, 158–165.

Reilly, M. K. (2002, January). Influence of urban form and land use on mode choice: Evidence from the 1996 bay area travel survey. Paper presented at the 81st annual meeting of the Transportation Research Board, Washington, DC.

Rodenburg, R., Benjamin, A., de Roos, C., Meijer, A. M. & Stams, G. J. (2009). Efficacy of EMDR in children: A meta-analysis. *Clinical Psychology Review, 29*(7), 599–606.

Rodriguez, D. A., & Joo, J. (2004). The relationship between nonmotorized mode choice and the local physical environment. *Transportation Research D*, 9(2), 151–173.

Rose, M. (2004). *Neighborhood design and mode choice*. (Unpublished doctoral dissertation.) Portland State University, Portland, OR.

Rothstein, H. R., Sutton, A. J., & Borenstein, M. (2005). Publication bias in meta-analysis. In Rothstein, H. R., Sutton, A. J. & Borenstein, M. (Eds.). *Publication bias in meta-analysis: Prevention, assessment and adjustment* (pp. 1–7). Chichester, UK: Wiley.

Ryan, S., & Frank, L. D. (2009). Pedestrian environments and transit ridership. *Journal of Public Transportation*, 12(1), 39-57.

Saelens, B. E., & Handy, S. (2008). Built environment correlates of walking: A review. *Medicine & Science in Sports & Exercise, 40(S)*, S550–S567.

Saelens, B. E., Sallis, J. F., & Frank, L. D. (2003). Environmental correlates of walking and cycling: Findings from the transportation, urban design, and planning literatures. *Annals of Behavioral Medicine*, 25(2), 80–91.

Salon, D. (2006). Cars and the city: An investigation of transportation and residential location choices in New York City. Davis, CA: Agricultural and Resource Economics, University of California, Davis.

Schimek, P. (1996). Household motor vehicle ownership and use: How much does residential density matter? *Transportation Research Record*, *1552*, 120–125.

Schulze, R. (2004). *Meta-analysis: A comparison of approaches*. Cambridge, MA: Hogrefe & Huber.

Shadish, W. R., & Haddock, C. K. (1994). Combining estimates of effect size. In H. Cooper & L. V. Hedges (Eds.), *The handbook of research synthesis* (pp. 261–280). New York, NY: Russell Sage Foundation.

Shay, E., Fan, Y., Rodriguez, D. A., & Khattak, A. J. (2006). Drive or walk? Utilitarian trips within a neo-traditional neighborhood. *Transportation Research Record*, 1985, 154–161.

Shay, E., & Khattak, A. J. (2005). Auto ownership and use in neotraditional and conventional neighborhoods. *Transportation Research Record*, *1902*, 18–25.

Shen, Q. (2000). Spatial and social dimensions of commuting. *Journal* of the American Planning Association, 66(1), 68–82.

Smith, V. K., & Huang, J. (1995). Can markets value air quality? A meta-analysis of hedonic property value models. *Journal of Political Economy*, *103*(1), 209–227.

Soltani, A., & Allan, A. (2006). Analyzing the impacts of microscale urban attributes on travel: Evidence from suburban Adelaide, Australia. *Journal of Urban Planning and Development, 132*(3), 132–137.

Stamps, A. E. III. (1990). Use of photographs to simulate environments: A meta-analysis. *Perceptual and Motor Skills*, 71(3), 907–913.

Stamps, A. E. III. (1999). Demographic effects in environmental aesthetics: A meta-analysis. *Journal of Planning Literature*, 14(2), 155–175.

Stead, D., & Marshall, S. (2001). The relationships between urban form and travel patterns. An international review and evaluation. *European Journal of Transport and Infrastructure Research, 1*(2), 113–141.

Sun, X., Emany, M., Pendyala, R., & Wilmot, C. G. (1998). Household travel, household characteristics, and land-use: An empirical study from the 1994 Portland travel survey. *Transportation Research Record*, *1617*, 10–17.

Talvitie, A. (1976). Disaggregate travel demand models with disaggregate data, not with aggregate data, and for what (Working Paper 7615). Berkeley, CA: Institute of Transportation Studies.

Targa, F., & Clifton, K. (2005). The built environment and trip generation for non-motorized travel. *Journal of Transportation and Statistics*, 8(3), 55–70.

Tompa, E., de Oliveira, C., Dolinschi, R. & Irvin, E. (2008). A systematic review of disability management interventions with economic evaluations. Journal of Occupational Rehabilitation, 18(1), 16-26. Train, K. (1986). Qualitative choice analysis: Theory, econometrics, and an application to automobile demand. Cambridge, MA: The MIT Press. Transportation Research Board & Institute of Medicine Committee on Physical Activity, Health, Transportation, and Land Use. (2005). Does the built environment influence physical activity? Examining the evidence (Special Report 282). Washington, DC: National Academy of Sciences. Treadwell, J. R., Tregear, S. J., Reston, J. T., & Turkelson, C. H. (2006). A system for rating the stability and strength of medical evidence. Medical Research Technology, 6(52). doi:10.1186/1471-2288-6-52. Trost, S. G., Owen, N., Bauman, A. E., Sallis, J. F., & Brown, W. (2002). Correlates of adults' participation in physical activity: Review and update. Medicine & Science in Sports & Exercise, 34(12), 1996–2001. van de Coevering, P., & Schwanen, T. (2006). Re-evaluating the impact of urban form on travel patterns in Europe and North-America. Transport Policy, 13(3), 229-239.

Walters, J., Ewing, R., & Allen, E. (2000). Adjusting computer modeling tools to capture effects of smart growth. *Transportation Research Record*, *1722*, 17–26.

Waygood, E. O. D., Sun, Y., Kitamura, R. (2009, January). *Children in transit oriented development: Travel patterns, independence, and exercise.* Paper presented at the 88th annual meeting of the Transportation Research Board, Washington, DC.

Yarlagadda, A. K., & Srinivasan, S. (2008). Modeling children's school travel mode and parental escort decisions. *Transportation*, 35(2), 201–218.
Zegras, P. C. (2007, January). *The built environment and motor vehicle ownership and use: Evidence from Santiago de Chile*. Paper presented at the 86th annual meeting of the Transportation Research Board, Washington, DC.

Zhang, M. (2004). The role of land use in travel mode choice: Evidence from Boston and Hong Kong. *Journal of the American Planning Association*, 70(3), 344–361.

Zhang, M. (2009, January). Bus vs. rail: A meta-analysis of cost characteristics, carrying capacities, and land use impacts. Paper presented at the 88th annual meeting of the Transportation Research Board, Washington, DC. Zheng, Y. (2008). The benefit of public transportation: Physical activity to reduce obesity and ecological footprint. Preventive Medicine, 46(1), 4–5.

Zhou, B., & Kockelman, K. (2008). Self-selection in home choice: Use of treatment effects in evaluating relationship between built environment and travel behavior. *Transportation Research Record*, 2077, 54–61.

Appendix: Individual Study Results

Table A-1. Elasticity of VMT with respect to density.

Study	N	ý	x	e	In meta- analysis?
Bhatia, 2004	20	VMT per household	Household	-0.34 *	
Boarnet et al., 2004	6,153	Nonwork VMT per person	Population	-0.04	
Boarnet et al., 2004	6,153	Nonwork VMT per person	Job	0.03	
Boarnet et al., 2004	6,153	Nonwork VMT per person	Retail job	-0.02	
Chatman, 2003	14,478	VMT for commercial trips per person	Household	-0.58	
Chatman, 2003	14,478	VMT for commercial trips per person	Job	-0.34 ^ψ	
Chatman, 2008	527·	Nonwork VMT per person	Population per road mile	−1.05 ^ψ	
Chatman, 2008	527	Nonwork VMT per person	Retail job	-0.19 **	
Ewing et al., 1996 (Dade County)	1,311	VHT per household	Population and employment	-0.05	
Ewing et al., 1996 (Palm Beach County)	. 764	VHT per household	Population and employment	0.00	
Ewing et al., 2009	1,466	VMT per household	Population	0.00	у
Ewing et al., 2009	1,466	VMT per household	Job	-0.06	у
Fan, 2007	7,422	Miles traveled per person	Parcel	~-0.07 **	
Frank & Engelke, 2005	4,552	VMT per household	Net residential	0.00	у
Greenwald, 2009	3,938	VMT per household	Net residential	-0.07	У
Greenwald, 2009	3,938	VMT per household	Net job	0.01	у
Hedel & Vance, 2007	28,901	VKT per person	Commercial	-0.0I	
Holtzclaw et al., 2002 (Chicago)	314	VMT per household	Household	-0.14	
Holtzclaw et al., 2002 (Los Angeles)	1,459	VMT per household	Household	-0.11	
Holtzclaw et al., 2002 (San Francisco)	1,047	VMT per household	Household	-0.14	
Kockelman, 1997	8,050	VMT per household	Population	0.00	у
Kockelman, 1997	8,050	VMT per household	Job	0.00	у
Kuzmyak, 2009a	5,926	VMT per household	Household	-0.04 **	у
Kuzmyak, 2009b	3,615	VMT per household	Household	0.00	у
Naess, 2005	1,414	Weekday travel distance by car per person	Population and employment	0.00	
Pickrell & Schimek, 1999	40,000	Miles driven per vehicle	Population	-0.06 **	
Schimek, 1996	15,916	VMT per household	Population	-0.07	у
Sun et al., 1998	4,000	VM'I per household	Јођ	0.00	. у
Zegras, 2007	4,279	Daily automobile use per household	Dwelling unit	-0.04 **	у
Zhou & Kockelman, 2008	1,903	VMT per household	Population	-0.12 **	у
Zhou & Kockelman, 2008	1,903	VMT per household	Job	$0.02 \ ^{\psi}$	у

 $^{\psi}p < .10 \quad ^{*}p < .05 \quad ^{**}p < .01$

Table A-2. Elasticity of VMT with respect to diversity.

Study	N	y	x	e	In meta- analysis?
Bento et al., 2003	6,808	VMT per household	Job-housing imbalance	-0.06 ^{ψa}	у
Cervero & Kockelman, 1997	896	VMT per household	Land use dissimilarity	0.00	
Cervero & Kockelman, 1997	896	VMT per household	Proportion vertical mix	0.00	·
Cervero & Kockelman, 1997	896	VMT per household	Proportion of population within 1/4 mile of store	0.00	
Chapman & Frank, 2004	8,592	VMT per person	Land use mix (entropy index)	-0.04 **	у
Ewing et al., 1996 (Palm Beach County)	764	VHT per household	Job-population balance	-0.09	
Ewing et al., 2009	1,466	VMT per household	Job-population balance	0.00	Y
Fan, 2007	7,422	Miles traveled per person	Retail store count	0.00	
Frank & Engelke, 2005	4,552	VMT per household	Land use mix (entropy index)	-0.02 **	у
Frank et al., 2009	2,697	VMT per household	Land use mix (entropy index)	-0.04	У
Greenwald, 2009	3,938	VMT per household	Non-retail job-housing balance	0.03	у
Greenwald, 2009	3,938	VMT per household	Retail job-housing balance	-0.01	У
Greenwald, 2009	3,938	VMT per household	Job mix (entropy index)	0.01	
Hedel & Vance, 2007	28,901	VKT per person	Land use mix (entropy index)	-0.06	у
Kockelman, 1997	8,050	VKT per household	Land use dissimilarity	-0.10 **	
Kockelman, 1997	8,050	VKT per household	Land use mix (entropy index)	-0,10 *	у
Kuzmyak et al., 2006	2,707	VMT per household	Land use mix (entropy index)	-0.09	У
Kuzmyak et al., 2006	2,707	VMT per household	Walk opportunities within 1/2 mile of home	-0.10 *	У
Kuzmyak, 2009a	5,926	VMT per household	Land use mix (entropy index)	-0.27 **	. у
Kuzmyak, 2009b	3,615	VMT per household	Land use mix (entropy index)	-0.09 **	У
Pushkar et al., 2000	795	VKT per household	Land use mix (entropy index)	-0.11 **	
Sun et al., 1998	4,000	VMT per household	Land use mix (entropy index),	0.10	У
Zegras, 2007	4,279	Automobile use per household	Land use diversity	-0.01 **	у

 ${}^{\psi}p < .10$ ${}^{*}p < .05$ ${}^{**}p < .01$ Note: VKT is vehicle kilometers of travel.

a. Sign reversed.

Table A-3. Elasticity of VMT with respect to design.

Study	N	у	x	e	ln meta- analysis?
Bhat & Eluru, 2009	3,696	VMT per household	Bicycle lane density	-0.08 **	
Bhat, Sen, et al., 2009	8,107	VMT per household	Bicycle lane density	-0.05 *	
Bhat, Sen, et al., 2009	8,107	VMT per household	Street block density	0.01 *	
Boarnet et al., 2004	6,153	Nonwork VMT per person	Intersection density	-0.19 **	
Boarnet et al., 2004	6,153	Nonwork VMT per person	Proportion 4-way intersections	-0.06 *	
Boarnet et al., 2004	6,153	Nonwork VMT per person	Pedestrian environment factor	0.05	
Cervero & Kockelman, 1997	. 896	VMT per household	Proportion 4-way intersections	0.00	у
Cervero & Kockelman, 1997	896	VMT per household	Proportion quadrilateral blocks	0.19 **	
Cervero & Kockelman, 1997	896	VMT per household	Sidewalk width	0.00	
Cervero & Kockelman, 1997	896	VMT per household	Proportion front and side parking	0.00	
Chapman & Frank, 2004	8,592	VMT per person	Intersection density	-0.08 **	у
Chatman, 2008	527	Nonwork VMT per person	4-way intersection density	-0.06	
Ewing et al., 2009	1,466	VMT per household	Intersection density	-0.31 *	У
Fan, 2007	7,422	Miles traveled per person	Proportion connected intersections	0.11	у
Fan, 2007	7,422	Miles traveled per person	Sidewalk length	-0.02 [#]	
Frank & Engelke, 2005	4,552	VMT per household	Intersection density	-0.10 **	У
Frank et al., 2009	2,697	VMT per household	Intersection density	~0.11 **	у
Greenwald, 2009	3,938	VMT per household	Intersection density	-0.29 **	у
Hedel & Vance, 2007	28,901	VKT per person	Street density	−0.04 ×	у
Pushkar et al., 2000	795	VKT per household	Intersections per road km	-0.04 *	
Zegras, 2007	4,279	Automobile use per household	Proportion 3-way intersections	-0.15 *a	у
Zegras, 2007	4,279	Daily automobile use per household	Plaza density	-0.03 *	

 ${}^{\psi}p < .10 \quad {}^{*}p < .05 \quad {}^{**}p < .01$

Note:

a. Sign reversed.

Study	N	y	. x	e .	In meta- analysis?
Bento et al., 2003	6,808	VMT per household	Population centrality	-0.15 **	
Bhat & Eluru, 2009	3,696	VMT per household	Accessibility to shopping	-0.01 **	
Bhatia, 2004	20	VMT per household	Job/household accessibility by transit	-0.19 *	
Boarnet et al., 2004	6,153	Nonwork VMT per person	Distance to CBD	-0.18 ** .	
Cervero & Duncan, 2006	16,503	Work VMT per person	Job accessibility by auto	-0.31 **	
Cervero & Duncan, 2006	16,503	Shopping VMT per person	Retail job accessibility by auto	-0.17 **	
Cervero & Kockelman, 1997	896	VMT per household	Job accessibility by auto	-0.27 **	у
Ewing et al., 1996 (Palm	764	VHT per household	Job accessibility by auto	-0.04 **	
Beach County)		••			
Ewing et al., 1996	1,311	VHT per household	Job accessibility by auto	-0.15 **	
(Dade County)				I	
Ewing et al., 2009	1,466	VMT per household	Job accessibility by auto	-0.03	у
Frank et al., 2009	2,697	VMT per household	Job accessibility by transit	-0.10 **	у
Greenwald, 2009	3,938	VMT per household	Job accessibility by auto	-0.06 **	у
Kockelman, 1997	8,050	VMT per household	Job accessibility by auto	-0.31 **	у
Kuzmyak et al., 2006	2,707	VMT per household	Job accessibility by auto and transit	-0.13 *	
Kuzmyak, 2009a	5,926	VMT per household	Job accessibility by transit	-0.04 **	у
Kuzmyak, 2009b	3,615	VMT per household	Job accessibility by transit	-0.03 **	у
Naess, 2005	1,414	Weekday travel distance by car	Distance to downtown	-0.27 **a	У
		per person			
Pushkar et al., 2000	795	VKT per household	Distance to CBD	-0.20 **a	
Shen, 2000	3,565	Average commute time	Job accessibility by auto and transit	-0.18	
Sun et al., 1998	4,000	VMT per household	Job accessibility by auto	0.17 **	у
Sun et al., 1998	4,000	VMT per household	Household accessibility by auto	-0.34 **	
Zegras, 2007	4,279	Daily automobile use per household	Distance to CBD	-0.20 **a	у

Table A-4. Elasticity of VMT with respect to destination accessibility.

p < .10 p < .05 **p < .01Note: a. Sign reversed.

Study	N	y.	x	e	In meta- analysis?
Bento et al., 2003	6,808	VMT per household	Distance to transit stop	-0.08 ***	
Frank & Engelke, 2005	4,546	VMT per household	Distance to bus stop	-0.01^{a}	у
Frank et al., 2009	2,697	VMT per household	Distance to bus stop squated	-0.04 **a,b	y
Hedel & Vance, 2007	28,901	VKT per individual	Walk minutes to transit	$-0.02^{-\psi_a}$	У
Naess, 2005	1,414	Weekday travel distance by car per person	Distance to rail station	0.14 *a	у
Pushkar et al., 2000	795	VKT per household	Distance to transit station	-0.03 **a	
Zegras, 2007	4,279	Daily automobile use per Household	Distance to Metro	-0.19 **a	у

Table A-5. Elasticity of VMT with respect to transit access.

 $p < .10 \quad p < .05 \quad **p < .01$

Notes:

a. Sign reversed.

b. Sign reversed and multiplied by 2 to make x variable equivalent to others.

Table A-6. Effect on VMT^a of neighborhood type.

		· · ·	ر		In meta-
Study	N	\mathcal{Y}	x	e	analysis?
Bhat & Eluru, 2009	3,696	VMT per household	Urban neighborhood	-0.34 **	
Cao, Xu, et al., 2009	3,376	Vehicle miles driven per person	Urban neighborhood	-0.28 **	
Cervero, 2007	226	Commute VMT per person	Transit-oriented development	-0.29 **	
Khattak & Rodriguez, 2005	302	Daily miles traveled per household	New urbanist neighborhood	-0.20 ^ψ	
Shay & Khattak, 2005	399	Auto VMT per household	New urbanist neighborhood	-0.22 *	

 $p < .10 \quad p < .05 \quad p < .01$ Note:

a. Proportional reduction relative to conventional suburban neighborhood.

Table A-7. Elasticity of walk trips with respect to density.

Study	N	y.	\boldsymbol{x}	e	In meta- analysis?
Bhatia, 2004	20	Walk trips per household	Household density	0.83 **	
Boarnet et al., 2008	6,362	Miles walked per person	Population density	0.13 *	
Boarnet et al., 2008	6,362	Miles walked per person	Retail job density	0.07 **	
Boarnet et al., 2008	6,362	Miles walked per person	Job density	0.00	
Boarnet et al., 2009	1,370	Walk trips per person	Residential density	-0.50	у
Boarnet et al., 2009	1,370	Walk trips per person	Business density	0.14 *	у
Boer et al., 2007	29,724	Miles walked per person	Housing density	0.21 ^b	
Chatman, 2009	999	Walk/bike trips per person	Population per road mile	0.16	
Chatman, 2009	999	Walk/bike trips per person	Retail job density	0.00	
Ewing et al., 2009	3,823	Walk mode choice	Population density	0.01	У
Ewing et al., 2009	3,823	Walk mode choice	Job density	0.10	у
Fan, 2007	988	Daily walking time per person	Parcel density	0.08 $^{+}$	
Frank et al., 2008	8,707 ·	Walk mode choice for work trips	Retail floor area ratio	0.07 *	
Frank et al., 2008	10,475	Walk mode choice for other trips	Retail floor area ratio	0.04 *	
Frank et al., 2009	2,697	Walk trips per household	Retail floor area ratio	0.20 **	
Frank et al., 2009	2,697	Walk trips per household	Number of retail parcels	0.08 **	
Greenwald & Boarnet, 2001	1,084	Walk trips per person for nonwork purposes	Population density	0.34 ***	У
Greenwald & Boarner, 2001	1,084	Walk trips per person for nonwork purposes	Retail job density	0.11 **	
Greenwald, 2009	3,938	Walk/bike trips per household	Residential density	0.28 **	у
Greenwald, 2009	3,938	Walk/bike trips per household	Job density	0.03	у
Hess et al., 1999	12	Pedestrians per hour	Population density	1.39	
Joh et al., 2009	2,125	Walk trips per person	Neighborhood business density	0.19 **	
Kockelman, 1997	8,050	Walk/bike mode choice	Population density	0.00	У
Kockelman, 1997	8,050	Walk/bike mode choice	Job density	0.00	У
Naess, 2005	1,406	Weekday travel distance by walk/bike per person	Population + employment density	0.00	
Rajamani et al., 2003	2,500	Walk mode choice for nonwork trips	Population density	0.01	. У
Reilly, 2002	7,604	Walk mode choice for nonwork trips	Population density	0.16 **	У
Targa & Clifton, 2005	2,934	Walk trips per person	Household density	0.03	у
Zhang, 2004 (Boston)	1,619	Walk/bike mode choice for work trips	Population density	0.11 *	у
Zhang, 2004 (Boston)	1,619	Walk/bike mode choice for work trips	Job density	0.03 *	у
Zhang, 2004 (Boston)	1,036	Walk/bike mode choice for nonwork trips	Population density	0.06 *	у
Zhang, 2004 (Boston)	1,036	Walk/bike mode choice for nonwork trips	Job density	0.00	у

 $p < .10 \quad p < .05 \quad mp < .01$

Notes:

a. Computed at median cutpoint by Jason Cao.

b. Significance level indeterminate.

Table A-8. Elasticity of walk trips with respect to diversity.

Study	N	· <i>y</i> ·	x	e	In meta- analysis?
Bento et al., 2003	4,456	Walk/bike mode choice	Job-housing imbalance	0.30 *a	y
Boer et al., 2007	29,724	Miles walked per person	Business types in neighborhood	0.20 ^b	•
Cao, Mokhtarian, et al., 2009b	1,277	Nonwork walk trips per person	Business types within 400 meters	0.07 **	
Cao et al., 2006	837	Walk trips to store per person	Distance to store	0.56 ***	у
Cervero & Kockelman, 1997	2,850	Non-person vehicle choice for nonwork trips	Land use dissimilarity	0.00	·
Cervero & Kockelman, 1997	2,850	Non-person vehicle choice for nonwork trips	Proportion vertical mix	0.00	
Cervero & Kockelman, 1997	2,850	Non-person vehicle choice for nonwork trips	Proportion of population within 1/4 mile of store	0.00	
Ewing et al., 2009 (Portland)	3,823	Walk mode choice	Job-population balance	0.18.	у
Frank et al., 2008	8,707	Walk mode choice for work trips	Land use mix (entropy index)	0.22 **	у
Frank et al., 2008	10,475	Walk mode choice for other trips	Land use mix (entropy index)	0.03 *	У
Frank et al., 2009	2,697	Walk trips per household	Land use mix (entropy index)	0.08 ^y	
Greenwald, 2009	3,938	Walk/bike trips per household	Non-retail job-housing balance	0.25 ^ψ	у
Greenwald, 2009	3,938	Walk/bike trips per household	Retail job-housing balance	0.02	у
Greenwald, 2009	3,938	Walk/bike trips per household	Job mix (entropy index)	0.09	
Handy & Clifton, 2001	1,368	Walk trips to store per person	Distance to nearest store	0.48 **a	· y
Handy et al., 2006	1,480	Walk trips to store per person	# Business types within 800m	0.29 **	
Handy et al., 2006	$1,\!480$	Walk trips to store per person	Distance to nearest grocery	0.17 **a	у
Kitamura et al., 1997	14,639	Fraction walk/bike trips	Distance to nearest park	0.11 **	
Kockelman, 1997	8,050	Walk/bike mode choice	Land use mix (entropy index)	0.23 *	у
Rajamani et al., 2003	2,500	Walk mode choice for nonwork trips	Land use mix (diversity index)	0.36 *	у
Reilly, 2002	7,604	Walk mode choice for nonwork trips	Distance to closest commercial use	0.16 ***	у
Shay et al., 2006	348	Walk trips per household	Distance to commercial center	0.98 **a	У
Targa & Clifton, 2005	2,934	Walk trips per person	Land use mix (entropy index)	0.08 **	. у
Zhang, 2004 (Boston)	1,619	Walk/bike mode choice for work trips	Land use mix (entropy index)	0.00	у
Zhang, 2004 (Boston)	1,036	Walk/bike mode choice for nonwork trips	Land use mix (entropy index)	0.12	У.

 $^{b}p < .10 \quad ^{*}p < .05 \quad ^{**}p < .01$

Notes:

a. Sign reversed.

b. Significance level indeterminate.

Table A-9. Elasticity of walk trips with respect to design.

Study	N	ŷ	x	e	In meta- analysis
Boarnet et al., 2008	6,362	Miles walked per person	Intersection density	0.45 **	
Boarnet et al., 2008	6,362	Miles walked per person	Pedestrian environment factor	0.04	
Boarnet et al., 2009	1,370	Walk trips per person	Block size	0.35 °	у
Boarnet et al., 2009	1,370	Walk trips per person	% 4-way intersections	-0.09	у
Boer et al., 2007	29,724	Miles walked per person	Proportion 4-way intersections	0.39 ^d	
Boer et al., 2007	29,724	Miles walked per person	Block length (long side)	$-0.31^{\rm a,d}$	
Cervero & Kockelman, 1997	2,850	Non-private vehicle choice for nonwork trips	Proportion 4-way intersections	0.00	
Cervero & Kockelman, 1997	2,850	Non-private vehicle choice for nonwork trips	Proportion quadrilateral blocks	0.00	
Cervero & Kockelman, 1997	2,850	Non-private vehicle choice for nonwork trips	Sidewalk width	0.09 *	
Cervero & Kockelman, 1997	2,850	Non-private vehicle choice for nonwork trips	Proportion front and side parking	0.12 **a	
Chatman, 2009	999	Walk/bike trips per person	4-way intersection density	0.30 *	
Ewing et al., 2009	3,823	Walk mode choice	Intersection density	0.43 **	у
Ewing et al., 2009	3,823	Walk mode choice	Sidewalk coverage	0.27 **	у
Fan, 2007	988	Daily walking time per person	% connected intersections	0.40 **	
Fan, 2007	988	Daily walking time per person	Sidewalk length	0.12 **	1
Frank et al., 2008	8,707	Walk mode choice for work trips	Intersection density	0.21 **	у
Frank et al., 2008	10,475	Walk mode choice for other trips	Intersection density	0.28 **	у
Frank et al., 2009	2,697	Walk trips per household	Intersection density	0.55 **	у
Greenwald, 2009	3,938	Walk/bike trips per household	Intersection density	1.11 **	у
Greenwald & Boarnet, 2001	1,084	Walk trips per person for nonwork purposes	Pedestrian environment factor	0.25 ^b	
Hess et al., 1999	12	Pedestrians per hour	Block size	0.35 ***	
Joh et al., 2009	2,125	Walk trips per person	Block size	0.01 a	у
Joh et al., 2009	2,125	Walk trips per person	% 4-way intersections	-0.27	. y
Rajamani et al., 2003	2,500	Walk mode choice for nonwork trips	% Culs-de-sac	0.00 **c	· y
Rodriguez & Joo, 2004	448	Walk mode choice for commute trips	Sidewalk coverage	1.23 **	· · ·
Rodriguez & Joo, 2004	448	Walk mode choice for commute trips	Path directness	0.03 *	
Soltani & Allan, 2006	1,842	Walk/bike mode choice	Path directness	0.11	
Targa & Clifton, 2005	2,934	Walk trips per person	Block size	0.32 ***	у
Zhang, 2004 (Boston)	1,619	Walk/bike mode choice for work trips	Street connectivity	$0.07 \ ^{\psi}$	у
Zhang, 2004 (Boston)	1,036	Walk/bike mode choice for nonwork trips	Street connectivity	0.05	•

 ${}^{\psi}p < 0.10 \quad {}^{*}p < 0.05 \quad {}^{**}p < 0.01$

Notes:

a. Sign reversed.

b. Computed at the median cutpoint by Jason Cao.

c. Because either the elasticity or significance level must be misreported in the published article we dropped this observation from the meta-analysis.

d. Significance level indeterminate.

Study	N	Y	x	e	In meta- analysis?
Bento et al., 2003	4,456	Walk/bike mode choice	Population centrality	1.00 ^ψ	
Boarnet et al., 2008	6,362	Miles walked per person	Distance to cbd	0.49 **a	
Cervero & Duncan, 2003	7,836	Walk mode choice	Jobs within one mile	0.04	у
Cervero & Kockelman, 1997	2,850	Non-person vehicle choice for nonwork trips	Job accessibility by auto	0.00	
Chatman, 2009	999	Walk/bike trips per person	Distance to downtown	0.29 ^{ψa}	
Ewing et al., 2009	3,823	Walk mode choice	Jobs within one mile	0.23 *	У
Greenwald, 2009	3,938	Walk/bike trips per household	Job accessibility by auto	-0.32 **	
Kockelman, 1997	8,050	Walk/bike mode choice	Job accessibility by walking	0.22 **	у
Naess, 2005	1,406	Weekday travel distance by walk/bike per person	Distance to downtown	0.29 **a	

Table A-10. Elasticity of walk trips with respect to destination accessibility.

 ${}^{\psi}p<.10\ .\ {}^{*}p<.05\ {}^{**}p<.01$

Note:

a. Sign reversed.

Table A-11. Elasticity of walk trips with respect to transit access.

Study	'N	.	x	e	In meta- analysis?
Bento et al., 2003	4,456	Walk/bike mode choice	Distance to nearest transit stop	0.30 ^a	у
Boarnet et al., 2008	6,362	Miles walked per person	Distance to light rail	-0.17 *a	
Kitamura et al., 1997	14,639	Fraction walk/bike trips	Distance to nearest bus stop	0.10 *a	У
Naess, 2005	1,406	Weekday travel distance by walk/bike per person	Distance to closest rail station	0.00 ^a	
Rajamani et al., 2003	2,500	Walk mode choice for nonwork trips	% within walking distance of bus	0.02 ª	
Targa & Clifton, 2005	2,934	Walk trips per person	Distance to nearest bus stop	0.08 **a	у

 ${}^{\psi}p < .10 \quad {}^{*}p < .05 \quad {}^{**}p < .01$

Note:

Table A-12. Effect on walk trips^a of neighborhood type.

Study	 N	У	x	e	In meta- analysis?
Cao, Mokhtarian, et al., 2009b	1,277	Nonwork walk trips per person	Traditional neighborhood	0.44 **	
Handy & Clifton, 2001	1,368	Walk trips to store per person	Traditional neighborhood	1.20 **	
Khattak & Rodriguez, 2005	302	Walk trips per household	New urbanist neighborhood	3.06 **	
Lund, 2003	427	Destination walk trips per person	Neighborhood with retail	0.38 **	
Lund, 2003	427	Destination walk trips per person	Neighborhood with retail and park	0.85 **	
Plaut, 2005	26,950	Walk mode choice for commute trips	Neighborhood with retail	0.79 **	
Rose, 2004	244	Walk trips per person	New urbanist neighborhood	0.35 *	:

 ${}^{\psi}p < .10 \quad {}^{*}p < .05 \quad {}^{**}p < .01$

Note:

a. Proportional increase relative to conventional neighborhood.

a. Sign reversed.

Table A-13. Elasticity of transit trips with respect to density.

Study	N	y.	.	e	In meta- analysis?
Bhatia, 2004	20	Transit trips per household	Household density	0.37 *	
Cervero, 2002a	427	Transit mode choice	Gross population density	0.39 *	·y
Cervero, 2006	225	Weekday boardings per station	Population density	0.19 **	
Ewing et al., 2009	3,823	Transit mode choice	Population density	-0.01	у
Ewing et al., 2009	3,823	Transit mode choice	Job density	0.08	y
Fan, 2007	154	Daily transit travel time per person	Parcel density	0.00	
Frank et al., 2008	8,707	Transit mode choice for work trips	Retail floor area ratio	0.21 **	у
Frank et al., 2008	10,475	Transit mode choice for nonwork trips	Retail floor area ratio	0.17 **	y
Greenwald, 2009	3,938	Transit trips per household	Net residential density	0.41 **	y
Greenwald, 2009	3,938	Transit trips per household	Net job density	-0.05 *	y y
Kuby et al., 2004	268	Weekday boardings per station	Population within walking distance	0.11 *	
Kuby et al., 2004	268	Weekday boardings per station	Employment within walking distance	0.07 *	
Rajamani et al., 2003	2,500	Transit mode choice for nonwork trips	Population density	0.08	у
Reilly, 2002	7,604	Transit mode choice for nonwork trips	Population density	0.20 *	y
Rodriguez & Joo, 2004	454	Transit mode choice for commute trips	Population density	0.20	y
Zhang, 2004 (Boston)	1,619	Transit mode choice for work trips	Population density	0.12 *	y
Zhang, 2004 (Boston)	1,036	Transit mode choice for nonwork trips	Population density	0.13 *	y
Zhang, 2004 (Boston)	1,619	Transit mode choice for work trips	Job density	0.09 *	y
Zhang, 2004 (Boston)	1,036	Transit mode choice for nonwork trips	Job density	0.00	у
Zhang, 2004 (Hong Kong)	20,246	Transit mode choice for work trips	Population density	0.01	у
Zhang, 2004 (Hong Kong)	15,281	Transit mode choice for nonwork trips	Population density	0.01 *	y
Zhang, 2004 (Hong Kong)	20,246	Transit mode choice for work trips	Job density	0.01 **	y. y
Zhang, 2004 (Hong Kong)	15,281	Transit mode choice for nonwork trips	Job density	0.01	y.
	•				

 ${}^{\psi}p < .10 \quad {}^{*}p < .05 \quad {}^{**}p < .01$

In metaanalysis? Study Ny xe 0.60 ª Transit mode choice Job-housing imbalance y Bento et al., 2003 4,456 0.53 * Land use mix (entropy index) Cervero, 2002a 427 Transit mode choice у 0.00 Cervero & Kockelman, 1997 1,544 Non-personal vehicle choice for work trips Land use dissimilarity Proportion vertical mix 0.00Cervero & Kockelman, 1997 Non-personal vehicle choice for work trips 1,544 0.00 Proportion of population Non-personal vehicle choice for work trips Cervero & Kockelman, 1997 1,544 within 1/4 of store Daily transit travel time per person Retail store count -0.04 * Fan, 2007 154 0.09 * Land use mix (entropy index) Frank et al., 2008 Transit mode choice for work trips у 8,707 0.19 Land use mix (entropy index) Transit mode choice for nonwork trips у Frank et al., 2008 10,475 0.23 * Greenwald, 2009 Transit trips per household Job-housing balance ÿ 3,938 Job mix (entropy index) 0.04Greenwald, 2009 Transit trips per household 3,938 0.11 * Distance to nearest park Kitamura et al., 1997 14,639 Fraction transit trips Land use mix (diversity index) -0.04Rajamani et al., 2003 2,500 Transit mode choice for nonwork trips ÿ -0.19 ** Transit mode choice for nonwork trips Distance to closest commercial use Reilly, 2002 7,604 Land use mix (entropy index) 0.00Zhang, 2004 (Boston) 1,619 Transit mode choice for work trips ÿ 0.12 Land use mix (entropy index) Zhang, 2004 (Boston) 1,036 Transit mode choice for nonwork trips y

Table A-14. Elasticity of transit trips with respect to diversity.

 $\psi p < .10$ *p < .05 **p < .01

Note:

a. Sign reversed.

Table A-15. Elasticity of transit trips with respect to design.

Study	N	Y	$x^{''}$	e	In meta- analysis?
Cervero, 2002a	427	Transit mode choice	Sidewalk ratio	0.16	
Cervero, 2007	726	Transit mode choice for work trips	% 4-way intersections	1.08	у
Cervero & Kockelman, 1997	1,544	Non-personal vehicle choice for work trips	Proportion front and side parking	0.00	
Cervero & Kockelman, 1997	1,544	Non-personal vehicle choice for work trips	Proportion 4-way intersections	0.00	
Cervero & Kockelman, 1997	1,544	Non-personal vehicle choice for work trips	Sidewalk width	0.00	
Cervero & Kockelman, 1997	1,544	Non-personal vehicle choice for work trips	Proportion quadrilateral blocks	0.19	
Fan, 2007	154	Daily transit travel time per person	% connected intersections	0.27	
Fan, 2007	154	Daily transit travel time per person	Sidewalk length	0.00	
Frank et al., 2008	8,707	Transit mode choice for work trips	Intersection density	0.20 *	y .
Frank et al., 2008	10,475	Transit mode choice for nonwork trips	Intersection density	$0.24 \ ^{\psi}$	у
Frank et al., 2009	2,697	Transit trips per household	Intersection density	0.12	у
Greenwald, 2009	3,938	Transit trips per household	Intersection density	0.37 *	· y
Lund et al., 2004	967	Transit mode choice	% 4-way intersections at destination	1.08 **	·у
Rajamani et al., 2003	2,500	Transit mode choice for nonwork trips	% Culs-de-sac	0.00 ^a	ÿ.
Rodriguez & Joo, 2004	454	Transit mode choice for commute trips	Sidewalk coverage	0.28 *	
Rodriguez & Joo, 2004	454	Transit mode choice for commute trips	Path directness	0.01 👳	
Zhang, 2004 (Boston)	1,619	Transit mode choice for work trips	Street connectivity	$0.08 \ ^{\psi}$	у
Zhang, 2004 (Boston)	1,036	Transit mode choice for nonwork trips	Street connectivity	0.04	у

 ${}^{\psi}p < .10 \quad {}^{*}p < .05 \quad {}^{**}p < .01$

Note:

a. Sign reversed.

Table A-16. Elasticity of transit trips with respect to destination accessibility.

Study	N	у	л ^и	e	ln meta- analysis?
Bento et al., 2003	4,456	Transit mode choice	Population centrality	0.00	
Cervero, 2006	225	Weekday boardings per station	Distance to CBD	0.21 **a	
Ewing et al., 2009	3,823	Transit mode choice	Job accessibility by transit	0.29 **	
Frank et al., 2009	2,697	Transit trips per household	Job accessibility by transit	0.16 *	
Greenwald, 2009	3,938	Transit trips per household	Job accessibility by auto	0.05	
Kuby et al., 2004	268	Weekday boardings per station	Average time to other stations	0.95 **a	
Lund et al., 2004	967	Transit mode choice	Job accessibility by auto	-0.70 **	

 ${}^{\psi}p < .10 \quad {}^{*}p < .05 \quad {}^{**}p < .01$

Note:

a. Sign reversed.

Study	N	y		e	In meta- analysis?
Bento et al., 2003	4,456	Transit mode choice	Distance to transit stop	1.00 ª	у
Ewing et al., 2009	3,823	Transit mode choice	Bus stop density	0.08	
Frank et al., 2009	2,697	Walk trips per household	Distance to bus stop squared	0.02 ^b	У
Kitamura et al., 1997	14,639	Fraction transit trips	Distance to rail station	0.13 **a	у
Rajamani et al., 2003	2,500	Transit mode choice for nonwork trips	% within walking distance of bus	0.42 *	

Table A-17. Elasticity of transit trips with respect to transit access.

 $^{\Downarrow}p < .10 \quad ^{*}p < .05 \quad ^{**}p < .01$

Notes:

a. Sign reversed.

b. Sign reversed and multiplied by 2 to make x variable equivalent to others.

Table A-18. Effect on transit trips^a of neighborhood type.

Study	N	, ,	<i>v</i>	e	ln meta- analysis?
Rose, 2004	244	Transit trips per person	New urbanist neighborhood	0.66	

Note:

a. Proportional increase relative to conventional neighborhood.

Copyright of Journal of the American Planning Association is the property of Routledge and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

the Atlantic cial holiday offer: Buy one get one FREE OR DEP NOW! June 2010

polytical science litterature reliand chefrer parener policy congret rowns technology travel

Here Comes the Neighborhoo

CONVENTIONAL SUBURBS ARE OVERBUILT AND OUT OF FAVOR. IN CITIES AND SUBURBS ALIKE, V NEIGHBORHOODS LINKED BY TRAIN ARE THE FUTURE. HERE'S HOW A NEW NETWORK OF PRIVAT FUNDED RAIL LINES CAN MAKE THAT FUTURE COME TO PASS MORE QUICKLY AND CHEAPLY—AND REINVIGORATE HOUSING AND THE ECONOMY.

By Christopher B. Leinberger



WHILE HOUSES ARE (mostly) sturdy, the construction industry is as sensitive as a 19th-ce debutante. At the first sign of trouble, it swoons, often knocking the economy down with it. I the three recessions before the Great Recession, the economy shrank by less than 2 percent-housing starts, on average, declined by a third. In the years leading up to the 1990 recession estate bankrupted about half of the savings-and-loans, housing starts fell 44 percent. Usuall economic recession means a *depression* in the housing industry.

http://www.theatlantic.com/magazine/print/2010/06/here-comes-the-neighborhood/8093/ 11/22/2010

Here Comes the Neighborhood - Magazine - The Atlantic

Also see:

Special Report: "The Future of the City"

An Atlantic special report on the changing urban landscape

It's been worse this time around. From their pre-recession peaks, economic output fell 3.3 p employment 6.1 percent, but housing starts dropped 73 percent. Last year housing starts we *half* than in any year since 1959, when the U.S. population stood at 178 million (compared w million today). About a third of all the jobs lost in this recession have been in construction, I finance, architecture, or building services. Housing prices, meanwhile, have fallen 28 percer for inflation, since their peak in 2006—that's far more than they fell during the Great Depre

But housing hasn't cratered everywhere. According to Stan Humphries, the chief economist an online housing-research firm, if you plot changes in home values within a typical metro r satellite map, the result "looks like an archery target, with the outlying areas having experier substantially higher total declines in home values" than areas closer to the central city.

Zillow data for metropolitan Washington, D.C., for instance, shows that housing prices on a declined 33 percent since the peak. But this average masks big differences. In densely built i suburbs, like Arlington, Virginia, and in the walkable, urban neighborhoods of the District o Columbia, prices typically dropped about 20 percent. Housing on the suburban fringe, on th hand, lost about half its value. Many exurban homeowners who had purchased or refinanced mid-2000s are now well underwater.

Housing is such a large part of the economy that a sustained, robust recovery is difficult to in without a corresponding recovery in the building, buying, and selling of houses. Indeed, hou usually helped lead us out of prior recessions. While home buying typically plunges when th turns south, life goes on. People continue to age, children leave the nest, couples marry, bab born, new jobs are taken. When consumer confidence returns, the pent-up demand for diffe housing choices sparks a boom in construction and renovation. The economic expansion du 1990s, for instance, was fueled in part by a 44 percent rise in housing starts from 1991 to 199 providing substantial job growth early in the recovery.

But this time may be different. As Zillow's satellite maps begin to indicate, what we face toda just a *cyclical* housing problem, but a *structural* one as well. Over the past decade, most hou occurred on the suburban fringe, in large part because that's where houses could be built mo and quickly. But now that the bubble has popped, we can clearly see that underlying demand areas is extremely weak, and oversupply is massive.

6353 http://www.theatlantic.com/magazine/print/2010/06/here-comes-the-neighborhood/8093/ 11/22/2010

Nationwide, houses on the exurban fringes are now generally priced below the cost of the methat went into building them. That's usually the first step in the creation of a slum. Owners have a financial incentive to invest in their houses if they will not get that investment back upon resonance between the price of the step in th

Urban-style housing in walkable neighborhoods—including those in the inner suburbs—is w demand today. And for a variety of reasons, that demand will intensify in the coming years. serving it can the country kick-start growth in an enormous and essential part of the econom

Yet the creation of new, attractive urban spaces is slow and difficult, and becomes all but im without substantial new infrastructure. Most of all, it relies on good transit options—especia links—around which walkable neighborhoods can develop. Rail, biking, and walking infrastructure backbone of urban development, and as a country we've for the most part neglected to b recent decades, in favor of new roads for new suburbs farther and farther away from metrop hubs. To support growth in the next decade, we need to change that dynamic—and nourish (walkable urban spaces and neighborhoods. Complicating matters, in these cash-strapped tir need to find a way to do so on the cheap.

Housing comes in two basic types. The first is the now-classic *Ozzie and Harriet*-style single house on its own large lot, from which nearly every trip is taken by car. The second is similar we predominantly built before the Great Depression: small-lot single-family houses, townhc apartments that are within walking distance of most everyday needs and are typically conne public transit to work, shopping, and entertainment—housing that is built at least five times densely than that in conventional suburbs.

Ten years ago, conventional large-lot housing in wealthy suburbs was the highest-priced hou square foot, in nearly all metropolitan areas. Today, housing in walkable neighborhoods is to most expensive; the lines crossed in the 2000s.

Why did this happen? Cities, of course, have experienced a cultural renaissance over the pas Some suburbs, meanwhile, have become less attractive as they've grown more congested and space, betraying suburbia's original promise and pushing new subdivisions farther and farth the hinterland.

The increasing costs of driving, meanwhile, have put great pressure on suburban family fina average, traditional suburban households spend 24 percent of their income paying for and n their cars; urban households in walkable neighborhoods spend only 12 percent of their income transportation. The difference amounts to half of what a typical household spends on health nationally, \$700 billion a year in total.

Two-thirds of all households today consist of singles, childless couples, or empty-nesters, an proportion will rise over the next 20 years. All of these groups tend to prefer walkable urban

Millennials—the rising generation of 20- and 30-somethings—are particularly drawn to urb: seeing it not only as exciting but as healthy and environmentally friendly.

Americans are not about to abandon conventional suburbs en masse; many prefer them. Bu for walkable urban living is rising, and today supply of that sort of housing is limited. As for conventional suburban housing, the reverse is true. In a 2006 article in the *Journal of the A Planning Association*, Arthur Nelson of the University of Utah estimated that, based on curi and shifting demand, the nation may have a surplus of some 22 million large-lot single-fami by 2025.

Some national home builders are still betting on conventional suburbs. Once the economy p they're planning to build more McMansions on the fringe, just faster and cheaper than ever With the price of existing fringe housing so low, they are hoping to offer competitive pricing the number of models, simplifying their plans, reducing house sizes, using more vinyl, relyir factory construction, and shipping prefab housing parts in on a flatbed, so they can assemble houses in a week. But this strategy may not have much further to go; the difference between houses and mobile homes is narrowing.

"It is very unlikely that new projects in sprawl areas will be financed," says Jonathan Rose, t the national development-and-investment firm Jonathan Rose Companies, based in New Yc "Urban areas with diverse transit options and thriving universities are the choice of Baby Bo young people." Mark Falcone, the CEO and founder of the Denver-based firm Continuum Pa which has experience redeveloping downtowns and dead malls, sounds much the same note that the primary development demand will come from closer-in locations over the next seve he told me.

Urban spaces of the kind that people want today feature mixed-use zoning and lots of stores within walking distance. But most of all, they feature good public-transit options—usually r ϵ

Metropolitan voters in recent years have passed roughly two-thirds of all ballot measures ca increases to pay for new or expanded transit. But asking cities and suburban towns, which a strapped for cash, to shoulder the entire burden of rail-transit investment is not realistic. Ar variety of ways, federal funds have typically privileged road building over public transit. Pro be slow unless something changes.

This problem has a solution, one that could be borrowed from U.S. history, and that might h economy get up more quickly off its knees: What if developers and property owners build th transportation infrastructure themselves?

In the early 20th century, every town of more than 5,000 people was served by streetcars, ev real household income was one-third what it is today. By 1920, metropolitan Los Angeles ha longest street-railway network in the world. Atlanta's rail system was accessible to nearly all Until 1950, our grandparents and great-grandparents did not need a car to get around, since rely upon various forms of rail transit. A hundred years ago, the average household spent on percent of its income on transportation.

How did the country afford that extensive rail system? Real-estate developers, sometimes ai electric utilities, not only built the systems but paid rent to the cities for the rights-of-way.

These developers included Henry Huntington, who built the Pacific Electric in Los Angeles; Minnesota's Thomas Lowry, who built Twin City Rapid Transit; and Senator Francis Newlar Nevada, who built Washington, D.C.'s Rock Creek Railway up Connecticut Avenue from Duj in the 1890s. When Newlands got into the rail-transit business, he wasn't drawn by the prof of streetcars. He was a real-estate developer, and he owned 1,700 acres between Dupont Cir suburban Chevy Chase in Maryland, land served by his streetcar line. The Rock Creek Railw make any money, but it was essential to attracting buyers to Newlands's housing developme essence, Newlands subsidized the railway with the profits from his land development. He an developers of the time understood that *transportation drives development*—and that develop to subsidize transportation.

After the Second World War, federally funded highways slowly supplanted this system, crea windfall for a new batch of developers. One Polish-refugee-turned-real-estate-developer, Na Shapell, who owned a large tract of land outside Los Angeles, was approached in the 1960s t California highway department about the possibility of building a freeway through his prope Shapell was delighted at the prospect—and immediately offered as much land as needed, for also offered to pay for an interchange to get customers to his land. The state official said tha be necessary; the state would buy his land for the road and pay for the interchange. "What a country!" he recalled thinking, in a conversation I had with him many years later.

Transit lines, along with other sorts of infrastructure improvements, almost inevitably raise values—and cities have recently begun to exploit that relationship, funding transportation improvements through the expected increases in property-tax collections. Chicago, under M Richard M. Daley, has extensively used this "tax-increment financing" model of developmen rejuvenate itself. In 160 neighborhoods, the city has funded more than \$560 million worth c improvements in infrastructure.

But this sort of financing has a limited reach; annual property taxes are only about 1 percent parts of the country, so only 1 percent of the upside in rising real-estate values can be captur city. The rest is a bonanza for lucky private-property owners (or possibly a payback for smar lobbying). Many of these owners would be willing to pay directly to get these investments ur recent Brookings Institution analysis of a proposed \$140 million streetcar line in the Distric Columbia showed, for instance, that the line would create \$3 in land appreciation for nearby property owners for every \$1 it would cost to build. This is what Senator Newlands found ou than a century ago: transportation drives development, so development can and should help transportation.

How would the private funding of public transit work? Most states already have laws in plac local groups of voters to create "special-assessment districts," in which neighborhood proper can vote to fund an upgrade to infrastructure by charging themselves, say, a onetime assess higher property-tax rate for some number of years. If a majority of the property owners belic would benefit from the improvement, all property owners in that district are obligated to he it. These districts can vote to fund new transit as well (potentially, the transportation-financ could even receive a minority-ownership stake in the district's private property in return for new transit). In the late 1990s, property owners paid for a quarter of the cost of a new Metrc in D.C. using this approach; after the station opened, an office developer told me he believed investment was being returned manyfold.

However, this sort of private payment for infrastructure is relatively new in the U.S., and is ξ slowly. Organizing these communities of course takes time, and cities and towns have barely publicize their potential.

We could hasten the process by making a much-needed change in federal transportation law federal government typically provides 20 to 80 percent of the money for local transportation (with local and state governments paying the rest). Yet federal funding of projects that invol partners is extremely rare—in large part because federally funded projects typically take yea approve, and private developers usually can't tie up their capital waiting for the government turn. Over the past few years, private corporations and foundations in Detroit raised \$125 m help build a light-rail line, and have been working for some time to secure federal funds to c the project. Fixing federal transportation law to expedite transit projects would allow faster development at lower public cost.

The encouragement of additional walkable urban development, which all starts with public t would have many benefits. Although building the infrastructure that supports dense develop seems expensive, in the long run it's actually much cheaper than conventional suburban infrastructure—at most one-tenth the cost per home. A mile of sewer line costs about the sau whether it is on the metropolitan fringe or in a densely built inner suburb, but the line serve more people in the inner suburb. And households in walkable urban areas use considerably energy, in some instances at least a third less. High-density living even appears to spur faste innovation; in a knowledge economy, ideas come faster and can be developed more quickly people can meet and mix easily.

http://www.theatlantic.com/magazine/print/2010/06/here-comes-the-neighborhood/8093/ 11/22/2

But most immediately, investment in rail, bike, and walking infrastructure, laying the groun developing the kind of housing that is now in demand, is essential if we want to restore the ϵ health. In the mid-to-late 20th century, the growth of the suburbs propelled America's econd Growth of walkable neighborhoods in cities and suburbs can play a similar role in the decad sparking growth in the broader economy—but only if we start preparing today.

This article available online at:

http://www.theatlantic.com/magazine/archive/2010/06/here-comes-the-neighborhood/80

Copyright © 2010 by The Atlantic Monthly Group. All Rights Reserved.

2010 Capacity Ordinance

Preliminary MetroScope scenario highlights

(scenario # 1012)

Key input assumptions (Notable changes from 2009 UGR scenario assumptions)

- 2035 State RTP instead of financially-constrained RTP
 - o Includes high-capacity transit (for example, the SW corridor and the Powell corridor)
 - Neighborhood scores adjusted in centers and corridors to reflect community-building projects in State RTP (for example, pedestrian environment improvements and streetcar investments)
- Urban reserves assumed available for future UGB expansions
 - o Local input on timing and location of assumed expansions
 - Size of adopted urban reserves makes less land available for assumed future UGB expansions than historic usage
- New urban renewal or other residential incentives in downtown Hillsboro, AmberGlen, Beaverton, Milwaukie, Portland TOD tax abatement
- Upzoning in AmberGlen and Tigard

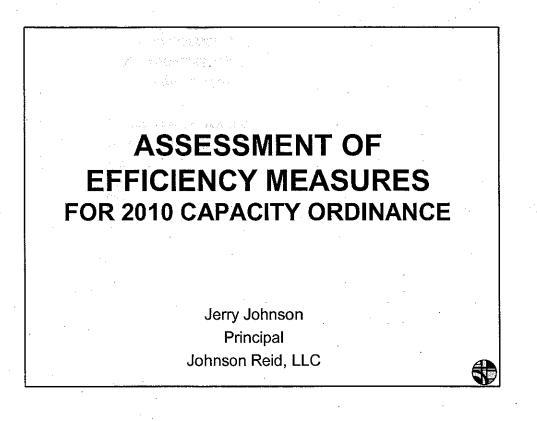
Preliminary results (compared with 2009 UGR scenario)

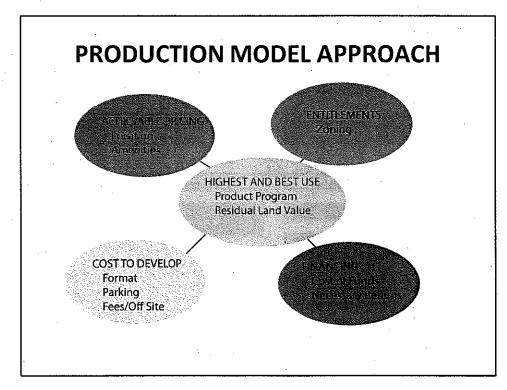
<u>Regional performance</u>

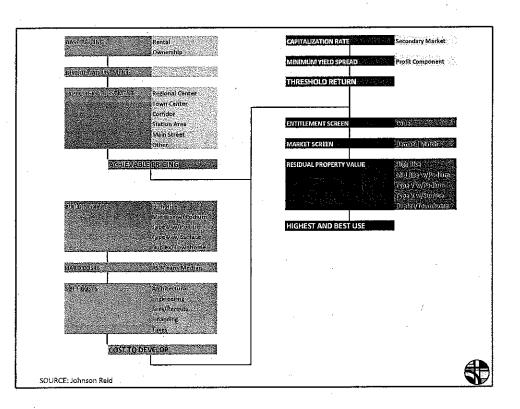
- Higher residential capture rate
- Improved jobs/housing balance in Clark County
 - Combination of policies and population growth increases residential supply prices, resulting in:
 - o Shift to smaller residences
 - o Big shift towards multifamily inside UGB:
 - 31% multifamily share of <u>all</u> units in 2005
 - 62% multifamily share of <u>new</u> units through year 2030 (55% in UGR scenario)
 - 42% multifamily share of <u>all</u> units by year 2030 (39% in UGR scenario)
 - Results are consistent with trends identified by C. Nelson and ULI's 2010 Emerging Trends in Real Estate
 - 73% home ownership rate higher than historic rates (condos make up large share of new units)
 Year 2010 comparison: (Portland 62%; San Francisco 58%; Seattle 62%; Albuquerque 67%)
- Slightly lower average household commute distance (7-county area)
- Lower average annual housing and transportation costs (about \$2,000 less per household)
- Increase in number of new households that are cost-burdened by year 2030 (about 195,000, compared to 153,000 in UGR scenario)
- Reduction in carbon emissions from residential sources such as heating, cooling and lighting (associated with shift to smaller residences and larger share of multifamily)

Residential capacity utilization indicators

- Centers and corridors capture almost 30% of new residences and 40% of new jobs
- 37% residential refill rate (assumed 33% in UGR)
- Higher average densities for <u>new</u> units (21 units per gross buildable acre)
- Better usage of vacant land zoned mixed-use or multifamily (60% instead of 50%)
- Better usage of capacity in recent UGB expansion areas, but multifamily development lags there
- Single-family capacity almost completely utilized in assumed UGB expansions in urban reserve areas
- Multi-family development lags in urban reserves
- Increase in rural residential development

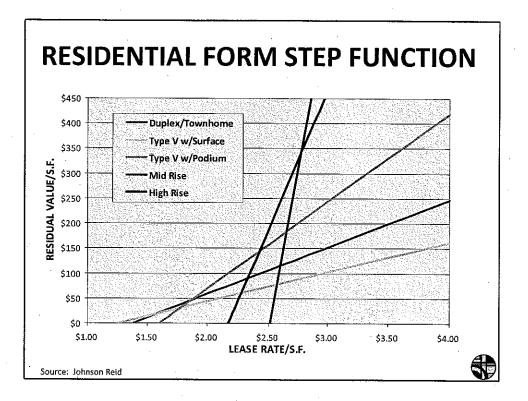


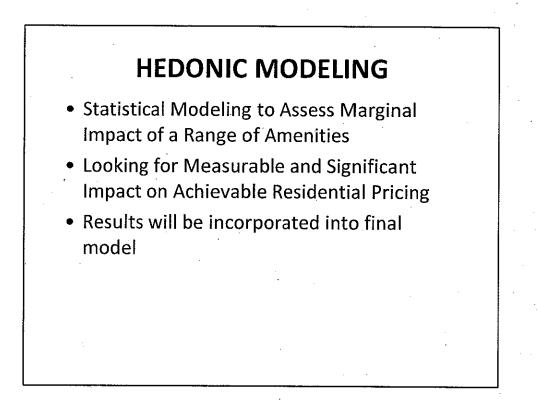




REDEVELOPMENT MODEL SCHEMATIC RESIDUATEROGERON/VALUE (PSF) Can be Depreciated over Time If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) If Residual Value > or = Market Value (PSF) Can Development/Redevelopment Can Change: Résiduals and Market Value Smith Can Change: Résiduals and Market Value Smith Can Development PACE Assumed Por Year Not Only Measure of "Rational Can be Stratified Baten on Relative Virability

Must be Market Balanced









	Meeting:	Metro Policy Advisory Committee (MPAC)		
	Date:	Wednesday, June 9, 2010		
	Time:	5 to 7 p.m.		
	Place:	Council Chambers		
	Outcomes:	Overview of the adopted 2009 Urban Growth Repor decision;	rt and 2010 growth management	
		Discussion of the potential impact of economic, dev Comments and observations on where to plan in the residential and large-lot industrial capacity.		
5 PM	1.	CALL TO ORDER	Shane Bemis, Chair	
5:02 PM	2.	SELF INTRODUCTIONS & COMMUNICATIONS	Shane Bemis, Chair	
5:05 PM	3.	CITIZEN COMMUNICATIONS ON NON-AGENDA ITEMS		
5:10 PM	4.	<u>CONSENT AGENDA</u>		
	*	• Consideration of the MPAC Minutes for May 26, 2010		
	*	MTAC Member Nomination		
5:15 PM	5.	<u>COUNCIL UPDATE</u>		
	6.	INFORMATION / DISCUSSION ITEMS		
		Community Investment Strategy: 2010 Capacity Ordinance		
5:20 AM	6.1	Overview of adopted 2009 Urban Growth Report, 2010 Growth Management Decisions, and Outcomes for Meeting – <u>INFORMATION</u>	Michael Jordan	
5:30 AM	6.2	Economic, Development and Investment Trends Panel Discussion - <u>INFORMATION</u>	Panelists: Michael Jordan, Facilitator Dennis Yee, Metro Mark Childs, Capacity Commercial Group Tim Breedlove, Renaissance Homes Mark Edlen, Gerding Edlen Development Craig Dirksen, City of Tigard Eric Hovee, E.D. Hovee and Co.	
6:15 PM	6.3	Question & Answer Session – <u>DISCUSSION</u>		
6:30 PM	6.4	MPAC Discussion	Michael Jordan, Facilitator	
6:55PM	7.	MPAC MEMBER COMMUNICATION		
7 PM	8.	ADJOURN	Shane Bemis, Chair	
	 Material available electronically. Materials will be distributed electronically prior to the meeting. Material provided at meeting. All material will be available at the meeting. 			

All material will be available at the meeting.

For agenda and schedule information, call Kelsey Newell at 503-797-1916, e-mail: kelsey.newell@oregonmetro.gov. To check on closure or cancellations during inclement weather please call 503-797-1700x.

GLOBAL TO LOCAL ECONOMIC CHANGE May 24, 2010

Presented on these four pages is a *matrix chart* cataloging patterns of economic change – drawn from nationally recognized information sources, as well as more detailed case study and focus group research recently conducted throughout the Pacific Northwest. The chart distinguishes between unanticipated changes brought on by the *current economic downturn* and longer term changes that can be expected post-recovery over the *next 10-20 years*.

Patterns of Economic Change & Resulting Implications								
Global	National	State/Regional/Local						
A. With Economic Downturn (& Early Phase Recovery)								
Financial Market Retrenchment								
<i>Financial Deleveraging:</i> Cascading effect extending from aggressive niche players (e.g. Iceland, Greece) to U.S. & Britain, even to former stalwarts as diverse as Germany & Dubai	2008 near collapse of major financial institutions and industrial firms; 2009 extending to regional & community banks with added closures & restructuring expected thru 2010	Shifting balance from community to money center institutions (at least near-term); continued regional challenge for small business & venture capital						
<i>Tightened Consumer & Residential Lending:</i> Effects most severe in countries with rapid housing price escalation or financial sector melt-downs (e.g. Spain)	Drives down consumer demand as households reduce debt, experience increased rates of housing foreclosure & less ability to finance residential purchases	Portland market held its own early in the recession, then experienced decline with job loss; close-in neighborhoods generally have fared better than suburban						
<i>Tightened Business Credit:</i> Varied depending on vulnerability of industry base to global demand & extent of public sector intervention	Most severe for small business & firms in weak sectors (e.g. auto manufacturing, construction & non- value-oriented retail / dining)	Lender focus on larger & economically diverse metro communities; Portland's opportunity best as an emergent <i>global pathway</i>						
<i>Public Sector Intervention:</i> Financial bailouts & stimulus support from national governments including U.S., Europe, Asia	Bailout support starting with banks, then companies too big to fail, next may be commercial mortgage market – all with resulting substantial ramp-up in national debt	Rapidly emerging state-local budget shortfalls in California, Oregon & Washington (in relative order of severity); Oregon vulnerable due to income tax dependence						
	Employment Downturn							
Jobless Recovery? Heavy losses in manufacturing, construction, finance, retail & in countries dependent on exports (e.g. China) but traded sector recovery in 2010	Primary job growth (so far) maintained in health care & government; otherwise episodic economic growth & prolonged unemployment thru 2012 is likely	California is most challenged but Oregon returns to ranks of relative high unemployment; Portland rebound most likely will be organic & entrepreneurial						
	Stalled Development							
<i>Construction Shut-Down:</i> At standstill except for development previously committed, user driven or with public sector funding support	Little to no new commercial construction thru 2012; potential apartment demand & partial re-start of single-family construction	Smaller infill & public sector constructing projects in Portland seem to be faring best @ present						
<i>Declining Home Values:</i> Residential markets most adversely affected in formerly high growth, easy credit markets (e.g. Spain, Ireland, U.S.); declining asset valuation reduces consumer spending for retail & services	Severe in prior high growth sunbelt states (except Texas); many markets now bottomed out but slow recovery still expected; strongest potentials for <i>global pathway</i> cities (e.g. Washington DC, New York, Boston, San Francisco, Seattle)	Previous high growth markets (e.g. Central Oregon, Clark County) most detrimentally affected; land use & managed growth together with transit accessibility & market for young creatives has dampened the downside for Portland						

Patterns of Economic Change & Resulting ImplicationsGlobalNationalState/Regional/Local

Investment Real Estate: Values decline by average of more than 40% off mid-2007 price peaks – across U.S. & much of the developed world

Best near-term for apartments (once doubling-up plays out), followed by *industrial / distribution* (gateway metros), *office* (flight to quality), *retail* (urban & grocery-led) & *hotels* (worst now but will rebound) Most challenging for communities with home foreclosures & high unemployment; suggests priority for near-term job creation as with Portland *Economic Development Strategy* goal of 10,000 added jobs in the next five years

B. Post-Economic Recovery (over 10-20 years)							
Financial Market Restructuring							
<i>Conservative Underwriting:</i> Increased regulatory oversight & less speculative lending, meaning higher equity requirements & lower values relative to property income for foreseeable future	Recovery to pre-recession property values further constrained by prospect of increasing interest rates with increased reliance on ability to raise rental rates – postponing a return to new commercial construction but incenting building rehabilitation investment	Higher-risk projects (including mixed use) more disadvantaged for capital access at least near term; best opportunities are for in-town property rehab, then infill development or end-user needs resulting from business recruitment & expansion initiatives					
<i>Public Fiscal Stress</i> Bailouts & financial stimulus support from national governments including U.S., Europe, Asia	Federal capacity to support development limited by larger debt compounded by needs of aging population; state / local governments best positioned are those with diverse revenue streams	Continued Oregon vulnerability to cyclical nature & downward pressure on income tax receipts; City finances are better protected by assessed values still well below real market values					
(Changing Competitive Advantage						
<i>Competitive Positioning:</i> Economic competitiveness leads both to "push" & "pull" migration effects between countries & regions of the globe; continued move of commodity production to low-cost countries, with Asia leading the way	U.S. export potential waxes & wanes with relative value of dollar; premier 24-hour gateway metros better weather the downturn, recover more quickly & represent an increased share of long-term investment compared to interior U.S. or secondary markets	Increased in-state disparity between economic winners & losers – with winners defined by a globally & regionally competitive traded sector; PDX opportunity defined by the strategic economic development goal to become the "capital of the global green economy"					
<i>Global Pathways:</i> Concentration of brainpower, capital, & investment anticipated to be focused on 24-hour coastal cities offering global & multi-modal transportation services (air, highway, marine, rail)	Favored U.S. markets are generally coastal; mid-America faces risk of more rust-belt deterioration (except cities / regions with global connectivity such as Chicago, Minneapolis, Denver)	Seattle & San-Francisco are in the top tier of favored U.S. pathway markets; Portland metro viewed as 2 nd tier, needing to more clearly align with neighboring metro engines of vitality or chart its own path to build "sustainable economy"					
Emer	ging Economic & Demographic D	Drivers					
<i>Targeted (or Shifting)</i> <i>Employment:</i> International migration has shifted from south to north back to a flow toward developing countries – including increased opportunity for professionals, students & women	Continued outsourcing for commodity manufacturing & services; U.S. domestic opportunities best in technology, health care, education & resurgent / shifting housing needs (with accumulating latent demand)	Industry clusters targeted by the Portland Development Commission include activewear, cleantech / sustainable industry, advanced manufacturing & software – similar to clusters identified by Greenlight Greater Portland & the State of Oregon					

Patterns of Economic Change & Resulting Implications					
Global	National	State/Regional/Local			
<i>Economic Instability:</i> Risk of increased volatility due to changing global competitive position of winners & losers; velocity of marketplace transaction activity makes assessing & pricing risk ever more challenging	Real estate's perceived historic advantages of low volatility and steady income require re-evaluation – both short & longer term; U.S. may still prove attractive for investment despite slower growth due to perception of greater political & economic stability	Perceived investment risk greater for less diversified communities; market recovery as for mixed use may be facilitated by right-sizing to smaller projects & public-private demand aggregation or risk-sharing; opportunity to transition from regulatory to partnership approach			
Demographics: Rapid workforce aging in developed countries (U.S., Europe, Japan) which have the oldest populations, with continued growth of young labor pools in Asia, South America – especially the Middle East & Africa	Aging <i>baby-boomers</i> the dominant driver of smaller households, shrinking workforce, reduced retail & increased health care demand for the foreseeable future; offset only in communities highly attractive to in- migrants (e.g. young creatives, foreign workers, ethnically diverse)	Over age 55 market to comprise the majority of metro area housing growth; maintaining balanced demographic profile requires intentional strategy focused on drawing & holding young creatives with world-class education, housing affordability & urban amenity			
<i>Urbanization:</i> 70% of global population (of 9 billion) projected to live in urban areas by 2050 – up from 50% as of 2007	Metro areas & communities with ready access to job centers are best positioned; older first tier suburbs disadvantaged if employment & tax base is not diversified	Oregon opportunity is best for metro communities with demonstrated business, development & cultural sustainability ethic – especially for diversified live-work options			
Er	vironmental & Infrastructure Drive	ers			
Alternative Energy & Transportation: While per capita energy use is highest in the Middle East, North America & Europe, growth is strongest in Asia & other emerging countries – making global consensus for carbon footprint reduction a continued challenge	Rising gas prices lead to reduced per capita vehicle miles & incent the shift to alternate modes; rapidity of shift to non-petroleum energy will be affected by technology innovation & government incentives	Continued pressure to diversify from hydro as well as petro-based resources; likely works to the advantage of 20-minute, full-service neighborhoods offering convenient, multi-modal transportation access – with streetcar as impetus for PDX green branding & reduced carbon footprint			
<i>Going Green:</i> An expected new economic driver due to concerns over climate change, peak oil & rapidly growing consumer / investor demand	Green buildings showing a clear price premium across more markets & real estate product types; green ethic can be expected to also extend to business practices including "paperless" environments and more work-at-home or office "hoteling"	Pacific Northwest at the forefront of the green movement – offering continuing competitive opportunities in design, LEED construction, alternative energy, ecosystem management, even organic / sustainable retail & dining			
Hard Infrastructure Needs: Emerging nations (China, India, Africa) require massive investments ranging from water to transportation; developed areas (U.S., Europe) require reinvestment to upgrade aging 20 th century infrastructure	Shift to urban areas as capital & operational expenses appear to be increasingly disadvantageous for low-density communities including older 1 st tier suburbs without capacity to re-invest for urban competitiveness	Residential & commercial activity increasingly likely to shift to urban infill including transit-oriented development with more incubator job development in tandem with or closer proximity to housing			

Patterns of Economic Change & Resulting Implications

Global

National

State/Regional/Local

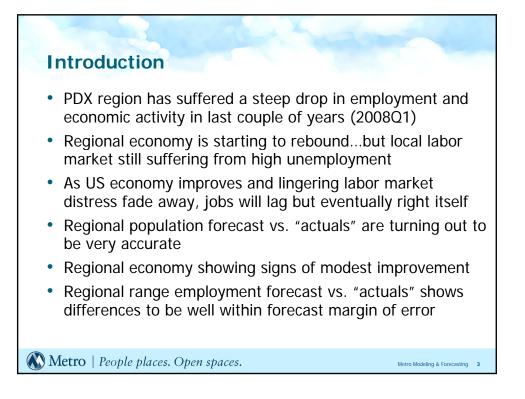
Ciobai	National	State/ Regional/ Local
<i>Soft Infrastructure Play:</i> Economic winners are those with strong telecom (cell phone, high- speed internet, redundant data piping) & higher education capacity – increasingly linked to changing workforce needs	Continued advantage for metro regions with world class higher education & university-business linkages (e.g. Boston, North Carolina, Austin, Silicon Valley) – offering new opportunity for more urban, niche-oriented higher education, research & development partnerships	Best opportunities in communities with quality K-12 school system plus higher education presence (despite continued Oregon weakness for nationally recognized research universities & university-enterprise linkages)
	Changing Development Paradign	n
Development Feasibility? New construction may be damaged long- term if market supported values do not return, increased investor / developer equity is required or interest & capitalization rates increase (as still expected)	Highest cost urban and mixed use development types (e.g. high-rise) may be affected unless new, lower cost alternatives are found; for at least the near-term smaller scale mid-density projects may be more favored	Best options for incremental rather than dramatic increases in development density, focused on communities & neighborhoods with the most vibrant market appeal (i.e. low vacancy, comparatively strong pricing, diverse demographics)
<i>Real Estate Churn:</i> Slower growth markets (Europe, Australia, U.S.) continue to attract investment, but older & poorly located real estate will be at greater risk of abandonment except where reuse & rehabilitation proves feasible	Retail driven by the combo effect of on-going format reconfiguration despite weak overall demand; older retail strip centers, "brown" buildings & older strip centers are at special risk of obsolescence – requiring new uses & redevelopment	Increasing priority for re-use of tired & underutilized sites @ urban locations with Central City & adjoining neighborhood districts as the preferred business / residential choice, reducing impetus for high cost & lower density UGB expansions
<i>Residential Development:</i> Slow growth countries still experience substantial development pressure to house rapidly aging populations; high growth countries will be increasingly urban-centric	Next generation projects oriented to infill, urbanizing communities, transit-oriented development – with smaller / European style units closer to work & 24-hour amenities; added apartment demand for young adult echo boomers	Widened gap between market supported values & cost to develop urban / infill housing – placing greater emphasis on PDX income growth and smaller scale infill development with less absorption & financing risk
<i>Commercial Development:</i> Distribution sector consolidation to major port / transport load centers; industrial differentiation between low-cost commodity producers and mass customization for niche manufacturers dependent on virtual market information; growing role of institutional uses as a non-traditional real estate development driver	<i>Retail</i> slowed by changing demographics & tenant churn (best for urban infill); <i>office</i> slowed by less labor force growth (more urban focused); <i>industrial-distribution</i> dependent on trade (global pathway locations); <i>hotels</i> uncertain but perhaps best opportunities for limited service product (except for major destinations)	More focus on institutional uses including hospital & cultural facilities (with transit orientation); small <i>hyper-local</i> business emphasis conducive to growth of alternative business models for urban street renaissance, incubator & work / live space; business district vitality keyed to distinctive (or layered) mix of local <i>plus</i> compatible destination customers

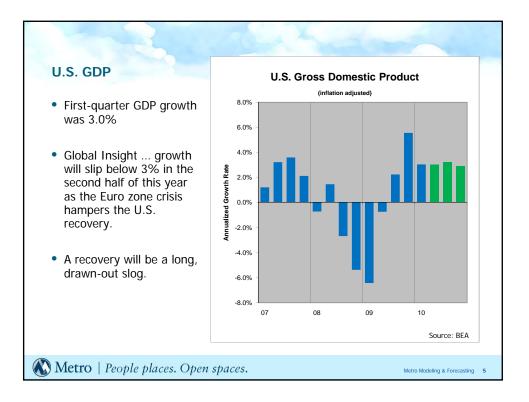
Key information sources for this analysis has been compiled by E. D. Hovee & Company, LLC from varied research reports of the Urban Land Institute (ULI) including *Emerging Trends in Real Estate: 2010, The City in 2050: Creating Blue Prints for Change,* and *Global Demographics 2009,* together with research conducted by E.D Hovee & Company, LLC and Bonnie Gee Yosick, LLC as part of an *Employment & Economic Trends Analysis* prepared for the Portland area regional government Metro, March 2009 and *Economic Opportunities Analysis* prepared for the Portland Bureau of Planning and Sustainability, July 2009.

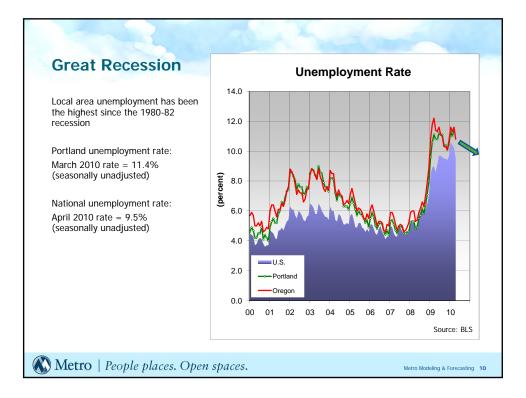
Questions for June 9 MPAC Meeting Panel Discussion on Economic, Development, and Investment Trends

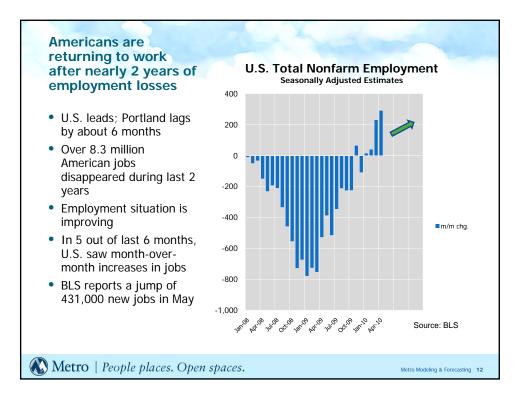
- What effect has the recession had on the overall forecast for jobs and housing needs?
- If you do believe that a new forecast would indicate less growth, do you think that it would be a short-term or long-term condition?
- If you do believe that a new forecast would indicate less growth than the 2009 forecast, would the revised growth rate still fall within the previously identified range?
- What trends are you seeing for job recovery and creation? Are there particular employment sectors that you believe are poised for growth in the short-term (i.e., the next five years)? Do you believe that those trends are adequately captured in the UGR's ranges?
- What trends are you seeing in vacancy rates for housing and jobs?
- Is the industrial vacancy rate a good indicator of capacity for large, traded-sector industrial firms or are the space preferences of those firms typically unique?
- Are building permits increasing, staying the same, or decreasing and for what types of buildings and locations?
- How might development change during the next 20 years?
- Do you believe that housing preferences are changing and, if so, how?
- What demographic changes are occurring and how will they affect housing and jobs in the future?
- What effect is the credit crunch having on supplying single and multi-family housing?
- When do you believe credit will be more readily available?
- What types of investments can be made now despite the credit climate?
- What is the most effective role for the public sector in supporting private investments in centers, corridors and employment areas?
- What effect is the economic climate having on local government finance and the ability of local governments to fund needed improvements?
- (Tigard specifically) What development are you trying to support in Tigard to achieve your vision and aspirations? Are you having difficulty finding financing? What financing options have you pursued? What effects are financing issues having on your ability to fund needed improvements and achieve your goals?



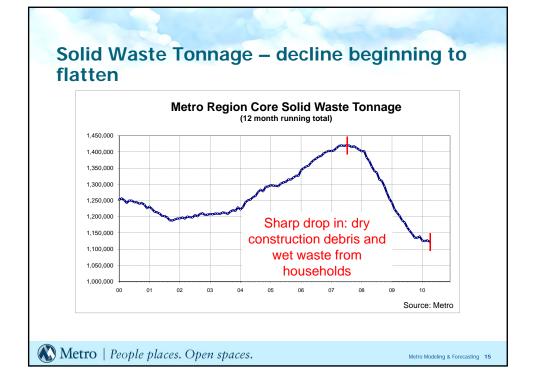


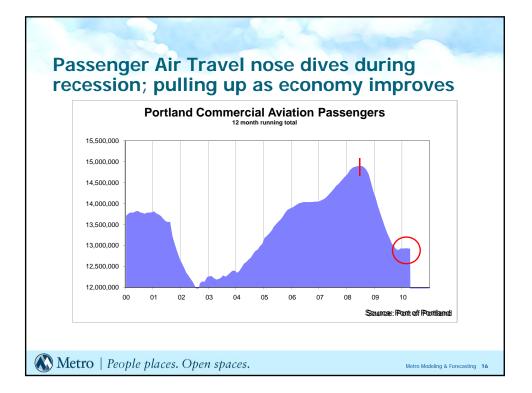


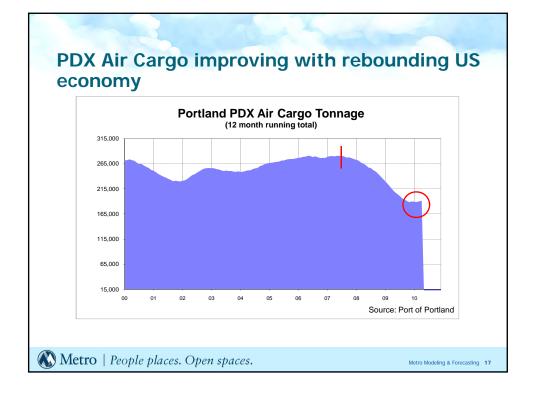


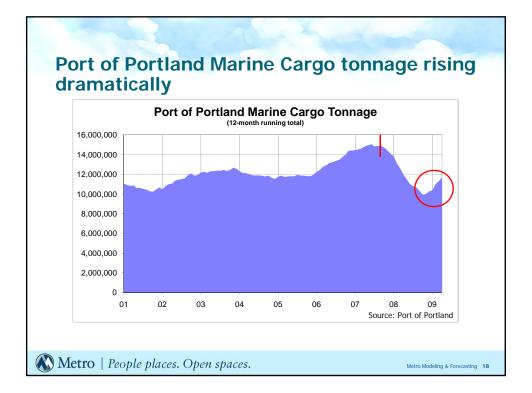


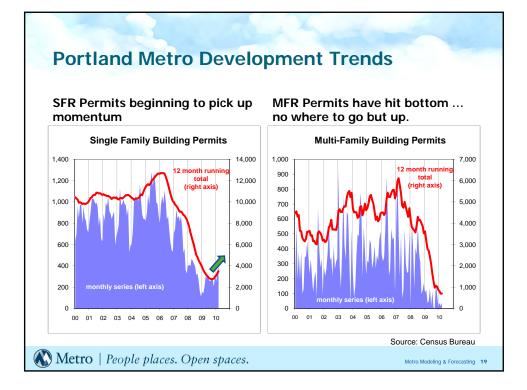


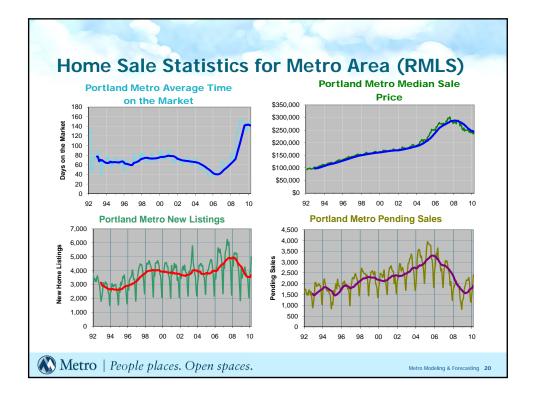


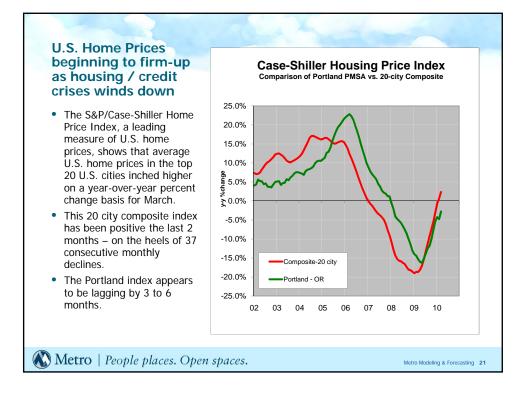


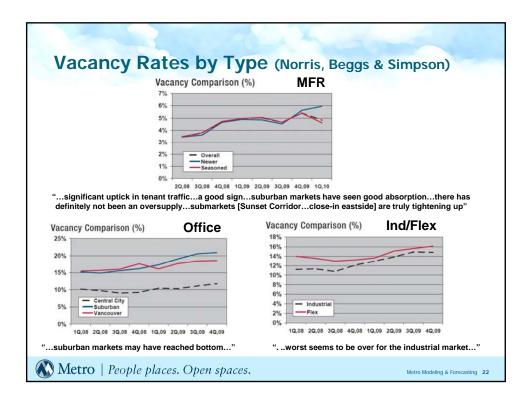




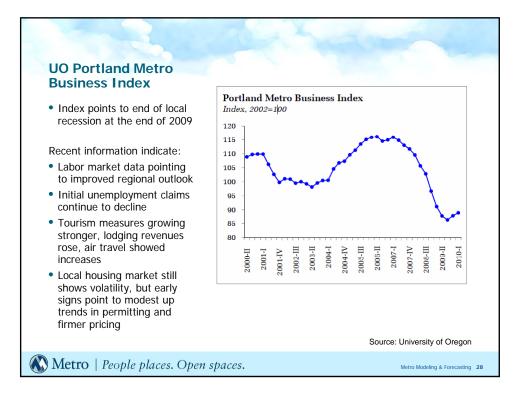


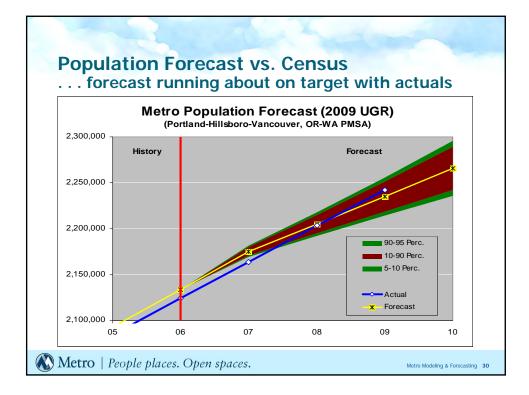


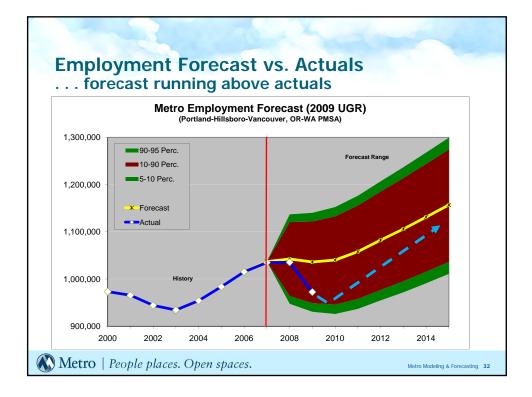


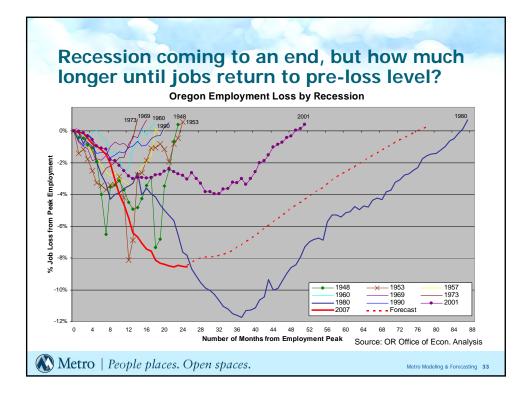




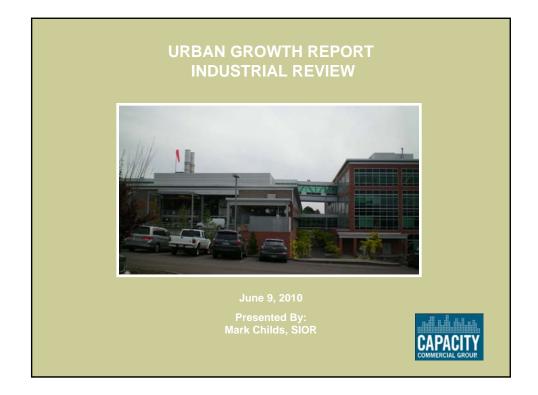












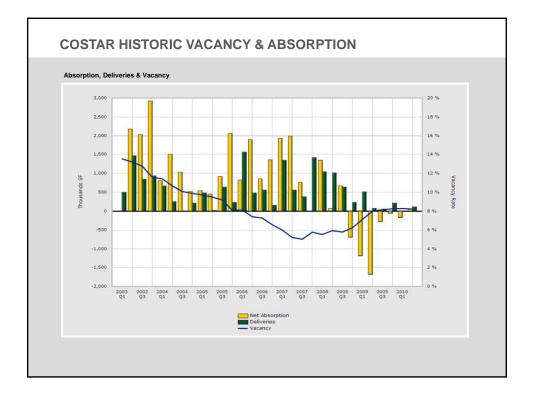


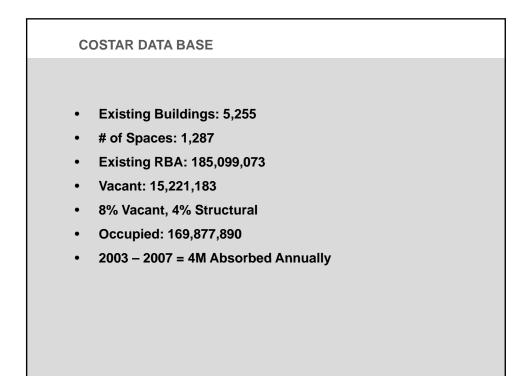
WHO OWNS

- Heavy Capital Investment
- Unique Building Characteristics
- Larger Land Component
- Higher Paying Jobs
- Genentech

WHO LEASES

- Standard Footprint
- Low Capital Investment
- Size Flexibility
- Locational Flexibility
- Risk Lease Ransom
- Lower Paying Jobs
- 3rd Party Logistics



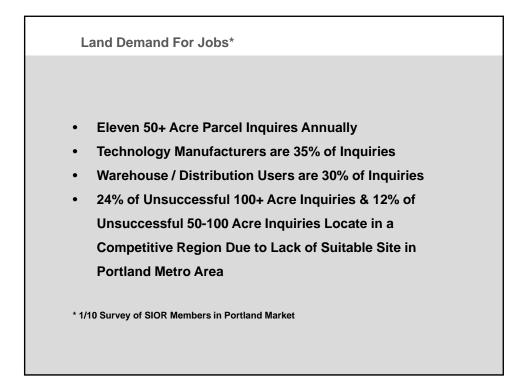


COSTAR DATA BASE ANALYSIS

- Leased Space Only
- Not Owner Occupied
- Speculative Generic Space
- Handy "Relative" Indicator
- Warehouse Most Lease
- Manufacturing Most Own

"HIGH DENSITY" INDUSTRIAL

- All Operations Maximize Cube
- Not Multi-story
- Not Re-development
- Not Higher Storage



WHERE ARE WE HEADED?

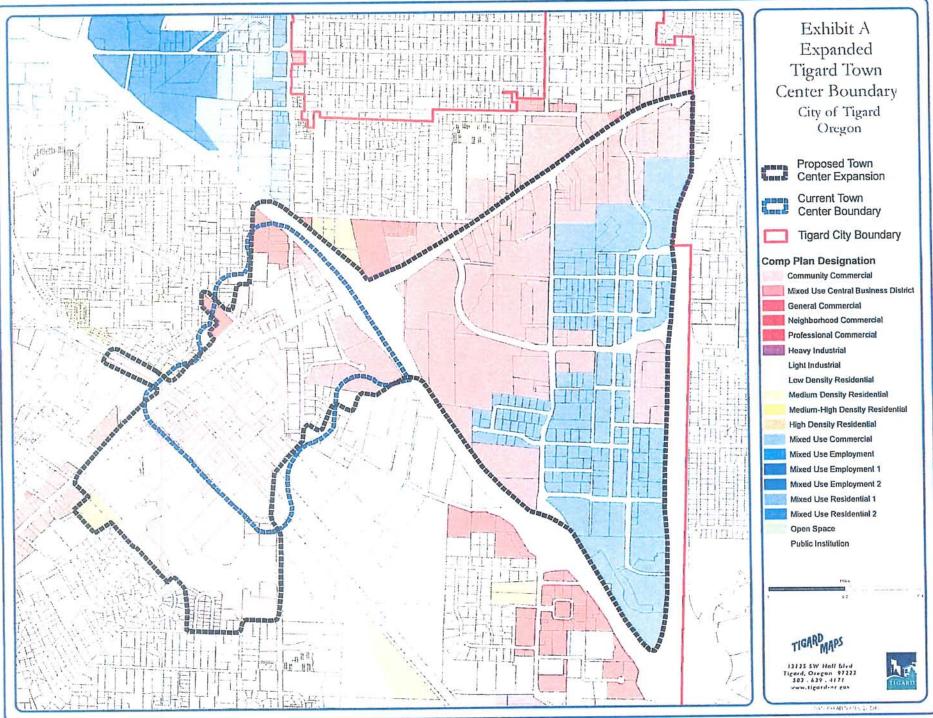
- Competitive Environment for Investment
- Tough Tax Situation
- Few "Non-tax Incentive" Searches
- Some Distribution Center Growth
- Re-shoring
- Availability Becomes Self Fulfilling
- Not Equal Exceptional

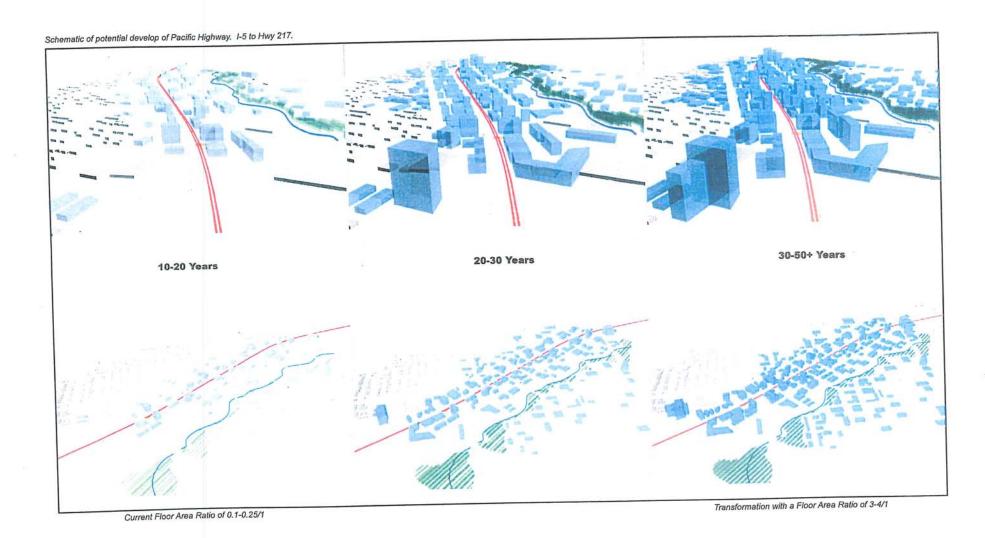
LOOKING FOR VALUE ADD FUNCTIONS

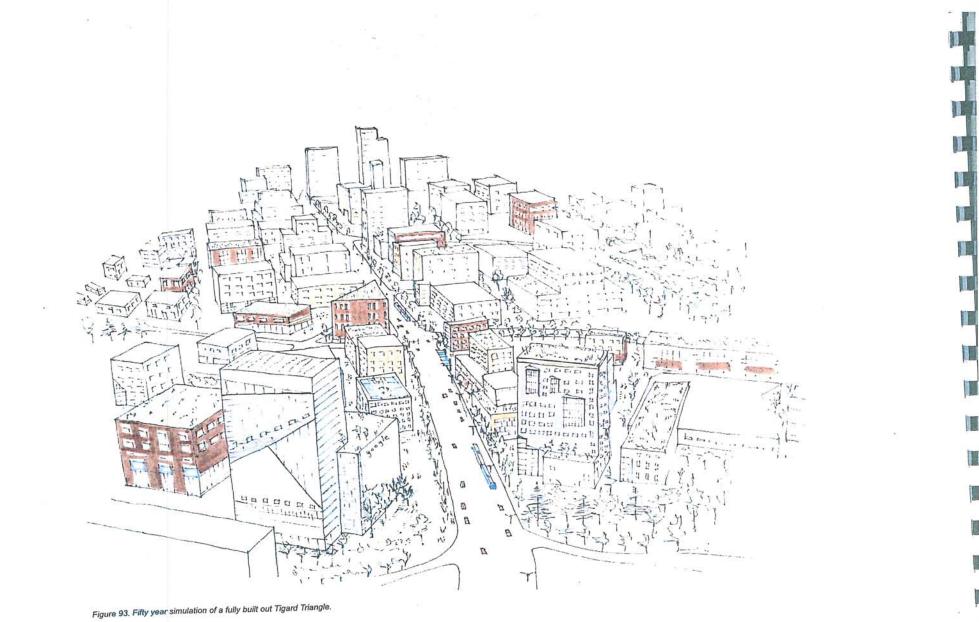
- High Paying Jobs
- Capital Investment
- Employee / Customer Access
- Land Availability

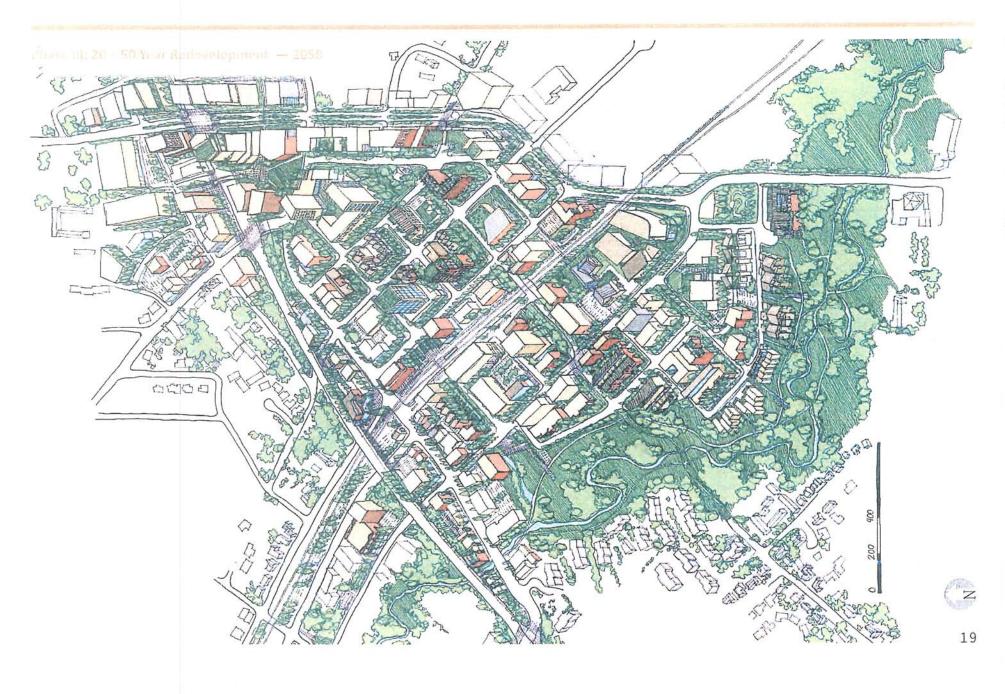
YOUR SUPPORT

- Provide Inventory of Parcels Large & Small
- Available Throughout the Region
- Support Development of Infrastructure
- Assume High End Growth Rate
- Position for Quality Jobs Readiness

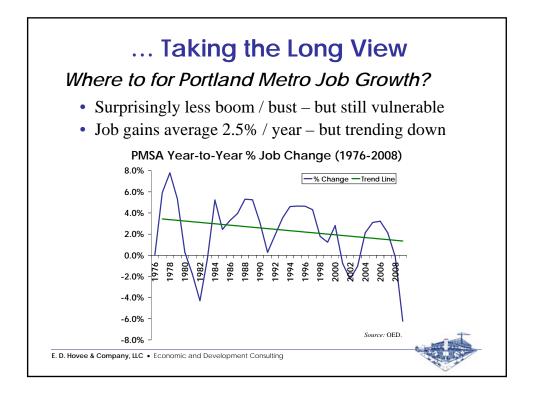


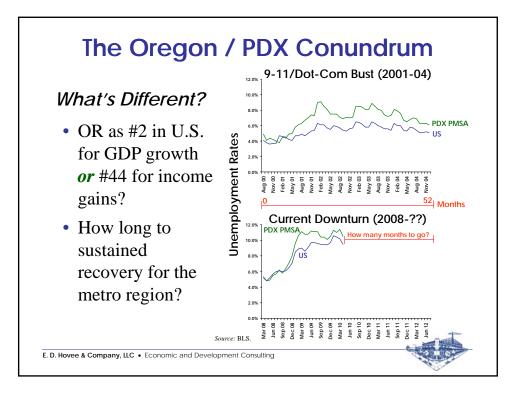


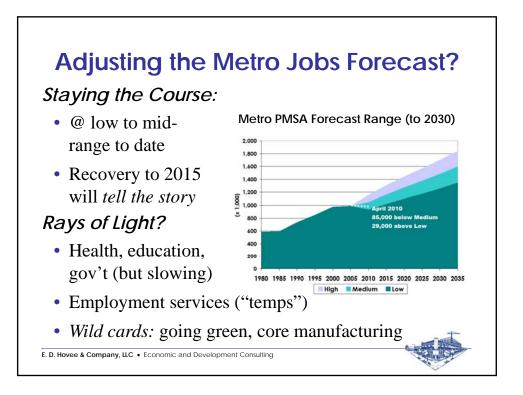




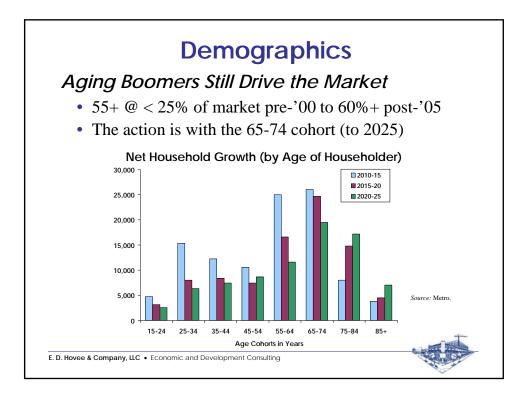


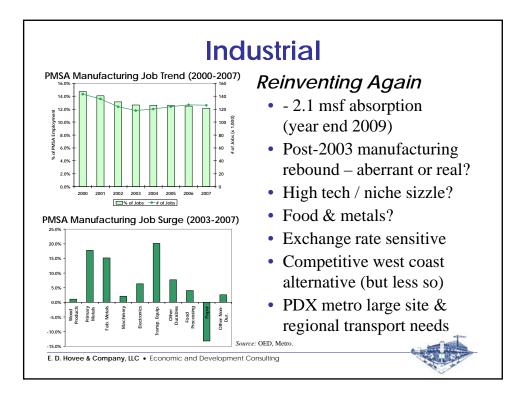


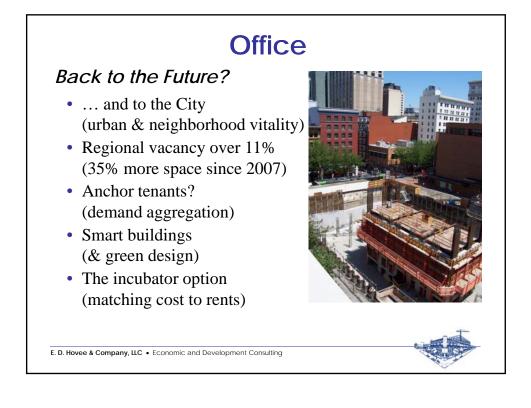


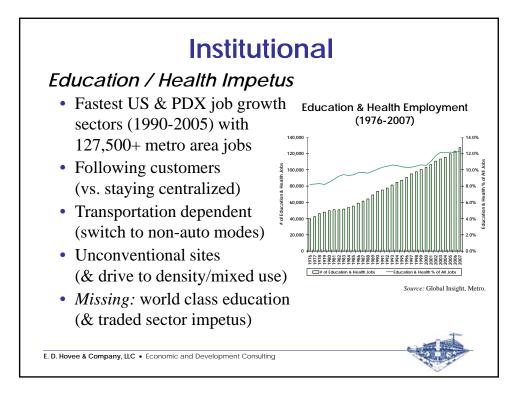


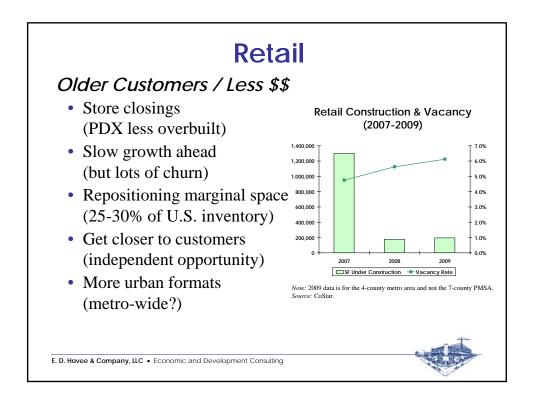


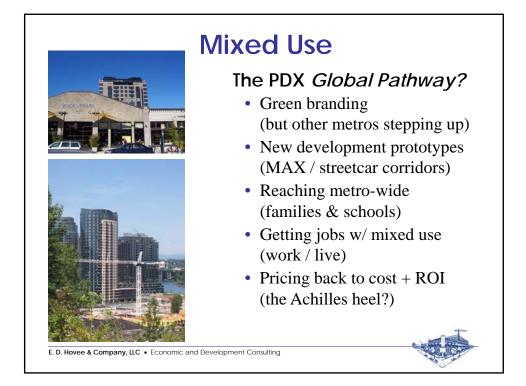














BEFORE THE METRO COUNCIL

)

FOR THE PURPOSE OF ADOPTING URBAN RESERVES AND CONFORMING AMENDMENTS TO THE REGIONAL FRAMEWORK PLAN AND THE URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN) Ordinance No. 10-1238A

) Introduced by Chief Operating Officer

) Michael Jordan with the Concurrence of

) Council President David Bragdon

WHEREAS, Metro and Multnomah, Washington and Clackamas Counties ("the four governments") have declared their mutual interest in long-term planning for three-county area for which they share land use planning authority in order to ensure the development of great communities within the urban growth boundary surrounded by prosperous farms, ranches, woodlots, forests, and natural resources and landscapes; and

WHEREAS, the 2007 Oregon Legislature enacted Senate Bill 1011, codified at ORS 195.137 to 195.145 ("the statute"), at the request of the four governments and many other local governments and organizations in the region and state agencies, to establish a new method to accomplish the goals of the four governments through long-term planning; and

WHEREAS, the statute authorizes the four local governments to designate Urban Reserves and Rural Reserves to accomplish the purposes of the statute, which are consistent with the goals of the four governments; and

WHEREAS, the Land Conservation and Development Commission ("LCDC") adopted rules to implement the statute on January 25, 2008, as directed by the statute; and

WHEREAS, the statute and rules require the four governments to work together in their joint effort to designate reserves and to enter into formal agreements among them to designate reserves in a coordinated and concurrent process prior to adoption of ordinances adopting reserves; and

WHEREAS, the statute and the rules set forth certain factors to be considered in the designation of reserves, and elements to be included in ordinances adopting reserves; and

WHEREAS, the Metro Council has entered into an intergovernmental agreement with each of the Boards of Commissioners of Clackamas, Multnomah and Washington Counties to designate certain lands in each of the counties as Urban Reserves and other lands as Rural Reserves; and

WHEREAS, Metro conducted workshops and hearings across the region and sought the advice of the Metro Policy Advisory Committee ("MPAC") prior to entering into intergovernmental agreements with the three counties; and

"WHEREAS, MPAC recommended adoption by the Metro Council of Regional Framework Plan policies and functional plan amendments to implement urban and rural reserves, but not the proposed map of reserves, at its meeting on May 12, 2010; and"

WHEREAS, Metro held a public hearing on the Urban Reserves and Rural Reserves recommended in the intergovernmental agreements on May 20, 2010; now, therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

- 1. The areas shown as "Urban Reserves" on Map Exhibit A, attached and incorporated into this ordinance, are hereby designated Urban Reserves under ORS 195.141 and OAR 660 Division 27.
- 2. The areas shown as "Rural Reserves" on Exhibit A are the Rural Reserves adopted by Clackamas, Multnomah and Washington Counties and are hereby made subject to the policies added to the Regional Framework Plan by Exhibit B of this ordinance.
- 3. The Regional Framework Plan is hereby amended, as indicated in Exhibit B, attached and incorporated into this ordinance, to adopt policies to implement Urban Reserves and Rural Reserves pursuant to the intergovernmental agreements between Metro and Clackamas, Multnomah and Washington Counties, respectively, and ORS 195.141 to 195.143.
- 4. Title 5 (Neighbor Cities and Rural Reserves) of the Urban Growth Management Functional Plan (UGMFP) is hereby repealed as indicated in Exhibit C, attached to this ordinance.
- 5. Title 11 (Planning for New Urban Areas) of the UGMFP is hereby amended, as indicated in Exhibit D, attached and incorporated into this ordinance, to implement provisions of the intergovernmental agreements between Metro and Clackamas, Multnomah and Washington Counties and ORS 195.141 to 195.143.
- 6. The Findings of Fact and Conclusions of Law in Exhibit E, attached and incorporated into this ordinance, explain how the actions taken by the Council in this ordinance comply with the Regional Framework Plan and state law. 10th

ADOPTED by the Metro Council this 3rd day of June, 2010.

avid Bragdon, Council President

Attest: pproved as to form Recording Secretary ooper, Metro DNY SE Daniel B ipprovato Unicialmente letro Cour METRO Consiglio Metropolitano COUNCIL Page 2 - Ordinance No. 10-1238

M:\plan\lrpp\projects\2040 New Look\2010 MGP Legislation\Reserves Ordinance 10-1238A for June 3, 2010\Doc 1 Ordinance 10-1238A Reserves 051410.doc

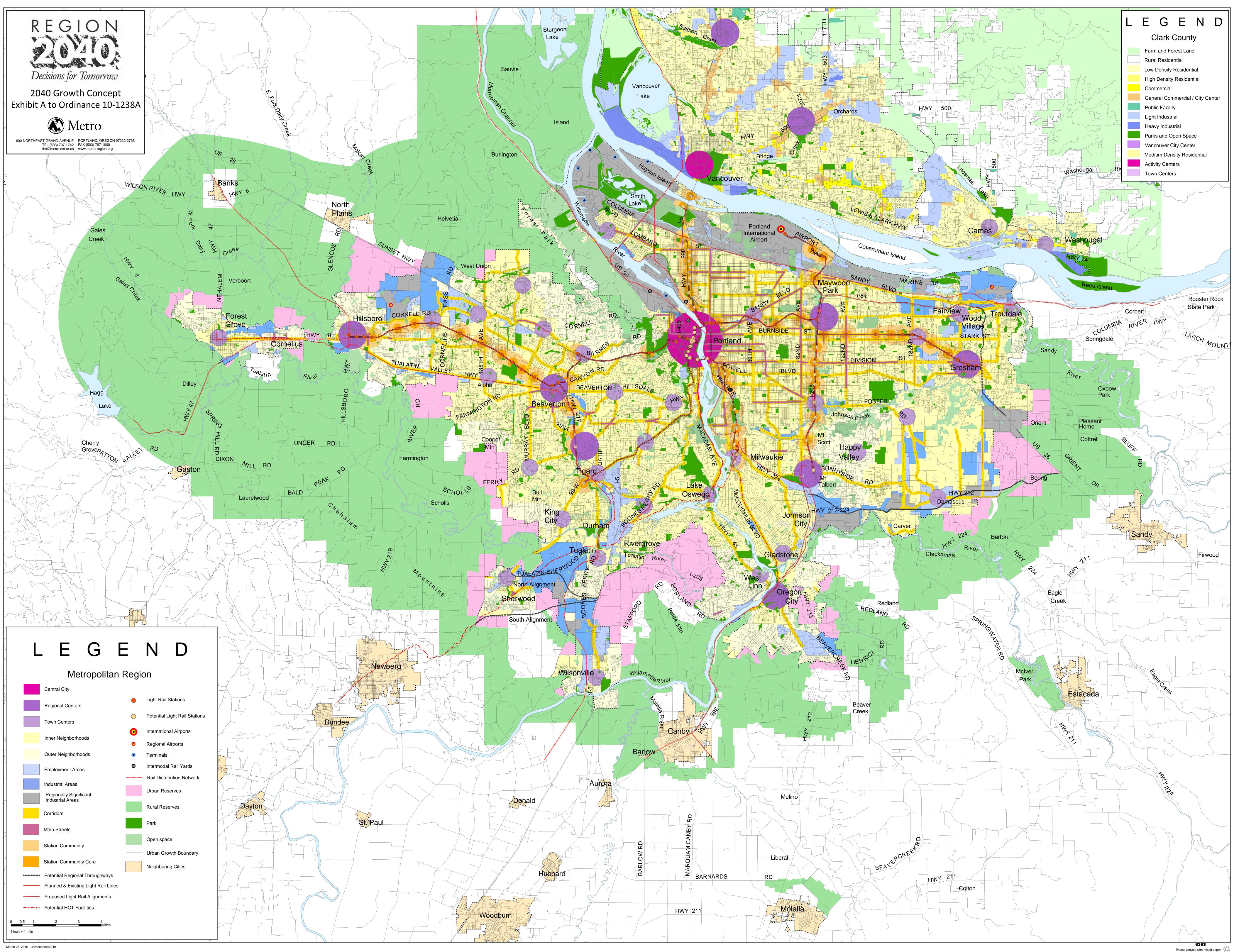


Exhibit B to Ordinance No. 10-1238A

REGIONAL FRAMEWORK PLAN

Policy 1.7 Urban and Rural Reserves

It is the policy of the Metro Council to:

- 1.7.1 Establish a system of urban reserves, sufficient to accommodate long-term growth, that identifies land outside the UGB suitable for urbanization in a manner consistent with this Regional Framework Plan.
- 1.7.2 Collaborate with Multnomah, Clackamas and Washington Counties and Neighbor Cities to establish a system of rural reserves to protect agricultural land, forest land and natural landscape features that help define appropriate natural boundaries to urbanization, and to keep a separation from Neighbor Cities to protect their identities and aspirations.
- 1.7.3 Designate as urban reserves, with a supply of land to accommodate population and employment growth to the year 2060, those lands identified as urban reserves on the Urban and Rural Reserves Map in Title 14 of the Urban Growth Management Functional Plan.
- 1.7.4 Protect those lands designated as rural reserves on the Urban and Rural Reserves Map in Title 14 of the Urban Growth Management Functional Plan from addition to the UGB and from redesignation as urban reserves at least until the year 2060.
- 1.7.5 In conjunction with the appropriate county, cities and service districts, develop concept plans for urban reserves prior to their addition to the UGB. Provide technical, financial and other support to the local governments in order to:
 - a. Help achieve livable communities.
 - b. Identify the city or cities that will likely annex the area after it is added to the UGB.
 - c. Identify the city or cities or the service districts that will likely provide services to the area after it is added to the UGB.
 - d. Determine the general urban land uses and prospective components of the regional system of parks, natural areas, open spaces, fish and wildlife habitats, trails and greenways.
- 1.7.6 Twenty years after the initial designation of the reserves, in conjunction with Clackamas, Multnomah and Washington Counties, review the designated urban and rural reserves for effectiveness, sufficiency and appropriateness.

Policy 1.9 Urban Growth Boundary

It is the policy of the Metro Council to:

- 1.9.1 Establish and maintain an urban growth boundary to limit urbanization of rural land and facilitate the development of a compact urban form.
- 1.9.2 Consider expansion of the UGB only after having taken all reasonable measures to use land within the UGB efficiently.
- 1.9.3 Expand the UGB, when necessary, from land designated Urban Reserves unless they cannot reasonably accommodate the demonstrated need to expand.
- 1.9.4 Not to expand the UGB onto lands designated Rural Reserves at least until the year 2060.
- 1.9.5 Consult appropriate Neighbor Cities prior to addition of land to the UGB in their vicinity.
- 1.9.6 Add land to the UGB only after concept planning for the land has been completed by the responsible local governments in collaboration with Metro unless participants cannot agree on the plan and addition of the land is necessary to comply with ORS 197.299.
- 1.9.7 Provide the following procedures for expansion of the UGB:
 - a. A process for minor revisions
 - b. A complete and comprehensive process associated with the analysis of the capacity of the UGB required periodically of Metro by state planning laws
 - c. A process available for expansion to accommodate non-residential needs between the state-required capacity analyses
 - d. An accelerated process for addition of land to accommodate an immediate need for industrial capacity.
- 1.9.8 Use natural or built features, whenever practical, to ensure a clear transition from rural to urban land use.
- 1.9.9 Ensure that expansion of the UGB enhances the roles of Centers, Corridors and Main Streets.
- 1.9.10 Determine whether the types, mix and wages of existing and potential jobs within subareas justifies an expansion in a particular area.
- 1.9.11 Conduct an inventory of significant fish and wildlife habitat that would be affected by addition of land, and consider the effects of urbanization of the land on the habitat and measures to reduce adverse effects, prior to a decision on the proposed addition.
- 1.9.12 Use the choice of land to include within the UGB as an opportunity to seek agreement with landowners to devote a portion of residential capacity to needed workforce housing as determined by the Urban Growth Report adopted as part of the UGB expansion process.
- 1.9.13 Prepare a report on the effect of the proposed amendment on existing residential neighborhoods prior to approving any amendment or amendments of the urban growth boundary in excess of 100 acres and send the report to all households within one mile of the proposed UGB amendment area and to all cities and counties within the district. The report shall address:

- a. Traffic patterns and any resulting increase in traffic congestion, commute times and air quality.
- b. Whether parks and open space protection in the area to be added will benefit existing residents of the district as well as future residents of the added territory.
- c. The cost impacts on existing residents of providing needed public services and public infrastructure to the area to be added.

Policy 1.11 Neighbor Cities

It is the policy of the Metro Council to:

- 1.11.1 Coordinate concept planning of Urban Reserves with Neighbor Cities Sandy, Canby, Estacada, Barlow, North Plains, Banks and Vancouver to minimize the generation of new automobile trips between Neighbor Cities and the Metro UGB by seeking appropriate ratios of dwelling units and jobs within the Metro UGB and in Neighbor Cities.
- 1.11.2 Pursue agreements with Neighbor Cities, Clackamas and Washington Counties and the Oregon Department of Transportation to establish "green corridors" along state highways that link Neighbor Cities with cities inside the Metro UGB in order to maintain a rural separation between cities, to protect the civic identities of Neighbor Cities, and to protect the capacity of those highways to move people and freight between the cities.
- 1.11.3 Coordinate with Vancouver, Clark County and the Southwest Washington Transportation Council through the Bi-State Coordinating Committee and other appropriate channels on population and employment forecasting; transportation; economic development; emergency management; park, trail and natural area planning; and other growth management issues.

Policy 1.12 Protection of Agriculture and Forest Resource Lands

[Repealed]

Title 5 of the Urban Growth Management Functional Plan is repealed.

Exhibit D to Ordinance No. 10-1238A

TITLE 11: PLANNING FOR NEW URBAN AREAS

3.07.1105 Purpose and Intent

The Regional Framework Plan calls for long-range planning to ensure that areas brought into the UGB are urbanized efficiently and become or contribute to mixed-use, walkable, transitfriendly communities. It is the purpose of Title 11 to guide such long-range planning for urban reserves and areas added to the UGB. It is also the purpose of Title 11 to provide interim protection for areas added to the UGB until city or county amendments to land use regulations to allow urbanization become applicable to the areas.

3.07.1110 Planning for Areas Designated Urban Reserve

A. The county responsible for land use planning for an urban reserve and any city likely to provide governance or an urban service for the area, shall, in conjunction with Metro and appropriate service districts, develop a concept plan for the urban reserve prior to its addition to the UGB pursuant to Metro Code 3.01.015 and 3.01.020. The date for completion of a concept plan and the area of urban reserves to be planned will be jointly determined by Metro and the county and city or cities.

B. A concept plan shall achieve, or contribute to the achievement of, the following outcomes:

- 1. If the plan proposes a mix of residential and employment uses:
 - a. A mix and intensity of uses that will make efficient use of the public systems and facilities described in subsection C;
 - b. A development pattern that supports pedestrian and bicycle travel to retail, professional and civic services;
 - c. Opportunities for a range of needed housing
 types;
 - d. Sufficient employment opportunities to support a healthy economy, including, for proposed employment areas, lands with characteristics,

such as proximity to transportation facilities, needed by employers;

- e. Well-connected systems of streets, bikeways, parks and other public open spaces, natural areas, recreation trails and public transit;
- f. Protection of natural ecological systems and important natural landscape features;
- g. Avoidance or minimization of adverse effects on farm and forest practices and important natural landscape features on nearby rural lands; or
- 2. If the plan involves fewer than 100 acres or proposes to accommodate only residential or employment needs, depending on the need to be accommodated:
 - a. Opportunities for a range of needed housing types;
 - b. Sufficient employment opportunities to support a healthy economy, including, for proposed employment areas, lands with characteristics, such as proximity to transportation facilities, needed by employers;
 - c. Well-connected systems of streets, bikeways, pedestrian ways, parks, natural areas, recreation trails;
 - d. Protection of natural ecological systems and important natural landscape features;
 - e. Avoidance or minimization of adverse effects on farm and forest practices and important natural landscape features on nearby rural lands.

C. A concept plan shall:

1.Show the general locations of any residential, commercial, industrial, institutional and public uses proposed for the area with sufficient detail to allow estimates of the cost of the public systems and facilities described in paragraph 2;

2.For proposed sewer, park and trail, water and storm-water systems and transportation facilities, provide the following:

- a. The general locations of proposed sewer, park and trail, water and storm-water systems;
- b. The mode, function and general location of any proposed state transportation facilities, arterial facilities,

regional transit and trail facilities and freight intermodal facilities;

- c. The proposed connections of these systems and facilities, if any, to existing systems;
- d. Preliminary estimates of the costs of the systems and facilities in sufficient detail to determine feasibility and allow cost comparisons with other areas;
- e. Proposed methods to finance the systems and facilities; and
- f. Consideration for protection of the capacity, function and safe operation of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.

3.If the area subject to the concept plan calls for designation of land for industrial use, include an assessment of opportunities to create and protect parcels 50 acres or larger and to cluster uses that benefit from proximity to one another;

4. Show water quality resource areas, flood management areas and habitat conservation areas that will be subject to performance standards under Titles 3 and 13 of the Urban Growth Management Functional Plan;

5. Be coordinated with the comprehensive plans and land use regulations that apply to nearby lands already within the UGB;

6. Include an agreement between or among the county and the city or cities and service districts that preliminarily identifies which city, cities or districts will likely be the providers of urban services, as defined at ORS 195.065(4), when the area is urbanized;

7. Include an agreement between or among the county and the city or cities that preliminarily identifies the local government responsible for comprehensive planning of the area, and the city or cities that will have authority to annex the area, or portions of it, following addition to the UGB;

8. Provide that an area added to the UGB must be annexed to a city prior to, or simultaneously with, application of city land use regulations to the area intended to comply with subsection C of section 3.07.1120; and

- 9. Be coordinated with schools districts.
- D. Concept plans shall guide, but not bind:
 - The designation of 2040 Growth Concept design types by the Metro Council;
 - 2. Conditions in the Metro ordinance that adds the area to the UGB; or
 - 3. Amendments to city or county comprehensive plans or land use regulations following addition of the area to the UGB.

E. If the local governments responsible for completion of a concept plan under this section are unable to reach agreement on a concept plan by the date set under subsection A, then the Metro Council may nonetheless add the area to the UGB if necessary to fulfill its responsibility under ORS 197.299 to ensure the UGB has sufficient capacity to accommodate forecasted growth.

3.07.1120 Planning for Areas Added to the UGB

- A. The county or city responsible for comprehensive planning of an area, as specified by the intergovernmental agreement adopted pursuant to 3.07.1110C(7)or the ordinance that added the area to the UGB, shall adopt comprehensive plan provisions and land use regulations for the area to address the requirements of subsection C by the date specified by the ordinance or by Metro Code 3.01.040(b)(4).
- B. If the concept plan developed for the area pursuant to Section 3.07.1110 assigns planning responsibility to more than one city or county, the responsible local governments shall provide for concurrent consideration and adoption of proposed comprehensive plan provisions unless the ordinance adding the area to the UGB provides otherwise.

C. Comprehensive plan provisions for the area shall include:

1. Specific plan designation boundaries derived from and generally consistent with the boundaries of design type designations assigned by the Metro Council in the ordinance adding the area to the UGB;

2. Provision for annexation to a city and to any necessary service districts prior to, or simultaneously with, application of city land use regulations intended to comply with this subsection; 3. Provisions that ensure zoned capacity for the number and types of housing units, if any, specified by the Metro Council pursuant to Metro Code 3.01.040(b)(2);

4. Provision for affordable housing consistent with Title 7 of the Urban Growth Management Functional Plan if the comprehensive plan authorizes housing in any part of the area;

5.Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;

6. Provision for the amount of land and improvements needed, if any, for public park facilities sufficient to serve the area added to the UGB in coordination with affected park providers.

7. A conceptual street plan that identifies internal street connections and connections to adjacent urban areas to improve local access and improve the integrity of the regional street system. For areas that allow residential or mixed-use development, the plan shall meet the standards for street connections in the Regional Transportation Functional Plan;

8. Provision for the financing of local and state public facilities and services; and

9. A strategy for protection of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.

D. The county or city responsible for comprehensive planning of an area shall submit a determination of the residential capacity of any area zoned to allow dwelling units, using the method in section 3.07.120,to Metro within 30 days after adoption of new land use regulations for the area.

3.07.1130 Interim Protection of Areas Added to the UGB

Until land use regulations that comply with section 3.07.1120 become applicable to the area, the city or county responsible for planning the area added to the UGB shall not adopt or approve:

- A. A land use regulation or zoning map amendment that allows higher residential density in the area than allowed by regulations in effect at the time of addition of the area to the UGB;
- B. A land use regulation or zoning map amendment that allows commercial or industrial uses not allowed under regulations in effect at the time of addition of the area to the UGB;
- C. A land division or partition that would result in creation of a lot or parcel less than 20 acres in size, except for public facilities and services as defined in Metro Code section 3.01.010, or for a new public school;
- D. In an area designated by the Metro Council in the ordinance adding the area to the UGB as Regionally Significant Industrial Area:

1. A commercial use that is not accessory to industrial uses in the area; and

2. A school, a church, a park or any other institutional or community service use intended to serve people who do not work or reside in the area.

3.07.1140 Applicability

Section 3.07.1110 becomes applicable on March 31, 2011.

Exhibit E to Ordinance No. 10-1238A

REASONS FOR DESIGNATION OF URBAN AND RURAL RESERVES

I. Background

The 2007 Oregon Legislature authorized Metro and Clackamas, Multnomah and Washington Counties ("partner governments") to designate urban reserves and rural reserves following the process set forth in ORS 195.137 – 195.145 (Senate Bill 1011) and implementing rules adopted by the Land Conservation and Development Commission (LCDC) (OAR 660 Division 27). The Legislature enacted the new authority in response to a call by local governments in the region to improve the methods available to them for managing growth. After the experience of adding over 20,000 acres to the regional urban growth boundary (UGB) following the soil-capability-based priority of lands in ORS 197.298, cities and the partner governments wanted to place more emphasis on the suitability of lands for sustainable urban development, longer-term security for agriculture and forestry outside the UGB, and respect for the natural landscape features that define the region.

The new statute and rules make agreements among the partner governments a prerequisite for designation of urban and rural reserves. The remarkable cooperation among the local governments of the region that led to passage of Senate Bill 1011 and adoption of LCDC rules continued through the process of designation of urban reserves by Metro and rural reserves by Clackamas, Multnomah and Washington Counties. The partners' four ordinances are based upon the formal intergovernmental agreements between Metro and each county that are part of our record, developed simultaneously following long study of potential reserves and thorough involvement by the public.

II. OVERALL CONCLUSIONS

Metro Ordinance No. 10-1238 designates 28,615 gross acres as urban reserves, including urban reserves in each county. These lands are now first priority for addition to the region's UGB when the region needs housing or employment capacity. As indicated in new policy in Metro's Regional Framework Plan in Exhibit A to the ordinance, the urban reserves are intended to accommodate population and employment growth for 50 years, to year 2060.

Clackamas County Ordinance No. ZDO-233 designates 68,713 acres as rural reserves in Clackamas County. Multnomah County Ordinance No. 2010-1161 designates 46,706 acres as rural reserves in Multnomah County. Washington County Ordinance No. 733 designates 151,536 acres as rural reserves in that county. As indicated in new policies in the Regional Framework Plan and the counties' Comprehensive Plans, these rural reserves – 266,954 acres in total - are now protected from urbanization for 50 years. Staff Report, June 9, 2010, Metro Rec.___. The governments of the region have struggled with the urban-farm/forest interface, always searching for a "hard edge" to give farmers and foresters some certainty to encourage investment in their businesses. No road, stream or floodplain under the old way of expanding the UGB offers the long-term certainty of the edge of a rural reserves with at least a 50-year lifespan.

This certainty is among the reasons the four governments chose the longer, 50-year, reserves period.

The region's governments have also debated how best to protect important natural landscape features at the edges of the urban area. The partners' agreements and these ordinances now identify the features that will define the extent of outward urban expansion.

The region's urban and rural reserves are fully integrated into Metro's Regional Framework Plan and the Comprehensive Plans of Clackamas, Multnomah and Washington counties. Metro's plan includes a map that shows urban and rural reserves in all three counties. Each of the county plans includes a map that shows urban and rural reserves in the county. The reserves shown on each county map are identical to the reserves shown in that county on the Metro map. Each of the four plans contains new policies that ensure accomplishment of the goals for the reserves set by the four local governments and by state law. These new policies are consistent with, and carry out, the intergovernmental agreements between Metro and the three counties signed in February, 2010.

Together, these reserves signal the region's long-term limits of urbanization, its commitment to stewardship of farmland and forests, and its respect for the features of the natural landscape that give the people of the region their sense of place. Urban reserves, if and when added to the UGB, will take some land from the farm and forest land base. But the partners understood from the beginning that some of the very same characteristics that make an area suitable for agriculture also make it suitable for industrial uses and compact, mixed-use, pedestrian and transit-supportive urban development. The most difficult decisions made by the four governments involved Foundation Agricultural Land¹ near the existing UGB and the circumstances in which this land should be designated as urban reserve to accommodate growth in a compact form and provide opportunities for industrial development difficult or impossible on steep slopes.

Some important numbers help explain why the partners came to agree that the adopted system, in its entirety, achieves this balance. Of the total 28,615 acres designated urban reserves, approximately 13,981 acres are Foundation or Important Agricultural Land. This represents only four percent of the Foundation and Important Agricultural Land studied for possible urban or rural reserve designation. If all of this land is added to the UGB over the next 50 years, the region will have lost five percent of the farmland base in the three-county area. Staff Report, June 9, 2010, Metro Rec.___.

There is a second vantage point from which to assess the significance for agriculture of the designation of urban reserves in the three-county region: the percentage of land zoned for exclusive farm use in the three counties that is designated urban reserve. Land zoned EFU has emerged over 35 years of planning as the principal land base for agriculture in the counties, and is protected for that purpose by county zoning. The inventory of Foundation and Important

¹ Those lands mapped as Foundation Agricultural Land in the January, 2007, Oregon Department of Agriculture report to Metro entitled "Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands.

Agricultural Lands includes land that is "exception land" no longer protected for agriculture for farming. Of the 28,615 acres designated urban reserves, some 10,767 acres are zoned EFU. Even including the 2,774 acres of these EFU lands that are classified by ODA as "conflicted", these 10,767 acres represent four percent of all land zoned EFU in the three counties. If the "conflicted" acres are removed from consideration, the percentage drops to four percent. Staff Report, June 9, 2010, Metro Rec.___.

If the region's effort to contain urban development within the existing UGB and these urban reserves for the next 50 years is successful, the UGB will have accommodated an estimated 74 percent increase in population on an 11-percent increase in the area within the UGB. No other region in the nation can demonstrate this growth management success. Most of the borders of urban reserves are defined by a 50-year "hard edge" of 266,954 acres designated rural reserves, nearly all of which lies within five miles of the existing UGB. Of these rural reserves, approximately 249,116 acres are Foundation or Important Agricultural Land. Staff Report, June 9, 2010, Metro Rec.__.

Why did the region designate *any* Foundation Agricultural Land as urban reserve? The explanation lies in the geography and topography of the region, the growing cost of urban services and the declining sources of revenues to pay for them, and the fundamental relationships among geography, topography and the cost of services. The region aspires to build "great communities." Great communities are those that offer residents a range of housing types and transportation modes from which to choose. Experience shows that compact, mixed-use communities with fully integrated street, pedestrian, bicycle and transit systems offer the best range of housing and transportation choices. State of the Centers: Investing in Our *Communities*, January, 2009. Metro Rec. . . The urban reserves factors in the reserves rules derive from work done by the region to identify the characteristics of great communities. Urban reserve factors (1), (3), (4), and (6)² especially aim at lands that can be developed in a compact, mixed-use, walkable and transit-supportive pattern, support by efficient and cost-effective services. Cost of services studies tell us that the best geography, both natural and political, for compact, mixed-use communities is relatively flat, undeveloped land. Core 4 Technical Team Preliminary Analysis Reports for Water, Sewer and Transportation, Metro Rec. 1163-1187; Regional Infrastructure Analysis, Metro Rec. 440-481.

The region also aspires to provide family-wage jobs to its residents. Urban reserve factor (2) directs attention to capacity for a healthy economy.³ Certain industries the region wants to attract prefer large parcels of flat land. Staff Report, June 9, 2010, Metro Rec. $_$. Water, sewer

- (3) Can be efficiently and cost-effectively service with public schools and other urban-level public facilities and services by appropriate and financially capable providers;
- (4) Can be designed to be walkable and service with a well-connected system of streets,
- bikeways, recreation trails and public transit by appropriate services providers;
- (6) Includes sufficient land suitable for a range of needed housing types.
- ³ (2) Includes sufficient development capacity to support a healthy economy.

 $^{^{2}}$ (1) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;

and transportation costs rise as slope increases. *Core 4 Technical Team Preliminary Analysis Reports for Water, Sewer and Transportation*, Metro Rec. 1163-1187; *Regional Infrastructure Analysis*, Metro Rec. 440-481. Converting existing low-density rural residential development into compact, mixed-use communities through infill and re-development is not only very expensive, it is politically difficult. There is no better support for these findings than the experience of the city of Damascus, trying since its addition to the UGB in 2002 to gain the acceptance of its citizens for a plan to urbanize a landscape characterized by a few flat areas interspersed among steeply sloping buttes and incised stream courses and natural resources. Staff Report, June 9, 2010, Metro Rec.__.

Mapping of slopes, parcel sizes, and Foundation Agricultural Land revealed that most flat land in large parcels without a rural settlement pattern at the perimeter of the UGB lies outside Hillsboro, Cornelius, Forest Grove, Beaverton, and Sherwood. These same lands provide the most readily available supply of large lots for industrial development. *Business Coalition Constrained Land for Development and Employment Map*, Metro Rec. 1105-1110. Almost all of it is Foundation Agricultural Land. Had the region been looking only for the best land to build great communities, nearly all the urban reserves would have been around these cities. It is no coincidence that these cities told the reserves partners that they want significant urban reserves available to them, while most other cities told the partners they want little or no urban reserves. *Washington County Cities' Pre-Qualified Concept Plans*, WashCo Rec.___.

Despite these geopolitical and cost-of-services realities, the reserves partners designated extensive urban reserves that are *not* Foundation Agricultural Lands in order to meet the farm and forest land objectives of reserves, knowing they will be more difficult and expensive to urbanize:

Urban Reserve 1D east of Damascus and south of Gresham (2,716 acres); Urban Reserve 2A south of Damascus (1,239 acres); Urban Reserves 3B, C, D, F and G around Oregon City (2,232 acres); Urban reserves 4A, B and C in the Stafford area (4,699 acres); Urban reserves 4D, E, F, G and H southeast of Tualatin and east of Wilsonville (3,589 acres); Urban Reserve 5F between Tualatin and Sherwood (572 acres); Urban Reserve 5G west of Wilsonville (203 acres); and Urban Reserve 5D south of Sherwood (447 acres).

This totals approximately 15,697 acres, 55 percent of the lands designated urban reserve.

Our reasons for not selecting more non-Foundation Agricultural Land as urban reserves from the 400,000 acres studied can be found in our analysis of these lands using the urban reserve factors. First, we began our analysis by examining lands within five miles of the UGB. Most of these lands initially studied are beyond the affordable reach of urban services. With one exception (Urban Reserve 1D), designated urban reserves lie within two miles of the UGB.

Second, much of the Important and some Conflicted Agricultural Lands are separated from the UGB by, or include, important natural landscape features:

- East of Sandy: the Sandy River Canyon and the county's scenic river overlay zone
- Eagle Creek and Springwater Ridge: the bluffs above the Clackamas River
- Clackamas Heights (portion closest to UGB): Abernethy Creek
- South of Oregon City: steep slopes drop to Beaver Creek
- West Wilsonville: Tonquin Scablands
- Bethany/West Multnomah: Forest Park and stream headwaters and courses.

Urban reserve factors (5), (7) and $(8)^4$ seek to direct urban development away from important natural landscape features and other natural resources.

Third, much of the Important and Conflicted Agricultural Lands rate lower against the urban reserves factors in comparison to areas designated urban reserve, or remain undesignated for possible designation as urban reserve if the region's population forecast proves too low:⁵

- Clackamas Heights
- East Wilsonville
- West Wilsonville
- Southeast of Oregon City
- Southwest of Borland Road
- Between Wilsonville and Sherwood

Lastly, some of the Important and Conflicted Agricultural Lands lies adjacent to cities in the region that have their own UGBs and want their own opportunities to expand over time:

- Estacada
- Sandy

These reasons are more fully set forth in the explanations for specific urban and rural reserves in sections VI-VIII.

The record of this two and one-half-year effort shows that not every partner agreed with all urban reserves in each county. But each partner agrees that this adopted system of urban and rural reserves, in its entirety, achieves the region's long-range goals and a balance among the objectives of reserves: to accommodate growth in population and employment in sustainable and

 $^{^{4}}$ (5) Can be designed to preserve and enhance natural ecological systems;

⁽⁷⁾ Can be developed in a way that preserves important natural landscape features included in urban reserves;(8) Can be designed to avoid or minimize adverse effects on farm and forest practices, and adverse effects on important natural landscape features, on nearby land including land designated as rural reserves.

⁵ "Retaining the existing planning and zoning for rural lands (and not applying a rural or an urban reserves designation) is appropriate for lands that are unlikely to be needed over the next 40 years, or (conversely) that are not subject to a threat of urbanization." Letter from nine state agencies to the Metro Regional Reserves Steering Committee, October 14, 2009, page 15.

prosperous communities and neighborhoods, to preserve the vitality of the farms and forests of the region, and to protect defining natural landscape features. The partners are confident that this system of reserves will allow the continuation of vibrant and mutually-reinforcing farm, forest and urban economies for the next 50 years. And the partners agree this system is the best system the region can adopt by mutual agreement.

III. OVERALL PROCESS OF ANALYSIS AND PUBLIC INVOLVEMENT

A. Analysis and Decision-Making

The three counties and Metro began reserves work as soon as LCDC adopted the new rules on reserves (OAR Division 27). The four governments formed committees and began public involvement to raise awareness about reserves and help people learn how to engage in the process. Each of the four governments selected one of its elected officials to serve on the "Core 4", established to guide the designation process and formulate recommendations to the county boards and the Metro Council. The four governments also established a "Reserves Steering Committee" (RSC) to advise the Core 4 on reserves designation. The RSC represented interests across the region - from business, agriculture, social conservation advocacy, cities, service districts and state agencies (52 members and alternates).

The four governments established an overall Project Management Team (PMT) composed of planners and other professions from their planning departments. Each county established an advisory committee to provide guidance and advice to its county board, staffed by the county's planning department.

As part of technical analysis, staff gathered providers of water, sewer, transportation, education and other urban services to consider viability of future service provision to lands within the study area. The parks and open space staff at Metro provided guidance on how best to consider natural features using data that had been deeply researched, broadly vetted and tested for social and political acceptance among Willamette Valley stakeholders (Oregon Wildlife Conservation Strategy, Pacific Northwest Research Consortium, Willamette Valley Futures, The Nature Conservancy's Ecoregional Assessment). Business leaders, farm bureaus and other representative groups were consulted on an ongoing basis.

The first major task of the Core 4 was to recommend a reserves study area to the county boards and the Metro Council. With advice from the RSC, the county advisory committees and public comment gathered open houses across the region, the Core 4 recommended for further analysis some 400,000 acres around the existing urban area, extending generally five miles from the UGB. The four governments endorsed the study area in the fall of 2008. Then the task of applying the urban and rural reserve factors to specific areas began in earnest.

The county advisory committees reviewed information presented by the staff and advised the staff and county boards on how each "candidate area" rated under each reserves factor. The county staffs brought this work to the RSC for discussion. After a year's worth of work at regular meetings, the RSC made its recommendations to the Core 4 in October, 2009.

Later in the fall, each elected body held hearings to hear directly from their constituents on proposed urban and rural reserves. Public involvement included six open houses, three Metro

Council hearings around the region and a virtual open house on the Metro web site, all providing the same maps, materials and survey questions.

Following this public involvement, the Core 4 submitted its final recommendations to the four governments on February 8, 2010. The recommendation included a map of proposed urban and rural reserves, showing reserves upon which there was full agreement (the large majority of proposed reserves) and reserves upon which disagreements were not resolved. The Core 4 proposed that these differences be settled principally in bilateral discussions between each county and Metro, the parties to the intergovernmental agreements (IGAs) required by ORS 195.141. Over the next two weeks, the Metro Council reached agreement on reserves with each county. By February 25, 2010, Metro had signed an IGA with Clackamas, Multnomah and Washington counties. Metro Rec.__.

The IGAs required each government to amend its plan to designate urban (Metro) or rural (counties) reserves and protect them for their intended purposes with plan policies. The IGAs also set times for final public hearings on the IGA recommendations and adoption of ordinances with these plan policies in May and June. The four governments understood that the IGAs and map of urban and rural reserves were not final decisions and, therefore, provided for final adjustments to the map to respond to public comment at the hearings. By June 15, 2010, the four governments had adopted their reserves ordinances, including minor revisions to the reserves map.

B. Public Involvement

From its inception, the reserves designation process was designed to provide stakeholders and the public with a variety of ways to help shape the process and the final outcome. Most significantly, the decision process required 22 elected officials representing two levels of government and 400,000 acres of territory to craft maps and agreements that a majority of them could support. These commissioners and councilors represent constituents who hold a broad range of philosophical perspectives and physical ties to the land. Thus, the structure of the reserves decision process provided motivation for officials to seek a final compromise that met a wide array of public interests.

In the last phase of the reserve process – adoption of ordinances that designate urban and rural reserves - each government followed its established procedure for adoption of ordinances: notice to citizens; public hearings before its planning commission (in Metro's case, recommendations from the Metro Planning Advisory Committee) and public hearings before its governing body. But in the more-than-two years leading to this final phase, there were additional advisory bodies established.

The RSC began its work in early 2008. RSC members were expected to represent social and economic interests to the committee and officials and to serve as conduits of communication back to their respective communities. In addition, RSC meetings were open to the public and provided an additional avenue for citizens to voice their concerns—either by asking that a steering committee member represent their concern to the committee or by making use of the public testimony period at the beginning of each meeting.

Once the three county advisory committees got underway, they, like the RSC, invited citizens were to bring concerns to committee members or make statements at the beginning of each meeting.

Fulfilling the requirements of DLCD's administrative rules on reserves and the reserves work program, the three counties and Metro developed a Coordinated Public Involvement Plan in early 2008 that provided guidance on the types of public involvement activities, messages and communications methods that would be used for each phase of the reserves program. The plan incorporated the requirements of Oregon law and administrative rules governing citizen involvement and reflects comments and feedback received from the Metro Council, Core 4 members, each jurisdiction's citizen involvement committee, other county-level advisory committees and the RSC. The Citizen Involvement Advisory Committee of the Oregon Land Conservation and Development Commission (LCDC) reviewed and endorsed the Public Involvement Plan.

The four governments formed a public involvement team, composed of public involvement staff from each county and Metro, to implement the Public Involvement Plan. The team cooperated in all regional efforts: 20 open houses, two "virtual open houses" on the Metro web site, additional online surveys, presentations, printed materials and analysis and summaries of comments. The team members also undertook separate county and Metro-specific public engagement activities and shared methodologies, materials and results.

Elected officials made presentations to community planning organizations, hamlets, villages, city councils, advocacy organizations, civic groups, chambers of commerce, conferences, watershed councils, public affairs forums, art and architecture forums, and many other venues. Staff and elected officials appeared on television, on radio news broadcasts and talk shows, cable video broadcasts and was covered in countless news articles in metro outlets, gaining publicity that encouraged public engagement. Booths at farmers' markets and other public events, counter displays at retail outlets in rural areas, library displays and articles in organization newsletters further publicized the opportunities for comment. Materials were translated into Spanish and distributed throughout all three counties. Advocacy organizations rallied supporters to engage in letter email campaigns and to attend public meetings. Throughout the reserves planning process the web sites of each county and Metro provided information and avenues for feedback. While there have been formal public comment periods at key points in the decision process, the reserves project team invited the public to provide comment freely throughout the process.

In all, the four governments made extraordinary efforts to engage citizens of the region in the process of designating urban and rural reserves. The public involvement plan provided the public with more than 180 discrete opportunities to inform decision makers of their views urban and rural reserves. A fuller account of the public involvement process the activities associated with each stage may be found at Staff Report, June 9, 2010, Metro Rec.__.

IV. AMOUNT OF URBAN RESERVES

A. Forecast

Metro developed a 50-year "range" forecast for population and employment that was coordinated with the 20-year forecast done for Metro's UGB capacity analysis, completed in December, 2009. The forecast is based on national economic and demographic information and is adjusted to account for regional growth factors. The partner governments used the upper and lower ends of the 50-year range forecast as one parameter for the amount of land needed to accommodate households and employment. Instead of aiming to accommodate a particular number of households or jobs within that range, the partners selected urban reserves from approximately 400,000 acres studied that best achieve the purposes established by the Land Conservation and Development Commission [set forth in OAR 660-027-0005(2)] and the objectives of the partner governments.

B. Demand and Capacity

Estimating land demand over the next 50 years is difficult as a practical matter and involves much uncertainty. The Land Conservation and Development Commission (LCDC) recognizes the challenge of estimating long-term need even for the 20-year UGB planning period. In the section of OAR Division 24 (Urban Growth Boundaries) on "Land Need", the Commission says:

"The 20-year need determinations are estimates which, although based on the best available information and methodologies, should not be held to an unreasonably high level of precision."

OAR 660-024-0040(1). The uncertainties loom much larger for a 40 to 50-year estimate. Nonetheless, Metro's estimate of need for a supply of urban reserves sufficient to accommodate housing and employment to the year 2060 is soundly based in fact, experience and reasonable assumptions about long-range trends.

The urban reserves estimate begins with Metro's UGB estimate of need for the next 20 years in its *Urban Growth Report 2009-2030*, January, 2010 (adopted December 17, 2009). Metro Rec. 646; 715. Metro relied upon the assumptions and trends underlying the 20-year estimate and modified them where appropriate for the longer-term reserves estimate, and reached the determinations described below.

The 50-year forecast makes the same assumption on the number of households and jobs needed to accommodate the population and employment coming to the UGB from the seven-county metropolitan statistical area (MSA) as in the *Urban Growth Report*: approximately 62 percent of the MSA residential growth and 70 percent of the MSA employment growth will come to the metro area UGB. *COO Recommendation, Urban Rural Reserves,* Appendix 3E-C, Metro Rec. 599; Appendix 3E-D, Metro Rec. 606-607; .

Metro estimates the demand for new dwelling units within the UGB over the next 50 years to be between 485,000 and 532,000 units. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C,* Metro Rec. 599. Metro estimates between 624,300 and 834,100 jobs will locate within the UGB by 2060. *COO Recommendation, Urban Rural Reserves, Appendix 3E-D, Table D-3,* Metro Rec. 607. Staff Report, June 9, 2010, Metro Rec.___.

The region will focus its public investments over the next 50 years in communities inside the existing UGB and, as a result, land within the UGB would develop close to the maximum levels allowed by existing local comprehensive plan and zone designations. This investment strategy is expected to accommodate 70 to 85 percent of growth forecasted over that period. No increase in zoned capacity within the UGB was assumed because, at the time of adoption of reserves ordinances by the four governments, the Metro Council will not have completed its decision-making about actions to increase the capacity of the existing UGB as part of Metro's 2009 capacity analysis. For those areas added to the UGB between 2002 and 2005 for which comprehensive planning and zoning is not yet complete, Metro assumed the areas would accommodate all the housing and employment anticipated in the ordinances that added the areas to the UGB over the reserves planning period. Fifty years of enhanced and focused investment to accommodate growth will influence the market to use zoned capacity more fully.

Consistent with residential capacity analysis in the *Urban Growth Report*, vacant land in the existing UGB can accommodate 166,600 dwelling units under current zoning over the next 50 years. Infill and re-development over this period, with enhanced levels of investment, will accommodate another 212,600 units. This would leave approximately 152,400 dwelling units to be accommodated on urban reserves through 2060. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C, pp. 5-6*, Metro Rec. 602-603.

Based upon the employment capacity analysis in the *Urban Growth Report*, the existing UGB has sufficient capacity – on vacant land and through re-development over the 50-year reserves period - for overall employment growth in the reserves period. However, this supply of land does not account for the preference of some industrial employers for larger parcels. To accommodate this preference, the analysis of the supply of larger parcels was extrapolated from the *Urban Growth Report*. This leads to the conclusion that urban reserves should include approximately 3,000 acres of net buildable land that is suitable for larger-parcel industrial users. *COO Recommendation, Urban Rural Reserves, Appendix 3E-D*, Metro Rec. 609-610; Staff Report, June 9, 2010, Metro Rec.

Metro assumed residential development in urban reserves, when they are added to the UGB over time, would develop at higher densities than has been the experience in the past, for several reasons. First, the region is committed to ensuring new development at the edges of the region contributes to the emergence of "great communities", either new communities or as additions to existing communities inside the UGB. Second, because many urban reserves are "greenfields", they can be developed more efficiently than re-developing areas already inside the UGB. Third, demographic trends, noted in the *Urban Growth Report* that is the starting point for Metro's 2010 capacity analysis, indicate increasing demand for smaller housing units. This reasoning leads to the assumption that residential development will occur in reserves, when added to the UGB, at 15 units per net buildable acre overall, recognizing that some areas (centers, for example) would settle at densities lower than 15 units/acre and others (with steep slopes, for example) would settle at densities lower than 15 units/acre. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C, pp. 6-7*; Staff Report, June 9, 2010, Metro Rec.___.

Metro also assumed greater efficiencies in use of employment lands over the next 50 years. The emerging shift of industrial activity from production to research and development will continue, meaning more industrial jobs will be accommodated in high- floor-to-area-ratio (FAR) offices rather than low-FAR general industrial space. This will reduce the need for general industrial and warehouse building types by 10 percent, and increase the need for office space. Office space, however, will be used more efficiently between 2030 and 2060, reducing that need by five percent. Finally, the analysis assumes a 20-percent increase in FARs for new development in centers and corridors, but no such increase in FARs in industrial areas. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C,* Metro Rec. 603-604; Staff Report, June 9, 2010, Metro Rec.

These assumptions lead to the conclusion that 28,615 acres of urban reserves are needed to accommodate 371,860 people and employment land targets over the 50-year reserves planning period to 2060. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C,* Metro Rec. 601-603; *Appendix 3E-D,* Metro Rec.607-610; Staff Report, June 9, 2010, Metro Rec.___. The nine state agencies that served on the Reserves Steering Committee said the following about the amount of urban land the region will need over the long-term:

"The state agencies support the amount of urban reserves recommended by the Metro COO. That recommendation is for a range of between 15,000 and 29,000 acres. We believe that Metro and the counties can develop findings that, with this amount of land, the region can accommodate estimated urban population and employment growth for at least 40 years, and that the amount includes sufficient development capacity to support a healthy economy and to provide a range of needed housing types." *Letter to Metro Regional Steering Committee, October 14, 2009*, Metro Rec. 1373.

Based upon the assumptions described above about efficient use of land, the four governments believe the region can accommodate 50 years' worth of growth, not just 40 years' of growth.

V. IMPLEMENTING URBAN RESERVES

To ensure that urban reserves ultimately urbanize in a manner consistent with the Regional Framework Plan, Ordinance No. 10-1238 amended Title 11 (Planning for New Urban Areas) (Exhibit D) of Metro's Urban Growth Management Functional Plan to require planning of areas of urban reserve prior to inclusion into the UGB. Title 11 now requires a "concept plan" for an urban reserve area prior to UGB expansion. A concept plan must show how development would achieve specified outcomes. The outcomes derive from the urban reserve factors in OAR 660-027-0050, themselves based in part on the characteristics of "great communities" identified by local governments of the region as part of Metro's "Making the Greatest Place" initiative. Title 11 sets forth the elements of a concept plan, including:

- the general locations of types of uses
- the general locations of the urban services (including transportation systems) needed to support the uses

- estimates of the cost of the services to determine the feasibility of urbanization and to allow comparisons of urban reserves
- the locations of natural resources that will be subject to Title 3 and 13 of the UGMFP
- agreement among local governments and other service providers on provision of services to the area
- agreement among the local governments on annexation of the area to a city or cities and responsibility for planning and zoning.

Title 11 continues to limit development in areas added to the UGB to protect the opportunity for efficient urbanization during the time needed to adopt new local government plan provisions and land use regulations. Title 11, together with the comprehensive plans of the receiving local governments and Metro's Regional Framework Plan (including the 2035 Regional Transportation Plan), will ensure land use and transportation policies and designations will allow mixed-use and pedestrian, bicycle and transit-supportive development once urban reserve areas are added to the UGB. Staff Report, June 9, 2010, Metro Rec.___.

VI. REASONS FOR URBAN AND RURAL RESERVES IN CLACKAMAS COUNTY

A. Clackamas County: Urban Reserves

Urban Reserves 1D and 1F: Boring

General Description: This Urban Reserve comprises approximately 4,200 acres, bordered by the cities of Gresham on the north and Damascus on the west. The eastern-most boundary of this Urban Reserve is located approximately two miles from the City of Sandy's Urban Reserve. The community of Boring, which is identified as a Rural Community in the County Comprehensive Plan, is located in the southern part of this area, and its boundary is the southern edge of this Urban Reserve. Highway 26 forms the northern boundary of this Urban Reserve.

Development in this area is focused in the community of Boring, which has several commercial and employment uses and a small residential community. There is also an area of non-conforming commercial uses located at the eastern edge of this Urban Reserve, along the north side of St. Hwy. 212. Rural residential homesites mixed with smaller farms characterize the area west of 282nd Avenue. The area east of 282nd Ave., north of Boring, has several larger, flat parcels that are being farmed.

There are two significant buttes located in the northwest part of this Urban Reserve. These buttes have been identified as important natural landscape features in Metro's February 2007 "Natural Landscape Features Inventory". These buttes are wooded. Existing rural homesites are scattered on the slopes. There is minimal development potential on these buttes.

The area west of SE 282nd Ave., outside Boring, is identified as Conflicted Agricultural Land. The area east of SE 282nd Ave. (Area1F) is identified as Foundation Agricultural Land. This is the only Foundation Agricultural Land in Clackamas County included in an Urban Reserve.

Conclusions and Analysis: Designation of the Boring Area as an Urban Reserve is consistent with OAR 660-027. The Boring Urban Reserve provides one of Clackamas County's few

identified employment land opportunities. The larger, flat parcels in Area 1F are suitable as employment land. This area is served by St. Hwy. 26 and St. Hwy 212, transportation facilities that have been identified by ODOT as having additional capacity. Development of this area for employment uses also would be a logical complement to the Springwater employment area in Gresham.

Portions of this Urban Reserve also satisfy some of the factors for designation as a Rural Reserve. Area 1F is comprised of Foundation Agricultural Land. Two buttes located in the northwest corner of this Urban Reserve are included in Metro's February 2007 "Natural Landscape Features Inventory". The City of Sandy has requested a Rural Reserve designation for Area 1F, to maintain separation between the Portland Metro Urban Growth Boundary and the City's urban area.

On balance, designation as an Urban Reserve is the appropriate choice. As explained below, designation as an Urban Reserve meets the factors for designation provided in OAR 660-027-0050. Area 1F is the only Urban Reserve in Clackamas County containing Foundation Agricultural Land. While this area does contain commercial farms, it also is impacted by a group of non-conforming commercial uses located near the intersection of the two state highways. The area west of SE 282nd is identified as Conflicted Agricultural Land. The two state highways and the rural community of Boring provide logical boundaries for this area.

The Boring Urban Reserve and the Urban Reserve that includes the Borland Area (Area 4C) are the only areas containing a significant amount of larger, flatter parcels suitable for employment uses. The Principles for concept planning recognize the need to provide jobs in this part of the region, and also recognize that the Boring Urban Reserve is identified principally to meet this need. There are no other areas with land of similar character in the eastern part of the region. Designation of Areas 1D and 1F as an Urban Reserve is necessary to provide the opportunity for development of employment capacity in this part of the region. These facts justify including this small area of Foundation Farmland in the Urban Reserve, in accord with OAR 660-027-0040(11).

The two buttes have little or no potential for development. While they could be designated as a Rural Reserve, such a designation would leave a small Rural Reserve located between the existing Urban Growth Boundary and the remainder of the Boring Urban Reserve. The buttes can be protected by the city which will govern this area when it is added to the Urban Growth Boundary. The Principles also recognize the need to account for these important natural landscape features during development of concept plans for this area.

The City of Sandy has objected to the designation of Area 1F as an Urban Reserve. *See Clackamas County Record* _____. The City points to a 1998 Intergovernmental Agreement among Metro, Sandy, Clackamas County and, the Oregon Department of Transportation.⁶ Among other things this IGA states a purpose to "designate areas of rural land to separate and buffer Metro's Urban Growth Boundary and Urban Reserve areas from the City's Urban Growth

⁶ The agreement was never signed by the Oregon Department of Transportation.

Boundary and Urban Reserve areas. The IGA also recognizes the desire to protect a view corridor along Hwy 26. The parties are negotiating an update to this agreement.

The Principles require concept planning for the Boring Urban Reserve to "recognize the need to provide and protect a view corridor considering, among other things, landscaping, signage and building orientation...." The 2 miles between the Boring Urban Reserve and the City of Sandy's Urban Reserve area is being designated as a Rural Reserve, assuring separation of these two urban areas.

Designation of the Boring Urban Reserve is consistent with the factors for designation provided in OAR 660-027-0050.

- The Boring Urban Reserve can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments. Metro's Urban Study Area Analysis (Map A) demonstrates the relatively large amount of land suitable for development in this urban Reserve, particularly in Area 1F and the eastern half of Area 1D. The existing community of Boring also provides a focal point for commercial and residential development in this Urban Reserve. The buttes in the northwestern corner of this area, adjacent to Damascus and Gresham, have very little potential for additional urban-level development, but most of the rest of this Urban Reserve, comprised of larger lots with moderate or flat terrain, can be developed at urban densities.
- 2) The Boring Urban Reserve includes sufficient development capacity to support a healthy economy. This is one of the few areas in Clackamas County, adjacent to the Urban Growth Boundary, with access to a state highway, and possessing larger parcels and flat terrain conducive to development of employment uses. The area also is proximate to the Springwater employment area in Gresham. The existing community of Boring provides the opportunity for redevelopment providing the commercial uses supportive of a complete community.
- 3) The Boring Urban Reserve can be efficiently and cost-effectively provided with public facilities necessary to support urban development. While substantial investment will be necessary to provide facilities, compared to other areas in the region, the Boring Urban Reserve Area has a high or medium suitability rating (see Sewer Serviceability Ratings Map and Water Serviceability Map). ODOT has indicated that this area is "moderately suitable" for urbanization, which is one of the higher ratings received in the region. While the buttes and steeper terrain on the west will be difficult to develop with a road network, the rest of the Urban Reserve is relatively flat and unencumbered.
- 4) Most of the Boring Urban Reserve can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers. The buttes and associated steep slopes would be difficult to develop. The rest of the Urban Reserve has few limitations to development of multimodal, urban neighborhoods.

- 5) The Boring Urban Reserve can be planned so that natural ecological systems and important natural landscape features can be preserved and enhanced. The buttes and associated steep terrain are the most significant features in this Urban Reserve. Parcelization and existing development, in addition to the physical characteristics of these areas make development potential extremely limited. The Principles note the need to recognize these important natural landscape features when a concept plans are developed.
- 6) The Boring Urban Reserve includes sufficient land suitable to provide for a range of housing types. This Urban Reserve has more land suitable for development than other Urban Reserves in Clackamas County. There is an existing community that will provide a focal point for the eventual urbanization of the Boring Urban Reserve.
- 7) Concept planning for the Boring Urban Reserve can be designed to avoid or minimize adverse effects on important farm and forest practices and on important natural landscape features on nearby land. The area along the western half of this Urban Reserve is identified as Conflicted Agricultural Land and is adjacent to the cities of Gresham and Damascus. The northern boundary is clearly delineated by Hwy 26. Most of the southern boundary is formed by the existing developed community of Boring. Hwy 212 provides a clear demarcation from the rest of the area south of this Urban Reserve. The size of this area also will allow planning to design the urban form to minimize effects on the agricultural areas to the north and east.

Urban Reserve 2A: Damascus South

General Description: The Damascus South Urban Reserve is approximately 1,240 acres. This Urban Reserve is adjacent to the southern boundary of the City of Damascus. Approximately 500 acres is located within the City of Damascus, although outside the Urban Growth Boundary. The southern and western boundaries of the Urban Reserve are clearly demarked by the steep terrain characterizing the Clackamas Bluffs, which are identified as an important natural landscape feature in Metro's February 2007 "Natural Landscape Features Inventory". The eastern boundary of the Urban Reserve is established by the Deep Creek Canyon, which also is identified as an important natural landscape feature.

This urban reserve is comprised of moderately rolling terrain, with a mix of farms and scattered rural residential uses on smaller parcels. There are several larger ownerships located east of SE 282nd Avenue. The entire area is identified as Conflicted Agricultural Land.

Analysis and Conclusions: Designation of the Damascus South Urban Reserve area is a logical extension of the City of Damascus, providing additional opportunity for housing and employment uses. Portions of this area are already located in the City of Damascus. Additional areas were identified as important developable urban land in the Damascus Concept Plan. *See Clackamas County Record* ______. The boundaries of the Damascus South Urban Reserve are formed by important natural landscape features.

This area was considered for designation as a Rural Reserve, but does not satisfy the factors stated in OAR 660-027-0060. The entire area is designated as Conflicted Agricultural Land.

Some of the land is located within the City of Damascus. The southern boundary of the Urban Reserve is established to exclude the Clackamas Bluffs, which are identified in Metro's February 2007 "Natural Landscape Features Inventory". The eastern boundary excludes the Noyer and Deep Creek canyons, which also were included in this inventory.

As explained in the following paragraphs, designation as an Urban Reserve is consistent with the factors for designation set forth in OAR 660-027-0050.

OAR 660-027-0050

- The Damascus South Urban Reserve can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments. A large part of this area already is located within the City of Damascus. Parts of the Urban Reserve were planned for urban development in the Damascus Concept Plan. While there are several older subdivisions scattered throughout the area that may be difficult to redevelop, most of this area is comprised of larger parcels suitable for development at urban densities, with mixed use and employment uses. The terrain for most of the area is gently rolling, and there are no floodplains, steep slopes, or landslide topography that would limit development potential.
- 2) There is sufficient development capacity to assist in supporting a healthy economy. The eastern part of this area, in particular, is characterized by larger parcels, with few development limitations, that are suitable for development of employment uses.
- 3) The Damascus South Urban Reserve can be efficiently and cost-effectively served with public schools and other urban-level public facilities and services by appropriate and financially capable service providers. There have been no comments from local school districts indicating any specific concerns regarding provision of schools to this area, although funding for schools is an issue throughout the region. Technical assessments [*identify name of the report/map for sewer suitability*] rate this area as having "high suitability" for the provision of sewer. Addition of the eastern part of this Urban Reserve will facilitate the provision of sewer to the existing urban area within the City of Damascus. *See Clackamas County Record* ______. This area is rated as having "high and medium suitability" for the provision of water. *See Clackamas County Record* ______. The ability to provide transportation facilities is rated as "medium" for this area, which has few physical limitations. *See Clackamas County Record* ______.
- 4) The Damascus South Urban Reserve can be developed with a walkable, connected system of streets, bikeways, recreation trails and public transit, provided by appropriate service providers. As previously explained, the physical characteristics of this area will be able to support urban densities and intensities necessary to create a multi-modal transportation system. Previous planning efforts, including the Damascus Concept Plan, demonstrate this potential.
- 5) Development of the Damascus South Urban Reserve can preserve and enhance natural ecological systems. The boundaries of this Urban Reserve avoid the steeper terrain of the

Clackamas Bluffs and the Deep Creek Canyon. The area is large enough to provide the opportunity for flexibility in the regulatory measures that create the balance between protection of important natural systems and development.

- 6) The Damascus South Urban Reserve includes sufficient land suitable for a range of needed housing types. As previously explained, there are few physical impediments to development in this Urban Reserve. This area also is adjacent to the developing urban area of Damascus, which also will be providing housing for this area.
- 7) There are no important natural landscape features identified Metro's 2007 "Natural Landscape Features Inventory" located in the Damascus south Urban Reserve. The boundaries of this Urban Reserve are designed to exclude such features from the Urban Reserve.
- 8) Development of this Urban Reserve can be designed to avoid or minimize adverse effects on farm and forest practices, and adverse effects on important natural landscape features, on nearby land including land designated as rural reserves. This area is identified as Conflicted Agricultural Land, primarily because it is physically isolated from other nearby agricultural land. The Deep Creek and Noyer Creek canyons provide a physical boundary from nearby agricultural areas to the east. Similarly, these areas, and the Clackamas Bluffs, are not identified as areas where significant forest operations are occurring.

Urban Reserves 3B, 3C, 3D, 3F and 3G: Holcomb, Holly Lane, Maple Lane, Henrici, Beaver Creek Bluffs in Oregon City Area

General Description: These five areas comprise approximately 2150 acres, located adjacent to the City of Oregon City. The Holcomb area is approximately 380 acres, along SE Holcomb Rd., adjacent to Oregon City on the east. Terrain is varied, with several flat parcels that could be developed in conjunction with the Park Place area, which was recently included in the Urban Growth Boundary. This area is developed with rural residences. The area is comprised of Conflicted Agricultural Land.

The Holly Lane area is approximately 700 acres, and includes the flatter parcels along SE Holly Lane, Hwy. 213, and the steep canyon bordering Newell Creek, which is identified as an important natural landscape feature in Metro's February 2007 "Natural Landscape Features Inventory". There are landslide areas identified along the Newell Creek canyon (see Metro Urban and Rural Reserve Study Areas Landslide Hazard Map). Development in this area is sparse, except for rural residences developed along SE Holly Lane. This area is identified as Conflicted Agricultural Land.

The Maple Lane area is approximately 480 acres, located east of Oregon City. Terrain is characterized as gently rolling, with a few larger flat parcels located adjacent to Oregon City. The area is developed with rural residences, with a few small farms. The area is identified as Conflicted Agricultural Land.

The Henrici area is approximately 360 acres, located along both sides of Henrici Road., immediately south of Oregon City. Terrain for this area is moderate, and most of the area is developed with residences on smaller rural lots. There are a few larger parcels suitable for redevelopment. This area contains Conflicted Agricultural Land.

The 220 acre Beaver Creek Bluffs area is comprised of three separate benches located immediately adjacent to the City of Oregon City. The boundaries of this area generally are designed to include only tax lots on the plateau that drops down to Beaver Creek. Development in this area consists of rural residences and small farms. The area is identified as Important Agricultural Land.

Conclusions and Analysis: Designation of the Oregon City Urban Reserves is consistent with OAR 660-027. These five smaller areas have been identified in coordination with the City of Oregon City, and are designed to complete or augment urban development in the City. The areas designated take advantage of existing services inside the Urban Growth Boundary. In most cases, the boundaries of the reserves are formed by steep slopes (Henrici Road being the exception). While terrain poses some limitations on development, each area has sufficient developable land to make service delivery feasible.

None of the identified areas meet the factors of OAR 660-027-0060, for designation as Rural Reserves. With the exception of the Beaver Creek Bluffs, the Oregon City Urban reserve is Conflicted Farmland. The Beaver Creek Bluffs area, which is identified as having Important Agricultural Land, includes only those tax lots with land located on the plateau above the flatter area south of Oregon City. The important natural landscape features in the area (Newell Creek, Abernethy Creek and Beaver Creek) generally are excluded from the Urban Reserve.

The most significant issue for debate is whether or not to include the Newell Creek Canyon in the Urban Reserve. There is little or no development potential in this area, because of steep terrain and landslide hazard. The Principles recognize that concept planning for this area will have to recognize the environmental and topographic constraints posed by the Newell Creek Canyon. It also makes governance more sensible, allowing the City of Oregon City to regulate this area, instead of leaving an island subject to County authority.

Designation of the Oregon City Reserves is consistent with OAR 660-027-0050.

- The Oregon City Urban Reserves can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments. All of the Urban Reserve area is adjacent to the City of Oregon City. Oregon City has indicated both a willingness and capability to provide service to these areas. Each area is appropriate to complement or complete neighborhoods planned or existing within Oregon City. In the case of the Holly Lane area, much of the Urban Reserve has little potential for development. The area along SE Holly Lane, however, does have flatter topography where urban development can occur, and Holly Lane has been identified by the City as an important transportation facility.
- 2) The Oregon City Urban Reserves, when considered in conjunction with the existing urban area, includes sufficient development capacity to support a healthy economy. The Henrici area has some potential for additional employment uses. The remaining areas are

smaller additions to the existing urban form of the City of Oregon City and will complete existing neighborhoods.

- 3) The Oregon City Urban Reserve can be efficiently and cost-effectively provided with public facilities necessary to support urban development. This Urban Reserve Area is considered to have a "high" suitability rating for sewer and water facilities. Oregon City has indicated an ability to provide these services, and the areas have been designed to include the most-easily served land that generally is an extension of existing development with the Urban Growth Boundary. Transportation is more difficult, as there is no additional capacity on I-205, and improvements would be costly. As previously noted, this is the case for most of the region. While topography may present some difficulty for developing a complete transportation network, this Urban Reserve area has been designed to take advantage of existing transportation facilities within Oregon City.
- 4) Most of the Oregon City Urban Reserve can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and transit. It most cases, development of this area will be an extension of urban development within the existing neighborhoods of Oregon City, which will allow completion of the described urban form. Newell Creek Canyon will remain largely undeveloped, so such facilities will not need to be provided in this area.
- 5) The Oregon City Urban Reserve can be planned so that natural ecological systems and important natural landscape features can be preserved and enhanced. Abernethy Creek and Beaver Creek and the steep slopes around these two creeks have been excluded from designation as an Urban Reserve. As previously explained, the Newell Creek Canyon has been included in the Urban Reserve. The Principles will assure that concept planning accounts for this important natural landscape feature, the area is recognized as having very limited development potential, and Oregon City is the logical governing authority to provide protective regulations.
- 6) Designation of these five areas as an Urban Reserve will assist Oregon City in providing a range of housing types. In most cases, development of this Urban Reserve will add additional housing.
- 7) Concept planning for the Oregon City Urban Reserve can be designed to avoid or minimize adverse effects on important farm and forest practices and on important natural landscape features on nearby land. The Beaver Creek Bluffs area is separated from the farmland to the south by a steep hillside sloping down to Beaver Creek. The other areas are adjacent to Conflicted Agricultural land. There are scattered small woodlots to the east, identified as "mixed Agricultural/Forest Land on ODF's Forestland Development Zone Map, but these are generally separated by distance and topography from the Holly Lane, Maple Lane, and Holcomb areas. Important landscape features and natural areas in the vicinity generally form boundaries for the Urban Reserves. Concept planning can assure that development within the Urban Growth Boundary protects these features.

Urban Reserves 4A, 4B and 4C: Stafford, Rosemont and Borland

General Description: These three areas comprise approximately 4,700 acres. Area 4A (Stafford) is located north of the Tualatin River, south of Lake Oswego, and west of West Linn. Area 4B (Rosemont) is a 162 acre area located adjacent to West Linn's recently urbanized Tanner Basin neighborhood. Area 4C (Borland) is located south of the Tualatin River, on both sides of I-205. Area 4C is adjacent to the cities of Tualatin and Lake Oswego on the west and

West Linn on the east. The southern boundary generally is framed by the steeper terrain of Pete's Mountain. East of Stafford Road, the adjacent area is not designated as either an Urban or Rural Reserve. West of Stafford Road, the adjacent area is designated as an Urban Reserve (Area 4D, Norwood).

This area is generally developed with rural residences. The Borland area also includes several churches and schools. There are very few parcels greater than 20 acres. The terrain of this area is varied. Most of area 4B is gently rolling, while the rest of the area east of Wilson Creek has steeper terrain. The area south of Lake Oswego, along Stafford Rd and Johnson Rd., generally has more moderate slopes. The Borland area, south of the Tualatin River, also is characterized by moderate slopes.

Wilson Creek and the Tualatin River are important natural landscape features located in this area. These two features and their associated riparian areas and floodplains are included in Metro's February 2007 "Natural Landscape Features Inventory".

This entire area is identified as Conflicted Agricultural Land, even though approximately 1100 acres near Rosemont Road are zoned Exclusive Farm Use. Commercial agricultural activity in this area is limited and mixed; wineries, hay production, horse raising and boarding, and nurseries are among the farm uses found in the Stafford, Rosemont and Borland areas. The Oregon Department of Forestry Development Zone Map does not identify any Mixed Forest/Agriculture or Wildland Forest located with this Urban Reserve.

Conclusions and Analysis: The designation of these three areas as an Urban Reserve is consistent with OAR 660-027-0050. The specific factors for designation stated in OAR 660-027-0050 are addressed in following parts of this analysis.

No area in Clackamas County engendered as much public comment and diversity of opinion as this Urban Reserve. The Stafford and Rosemont areas were of particular concern to property owners, neighborhood groups, cities and the Stafford Hamlet citizens group. Interested parties provided arguments for designation of some or all of the area north of the Tualatin River as either an Urban or Rural Reserve, or requested that this area remain undesignated. The cities of West Linn, Tualatin and Lake Oswego consistently expressed opposition to designation of any of this area as an Urban Reserve. This Urban Reserve does have several limitations on development, including areas with steep slopes and floodplains. On balance, however, designation as an Urban Reserve is the most appropriate decision.

Designation of this 4,700 acre area as an Urban Reserve avoids designation of other areas containing Foundation or Important Agricultural Land. It would be difficult to justify designation of Foundation Agricultural Land in the region, if this area, which is comprised entirely of Conflicted Agricultural Land, were not designated as an Urban Reserve (see OAR 660-027-0040(11).

While acknowledging that there are impediments to development in this area, much of the area also is suitable for urban-level development. There have been development concepts presented for various parts of this area. *See Clackamas County Record* ______. An early study of this area assessed its potential for development of a "great community" and specifically pointed to

the Borland area as an area suitable for a major center. *See Clackamas County Record* ______. Buildable land maps for this area provided by Metro also demonstrate the suitability for urban development of parts of this Urban Reserve See, "Metro Urban Study Area Analysis, Map C".

An important component of the decision to designate this area as an Urban Reserve are the "Principles for Concept Planning of Urban Reserves", which are part of the Intergovernmental Agreement between Clackamas County and Metro that has been executed in satisfaction of OAR 660-027-0020 and 0030. Among other things, these "Principles" require participation of the three cities and citizen involvement entities—such as the Stafford Hamlet—in development of concept plans for this Urban Reserve. The Principles also require the concept plans to provide for governance of any area added to the Urban Growth Boundary to be provided by a city. The Principles recognize the need for concept plans to account for the environmental, topographic and habitat areas located within this Urban Reserve.

Designation of this area as a Rural Reserve has been advocated by interested parties, including the City of West Linn. Application of the factors for designation (OAR 660-0227-0060) leads to a conclusion that this area should not be designated as a Rural Reserve. The entire area is comprised of Conflicted Agricultural Land. There are important natural landscape features in this area (Tualatin River and Wilson Creek). Protection of these areas is a significant issue, but can be accomplished by application of regulatory programs of the cities that will govern when areas are added to the Urban Growth Boundary. The Principles specifically require recognition of the development limitations imposed by these natural features, in the required development of concept plans.

Designation of the Stafford, Rosemont and Borland areas as an Urban Reserve is based upon application of the factors stated in OAR 660-027-0050.

- 1) This Urban Reserve can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments. Physically, this area is similar to the cities of West Linn and Lake Oswego, which are developing at urban densities. While the development potential of portions of this Urban Reserve is constrained by steep slopes and by the Tualatin River and Wilson Creek riparian areas, there are sufficient developable areas to create an urban community. The Borland Area has been identified as a suitable site for more intense urban development, including a town center. The Rosemont Area complements existing development in the Tanner Basin neighborhood in the City of West Linn. The Stafford Area has sufficient capacity to develop housing and other uses supportive of the more intense development in the Borland Area. As previously noted, potential development concepts have been submitted demonstrating the potential to develop this area at urban densities sufficient to make efficient use of infrastructure investments.
- 2) This Urban Reserve contains sufficient development capacity to support a healthy economy. The Borland Area has been identified as being suitable for a mixed- use, employment center. *See Clackamas County Record* _____. Additionally, there are a few larger parcels located on Johnson and Stafford Roads which may have potential for mixed use development.

- 3) This Urban Reserve can be efficiently and cost-effectively served with public schools and other urban- level public facilities and services by appropriate and financially capable service providers. As with all of the region's urban reserves, additional infrastructure will need to be developed in order to provide for urbanization. It is clear that development of this public infrastructure will not be "cheap" anywhere. Relative to other areas under consideration for designation, however, this Urban Reserve area is suitable. Technical assessments rated this area as highly suitable for sewer and water. *See Clackamas County Record* ______. The July 8, 2009, technical memo prepared by Clackamas County also demonstrates the suitability of this area for various public facilities. *See Clackamas County Record* ______. This area can be served by the cities of Tualatin, West Linn and Lake Oswego. These cities have objected to designation of this area as an Urban Reserve, but have not stated that they object because they would not be able to be an urban service provider for some part of the area.
- 4) Transportation infrastructure will be the most significant challenge. This is the case for most of the region. This Urban Reserve has physical characteristics—steep terrain, the need to provide stream crossings—that will increase the relative cost of transportation infrastructure. I-205 and I-5 in this area will need substantial improvements with consequent "huge" costs. *See Clackamas County Record* ______. As this April 9 letter points out, most of the region's state and federal facilities have limited additional capacity. The only significant exception is Highway 26, which is the site of the Clackanomah Urban Reserve. The Borland area has been identified as a "next phase" priority for high capacity transit See, "Regional High Capacity Transit System Map". The cost of providing transportation facilities is a problem for most of the region's potential urban reserves. When evaluated with all of the factors, designation of these three areas as an Urban Reserve is appropriate.
- 5) This Urban Reserve can be planned to be walkable, and served with a well-connected system of streets, bikeways, recreation trials and public transit. The Borland Area is suitable for intense, mixed-mixed use development. Other areas suitable for development also can be developed as neighborhoods with the above-described infrastructure. There will be substantial parts of this Urban Reserve that will have little or no development and consequently will not need the afore-mentioned facilities.
- 6) This Urban Reserve can be planned to preserve and enhance natural ecological systems and preserve important natural landscape features. The significance of the Tualatin River and Wilson Creek systems has been recognized. The Principles specifically identify the need to plan for these features, and recognize that housing and employment capacity expectations will need to be reduced to protect important natural features. Urbanization will occur in a city, which is obligated by state and regional rules to protect upland habitat, floodplains, steep slopes and riparian areas.
- 7) This Urban Reserve in conjunction with the Urban Reserve to the south (Area 4D, Norwood), includes sufficient land to provide for a variety of housing types. In addition to the developable areas within the Stafford, Rosemont and Borland areas, this Urban

Reserve is situated adjacent to three cities, and will augment the potential for housing in these existing cities.

8) This Urban Reserve can be developed in a way that avoids or minimizes adverse effects on farm and forest practices and adverse effects on important natural landscape features, on nearby land. This Urban Reserve is situated adjacent to three cities, and along I-205. It is identified as Conflicted Agricultural Land, and is adjacent on the south to another Urban Reserve and an undesignated area that is comprised of Conflicted Agricultural Land. This separation from significant agricultural or forest areas minimizes any potential effect on farm or forest practices. The Urban Reserve also is separated from other important natural landscape features identified on Metro's February 2007 "Natural Landscape Features Inventory". The ability to plan for protection of the Tualatin River and Wilson Creek has been discussed.

Urban Reserves 5G, 5H, 4H and 4D: Grahams Ferry, SW Wilsonville, Advance and Norwood

General Description: This Urban Reserve is comprised of three smaller areas adjacent to the City of Wilsonville (Grahams Ferry, SW Wilsonville and Advance), and a larger area located along SW Stafford Rd., north of Wilsonville and southeast of Tualatin (Norwood Area). The Norwood area is adjacent to an Urban Reserve in Washington County (I-5 East Washington County, Areas 4E, 4F and 4G). Area 5G is approximately 120 acres, relatively flat, adjacent to services in Wilsonville, and defined by the Tonquin Geologic Feature, which forms a natural boundary for this area. It is identified as Conflicted Agricultural Land.

Area 5H is a small (63 acre) site that is adjacent to services provided by the City of Wilsonville. Corral Creek and its associated riparian area provide a natural boundary for this area. It is identified as Important Farmland. Area 4H comprises approximately 450 acres, and is located adjacent to the City of Wilsonville. This part of the Urban Reserve has moderate terrain, and a mix of larger parcels and rural residences. This area is identified as Important Agricultural Land.

Area 4D comprises approximately 2,600 acres, and is adjacent to a slightly smaller Urban Reserve in Washington County. This area is parcelized, generally developed with a mix of single family homes and smaller farms, and has moderately rolling terrain. All of this area is identified as Conflicted Agricultural Land.

Conclusions and Analysis: Designation of these four areas as Urban Reserve is consistent with OAR 660-027. The three smaller areas are adjacent to the City of Wilsonville, and have been identified by the City as appropriate areas for future urbanization. *See Clackamas County Record* ______. The boundaries of these three areas generally are formed by natural features. No Foundation Agricultural Land is included in any of the four areas. While Area 4D has limitations that reduce its development potential, inclusion as an Urban Reserve is appropriate to avoid adding land that is identified as Foundation Agricultural Land.

Area 5G does not satisfy the factors for designation as a Rural Reserve. The boundary of this area reflects the boundary of Tonquin Geologic Area, which is an important natural landscape feature identified as a Rural Reserve. Area 5H does meet the factors for designation as a Rural

Reserve, but its proximity to existing services in Wilsonville and the natural boundary formed by Corral Creek, separating these 63 acres from the larger Rural Reserve to the west, support a choice to designate this area as an Urban Reserve.

Similarly, parts of Area 4H could meet the factors for designation as a Rural Reserve. Again, the area also is suitable for designation as an Urban Reserve, because of its proximity to Wilsonville, which has indicated this as an area appropriate for urbanization. The eastern limits of this area have been discussed in some detail, based on testimony received from property owners in the area. The northeastern boundary (the Anderson property) is based on a significant creek. South of Advance Rd., the decision is to leave four tax lots west of this creek undesignated (the Bruck property), as these lots comprise over 70 acres of land designated as Important Agricultural Land. The part of this Urban Reserve south of Advance Road contains smaller lots, generally developed with rural residences.

Area 4D does not meet the factors for designation as a Rural Reserve. The entire area is comprised of Conflicted Agricultural Land, and has no important natural landscape features identified in Metro's February 2007 "Natural Landscape Features Inventory."

This Urban Reserve does meet the factors for designation stated in OAR 660-027-0050.

- 1) The Wilsonville Urban Reserve (total of the Grahams Ferry, SW Wilsonville, Advance Rd. and Norwood Areas) can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments. The three smaller areas adjacent to the City of Wilsonville all will take advantage of existing infrastructure. The City of Wilsonville has demonstrated an ability to provide necessary services and govern these three areas. The information provided by the City and Metro's Urban Study Area Analysis (Map C1) show that these three areas have physical characteristics that will support urban density. These three areas also will complement existing development in the City of Wilsonville.
- 2) The larger Norwood area, which has rolling terrain, and a mixture of smaller residential parcels and farms, will be more difficult to urbanize. This area is adjacent to Urban Reserves on the west, north and south. The Borland Road area, adjacent on the north is expected to develop as a center, with potential for employment and mixed-use development. The Norwood area can be urbanized to provide residential and other uses supportive of development in the Borland and I-5 East Washington County Urban Reserve areas.
- 3) The Wilsonville Urban Reserve contains land that generally will provide development capacity supportive of the cities of Wilsonville and Tualatin, and the Borland and I-5 East Washington County Urban Reserve areas. Viewed individually, these four areas do not have physical size and characteristics to provide employment land. As has been explained, and as supported by comments from the City of Wilsonville, development of these areas will complement the urban form of the City of Wilsonville, which historically has had sufficient land for employment. The 2004 decision added to the Urban Growth

Boundary between the cities of Wilsonville and Tualatin, land which was contemplated to provide additional employment capacity. The Wilsonville Urban Reserve, and in particular the Norwood area, will provide land that can provide housing and other uses supportive of this employment area.

- 4) The Wilsonville Urban Reserve can be efficiently and cost-effectively provided with public facilities necessary to support urban development. The comments from the City of Wilsonville and the Sewer Serviceability and Water Serviceability Maps demonstrate the high suitability of the three smaller areas adjacent to Wilsonville. The Norwood area (Area 4D) is rated as having medium suitability. Transportation facilities will be relatively easy to provide to the three areas adjacent to the City of Wilsonville. The steeper terrain and location of the Norwood area will make development of a network of streets more difficult, and ODOT has identified the I-5 and I-205 network as having little or no additional capacity, with improvement costs rated as "huge". The decision to include this area as an Urban Reserve is based, like the Stafford area, on the need to avoid adding additional Foundation Agricultural Land. There are other areas in the region that would be less expensive to serve with public facilities, especially the necessary transportation facilities, but these areas are comprised of Foundation Agricultural Land.
- 5) The Wilsonville Urban Reserve areas can be planned to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit. As has been discussed, the three smaller areas adjacent to the City of Wilsonville can be developed to complete or complement existing and planned urban development in Wilsonville. The Norwood area will be somewhat more difficult to develop, but the terrain and parcelization are not so limiting that the desired urban form could not be achieved. Like Stafford, this part of the Wilsonville Urban Reserve will be more difficult to develop with the desired urban form, but is being added to avoid adding additional foundation Agricultural Land.
- 6) The Wilsonville Urban Reserve can be planned so that natural ecological systems and important natural landscape features can be preserved and enhanced. The boundaries of the areas comprising the Wilsonville Urban Reserve have been designed with these features providing the edges. The three areas adjacent to the City of Wilsonville will take advantage of existing plans for protection of natural ecological systems.
- 7) The Wilsonville Urban Reserve, in conjunction with land within adjacent cities, includes sufficient land suitable to provide for a range of housing types. The SW Wilsonville and Advance Road areas are particularly suited to provide additional housing, as they are located adjacent to neighborhoods planned in Wilsonville. As has been previously discussed the Norwood area has physical limitations, but these should not restrict as substantially the potential for housing.
- 8) Concept planning for the Wilsonville Urban Reserve can avoid or minimize adverse effects on important farm and forest practices and on important natural landscape features

on nearby land. The boundaries of this Urban Reserve have been designed to use natural features to provide separation from adjoining Rural Reserves that contain resource uses.

The Sherwood School District requested an Urban Reserve designation be applied to an area just south of the County line and the City of Sherwood. *See Clackamas County Record* ______. Clackamas County and Metro agree to leave this area undesignated. This decision leaves the possibility for addition of this land to the Urban Growth boundary if the School District has a need for school property in the future and is able to demonstrate compliance with the standards for adjustments to the Urban Growth boundary.

B. Clackamas County: Rural Reserves

Rural Reserve 5I: Ladd Hill

General Description: This Rural Reserve Area is located west and south of Wilsonville, and adjacent to the French Prairie Rural Reserve (Area 4J). There is also a small part of this Rural Reserve located north of Wilsonville, extending to the County line, recognizing the Tonquin Geologic Area. The northern boundary of Area 5J is located along the boundary between the delineations of Conflicted and Important Agricultural Land. All of this Rural Reserve is located within three miles of the Portland Metro Urban Growth Boundary.

The area west of Ladd Hill Road contains the steeper slopes of Parrett Mountain, which is identified as an important natural landscape feature in Metro's February 2007 "Natural Landscape Features Inventory". The remainder of the area has moderately sloping terrain. The entire area is traversed by several creeks (Mill Creek, Corral Creek, Tapman Creek), which flow into the Willamette River, which also is identified as an important natural landscape feature. FEMA floodplains are located along the Willamette River. Landslide hazards are identified along Corral Creek.

With the exception of the Tonquin Geologic Area, all of Rural Reserve Area 5I is comprised of Important or Foundation Agricultural Land. The part of this area lying south of the Willamette River contains the Foundation Agricultural Land. The area contains a mixture of hay, nursery, viticulture, orchards, horse farms, and small woodlots. The Oregon Department of Forestry Development Zone Map identifies scattered areas of mixed forest and agriculture, and wildland forest (particularly on the slopes of Parrett Mountain).

Conclusions and Analysis: Designation of the Ladd Hill area as a Rural Reserve is consistent with OAR 660, Division 27. Except for the Tonquin Geologic Area, all of Rural Reserve Area 5I contains Important or Foundation Agricultural Land, and is located within three miles of an urban growth boundary. Pursuant to OAR 660-027-0060(4), no further explanation is necessary to justify designation as a Rural Reserve, with the exception of the Tonquin Geologic Area, which is identified as Conflicted Agricultural Land.

Designation of the Tonquin Geologic Area as a Rural Reserve is consistent with the Rural Reserve Factors stated in OAR 660-027-0060(3). This area has not been identified as an area suitable or necessary for designation as an Urban Reserve. The boundaries of the Rural Reserve have been established to recognize parcels that have physical characteristics of the Tonquin

Geologic Area, based on testimony received from various property owners in the area, and the City of Wilsonville. *See Clackamas County Record* ______. For these stated reasons and those enunciated below, designation of this part of the Tonquin Geologic Area as a Rural Reserve is consistent with the factors provided in OAR 660-027-0060(3).

Rural Reserve 4J: French Prairie

General Description: This Rural Reserve Area is located south of the Willamette River and the City of Wilsonville, and west of the City of Canby. It is bordered on the west by I-5. This area is generally comprised of large farms. The area is generally flat. The Molalla and Pudding Rivers are located in the eastern part of this area. The Willamette, Molalla and Pudding Rivers and their floodplains are identified as important natural landscape features in Metro's February 2007 Natural Landscape Features Inventory."

All of this Rural Reserve is classified as Foundation Agricultural Land (identified in the ODA Report as part of the Clackamas Prairies and French Prairie areas). This area contains prime agricultural soils, and is characterized as one of the most important agricultural areas in the State.

Conclusions and Analysis: Designation of Area 4J as a Rural Reserve is consistent with OAR 660, Division 27. This entire area is comprised of Foundation Agricultural Land located within three miles of an urban growth boundary. Pursuant to OAR 660-027-0060(4), no further explanation is necessary to justify designation of this area as a Rural Reserve.

Rural Reserves 3E and 3H: Oregon City

General Description: This area lies east and south of the City of Oregon City. This area is bounded by the Willamette River on the west. The southern boundary generally is a line located three miles from the Portland Metro Area Urban Growth Boundary. A substantial part of Area 3H also is located within three miles of the City of Canby's Urban Growth Boundary.

Area 3E, located east of Oregon City, is characterized by a mix of rural residential homesites, small farms, and small woodlots. Most of the area has a moderately rolling terrain. The area includes portions of the Clear Creek Canyon, and Newell and Abernethy Creeks, all of which are identified as important natural landscape features in Metro's February 2007 "Natural Landscape Features Inventory". Part of Area 3E also is identified by the Oregon Department of Forestry as a mixed forest/agricultural development zone. Most of Area 3E is identified as Conflicted Agricultural Land. There is an area identified as Important Agricultural Land, in the southeast corner of Area 3E.

Area 3H, located south of Oregon City, is characterized by larger rural residential homesites, particularly in the western part of this area, and farms. Beaver Creek and Parrot Creek traverse this area in an east-west direction. The Willamette Narrows and Canemah Bluff are identified as important natural landscape features in the Metro's February 2007 "Natural Landscape Features Inventory" and form the western boundary of Area 3H. The Oregon Department of Forestry designates the Willamette Narrows as wildland forest. All of this area is classified as Important Agricultural Land, except for the area immediately east of the City of Canby, which is designated as Foundation Agricultural Land.

Conclusions and Analysis: The designation of Areas 3E and 3H as a Rural Reserve is consistent with OAR 660-027, Division 27. All of Area 3H is Important or Foundation Farmland, located within three miles of an urban growth boundary. Pursuant to OAR 660-027-0060(4), no further explanation is necessary to justify designation of Area 3H as a Rural Reserve.

The designation of Area 3E is appropriate to protect the Important Farm Land in the southeast corner of this area, and the area identified as mixed forest/agricultural land by ODF. Designation as a Rural Reserve also is justified to protect Abernethy Creek, Newell Creek and Beaver Creek and their associated riparian features, which are identified as important natural landscape features. Designation as a Rural Reserve of the portions of Area 3E not identified as Foundation or Important Agricultural Land, is consistent with the Rural Reserve Factors stated in OAR 660-027-0060(3), for the following reasons:

- Abernethy Creek and Newell Creek and their associated riparian areas are identified as important natural landscape features in Metro's February 2007 "Natural Landscape Features Inventory". A portion of Beaver Creek also is located in this area; Beaver Creek was added to this inventory in a 2008 update.
- This area is potentially subject to urbanization during the period described in OAR 660-027-0040(2), because it is located adjacent to and within three miles of the City of Oregon City.
- 3) Most of this area has gently rolling terrain, but there also are several steeply-sloped areas. There are several landslide hazard areas located within Rural Reserve Area 3E (see 1/25/09 Metro Landslide Hazard Map).
- 4) The designated Rural Reserve area comprises the drainage area for Abernethy and Newel Creeks which provide important fish and wildlife habitat for this area.

Rural Reserves 3H (parts) 4J, 2C and 3I: Canby, Estacada and Molalla

General Description: Rural Reserves have been designated adjacent to the cities of Canby (parts of Areas 3H and 4J) Estacada and Molalla. These Rural Reserves were designated after coordinating with all three cities, and the cities do not object to the current designations.

Rural Reserve Area 2C is located adjacent to the western boundary of the City of Estacada. This area includes the Clackamas River and McIver State Park. It is identified as Important Agricultural Land. Most of this Rural Reserve also is identified as wildland forest on the ODF Forestland Development Zone Map. All of this Rural Reserve is located within three miles of Estacada's Urban Growth Boundary.

Rural Reserves are located on the south, west and eastern boundaries of the City of Canby. All of this area is identified as Foundation Agricultural Land. The area north of the City, to the Willamette River, has been left undesignated, although this area also is identified as Foundation Agricultural Land. This area was left undesignated at the request of the City of Canby, in order to provide for possible future expansion of its Urban Growth Boundary. The Oregon Department of Agriculture preferred leaving the area north of the City undesignated, instead of

an area east of the City, which also was considered. All of the designated Rural Reserves are within three miles of the City of Canby.

Area 3I is located north and east of the City of Molalla. This area is located within 3 miles of Molalla's Urban Growth Boundary. All of the designated Rural Reserve is identified as Foundation Agricultural Land.

Conclusions and Analysis: Designation of the Rural Reserves around Canby and Estacada is consistent with OAR 660, Division 27. In the Case of Canby, the entire area is identified as Foundation Agricultural Land, and is located within three miles of Canby's Urban Growth Boundary. In the case of Estacada, the entire Rural Reserve area is identified as Important Agricultural Land, and is located within three miles of Estacada's Urban Growth Boundary. Rural Reserve 3I, near Molalla, is located within three miles of the urban growth boundary and also is identified as Foundation Agricultural Land. Pursuant to OAR 660-027-0060(4), no further explanation is necessary to justify the Rural Reserve designation of these areas.

Rural Reserve 4I: Pete's Mountain/Peach Cove, North of the Willamette River

General Description: This Rural Reserve is bounded by the Willamette River on the east and south. On the north, Area 4I is adjacent to areas that were not designated as an Urban or Rural Reserve. There are two primary geographic features in this area. The upper hillsides of Pete's Mountain comprise the eastern part of this area, while the western half and the Peach Cove area generally are characterized by flatter land. The Pete's Mountain area contains a mix of rural residences, small farms and wooded hillsides. The flat areas contain larger farms and scattered rural residences. All of Area 4I is located within three miles of the Portland Metro Urban Growth Boundary.

All of Rural Reserve 4I is identified as Important Agricultural Land (the "east Wilsonville area"), except for a very small area located at the intersection of S. Shaffer Road and S. Mountain Rd... The Willamette Narrows, an important natural landscape feature identified in Metro's February 2007 "Natural Landscape Features Inventory", is located along the eastern edge of Area 4I.

Conclusions and Analysis: Designation of this area as a Rural Reserve is consistent with OAR 660-027, Division 27. With the exception of a small area at the intersection of S. Shaffer Rd. and S. Mountain Rd., all of this area is identified as Important Agricultural Land and is located within three miles of an urban growth boundary. Pursuant to OAR 660-027-0060(4), the area identified as Important Agricultural Land requires no further explanation to justify designation as a Rural Reserve. The few parcels classified as Conflicted Agricultural Land are included to create a boundary along the existing public road.

East Clackamas County Rural Reserve (Area 1E and Area 2B)

General Description: This area lies south of the boundary separating Clackamas and Multnomah Counties. This area generally is comprised of a mix of farms, woodlots and scattered rural residential homesites. Several large nurseries are located in the area near Boring.

The area south of the community of Boring and the City of Damascus contains a mix of nurseries, woodlots, Christmas tree farms, and a variety of other agricultural uses.

Most of the area is identified as Foundation or Important Agricultural Land. The only lands not identified as Foundation or Important Agricultural Land are the steeper bluffs south of the City of Damascus. Much of this steeper area is identified by the Oregon Department of Forestry as mixed farm and forest.

There are several rivers and streams located in this area. The Clackamas River, Deep Creek, Clear Creek and Noyer Creek, and the steeper areas adjacent to these streams, are identified as important natural landscape features in Metro's February 2007 "Natural Landscape Features Inventory".

All of this Rural Reserve is located within three miles of the Portland Metro Area Urban Growth Boundary, except for a small area in the eastern part of the Rural Reserve. This small area is located within three miles of the City of Sandy's Urban Growth Boundary.

Conclusions and Analysis: The designation of this area as a Rural Reserve is consistent with OAR 660-027, Division 27. Except for the steep bluffs located adjacent to the Clackamas River, all of this area is identified as Foundation or Important Agricultural Land and is located within three miles of an urban growth boundary. Pursuant to OAR 660-27-0060(4), no further explanation is necessary to justify designation as a Rural Reserve all of this area except for the aforementioned bluffs.

Designation as a Rural Reserve of the steep bluffs, not identified as Foundation or Important Agricultural Land, is consistent with the Rural Reserve Factors stated in OAR 660-027-0060(3).

- 1) This area is included in Metro's February 2007 "Natural Landscape Features Inventory".
- 2) This area is potentially subject to urbanization during the period described in OAR 660-027-0040(2), because it is located proximate or adjacent to the cities of Damascus, Happy Valley, and Oregon City, and the unincorporated urban area within Clackamas County.
- 3) Portions of this area are located within the 100 year floodplain of the Clackamas River. Most of the area has slopes exceeding 10%, with much of the area exceeding 20%. Portions of the area along Deep Creek are subject to landslides.
- 4) This hillside area drains directly into the Clackamas River, which is the source of potable water for several cities in the region. The Rural Reserve designation will assist protection of water quality.
- 5) These bluffs provide an important sense of place for Clackamas County, particularly for the nearby cities and unincorporated urban area. Development is sparse. Most of the hillside is forested.
- 6) This area serves as a natural boundary establishing the limits of urbanization for the aforementioned cities and unincorporated urban area and the Damascus Urban Reserve Area (Area 2A).

C. Clackamas County: Statewide Planning Goals

Goal 1- Citizen Involvement

In addition to participation in Metro's process, Clackamas County managed its own process to develop reserves recommendations:

Policy Advisory Committee

The county appointed a 21-member Policy Advisory Committee (PAC) made up of 7 CPO/Hamlet representatives, 7 city representatives, and 7 stakeholder representatives. The PAC held 22 meetings in 2008 and 2009. The PAC made a mid-process recommendation identifying reserve areas for further analysis, and ultimately recommended specific urban and rural reserve designations. The PAC itself received significant verbal and written input from the public.

Public Hearings

In addition to the meetings of the PAC, the county held a number of public hearings as it developed the ultimate decision on reserves:

2009

- Aug. 10: Planning Commission hearing on initial recommendations.
- Sept. 8: Board of County Commissioners ("BCC") hearing on initial recommendations
- Feb. 25: BCC Hearing on Intergovernmental Agreement

2010

- March 8, 2010: Planning Commission hearing on plan and map amendments.
- April 21, 2010: BCC hearing on plan and map amendments
- May 27, 2010: BCC reading and adoption of plan and map amendments, and approval of revised IGA.

Through the PAC, Planning Commission and BCC process, the county received and reviewed thousands of pages of public comment and testimony.

Goal 2 - Coordination

"Goal 2 requires, in part, that comprehensive plans be 'coordinated' with the plans of affected governmental units. Comprehensive plans are "coordinated" when the needs of all levels of government have been considered and accommodated as much as possible.' ORS 197.015(5); *Brown v. Coos County*, 31 Or LUBA 142, 145 (1996).

As noted in the findings related to Goal 1, Clackamas County undertook continuous and substantial outreach to state and local governments, including formation of the Technical Advisory Committee. For the most part, commenting state agencies and local governments were supportive of the urban and rural reserve designations in Clackamas County. Where applicable, the specific concerns of other governments are addressed in the findings related to specific urban and rural reserves, below.

Goal 3 - Agricultural Lands

The reserves designations do not change the county's Plan policies or implementing regulations for agricultural lands. However, the designation of rural reserves constrains what types of planning and zoning amendments can occur in certain areas, and therefore provide greater certainty for farmers and long-term preservation of agricultural lands.

Goal 4 - Forest Lands

The text amendment does not propose to change the county's Plan policies or implementing regulations for forest lands. However, the text does establish rural reserves, which constrain what types of planning and zoning amendments can occur in certain areas, for the purpose of providing greater certainty for commercial foresters and long-term preservation of forestry lands.

Goal 5 - Open Spaces, Scenic and Historic Areas, and Natural Resources

The text amendment does not propose to change the county's Plan policies or implementing regulations for natural resource lands. However, the text does establish rural reserves, which constrain what types of planning and zoning amendments can occur in certain areas, for the purpose of providing for long-term preservation of certain of the region's most important, identified natural features. The county has determined that other natural features may be better protected through an urban reserve designation, and the eventual incorporation of those areas into cities. In certain areas, for example Newell Creek Canyon, the protection of Goal 5 resources is enhanced by the adoption of planning principles in an Intergovernmental Agreement between the County and Metro.

Goal 9 - Economy of the State

The proposed text amendment is consistent with Goal 9 because it, in itself, does not propose to alter the supply of land designated for commercial or industrial use. However, the text does establish urban reserves, which include lands suitable for both employment and housing. In Clackamas County, specific areas were identified as appropriate for a mixed use center including high intensity, mixed use housing (Borland area of Stafford) and for industrial employment (eastern portion of Clackanomah). These areas will be available to create new employment areas in the future if they are brought into the UGB.

Goal 10 - Housing

The proposed text amendment is consistent with Goal 10 because it, in itself, does not propose to alter the supply of land designated for housing. However, the text does establish urban reserves, which include lands suitable for both employment and housing. One of the urban reserve factors addressed providing sufficient land suitable for a range of housing types. In Clackamas County, there is an area identified as appropriate for a mixed use center including high intensity, mixed use housing (Borland area of Stafford) and many other areas suitable for other types of housing.

Goal 14 - Urbanization

The proposed text amendment is consistent with Goal 14. The program for identifying urban and rural reserves was designed to identify areas consistent with the requirements of OAR Chapter 660, Division 27. The text amendment does not propose to move the urban growth boundary or to change the county's Plan or implementing regulations regarding unincorporated communities. However, the amendment does adopt a map that shapes future urban growth boundary amendments by either Metro or the cities of Canby, Molalla, Estacada or Sandy.

VII. REASONS FOR URBAN AND RURAL RESERVES IN MULTNOMAH COUNTY

A. Introduction

Reserves designations proposed for Multnomah County were developed through analysis of the urban and rural reserves factors by the County's Citizen Advisory Committee (CAC), consideration of the analysis in briefings and hearings before the Multnomah County Planning Commission and Board of County Commissioners, discussion in regional forums including the Reserves Steering Committee, Core 4, and public and government input derived through the county Public Involvement Plan for Urban and Rural Reserves and the regional Coordinated Public Involvement Plan. Record Index #<u>APR Reserves IGA 2/25/10</u>.

The Multnomah County Board appointed a CAC to consider technical analysis of the statutory and administrative rule factors, to make recommendations to County decision makers, and to involve Multnomah County citizens and stakeholders in development of the proposed County reserves plan. The make-up of the 15 member committee was structured to include a balance of citizens with both rural and urban values. The rural members were nominated by County recognized neighborhood organizations from the four affected rural plan areas to the extent possible. The CAC developed a suitability assessment and reserves recommendations in sixteen meetings between May, 2008, and August, 2009.

The approach to developing the proposed reserves plan began with analysis of the study area by the CAC. The county study area was divided into areas corresponding to the four affected county Rural Area Plans, and further segmented using the Oregon Department of Agriculture (ODA) mapping and CAC discussion for a total of nine county subareas. Record Index #<u>Candidate Areas Assessment Methodology and Results 3/16/09</u>. The phases of the CAC work included 1) setting the study area boundary; 2) identification of candidate urban and rural reserve areas; and 3) suitability recommendations based on how the subareas met the urban factors in OAR 660-027-0050 and the rural factors in -0060. The results of the suitability assessment are included in the report provided to the Planning Commission and Board of County Commissioners in August and September of 2009. Record Index #<u>Attachment C BOCC Reserves Hearing 12/10/09</u>.

The Multnomah County Planning Commission considered the CAC results and public testimony in a public hearing in August, 2009, and the Board of County Commissioners conducted a public hearing to forward recommendations to Core 4 for regional consideration in September, 2009. Additional Board hearings, public outreach, and regional discussion resulted in the Intergovernmental Agreement (IGA) between Multnomah County and Metro approved February 25, 2010. The IGA is a preliminary reserves decision that is the prerequisite to this proposed plan amendment as provided in the administrative rule. Record Index # <u>Reserves IGA 3/17/10</u>.

CAC Analysis, Candidate Areas and Suitability Rankings

The initial phase of analysis by the CAC considered the location of the regional study area boundary in Multnomah County. This, together with an overview of the various studies and the factors was the content of CAC meetings 1 through 3. Record Index # <u>CAC Agendas Compiled</u>. The first major phase of the analysis, identifying Candidate areas for urban and rural reserve focused on the first rural factor, the potential for urbanization to narrow the amount of land for further study as rural reserve. This occurred in CAC meetings 3 through 9, and resulted in agreement that all of the study area in Multnomah County should continue to be studied for rural reserve. Data sources studied included the Oregon Departments of Agriculture and Forestry (ODA) and (ODF) studies, Landscape Features study, aerial photos, existing land use, and information from committee members, and the public. Record Index # <u>CAC Agendas Compiled</u>.

The urban candidate areas assessment focused on urban factors (OAR 660-027-0050(1) and (3) to consider the relative efficiency of providing key urban services. This work relied on the technical memos and maps provided by the regional water, sewer, and transportation work groups comprised of technical staff from each of the participating jurisdictions. This information resulted in rankings on the efficiency of providing services to the study area. The CAC also considered information related to urban suitability including the Great Communities study, a report on industrial lands constraints, infrastructure rating criteria, and physical constraint (floodplain, slope, and distance from UGB) maps in their analysis. In addition, input from Multnomah County "edge" cities and other local governments, and testimony by property owners informed the assessment and recommendations. Rankings were low, medium, or high for suitability based on efficiency. Throughout this process effort was made to provide both urban and rural information at meetings to help balance the work. Record Index #<u>CAC Agendas Compiled.</u>

The suitability recommendations phase studied information relevant to ranking each of the urban and rural factors for all study areas of the county and took place in CAC meetings 10 through 16. Record Index #<u>CAC Agendas Compiled</u>. The approach entailed application of all of the urban and rural factors and suitability rankings of high, medium, or low for their suitability as urban or rural reserve based on those factors. Technical information included data from the prior phases and hazard and buildable lands maps, Metro 2040 design type maps, extent of the use of exception lands for farming, zoning and partitioning. During this period, the CAC continued to receive information from citizen participants at meetings, from local governments, and from CAC members. Record Index #<u>CAC Meeting Summaries</u>. The group was further informed of information present in the Reserves Steering Committee forum, and of regional public outreach results. Record Index #<u>CAC Agendas Compiled</u>. The product of the CAC suitability assessment is a report dated August 26, 2009, that contains rankings and rationale for urban and rural reserve for each area. Record Index #<u>Attachment C BOCC Reserves Hearing 12/10/09</u>.

B. Multnomah County: Urban Reserves

Urban Reserve 1C: East of Gresham

General Description: This 855-acre area lies east of and adjacent to the Springwater employment area that was added to the UGB in 2002 as a Regionally Significant Industrial Area (RSIA). Record Index # <u>Attachment C BOCC Reserves Hearing 12/10/09 pgs 52, 54</u> and <u>Gresham City</u> <u>Council President Richard Strathern letter 10/21/09</u>. It is bounded by Lusted Rd on the north, SE 302nd Ave. and Bluff Rd. on the east, and properties on the north side of Johnson Creek along the south edge. The entire area is identified as Foundation Agricultural Land.

However, the urban reserve area contains three public schools within the Gresham Barlow School District that were built prior to adoption of the statewide planning goals. It also includes the unincorporated rural community of Orient. The area is the most suitable area proximate to Troutdale and Gresham to accommodate additional growth of the Springwater employment area and is the only area adjacent to the UGB on the northeast side of the region with characteristics that make it attractive for industrial use.

How Urban Reserve 1C Fares Under the Factors: The urban factors suitability analysis produced by the CAC and staff ranked this area as medium on most factors. The analysis notes that there are few topographic constraints for urban uses, including employment, that the existing rural road grid integrates with Gresham, and that it is near employment land within Springwater that has planned access to US Highway 26. Concern about minimizing adverse effects to farming was noted, although this factor was ranked medium also.

The rural reserve suitability assessment generally considers the larger Foundation Agricultural Land area between Gresham/Troutdale and the Sandy River Canyon as a whole. The analysis notes the existence of scattered groups of small parcels zoned as exception land in the southwest part of the area, including the Orient rural community. The lack of effective topographic buffering along the Gresham UGB, and the groups of small parcels in the rural community contributed to a "medium" ranking on the land use pattern/buffering factor (2)(d)(B). The CAC found the area as highly suitable for rural reserve, and indicated that the north half of the area was most suitable for urban reserve if needed.

Why This Area was Designated Urban Reserve: This area was ranked as the most suitable for urbanization in Multnomah County in the suitability assessment. Gresham indicated its ability and desire to provide services to this area primarily for employment. The area is also suitable for continued agricultural use. However, as noted above, the presence of the Orient community, areas of small parcels, and lack of topography that buffers the area from adjacent urban development make this the most appropriate area for urbanization.

Additional support for urban/industrial designation in this general area was received from several sources including Metro in the Chief Operating Officer's report, the State of Oregon agency letter, and Port of Portland. Record Index # <u>Metro COO Recommendation 9/15/09 Appendix 3E</u> <u>Clackanomah pgs 2, 3, State Agency Letter 10/14/09 pg 15, Port of Portland Imeson ltr 9/4/09</u>. Concern for protection of Johnson Creek was expressed by environmental stakeholders, and is

addressed by holding the southern urban reserve edge to the north of the creek. Record Index # <u>JCWC 4/14/09 ltr.</u> The position of the area on the east edge of the region adds balance to the regional distribution of urban reserve, and employment land in particular. All of the rural land in this area is Foundation Agricultural Land, however, the proposed urban reserve is the best choice to address employment land needs in this part of the region.

C. Multnomah County: Rural Reserves

Rural Reserve 1B: West of Sandy River (Clackanomah in Multnomah County)

General Description: This map area includes the northeast portion of the regional study area. **Record Index #** <u>Study Area Map 6/16/08</u>. Subareas studied by the CAC in the suitability assessment include Government, McGuire and Lemon Islands (Area 1), East of Sandy River (Area 2), Sandy River Canyon (Area 3), and West of Sandy River (Area 4). Record Index # <u>Attachment C BOCC Reserves Hearing 12/10/09 pgs 30 through 54</u>. The Troutdale/Gresham UGB forms the west edge, the Columbia River Gorge National Scenic Area is the north boundary, and the Study Area edge and county line are the east and south boundaries. With the exception of the Government Islands group, all of this area is either Foundation or Important Agricultural Land. In addition, all except the southeast quadrant is within 3 miles of the UGB. Record Index # <u>PC Exhibit 1, Hearing 4/10/10</u>.

How Rural Reserve 1B Fares Under the Factors: The Foundation and Important Agricultural Land areas between the Gresham/Troutdale UGB and the east edge of the Sandy River canyon qualify as rural reserve because they are within 3 miles of the UGB. The Sandy River Canyon is a high value landscape feature and is made up of either Foundation or Important Agricultural Land. The canyon and associated uplands are not suitable for urbanization due to steep slopes associated with the river and its tributaries. The canyon forms a landscape-scale edge between urban areas on the west and rural lands to the east and ranked high in the suitability analysis on additional key rural factors of: sense of place, wildlife habitat, and access to recreation. The Government Islands area is not classified as either Foundation, Important, or Conflicted Agricultural Land, but is classified as "mixed forest" in the Oregon Department of Forestry study. The area ranked low under the farm/forest factors, and high on the landscape features factors related to natural hazards, important habitat, and sense of place.

Why This Area was Designated Rural Reserve: Rural reserve is proposed from the eastside of the UGB eastward to the eastern edge of the Sandy River Canyon except for the urban reserve area 1C (see Section III above). The east rural reserve edge corresponds approximately to the county Wild and Scenic River overlay zone, and maintains continuity of the canyon feature by continuing the reserve designation further than 3 miles from the UGB to the county line. An area adjacent to the city of Troutdale in the northwest corner of the area is proposed to remain undesignated in order to provide potential expansion for future land needs identified by the city. The Government Islands group remains rural land since it already has long term protection from urbanization in the form of a long-term lease between the Port of Portland and Oregon Parks and Recreation, and the Jewell Lake mitigation site. Record Index #_ Attachment C BOCC Reserves Hearing 12/10/09 pgs 30 through 34 and 42 through 54.

Rural Reserves 9A through 9F: West Multnomah County

This map area includes the north portion of the regional study area. Subareas studied by the CAC in the suitability assessment include NW Hills North (Area 5), West Hills South (Area 6), Powerline/Germantown Road-South (Area7), Sauvie Island (Area 8), and Multnomah Channel (Area 9). Record Index #_ Attachment C BOCC Reserves Hearing 12/10/09 pgs 55 through 96.

Areas 9A – 9C Powerlines/Germantown Road-South

General Description: This area lies south of Germantown Road and the power line corridor where it rises from the toe of the west slope of the Tualatin Mountains up to the ridge at Skyline Blvd. Record Index # Attachment C BOCC Reserves Hearing 12/10/09 pgs 73 - 84. The north edge of the area is the start of the Conflicted Agricultural Land section that extends south along the Multnomah/Washington county line to the area around Thompson Road and the Forest Heights subdivision in the city of Portland. The area is adjacent to unincorporated urban land in Washington County on the west, and abuts the City of Portland on the east. Most of the area is mapped as Important Landscape Features that begin adjacent to Forest Park and continue west down the slope to the County line. Record Index # map NFLI 4 7/29/09. The area is a mix of headwaters streams, upland forest and open field wildlife habitat.

How Rural Reserve 9A - 9C Fares Under the Factors: The CAC ranked the area "medium-high suitability" for rural reserve after considering important landscape features mapping, Metro's designation as a target area for public acquisition through the parks and greenspaces bond program, the extensive County Goal 5 protected areas, Metro Title 13 habitat areas, proximity to Forest Park, and local observations of wildlife use of the area. Record Index# Metro Greenspaces Acquisition Refinement Plan and Maps, Zoning Map SEC NW Hills South, map Metro Regionally Significant Fish and Wildlife Habitat, USGS Map with Wildlife Sightings FPNA. The CAC further ranked factors for sense of place, ability to buffer urban/rural interface, and access to recreation as high. While there was conflicting evidence regarding capability of the area for long-term forestry and agriculture, the CAC ranked the area as medium under this factor. Record Index # Attachment C BOCC Reserves Hearing 12/10/09 pgs 73 - 83. The county agrees that the west edge of area 9B defines a boundary between urbanizing Washington County and the landscape features to the east in Multnomah County. Elements that contribute to this edge or buffer include the power line right-of-way, Multnomah County wildlife habitat protection, planned Metro West Side Trail and Bond Measure Acquisition Areas, and the urban-rural policy choices represented by the county line. Record Index # J.Emerson email 4/16/09, map West Side Trails, and City of Portland 1/11/09 letter pg 4.

The CAC ranked the area "low suitability" for urban reserve generally, with the exception of areas 9A and 9B. Areas 9A and 9B resulted in a split of the CAC between "low" and "medium" rankings. Most of the area 9A – 9C contains topography that limits efficient provision of urban services, and, should urban development occur, would result in unacceptable impacts to important landscape features. Limiting topographic features include slopes that range from 10% in the majority of area 9B to above 25% in portions of 9C, and stream corridors and ravines

interspersed throughout the area. Record Index# CAC 9 map Reserves South, constraints <u>3/26/09</u>. Due to these features, the area was ranked low for an RTP level transportation "grid" system, for a walkable, transit oriented community, and for employment land. The CAC also recognized that should urban development occur, it would be difficult to avoid impacts to area streams and the visual quality of this part of Landscape Feature #22 Rock Creek Headwaters.

Why This Area was Designated Rural Reserve: Among the urban factors in the Reserves rules are efficient use of infrastructure and efficient and cost-effective provision of services. These are also among the most important factors in the Great Communities study. Record Index # Great Communities Final Report, Executive Summary pgs 7, 8. Multnomah County does not provide urban services and has not since adoption of Resolution A in 1983. Record Index# Mult.Co. Aspirations 2/19/09. The County no longer has urban plan or zone designations; it contracts with the cities in the county for these services. This means urban services to Areas 9A - 9C would have to come from a city in a position to plan and serve new urban communities. As was the case when Metro considered addition of lands in Multnomah County on the west slope of Tualatin to the UGB in 2002, there is not a city in a position to provide urban services to Areas 9A to C. Beaverton is over two miles to the south. Metro assigned urban planning to Beaverton when Metro added the North Bethany area to the UGB in 2002. Given the obstacles to annexation of the unincorporated territory over that two miles, Washington County took on responsibility for the planning instead of Beaverton. Unlike Multnomah County, Washington County continues to provide planning services and maintains urban plan and zoning designations for unincorporated urban areas.

The only other city that could provide services is Portland. Portland has said, however, it will not provide services to the area for the same reasons it would not provide services to nearby "Area 94" when it was considered for UGB expansion in 2002. (Metro added Area 94 to the UGB. The Oregon Court of Appeals remanded to LCDC and Metro because Metro had failed to explain why it included Area 94 despite its findings that the area was relatively unsuitable for urbanization. Metro subsequently removed the area from the UGB.) Portland points to the long-standing, unresolved issues of urban governance and urban planning services, noting the difficulties encountered in nearby Area 93. The City emphasizes lack of urban transportation services and the high cost of improvements to rural facilities and later maintenance of the facilities. The City further points to capital and maintenance cost for rural roads in Multnomah County that would have to carry trips coming from development on both sides of the county line and potential impacts to Forest Park. Record Index # BOCC 2/23/10 Portland letters 10/16/09, 12/10/09, 1/11/10, 2/23/10.

For these reasons, areas 9A - 9C rate poorly against the urban reserve factors.

The proposed rural reserve designation for all of area 9A - 9C recognizes and preserves the landscape features values that are of great value to the county. Record Index # BOCC 2/25/10 Hearing. The small scale agriculture and woodlots should be able to continue and provide local amenities for the area. Rural reserve for this area is supported not only by the weight of responses from the public, but by the Planning Commission and the regional deliberative body MPAC as well. Record Index #___ Area 9B Survey Responses, PC 8/10/09 meeting minutes and MPAC 2/1/10 meeting record.

Rural Reserves 9D and 9F: West Hills North and South, Multnomah Channel

General Description: This area extends from the Powerlines/Germantown Rd. area northward to the county line, with Sauvie Island and the west county line as the east/west boundaries. All of the area is proposed as rural reserve. Agricultural designations are Important Agricultural Land in 9D, and Foundation Agricultural Land in area 9F. All of area 9D is within three miles of the UGB, and the three mile line from Scappoose extends south to approximately Rocky Point Road in area 9F.

How Rural Reserve 9D and 9F Fare Under the Factors: All of the Multnomah Channel area is an important landscape feature, and the interior area from approximately Rocky Point Rd. south to Skyline Blvd. is a large contiguous block on the landscape features map. Record Index # map Natural Landscape Features Inventory 4 7/29/09. This interior area is steeply sloped and heavily forested, and is known for high value wildlife habitat and as a wildlife corridor between the coast range and Forest Park. It is also recognized as having high scenic value as viewed from both east Portland and Sauvie Island, and from the US Highway 26 corridor on the west. Landscape features areas that abut the city of Portland on the east and follow the county line on the west.

The potential for urbanization north of the Cornelius Pass Rd. and Skyline intersection in area 9D, and all of 9F, was ranked by the CAC as low. Limitations to development in the Tualatin Mountains include steep slope hazards, difficulty to provide urban transportation systems, and other key services of sewer and water. Areas along Multnomah Channel were generally ranked low due to physical constraints including the low lying land that is unprotected from flooding. Additional limitations are due to the narrow configuration of the land between US Highway 30 and the river coupled with extensive public ownership, and low efficiency for providing key urban services. Record Index # Attachment C BOCC Reserves Hearing 12/10/09 pgs 91 - 96. Subsequent information suggested some potential for urban development given the close proximity of US Highway 30 to the area.

Why This Area was Designated Rural Reserve: This area is proposed for rural reserve even though urbanization potential is low. Of greater importance is the high sense of place value of the area. The significant public response in favor of rural reserve affirms the CAC rankings on this factor. In addition, the high value wildlife habitat connections to Forest Park and along Multnomah Channel, the position of this part of the Tualatin Mountains as forming edges to the urban areas of both Scappoose and the Portland Metro region, further support the rural reserve designation.

Rural Reserve 9E: Sauvie Island

General Description: Sauvie Island is a large, low lying agricultural area at the confluence of the Willamette and Columbia Rivers. The interior of the island is protected by a perimeter dike that

also serves as access to the extensive agricultural and recreational areas on the island. It is located adjacent to the City of Portland with access via Highway 30 along a narrow strip of land defined by the toe of the Tualatin Mountains and Multnomah Channel. This area was assessed as Area 8 by the County CAC. Record Index # Attachment C BOCC Reserves Hearing 12/10/09 pgs 85 through 89. The island is entirely Foundation Agricultural Land, and is mapped as an important landscape feature. Large areas at the north and south extents of the island are within 3 miles of the Scappoose and Portland UGBs.

How Rural Reserve 9E Fares Under the Factors: The island ranked high on the majority of the agricultural factors, indicating suitability for long-term agriculture. It ranked high on landscape features factors for sense of place, important wildlife habitat, and access to recreation. The low lying land presents difficulties for efficient urbanization including the need for improved infrastructure to protect it from flooding, and additional costly river crossings that would be needed for urban development. The CAC ranked the island low on all urban factors indicating low suitability for urbanization.

Why This Area was Designated Rural Reserve: The island is a key landscape feature in the region, ranking high for sense of place, wildlife habitat, and recreation access. The island defines the northern extent of the Portland-Metropolitan region at a broad landscape scale. These characteristics justify a rural reserve designation of the entire Multnomah County portion of the island even though potential for urbanization is low.

D. Multnomah County: Statewide Planning Goals

MCC Chapter 11.05.180 Standards for Plan and Revisions requires legislative plan amendments comply with the applicable Statewide Planning goals pursuant to ORS 197.175(2)(a). These findings show that the reserves plan amendments are consistent with the goals, and they therefore comply with them.

Goal 1- Citizen Involvement

To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

The process of studying, identifying, and designating reserves began in January of 2008, with formation of the regional Reserves Steering Committee, adoption of a Coordinated Public Involvement Plan to coordinate the work flow, and formation of county committees to assess reserve areas and engage the public. Record Index #<u>RSC Post Meeting Packet 3/14/08</u>, and BOCC Resolution to form CAC and Appointment of CAC 5/1/08.

Multnomah County incorporated the Coordinated Public Involvement Plan into the plan followed for the county process, and this plan was reviewed by the Multnomah County Office of Citizen Involvement Board. Record Index # CAC 2 Mult Co PI Plan 3/5/08. In addition to providing opportunity for public involvement listed below, the county plan incorporated a number of tools including internet pages with current and prior meeting agendas and content, web surveys, mailed notices to property owners, email meeting notifications, news releases and meeting and hearing notices, neighborhood association meetings, and an internet comment link.

Key phases of the project in Multnomah County included:

• The Multnomah County Reserves Citizen Advisory Committee (CAC) developed their suitability assessments and recommendations in 16 public meetings between May 2008 and July 30, 2009. Record Index # CAC Agendas Compiled. The Planning Commission conducted a hearing on Aug 10, 2009, to consider the CAC suitability recommendations and recommendations for reserve designations in the county. Record Index # PC 8/10/10 hearing staff report, and minutes. Consensus of the Planning Commission endorsed the CAC recommendations.

• The Board adopted Resolution No. 09-112 at their September 10, 2009 public hearing, forwarding to Core 4 and the Reserves Steering Committee, urban and rural reserves suitability recommendations developed by the Multnomah County (CAC). Record Index # BOCC Hearing 9/10/09. The Board focused on suitability of areas for reserves rather than on designations of urban and rural reserves pending information about how much growth can occur within the existing UGB and how much new land will be sufficient to accommodate long term growth needs.

• The Board adopted Resolution No. 09-153 at their December 10, 2009, public hearing, forwarding to Core 4, recommendations for urban or rural reserve for use in the regional public outreach events in January, 2010. Record Index # BOCC Hearing 12/10/09. These recommendations were developed considering public testimony and information from the Regional Steering Committee stakeholder comment, discussion with Multnomah County cities, and information and perspectives shared in Core 4 meetings. Record Index # Testimony BOCC R5 12/10/09, APR Form 11/25/09 and Core 4 Packet 12/4/09.

• The Board approved the IGA with Metro at a public hearing on February 25, 2010. Record Index# BOCC Hearing 2/25/10 Exhibit A [recordings and documents]. Additional public and agency input was considered in deliberations including results of the January public outreach, results of deliberations by the regional Metropolitan Planning Advisory Committee, and interested cities.

Public outreach included three region wide open house events and on-line surveys. The first was conducted in July of 2008 to gather input on the Reserves Study Area Map. Record Index # <u>Study Area Boundary Open House Comments 7/31/08</u>. The second occurred in April of 2009, for public input on Urban and Rural Reserve Candidate Areas - lands that will continue to be studied for urban and rural reserves. Record Index # <u>Phase 3 Initial Results Summary 5/13/09</u>. The third regional outreach effort to gather input on the regional reserves map prior to refinement of the final map for Intergovernmental Agreements occurred in January of 2010. Record Index # Public Comment Report Phase 4 draft 2/8/10.

The Multnomah County Board of Commissioners heard briefings on the reserves project on 2/14/08, 4/16/09, and 8/20/09, and conducted public hearings indicated above. The Planning Commission conducted a public hearing on 8/10/09 and received regular briefings during the reserves project. Record Index # PC 8/10/09.

Public testimony has been an important element in the process and has been submitted to Multnomah County in addition to public hearings in several ways including open house events that took place in July of 2008, April of 2009, and January of 2010, and in testimony provided at CAC meetings. Record Index # CAC Meeting Summaries.

Goal 2- Land Use Planning

To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.

The County's Plan policies and map amendments put in place the framework needed to carry out the objectives of the reserves plan by identifying areas where rural resources will be protected from urbanization. The County rural plan has been coordinated with Metro's urban plan to identify where urbanization should occur during the 50 year plan. The County's policies and map ensure that rural reserve areas will remain rural and not be included within urban areas. The amendments further contain policies and strategies to support the on-gong planning processes to facilitate availability of urban reserve areas for urban use as appropriate.

Coordination with Multnomah County Cities

Understanding the land needs and service potential of cities is of critical importance because the County would look to a city to provide urban governance and services should areas designated urban reserve come into the UGB in the future. Input from cities with an interest in reserves within Multnomah County during CAC development of the suitability assessments and these reserve designations is briefly summarized below.

• Beaverton – The City has indicated that it may be able to provide urban governance for areas on the west edge of the county, however whether that city would eventually provide these services is uncertain, and timing for resolution of all outstanding issues that would set the stage for extending Beaverton governance to this area is likely many years away.

• Gresham – The City indicated in their 2/25/09 letter that areas east of the city should continue to be studied for urban reserve, recognizing that the recommendation is made without a complete picture of urban land needs. Record Index # <u>Gresham Councilor Strathern letter</u> 2/25/09. There should be some rural reserve east of the city, the region should minimize UGB expansions, and the City wants to focus on areas within the current UGB. The City provided a follow up letter dated 10/24/09 requesting urban reserve between SE 302nd and the Gresham UGB. Record Index # <u>BOCC 12/10/09 Hearing</u>. That area is shown as urban reserve on the proposed reserves plan map.

• Portland – City coordination efforts have occurred regarding potential reserve designations, particularly along the west edge of Multnomah County. Focus has been on the efficiency of providing urban services, and how governance services could be provided by the City. The City has indicated that the county line is an appropriate urban/rural edge, has identified service difficulties, the importance of landscape features in the area, and stated their interest in focusing limited resources on existing centers, and corridors and employment areas rather than along the west edge of the County. Therefore, Portland recommended rural reserve for this area.

• Troutdale – Troutdale requested approximately 775 acres of land for expansion, including the area north of Division and east out to 302^{nd} Ave., indicating a need for housing land and ability to provide services to the area. Record Index # PC Hearing 8/10/09 R.Faith memo 8/10/09. The proposed plan map leaves an approximately 187 acre area adjacent to the city without reserves designation. Proposed Policy 5 provides for a review of the reserves plan that can consider this and other areas in the region 20 years after the plan is adopted.

Additional agency coordination efforts related to Multnomah County reserves that occurred in addition to the regional process included Port of Portland, City of Scappoose, Sauvie Island Drainage District, and East and West Multnomah Soil and Water Conservation Districts. Record Index #_CAC 8 T.Boullion 2/26/09, CAC 12 B.Varricchione 5/7/09, CAC 9 J.Townsley 3/25/09, and CAC 6 Farm/Forest TAC 12/9/08.

Goal 3- Agricultural Lands

Agricultural lands in the county are protected for farm use by existing zoning and plan policies, and these are unchanged by the proposed amendments. The proposed policies and map add a new element, rural reserve, that ensures protection from urbanization of farmland important to the long-term viability of agriculture in the County. This protection is consistent with the goal of maintaining agricultural lands for farm use.

Goal 4- Forest Lands

Forest lands in the county are protected for forest use by existing zoning and plan policies that are unchanged by the proposed amendments. The proposed policies and map add long-term protection from urbanization of Goal 4 resources consistent with this goal by designating these areas as rural reserve.

Goal 5- Natural Resources, Scenic and Historic Areas, and Open Spaces

The Goal 5 resources in the county are protected by existing zoning and plan policies that are unchanged by the proposed amendments. The reserves factors require consideration of the importance of resources of the type that are protected by Goal 5 plans though the Landscape Features factors. The factors also require consideration of how these resource areas could be protected when included within urban reserve and subsequently urbanized. Goal 5 protection will apply to land included within the UGB in the future. The reserves suitability assessment

considered natural and scenic resources as it was developed, and existing county protections are maintained consistent with Goal 5. Record Index # CAC 10 D.Tokos memo 4/23/09.

Goal 6- Air, Water and Land Resources Quality

The proposed plan policies and map have no bearing on existing waste management plans and are therefore consistent with this goal.

Goal 7- Areas Subject to Natural Hazards

Existing zoning contains safeguards intended to protect rural development from identified hazards. The factors required consideration of areas of potential hazard including flood, landslide, and fire in forming reserves designations. Record Index # CAC 10 D.Tokos memo 4/23/09, Attachment C BOCC Reserves Hearing 12/10/09 pg 76. Consideration of hazard areas in the reserves plan and continuation of existing protections is consistent with this goal.

Goal 8 - Recreational Needs

The factors that applied to consideration of rural reserve to protect landscape features from urbanization include access to recreation areas including trails and parks. Record Index # Attachment C BOCC Reserves Hearing 12/10/09 pg 77 -78. Urban factors consider how parks can be provided in urban reserve areas. Existing plan and zoning provisions for parks are unchanged by the proposed reserves plan. The proposed reserves designations are consistent with Goal 8.

Goal 9 - Economic Development

The proposed urban reserve east of Gresham includes land that has potential to support additional economic development. Record Index # Attachment C BOCC Reserves Hearing 12/10/09 pg 52. This puts in place the potential for greater diversity of economic development in this area while minimizing loss of economically important farm land consistent with this goal.

Goal 10 - Housing

The proposed reserves plan increases potential for additional housing opportunity by designating additional land as urban reserve consistent with this goal. Record Index # <u>Attachment C BOCC</u> Reserves Hearing 12/10/09 pgs 51 - 54.

Goal 11 – Public Facilities and Services

The reserves factors analysis used in consideration of urban reserve included assessment of how efficiently the key public facilities could be provided to potential reserve areas. Record Index # <u>Attachment C BOCC Reserves Hearing 12/10/09 pgs 51 - 54</u>. Further, the 50 year urban reserve plan allows service planning to occur over a longer time frame. These elements support timely orderly and efficient provision of services consistent with this goal.

Goal 12 - Transportation

The proposed reserves plan policies and map do not cause any change to the county rural transportation system. Transportation planning to support urban uses within the proposed urban reserve east of Gresham will occur at the concept planning stage prior to including areas within the UGB. The relative efficiency of providing adequate transportation services in potential reserve areas was considered in the factors analysis. The proposed plan policies and map are consistent with Goal 12.

Goal 13 - Energy Conservation

The evaluation of the suitability of land for urban reserve took into account the potential for efficient transportation and other infrastructure, and sites that can support walkable, well-connected communities. These are energy conserving approaches to urban development, and the proposed urban reserve ranks moderately well on these factors and is consistent with this goal. Record Index # Attachment C BOCC Reserves Hearing 12/10/09 pgs 51 - 54.

Goal 14 - Urbanization

The reserves plan and policies implement an approach to the transition from rural to urban land that increases understanding of the future location of new urban areas and the time to plan for the transition. Urban reserves are expected to thereby improve this process consistent with this goal.

Goal 15 – Willamette River Greenway

Land planned under this goal in Multnomah County is located along Multnomah Channel and is zoned with the county Willamette River Greenway overlay zone. The reserves plan does not change that zoning. The proposed rural reserve along the channel protects the Greenway from urban development during the 50 year plan period, and this protection is consistent with the goal.

VIII. REASONS FOR URBAN AND RURAL RESERVES IN WASHINGTON COUNTY

A. Introduction

Washington County A-Engrossed Ordinance No. 733 designates rural reserves and adopts urban reserves designated by Metro within unincorporated areas of rural Washington County (areas outside of the Metro urban growth boundary). Lands designated as rural reserves are provided long-term protection from urbanization, while urban reserves are lands identified as the first priority to be added to the region's urban growth boundary (UGB) if and when it is determined by Metro that additional capacity to accommodate population or employment growth is needed.

A-Engrossed Ordinance 733 adds new policies to the Washington County Comprehensive Plan designed to carry out the purpose of state law in ORS 195.137 – 195.145 and OAR 660-027. These policies include a new Policy 29 of the Rural/Natural Resource Plan element, establishing

standards applicable to lands now designated by Washington County as rural reserves. The ordinance also creates two new maps. One identifies the rural reserves designated by the county, as well as the urban reserves adopted by Metro; the second map identifies the location of "Special Concept Plan Areas" in the county.

The ordinance also makes minor modifications to Rural/Natural Resource Plan Policy 3, Intergovernmental Coordination; Policy 23, Transportation; and Policy 27, Urbanization, to require coordination of urban and rural reserves in planning processes. The ordinance also amends Comprehensive Framework Plan for the Urban Area Policy 3, Intergovernmental Coordination; Policy 32, Transportation; and Policy 40, Regional Planning Implementation to make similar minor conforming changes.

The amendments made as a result of the reserves planning process are shown in Exhibits 1 through 9 of A-Engrossed Ordinance No. 733 and are made part of the Washington County Comprehensive Plan through the adoption of this ordinance

Process Summary

In developing recommendations for urban and rural reserves in the Portland metro region, each of the four local governments directly collaborated and coordinated the primary tasks of the project (such as development of background information, primary technical analysis and regional scale public involvement. Beyond those core efforts however, each of the three counties (and Metro) utilized a different process to develop locally supported recommendations. The following outline summarizes the urban and rural reserves planning process in Washington County.

- 1) Project Management & Oversight:
 - i) Regional Partners:

In order to carry out the technical and policy work required to implement urban & rural reserves in the 3-county Metro region (the project), Metro and Clackamas, Multnomah and Washington Counties formed a partnership alliance. This partnership (the Regional Partners) agreed to jointly staff and fund the project.

ii) Core 4:

The Core 4 was comprised of one key elected official from each of the four implementing jurisdictions. This group provided policy level project oversight and management and was charged with assuring that the regional reserves designations represented a reasonable balance of the guiding factors of OAR 660-027. WashCo Rec. 5.

iii) Regional Project Management Team (PMT):

The PMT was comprised of primary staff (planning directors / managers) from each of the four jurisdictions. This team of planning experts directed and reviewed the technical analysis work and served as advisors to the Core 4. This Team was involved from the initial inception of the project in the implementation of the legislation

creating the new concepts for urban and rural reserves in the Portland Metro region (Senate Bill 1011).

- 2) Project Coordination
 - i) Project Consultants, Kerns & West (K&W):

In order to manage the policy level recommendations necessary to carry out this project, the Regional Partners solicited quotes and selected from respondents, the firm of Kerns & West to provide facilitation / mediation for the meetings and activities of the Core 4 and Regional Steering Committee. K&W provided these services throughout the process of developing final urban and rural reserves recommendations to Metro and the 3 counties.

- ii) Project Coordination was also provided by the Core 4, PMT, Core 4 Technical Team and the Public Involvement Team.
- 3) Advisory Committees
 - i) Regional Project Steering Committee (RSC):

The RSC was made up of a variety of management level professionals representing a diverse array of interests. This Committee, co-led by the Core 4, was charged with overseeing the study of urban and rural reserves and to make recommendations relating to the final designation of reserve areas to the three counties and Metro.

ii) Washington County Reserves Coordinating Committee (WCRCC):

The WCRCC was formed to review the results of the project technical analyses and to develop policy and recommendations on urban and rural reserves in Washington County. Recommendations developed by the WCRCC were forwarded to the Regional Steering Committee and Core 4.

iii) Core 4 Technical Committee:

The Core 4 Technical Committee was comprised of planning staff from Metro and each of the three counties. These staff members carried out the technical analyses necessary to determine the relative qualifications of lands within the regional study area as urban reserves, rural reserves or neither. This committee was directly guided by the PMT and results of their work were submitted to local county advisory committees and, as appropriate, to the Regional Steering Committee.

- 4) Washington County Planning Directors
 - The Washington County Planning Directors served as the technical advisory committee to the WCRCC and served to coordinate with their respective city councils and planning commissions in developing reserves recommendations. This committee met regularly throughout the reserves planning process to assure that the technical

analysis process appropriately addressed local issues, concerns and needs, all jurisdictions in Washington County remained fully informed, and that all stakeholders and interested members of the general public were provided adequate opportunities for involvement in the reserves planning process.

- 5) Public Involvement
 - i) Reserves Public Involvement Team
 - ii) Public Involvement Plans WashCo. Rec.4013-4396
 - a. Regional WashCo. Rec.4013-4024
 - b. Washington County WashCo. Rec.4026-4031
 - iii) Public Involvement Activities
- 6) Iterative Process:

The Five phases of the Urban and Rural Reserves project were:

i) Phase 1: Establish committees and public involvement process;

The objectives of Phase 1 were to:

- Establish the Reserves Steering Committee (RSC) WashCo. Rec.4053-4054
- Establish County Coordinating Committees (WCRCC) WashCo. Rec. 1401; 1388-1400
- Create a Coordinated Public Involvement Process WashCo. Rec.4013-4052
- Develop the Analytical Approach to identifying urban & rural reserves
- ii) Phase 2: Develop Reserve Study Areas;

The objectives of Phase 2 were to:

- Identify broad Reserve Study Areas WashCo. Rec. 2996; 3868-3872
- During the summer and early fall of 2008, the Regional Partners approved a Regional Reserves Study Area within which urban and rural reserves were to be identified.
- Review initial 40-50 year Population and Employment Forecasts WashCo. Rec. 3800; Metro 2005-2060 Population and Employment Forecast – May 19, 2008
- Review data needs and begin to assemble data
- iii) Phase 3: Analyze Reserve Study Areas;

The objectives of Phase 3 were to:

- Analyze how Reserve Study Areas meet applicable urban and rural Reserve Factors of OAR 660-027 WashCo. Rec. 2930-3819
- Refine the 40-50 year Population and Employment Forecasts and Allocations Metro 2005-2060 Population and Employment Range Forecast – April 2009 draft
- Develop preliminary urban and rural Reserve recommendations WashCo. Rec. 2930-3819
- iv) Phase 4: Recommend Reserve Designations;

The objectives of Phase 4 were to:

- Finalize Reserve Areas WashCo. Rec. 1379-1385
- Draft and adopt Intergovernmental Agreements (IGAs) WashCo. Rec. 1379-1385;
- v) Phase 5: Adoption of Urban and Rural Reserves. The objectives of Phase 5 were to:
 - Draft and adopt ordinances incorporating conforming amendments to local Plans and Codes WashCo. Ordinance 733
 - Draft and adopt joint decision findings
 - Submit implementing Plan and Code amendments to LCDC for review and acknowledgement
- The Washington County Planning Directors and respective city staff reviewed the factors of OAR 660-027 along with the concepts of building "Great Communities" (WashCo. Rec. 2930-3819) in order to develop "pre-qualifying concept plans" for areas being recommended as urban reserves.
- 8. The Washington County Urban & Rural Reserves Coordinating Committee reviewed the technical analyses and recommendations prepared by the Planning Directors, held regular public meetings, provided policy direction throughout each phase of the project, and forwarded final recommendations from Washington County to the Regional Reserves Steering Committee and Core 4.

Stakeholder Requests and Responses

1) Reserves Planning Process

The public process section of this report discusses the county's extensive public outreach during the reserve planning process. However, two groups were consistent in voicing concern during the county's analysis, subsequent recommendations to the Core 4, and the Core 4 deliberation period. These two groups were the *Washington County Farm Bureau*, which was a voting member of the Washington County Reserves Coordinating Committee (WCRCC), and *Save Helvetia*, a group consisting primarily of residents interested in protecting rural lands generally located north of Sunset Highway and east of the city of North Plains.

Washington County Farm Bureau: Throughout the technical analysis and review process leading to preliminary recommendations on urban and rural reserves, the consistent message from the Washington County Farm Bureau was that lands within the existing UGB should be used more efficiently and, with the exception of lands classified as "Conflicted" on the map developed by the Oregon Department of Agriculture, all lands in the study area within approximately one mile of a UGB should be designated as rural reserve. Farm Bureau members submitted a map and cover letter depicting their recommendations. WashCo. Rec. 2098-2099; 3026; 3814-3816.

The needs determination by county and city staff determined that the one-mile recommendation noted above would not address the county's urban growth needs over the 50-year reserves timeframe. The WCRCC on September 8, 2009 voted 11 to 2 in support of urban reserve areas of approximately 34,200 acres and rural reserve areas of approximately 109,750 aces in Washington County. In consideration of the concerns raised by the Farm Bureau as well as likeminded stakeholders, interest groups and community members, the Core 4 recommended a reduction of approximately 40 percent (34,200 acres to 13,561 acres) to the WCRCC's urban reserve recommendation. These adjustments represented the Core 4's judgment in balancing the need for future urban lands with the values placed on "Foundation" agricultural lands and lands that contain valuable natural landscape features to be preserved from urban encroachment. Rural reserve acreage increased during Core 4 deliberations, from the WCRCC recommendation above to 151,666 acres. The intergovernmental agreement (IGA) signed with Metro and approved by the Washington County Board of Commissioners on February 23, 2010 acknowledged these totals for urban and rural reserves. Amendments to the agreements are allowed pursuant to section C.4 of the agreement. Changes to some reserve boundaries were requested during the county ordinance process beginning in April 2010 and are discussed below.

Save Helvetia: This citizen group was established during the early stages of the urban and rural reserves planning process. The group's initial and preeminent concern was that all rural land within the reserves study area located north of Sunset Highway be designated as rural reserve (WashCo. Rec. 2229-2239; 3618). The group's mission statement includes the desire *"To encourage cities to accommodate population growth by maximizing infill and efficiently using land already inside city borders."* The group also supported the Farm Bureau's position of recommending a rural reserve designation for all foundation farmland within one-mile of the UGB and called out the importance of preserving agricultural land for different farm sizes and uses.

Core 4 deliberations dramatically changed the reserve proposals recommended by the WCRCC for areas north of Highway 26. The original recommended urban reserve that extended north of Highway 26 to Phillips Road and east to the county border with Multnomah County was changed to a rural reserve designation with the exception of two small urban reserve areas (Urban Reserve Areas 8B and 8C) adjacent to the existing UGB and an undesignated area between Highway 26 and West Union Road. Other urban areas in the county were also reduced in size in order to minimize development impacts to valuable agricultural and natural resources. The Farm Bureau and Save Helvetia representatives in particular were present at open houses and presented public testimony at hearings. The Audubon Society of Portland, 1,000 Friends of Oregon, Coalition for a Livable Future and interested citizens also voiced concern at different points of the reserves process regarding future urban development north of Highway 26.

2) Ordinance No. 733 Hearings Process

Several reserves amendment requests came before the Washington County Planning Commission on April 21, 2010 and were forwarded to the Board for its consideration. The Board held its first public hearing on Ordinance No. 733 on April 27, 2010 and took additional testimony from individuals requesting amendments to the urban and rural reserves map. The Board requested staff to prepare issue papers for the specific requests and continued the hearing to May 11, 2010. On May 11, 2010, the Board directed staff to follow the map amendment process outlined in Section C.4. of the Metro-Washington County IGA for two of the requests (discussed in Section 3, below).

The two requests consisted of a proposal by staff to make "technical" changes that would place certain right-of-way areas into a single reserve designation (rather than designations split at the road's centerline), to correct for "parcel shifts" that occur when digital map layers are updated, to correct mapping errors, and to address the split reserves designation of a property in the vicinity of Roy Rogers Road (Ord. 733 – issue paper 2).

The second request was to add the 130-acre Peterkort property west of the North Bethany area to Urban Reserve Area 8C and remove it from Rural Reserve Area 8F. An issue paper regarding the Peterkort property was developed for the Board's review (reference record - issue paper 3). Further information about the Peterkort property is provided below (Ord. 733 – issue paper 3).

O'Callaghan: Located along the Rock Creek drainage southwest of the above referenced Peterkort site and along the northern edge of the western segment of Urban Reserve Area 8C (Bethany West) are two parcels owned by the O'Callaghan family. These parcels total approximately 58 acres and are bordered on the east by the existing urban growth boundary and N.W. 185th Avenue. During the hearings process for Ordinance No. 733, a description and analysis of the request for an urban reserve designation for the property was included in Issue Paper 3 of the May 11 staff report to the Board (Ord. 733). The Board reviewed the issue paper and elected not to include this amendment request in the engrossed ordinance.

City of Cornelius: The city of Cornelius requested a number of adjustments to the urban reserve areas of interest to the city. These adjustments were generally referenced as "technical" changes intended to simplify future urbanization of those lands. There were two elements of the city's request:

1) Add as urban reserves approximately 48 acres of land lying within the 100-year floodplain; (14.3 acres from undesignated lands and 34 acres from rural reserves);

2) In order to support the future expansion of city parks and open space, change approximately 87 acres of rural reserve lands to undesignated and change approximately 126 acres of undesignated land to rural reserves.

The city's reasons listed for the requested changes were as follows:

a) Using floodplain lines as a UGB requires difficult surveying and property line adjustment prior to annexation when floodplain does not match tax lot lines.

- b) Floodplain boundaries change over time, depending on stream flow, climate change and upstream activity; some floodplain designations are dated and inaccurate.
- c) The city does not allow development in the floodplain, except for certain bridges and pathways for pedestrians.

These requests were first presented to the Planning Commission on April 21, 2010 and to the Board on April 27, 2010 by city staff.

The Washington County Reserves Coordinating Committee recommendation of September 15, 2009 identified the subject properties as part of larger urban reserve areas on the north and south edge of Cornelius. Core 4 deliberations from October 2009 through February 2010 resulted in a change in designation from proposed urban reserve to proposed rural reserve for each of the above areas with the exception of the 126 acre undesignated area. The Core 4 actions did not alter the area's undesignated status.

At the May 25, 2010, public hearing on Ordinance No. 733, the Board of Commissioners decided to retain the Core 4 recommendations on these properties. WashCo. Rec. _____.

Bobosky / Bendemeer: The Bobosky property is a ten acre taxlot included within a small rural residential community known as Bendemeer, located north of West Union Road between NW Cornelius-Pass Road and NW Dick Road. On April 21, 2010, the Planning Commission heard testimony from Wendie Kellington and Wink Brooks on behalf of owners Steve and Kelli Bobosky to change the Bobosky property from rural reserve to urban reserve. The applicants asserted during the hearing that exception lands (AF-5 and AF-10 designations) do not serve to promote continued agricultural use. The Planning Commission subsequently recommended that all properties within the Bendemeer subdivision be changed from rural to urban reserve.

The property in question ranked high for both urban and rural reserves in staff's analysis. The Oregon Department of Agriculture classified the properties as Foundation agricultural land. The city of Hillsboro developed a pre-qualifying concept plan that addressed how the area met the urban reserve factors. This area was originally designated as an urban reserve but was changed to a rural reserve designation during Core 4 deliberations. Ms. Kellington and the Boboskys provided testimony to the Board of Commissioners at their April 27, 2010 hearing.

A description and analysis of staff's recommendation for urban reserve was included in Issue Paper 4 of the May 11 staff report to the Board. The Board elected not to include this amendment request in the engrossed ordinance. Ord. 733.

Black / Waibel Creek: Tom Black presented oral testimony to the Planning Commission during the April 21, 2010 hearing to request a change from urban reserve to rural reserve for a 1,580 acre area north of Waibel Creek, south of Highway 26, west of the eastern terminus of Meek Road and east of the McKay Creek floodplain. This area is the northern half of urban reserve area 8A. Mr. Black noted concerns regarding preservation of historic resources, such as the Joseph Meeks property, and preservation of agricultural land. The commission evenly split on the recommendation, with four commissioners voting for additional review and four voting to deny the request.

Mr. Black's presented his testimony before the Board on April 27. Issue paper number 4 of the May 11, 2010 Staff report to the Board described staff's analysis of the area. The Board elected to not include this amendment request in the engrossed ordinance. Ord. 733.

Tualatin Riverkeepers: Brian Wegener of Tualatin Riverkeepers requested a change of designation for Area 6B (Cooper Mountain) from urban reserve to rural reserve. Mr. Wegener's testimony was presented to the Planning Commission on April 21, 2010 and subsequently to the Board on April 27th. The testimony asserted that Cooper Mountain contained many headwater streams and the area's steep slopes and shallow soils preclude efficient urban development. Mr. Wegener believes that the area could not be efficiently developed to urban densities without causing significant impacts to the environment.

This area was the subject of a pre-qualifying concept plan developed by the city of Beaverton, which provided evidence demonstrating compliance with the eight urban reserve factors. Exhibit B of the Metro/County reserves Intergovernmental Agreement (IGA) noted that concept planning for this area "should be undertaken as a whole in order to offer appropriate protection and enhancement to the public lands and natural features that are located throughout the area." These requirements have been included in new Plan Policy 29 enacted through Ordinance No. 733 as "Special Concept Plan Area A." A description and analysis of staff's recommendation for urban reserve was included in Issue Paper 4 of the May 11, 2010, staff report to the Board. The Board elected to not include this amendment request in the engrossed ordinance. Ord. 733.

Amabisca: Cherry Amabisca presented testimony to the Board on May 11, 2010, for several properties north of Highway 26. Specifically, the requested change was for a change in designation from urban reserve to rural reserve for the Standring properties (1N2 15, Lots 900 and 901) and other properties (1N2 21AA, Lots 100 and 1N2 15, Lots 1100, 1200, 1300, and 1400) totaling 78.5 acres. These properties collectively comprise urban area 8B. An additional request was to change the currently undesignated lands west of Helvetia Road (totaling 556.5 acres) to rural reserve.

The properties included in Ms. Amabisca'a request ranked favorably as both an urban or rural reserve. The properties in the urban reserve area were identified as the location of future interchange improvements. The undesignated area was initially recommended as an urban reserve but was removed during the Core 4 deliberations. A description and analysis of the urban reserve area and the undesignated area was included in Issue Paper 4 of the May 11 staff report to the Board. The Board elected to not include this amendment request in the engrossed ordinance. Ord. 733.

Peters: Linda Peters forwarded a request to the Board via e-mail dated April 27, 2010 to make the following changes to the Urban and Rural Reserves map: to change the urban reserve designation in Urban Reserve Areas 8A (Hillsboro North), 6B (Cooper Mountain Southwest), and the urban reserve areas north of Council Creek (Urban Reserve Areas 7I - Cornelius North and a portion of 7B - Forest Grove North) to rural reserve and remove all the undesignated area around the cities of North Plains and Banks. Ms. Peters also requested that the Board retain the rural reserves designation for approximately 40 acres of right-of-way on the north side of Highway 26 between Jackson School Road and Helvetia Road.

Urban Reserve Area 8A (Hillsboro North) did not rank as high for rural designation as other areas of the county in staff's analysis. There were no changes to the area during the Core 4 deliberations. Hillsboro underwent extensive pre-qualified concept planning for this area and noted that the area has the potential to develop into a complete community. Preliminary analysis conducted by Metro indicates that the area can be readily served by sewer and water and the transportation system can be designed for connectivity.

Urban Reserve Area 6B (Cooper Mountain Southwest) was initially part of a larger urban reserve but was reduced in size to its current 1,777 acres during Core 4 deliberations. Beaverton provided a pre-qualified concept plan for this area that designated most of the area for future residential use. Exhibit B of the Metro/County reserves Intergovernmental Agreement (IGA) noted that concept planning for this area "*should be undertaken as a whole in order to offer appropriate protection and enhancement to the public lands and natural features that are located throughout the area.*" These requirements have been included in new Plan Policy 29 enacted through Ordinance No. 733 as "Special Concept Plan Area A."

Urban Reserve Area 7I (Cornelius North) was initially part of a larger urban reserve north of both Cornelius and Forest Grove but was reduced to its current size during Core 4 deliberations. Cornelius submitted a pre-qualified concept plan for the area that shows a mix of inner neighborhood and industrial uses in this area with linear parks along Council Creek and its tributaries. Future light-rail expansion from Hillsboro is projected for this area.

Urban Reserve Area 7B (Forest Grove North) was initially part of a larger urban reserve north of both Cornelius and Forest Grove but was reduced to its current size during Core 4 deliberations. The area ranked highly for both rural and urban reserves. Forest Grove has completed a prequalified concept plan for this area that shows residential use surrounding a "village center."

Banks and North Plains fall outside Metro's jurisdictional boundary. Undesignated land has been set aside around each city to allow for future growth over the 50-year reserves timeframe. It is the county's expectation that future planning will result in the application of urban and rural reserve designations in appropriate locations within these currently undesignated areas. These areas are noted as "Special Concept Plan Area B" in Exhibit B of the IGA and in Policy 29 of the Rural/Natural Resource Plan.

The county has proposed to change approximately 40 acres of the north side of Highway 26 between Jackson School Road and Helvetia Road from a rural reserve designation to an urban reserve designation. This change can be found on page 4 of Issue Paper 2, listed as map item #8 (Issue Paper 2 of May 11, 2010, BCC staff report). As with the above requested changes, the rationale for the change in designation is discussed in a broader policy context in Issue Paper 4 of the May 11 staff report to the Board. Ord. 733. The Board elected to not include any of the requested changes in the engrossed ordinance.

Pumpkin Ridge: The request to change the designation of Pumpkin Ridge Golf Course from rural reserve to undesignated was made by Gary Hellwege and attorney Greg Hathaway during their appearance at the Board hearing on April 27, 2010. Mr. Hellwege and Mr. Hathaway expressed concern that the flexibility to expand existing services at the golf course might be constrained by

a rural reserve designation. The golf course is located immediately north of the city of North Plains.

The undesignated area around North Plains was reduced in size during Core 4 deliberations as it was determined that a reduction in acreage would still allow for adequate capacity for the city's future development. As part of this process, the Pumpkin Ridge property was removed from the undesignated area and made a rural reserve.

A description and analysis of the areas was included in Issue Paper 4 of the May 11, 2010, staff report to the Board. Ord. 733. The Board elected to not include this amendment request in the engrossed ordinance.

Proposed Adjustments to Ordinance No. 733

At its hearing on May 11, 2010, the Board authorized staff to follow the amendment process described in the Metro-Washington County Reserves IGA relating to two categories of changes to the county's urban and rural reserves map. These changes are described below:

Technical Amendments

A variety of minor map amendments were recommended by staff to resolve technical issues with the initial mapping of the Core 4 recommendations and to alleviate the potential need for future amendments to local comprehensive plans. These minor map amendments are generally characterized as:

- (1) Gaps between urban and rural reserves that were not intended to be undesignated.
- (2) Digital map layer adjustments resulting from base-map changes which caused parcel linework to not appropriately match the boundaries for reserves designations.
- (3) Stem of flag lot designated rural reserve dividing an undesignated area stem should remain undesignated for consistency with adjoining lands.
- (4) Rural reserve designations of public road Rights-of-Way (ROW) adjoining urban or future urban areas could result in management and/or maintenance issues. Staff recommended during the hearings process for Ordinance No. 733 that in instances where roadways are utilized as boundaries for either urban reserves or undesignated lands, the entire ROW be designated urban reserve or remain undesignated. The Board of County Commissioners agreed with this issue and directed county staff to have the changes reviewed through the process defined in the Intergovernmental Agreement with Metro. Ord. 733.

Peterkort

At the April 21, 2010 Planning Commission and April 27, 2010 Board of County Commissioners hearings, representatives from the Peterkort family requested that the county reconsider their property's (1N1 18, Lot 100) rural reserve designation and add the property to Urban Reserve Area 8C, Bethany West. The Peterkort family stated that several major infrastructure

improvements had been identified to serve the North Bethany development, all located on or adjacent to the Peterkort family lands.

In the technical analysis to determine conformance with the factors for designation of lands as urban reserves or rural reserves (OAR 660-027-0050 and 660-027-0060) Washington County staff found that the property qualified for designation as either rural reserve or urban reserve. The detailed findings on these qualifications are incorporated in the September 23, 2009 recommendations report from the Washington County Urban and Rural Reserves Coordinating Committee to the Regional Core 4 and Reserves Steering Committee.

The Washington County Reserves Coordinating Committee recommendation of September 23, 2009 identified the Peterkort property as part of a significantly larger urban reserve area that extended from the existing urban growth boundary north and east to the Multnomah County border, and to Jackson School Road on the west. Core 4 deliberations in December 2009 resulted in the conversion of most of the urban reserve lands north of Highway 26 to rural reserve. This property was among those changed to a rural reserve designation.

The entire 129-acre Peterkort site is important to the successful implementation of the North Bethany Community Plan and to important elements of the funding process on key transportation and sewer line links. The following key points support inclusion of the Peterkort site within Urban Reserves:

- 1. **Transportation:** Provides urban land for public ROW and supports the development of a key transportation system link serving the future development of the North Bethany Community.
- 2. Sewer system connectivity: The optimal alignment for a primary gravity flow sewer trunk line to serve North Bethany crosses the Peterkort property. NOTE: construction of a pump station-based option could delay construction of sanitary sewer services to the North Bethany area by at least three years.
- 3. Wetlands mitigation: The sewer plan identifies roughly 46 acres of valuable opportunities on the Peterkort property which can be used to mitigate wetland impacts caused by public infrastructure development in North Bethany.
- 4. Enhancement of Natural Areas Program Target Area: Lands on the Peterkort site will support connections to important regional natural areas. Ord. 733 Issue Paper 3.

The following findings address the factors for designation of this property as Urban Reserves:

OAR 660-027-0050:

(1) Can be developed at urban densities in a way that makes efficient use of existing and future public and private infrastructure investments;

As noted above, the Peterkort site provides the only practicable location for siting a gravity flow sewer line for the provision of sanitary sewer services to a portion of the North Bethany planning area. This site also provides the only reasonable route for an alternative transportation system link between this community and surrounding areas. Future development of this site would not only utilize the public and private investments currently being made in North Bethany, but would ultimately aid in funding long-term infrastructure construction and maintenance.

It is expected that future development of the Peterkort site would be designed to complement the North Bethany Community at urban densities that optimize both private and public infrastructure investments. The developable portion of the Peterkort property would be designed to connect to the North Bethany community and the surrounding community via a future road connection (Road 'A') and could be served by the planned sewer line.

(2) Includes sufficient development capacity to support a healthy economy;

Together with remaining buildable lands within the UGB and other urban reserve lands throughout the region there will be sufficient development capacity to support a healthy economy. The addition of the Peterkort property adds approximately 80 acres of developable land to Urban Reserve Area 8C. The area could likely be developed as the sixth neighborhood of North Bethany, featuring a walkable community centered around parks and mixed use areas.

(3) Can be efficiently and cost-effectively served with public schools and other urbanlevel public facilities and services by appropriate and financially capable service providers;

This site has been included in facilities planning discussions during development of the North Bethany Plan. The Beaverton School District has made commitments for needed facilities in this area and has included discussion and consideration of potential urban reserves based growth impacts in the recent development of the 2010 update of their Long Range Facilities Plan. The Rock Creek Campus of Portland Community College is immediately adjacent to the southern boundary of this site. Other well-established facilities and services being extended to the North Bethany Community would also be expected to serve this site.

(4) Can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers;

The Peterkort site will be served by a collector road (Road 'A') extending along the northern portion of the site to connect the North Bethany community to SW 185th Avenue to the west. The northeastern edge of this property directly abuts planned connections to both on and off-street pedestrian facilities linking to planned neighborhood parks in North Bethany. This site offers a major opportunity to link trails in the broader Bethany area along the Rock Creek corridor. Public transit service is currently available immediately south of the site with multiple lines providing connections to Westside Light Rail Transit.

(5) Can be designed to preserve and enhance natural ecological systems;

Limited opportunities for wetlands mitigation are available in this area of the county. Therefore, a key focus of adding the Peterkort site to the urban area is the opportunity to improve and enhance the currently degraded wetlands along Rock Creek. The entirety of Urban Reserve Area 8C would be subject to certain requirements identified in the county's Rural/Natural Resource Plan Policy 29. This area, called out as Special Concept Plan Area C, would require the implementation of Metro's "Integrating Habitats" program in the concept and community

planning of the reserve area. The "Integrating Habitats" program utilizes design principles to improve water quality and provide wildlife habitat.

(6) Includes sufficient land suitable for a range of needed housing types;

The Peterkort site will provide added opportunities to meet local housing needs. The 80 acres of buildable land on the site can be developed with a variety of different housing types which would be expected to complement those already planned in the North Bethany area.

Considering that employment growth in Washington County has been historically very strong, and that the area remains attractive to new business and holds potential for significant growth, housing demand in this area will continue to grow.

(7) Can be developed in a way that preserves important natural landscape features included in urban reserves; and

As previously noted, this site is traversed by Rock Creek and its associated floodplain which is included on the Metro Regional Natural Landscape Features Map. Rock Creek and its associated wetlands are considered an important target area for long-term water quality improvements in the Tualatin River Basin and provide vital habitat linkage for sensitive species. Together with the other lands in Urban Reserve Area 8C, this site will be subject to a special planning overlay (Special Concept Plan Area C) designed to address the important values of this riparian corridor by requiring appropriate protection and enhancement through the use of progressive and environmentally sensitive development practices.

(8) Can be designed to avoid or minimize adverse effects on farm and forest practices, and adverse effects on important natural landscape features, on nearby land including land designated as rural reserves.

Concept and community level planning in conformance with established county plan policies can establish a site design which will avoid or minimize adverse impacts on farm practices and natural landscape features in the area. As noted above, Urban Reserve Area 8C will include a planning overlay specifically targeting special protection for the identified natural landscape features in the area. It is important to note that even without this special plan policy, the existing regulatory framework in urban Washington County would require significant levels of protection and enhancement of the Rock Creek corridor at the time of development of surrounding lands.

B. Washington County: Urban Reserves

The following findings provide an overview of and important references to the detailed analysis performed by Washington County to determine the amount of land that will be needed in Washington County to facilitate long-term planning for urbanization.

OAR 660-027-0050(2) – Does the land have enough development capacity to support a healthy economy?

A variety of methods were used to determine whether Candidate Urban Reserves would contain enough development capacity to form complete communities and support a healthy economy. Washington County staff utilized population and employment forecast data from Metro to develop a Land Needs Analysis for urban reserves that is outlined below. The complete analysis and methodology is fully detailed in the September 23, 2009, report and recommendations from the Washington County Urban and Rural Reserves Coordinating Committee to the Regional Reserves Steering Committee. WashCo. Rec. 3586-3609. In addition, the findings for OAR 660-027-0050(2) were supplemented by data presented by the National Association of Industrial and Office Properties (NAIOP), a business group focused on needs of industrial and related uses, as well as a stakeholder in the Reserves process and member of the Regional Reserves Steering Committee. WashCo. Rec. 6674.

Land Needs Estimates

A significant component of the urban reserves planning process was consideration of the population and employment forecasts to determine the amount of land that should be included in urban reserves recommendations. Population and employment projections were important to identify the gap between how much growth can be accommodated inside the current UGB and what, if any, additional land needs should be considered.

OAR 660-027-0040 requires that "Urban Reserves designated under this division be planned to accommodate estimated urban population and employment growth in the Metro area for at least 20 years, and not more than 30 years, beyond the 20-year period for which Metro has demonstrated a buildable land supply in the most recent inventory, determination and analysis performed under ORS 197.296." Effectively, given that Metro is scheduled to make the next UGB expansion decision in 2010, the applicable planning period would run to between 2050 and 2060.

Metro provided initial 2005–2060 population and employment forecasts in May 2008. These forecasts covered the seven-county Portland-Beaverton-Vancouver Primary Metropolitan Statistical Area (PMSA) in its entirety. No county-specific allocations were provided to assist in determining potential county level needs. In spring of 2009, Metro provided updates of the 20 and 50 year Regional population and employment range forecasts again without specific county allocations.

Members of the WCRCC and the regional Reserves Steering Committee, along with staff, noted many times that a range of future land demand was relevant to the urban reserves discussions. Washington County staff determined that in order to appropriately address market trends and reasonable assumptions for future market demand, estimates of long-term sub-regional growth and related land needs was an important consideration in these discussions. Washington County therefore developed county-specific growth estimates which were in turn used in developing land needs estimates for consideration and refinement of candidate urban reserves. These allocations were based on Metro's latest population and employment forecasts issued in April 2009. Metro 2005-2060 Population and Employment Range Forecast – April 2009 draft.

The county's land needs analysis, combined with the detailed analysis of remaining growth capacity within Washington County's 2007 UGB provided a clearer understanding of how much additional land might be needed to accommodate forecast long-term growth. Based on this information, in June 2009, the WCRCC recommended the candidate urban reserves in

Washington County should be approximately 47,000 acres (Appendix 1: Map 14) (*Ref. Record Pg.____*).

Beginning in June, 2009, the cities within Washington County began developing their Prequalified Concept Plans to assess how urban reserves, if brought into the UGB, could facilitate long-term growth needs and serve to complete each of their respective communities. This planning effort followed the general concepts of Region 2040 and provided opportunity for the cities to review their areas of interest and affirm if the identified areas were appropriate. These efforts further refined the candidate urban reserves recommendations to approximately 39,000 acres. (*Ref. Record Pg.____*)

Following extensive review and consideration of all applicable issues and concerns raised by stakeholders in the county, on September 23, 2009, the WCRCC recommended approximately 34,300 acres as Washington County Urban Reserves. This recommendation was forwarded to the Regional Reserves Steering Committee and Core 4 on September 23, 2009. (*Ref. Record* Pg.____)

Released in September, 2009, and subsequently adopted in December, 2009, Metro's most recent Urban Growth Report and related materials suggest a long-term land need for Urban Reserves to the year 2060 of between 15,700 and 29,100 acres. *COO Recommendation, Urban Rural Reserves, Appendix 3E-C,* Metro Rec. 601-603; *Appendix 3E-D,* Metro Rec.607-610; Staff Report, June 9, 2010, Metro Rec.____. The Core 4 recommendations for urban reserves completed as of February 25, 2010 were generally based upon these Metro estimates and resulted in the Core 4's recommendation for approximately 13,000 acres of urban reserves in Washington County.

Urban Reserves 4E, 4F and 4G: I-5 East - Washington County

General Description: These three coterminous areas are located east of Interstate 5 in the southeast corner of the county. The city of Tualatin forms the west boundary and Urban Reserve Area 4D in Clackamas County is immediately east. Interstate 205 forms the north boundary and the south boundary is generally Elligsen Road, with an area of approximately 78 acres extending south of this road to the county line. These three areas combined total approximately 1,565 acres. Saum Creek in the northwest corner of the reserve is the primary drainage. Rolling terrain with incised drainages typify the area.

How the Above Urban Reserves Fare Under the Factors: Urban Reserve Area 4E was included in a Pre-Qualifying Concept Plan (PQCP) developed by the city of Tualatin. Urban Reserve Area 4F was not included in a PQCP and future governance of the area has yet to be determined. However, Urban Reserve Area 4G was subject to a PQCP developed by the city of Wilsonville. These PQCPs included a detailed review of the planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

The city of Tualatin prepared a pre-qualified concept plan for the area that extends from Interstate 205 south to Frobase Road (Urban Area 4E). Approximately 546 acres of the 841-acre concept plan area was calculated as net developable land after removal of constrained lands. This area is expected to support a population of approximately 4,000 new residents. Future arterials and collectors have been identified and cost estimates and locational analysis have been conducted for provision of water and sewer facilities. Technical staff supporting the Project Management Team (the Core 4 technical team) rated the area as high for sewer provision and medium for the provision of water. One neighborhood center is mapped in the concept plan that could support approximately 252-420 jobs on 6-10 acres. School assessments have been conducted that call for at least one elementary school. Current service level provision for Tualatin residents was extrapolated to the new area to determine future police, fire, and park needs. A trail system that will connect with the existing trail system in Tualatin has been designed around the stream network and in the buffer areas along I-5 and I-205. A preliminary system of arterials, collectors, and local roads has been identified to efficiently connect the new urban area.

The urban reserve area is larger than the area included in Tualatin's pre-qualified concept plan included in the September 23, 2009 staff report. South of Frobase Road, the land is gently rolling with the exception of two knolls approximately 500 feet in elevation.

The city of Wilsonville has committed to providing urban services to Urban Reserve Area 4G. This 454-acres area features approximately 223 buildable acres. The draft concept plan map shows this area primarily as inner neighborhood with some employment designation due north of the city and adjacent to Interstate 5. Inner neighborhood assumes a residential mix of 50% SFR, 25% SFR attached, and 25% MFR at an average dwelling density of 10du/acre. The submitted concept plan notes that the area can facilitate "logical extensions of existing business parks, medical clinics, offices, and service centers along SW Parkway Avenue north of Elligsen Road and are a sufficient size to make efficient use of infrastructure investments." The city has indicated its ability to provide services, including parks, water, sewer, storm, and transit. Tualatin Valley Fire & Rescue (TVFR) can easily service the reserve area from an existing area station.

The plan notes that "the city conducts a thorough master planning process to ensure a safe and connected multi-modal system."

Urban Reserve Factors 5 through 8

Resource protection measures were discussed in the pre-qualified concept plan submitted by Tualatin and included in the appendix to the September 2009 staff report Environmentally constrained lands were removed from buildable land calculations, including riparian buffers of at least 50 feet as required by Clean Water Services. The city's existing regulatory framework will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization, including area designated as open space and natural areas where large stands of trees currently exist. The reserve area does not include any significant natural landscape features from Metro's 2007 Natural Landscape Features Inventory.

Sufficient buildable land is available for the range of housing types necessary in contributing to a complete community. The concept plan includes areas projected for medium to low density residential development. The surrounding area to the reserve (4E) is already currently developed or is a proposed urban reserve. Together with remaining buildable lands within the UGB and other urban reserve lands throughout the region there will be sufficient development capacity to support a healthy economy.

For Area 4G, Wilsonville has stated that the city's existing resource program will "ensure that natural resource values are preserved and where possible enhanced to compliment and improve natural ecological systems. Important natural resources within the urban reserve area will be considered for protection under the city's Goal 5 inventory process.

Housing capacity is improved with addition of the reserve area inside the city limits. With an expected increase in the jobs to population ratio for the city, the need exists to provide more housing options to those who work in the Wilsonville area.

An undesignated area currently in agricultural use occurs east of the southern extension of urban reserve area 4G and northeast of Wilsonville. That city's pre-qualified concept plan notes that agricultural areas will be buffered by elevation differences and preservation of existing trees and vegetation, where applicable.

Why This Area was Designated Urban Reserve: This area will provide dwelling capacity to accommodate future growth in Tualatin over the 50 year reserves timeframe. The area is highly parcelized and has relatively dense rural residential development. The area was ranked low under consideration of rural reserve factors in staff's reserves analysis given the highly parcelized nature of the tax lots and the existing residential development. Existing road capacity is adequate to allow for cost-efficient expansion of the transportation network. The city of Tualatin has agreed to provide governance and needed urban services to the area.

Wilsonville has indicated in the concept planning submittals that the urban reserve areas are envisioned to complement the existing city and provide for the city's 20-year housing need and the 20-50 year housing/employment need.

Urban Reserve 5A: Sherwood North

General Description: This area would extend the city boundary north to the edge of the slope that overlooks the Tualatin River National Wildlife Refuge. The 123-acre area is currently undeveloped.

How *Urban Reserve 5A Fares Under the Factors*: Urban Reserve Area 5A contains three small areas of land that are included in a Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Sherwood to meet long-term growth needs. This PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. WashCo. Rec. 3479.

Urban Reserve Factors 1 through 4: The city of Sherwood has submitted a PQCP that includes this 123-acre reserve area as well as Urban Reserve Areas 5B (Sherwood West) and 5D (Sherwood South) into its concept planning for newly developable lands adjacent to the city. Approximately 60 acres of this area were mapped as buildable. The northwest corner of the reserve area is mapped as employment areas on the concept plan map. The remainder of the area is not designated for a particular use on the concept plan map. Future uses would likely be either open space, designated parks, or limited residential due to land constraints. (*Reference Record pg. ___)*.

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and Sherwood will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of this area. The elevation difference between the edge of the urban reserve area and the Tualatin River National Wildlife Refuge will provide a buffer from urban development. The area was planned for employment and industrial development in Sherwood's draft pre-qualified concept plan. (*Reference Record pg.*___).

Why This Area was Designated Urban Reserve: Sherwood has included this area as an urban reserve to add capacity for industrial and employment needs. The northeast section of this urban reserve adjacent to Highway 99W and existing light industrial uses is designated industrial in the draft concept plan. The northwest area of the reserve was originally noted as part of a larger employment area. Much of this employment area as shown on the concept plan was included in a rural reserve during Core 4 deliberations after September 2009.

Urban Reserve 5B: Sherwood West

General Description: Urban Reserve Area 5B is approximately 1,291 acres and is located on the west boundary of Sherwood. The area is bounded by Chapman Road to the south, Lebeau Road to the north, and generally extends approximately 3/4 mile west of the city. The area consists of parcels that are in residential or agricultural use, including small woodlots and orchards. Chicken Creek flows through the north section of the reserve. SW Chapman Road and SW Eddy Road are classified as collector streets in the county transportation plan. SW Elwert Road is classified as an arterial.

How Urban Reserve 5B Fares Under the Factors: Urban Reserve Area 5B is included in a larger Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Sherwood to meet long-term growth needs. This PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

The city of Sherwood submitted a PQCP that considers this reserve area along with Urban Reserve Areas 5A (Sherwood North) and 5D (Sherwood South) as part of its concept planning for newly developable lands adjacent to the city. WashCo. Rec. 3479-3481. According to

analysis done by county staff, this area contains approximately 866 acres of developable land. Cite. The plan shows four commercial centers at the interface between the city and the reserve. Residential use is mapped surrounding the commercial areas and extending west to the reserve area boundary. The northeast corner of this reserve is mapped as employment lands and a station center is located in the Highway 99W corridor at the south end of the reserve. The city's analysis shows that 28,314 jobs and 17,462 new dwelling units are projected for this reserve and Areas 5A, and 5D. Capacity is sufficient to have a dwelling unit density no less than 10 per acre and jobs density of approximately 30 jobs per acre in employment areas. (*Reference Record pg. appendix*).

The area is within the boundaries of the Sherwood School District. Urban services can be provided by the city, and in the case of fire protection, Tualatin Valley Fire and Rescue. According to the submitted concept plan, a combination of public and private investment would be needed to service the newly urbanized areas.

Topography varies widely across the study area but the city anticipates that existing street and trail patterns can be continued with the addition of Urban Reserve Area 5B. The city will continue to work with Metro and regional partners to achieve a regional and local system of well-connected trails, bikeways, and streets.

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and the City of Sherwood will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of the south Sherwood area. Lands constrained from development include floodplain areas, slopes greater than 25 percent, vegetated corridor proxy areas, and Metro-designated riparian and wildlife habitat. Clean Water Services standards are used to ensure protection and enhancement of riparian areas.

Vacant buildable lands, along with redevelopment and infill lands, will provide sufficient land to support a range of needed housing types and contribute to a healthy economy. This area can be designed to avoid or minimize potential adverse effects on surrounding farms and adjoining Natural Landscape Features. The Chicken Creek riparian corridor functions as a buffer between rural agricultural uses and potential urbanization, minimizing potential urban impacts to nearby farm uses west of the reserve boundary. *(Reference Record pg. ___)*.

Why This Area was Designated Urban Reserve: Future development in Sherwood is constrained to the east by the city limits of Tualatin and the north border is constrained by the presence of the Tualatin River National Wildlife Refuge. Designation of this area as an urban reserve allows for the continued development of Sherwood over the 50-year reserves timeframe by adding needed housing and employment capacity. The floodplain of Chicken Creek forms an effective buffer between the adjacent agricultural use to the west and future urban development should the reserve be brought into the UGB. The city has provided a concept plan for the area that illustrates residential areas and neighborhood centers at the border of the urban reserve area and the existing city. The plan notes that this area (and Areas 5A and 5D) can be efficiently developed while protecting existing natural ecological systems. *Reference Record pg.* ____).

Urban Reserve 5D: Sherwood South

General Description: This 439-acre area is located south of the city of Sherwood and Brookman Road and extends west to Highway 99 and east to Ladd Hill Road. The area is a mix of exception lands (AF-5 and AF-10) and resource lands (AF-20) applied to the 57 parcels that comprise the area. The area is a mix of residential and small farm use. The east side of the reserve contains Christmas tree operations and timbered parcels without dwellings. Cedar Creek and its associated floodplain are present as are several tributaries that enter Cedar Creek within the reserve area. The east area of Urban Reserve Area 5D has greater topographical relief than the west area.

How Urban Reserve Area 5D Fares Under the Factors: Urban Reserve Area 5D is included in a Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Sherwood to meet long-term growth needs. This PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

The city of Sherwood submitted a PQCP that considers this reserve area along with Urban Reserve Areas 5B (Sherwood West), 5A (Sherwood North) and 5F (Tonquin) into its planning for developable lands adjacent to the city (cite to record #). The flatter, northwest corner of Urban Reserve Area 5D is planned for a Station Center surrounded by commercial development. This area, centered along Highway 99W between this urban reserve and Urban Reserve Area 5B to the northwest, can be integrated efficiently with existing development. Residential density in the station center is projected at 20 units per acre and 25 jobs per acre are projected on employment lands. Residential use is proposed for the rest of the reserve area at 10 units per acre. Capacity will allow for a variety of housing design types.

The area is within the boundaries of the Sherwood School District. Urban services can be provided by the city of Sherwood, and in the case of fire protection, Tualatin Valley Fire and Rescue. According to the submitted concept plan, a combination of public and private investment would be needed to service the newly urbanized areas.

The station community would provide for a walkable center in a key transportation hub. Sherwood staff noted that existing street patterns and trail systems could be extended if and when a reserve is brought into the UGB. *Reference Record pg.*___).

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and Sherwood will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of the Sherwood south area. Lands constrained from development include floodplain areas, slopes greater than 25 percent, vegetated corridor proxy areas, and Metro-designated riparian and wildlife habitat. Clean Water Services standards are used to ensure protection and enhancement of riparian areas. Constrained lands constitute roughly a third of the area.

Although a portion of this area currently supports low-density single family development, the remaining vacant buildable lands, along with redevelopment and infill lands, will provide sufficient land to support a range of needed housing types and contribute to a healthy economy. This area can be designed to avoid or minimize potential adverse effects on surrounding farms and adjoining natural landscape features. (*Reference Record pg.*___).

Why This Area was Designated Urban Reserve: The city's pre-qualified concept plan shows this urban reserve as a mix of constrained lands, residential areas, and a station center within a mixed-use neighborhood area shared between this urban area and urban reserve 5B. The 99-acre station area has a projected capacity of 2,475 jobs and 1,980 dwelling units. The area is within the Sherwood School District and can be served by existing service providers, including Tualatin Valley Fire and Rescue (TV F&R). Existing street and trails can be extended into this area. The station center encompasses several transportation corridor connections and can be designed to be a walkable center. (*Reference Record pg.*___).

Urban Reserve 5F: Tonquin

General Description: Urban Reserve Area 5F is approximately 565 acres and is part of the larger Tonquin Scablands area. Portions of this area are included on Metro's 2007 Natural Landscape Features Inventory map. The area is comprised of the unincorporated land east of the city of Sherwood and includes portions of the Tualatin River National Wildlife Refuge, quarry operations, a gun club practice facility, and training area for Tualatin Valley Fire and Rescue. Much of the area is included in the county's Goal 5 inventory as a mineral and aggregate area. Rock Creek and Coffee Lake Creek are the principal drainages in the reserve area. Approximately 143 acres in this area are considered buildable lands. Cite.

How Urban Reserve 5F Fares Under the Factors: A portion of Urban Reserve Area 5F is included in the Pre-Qualifying Concept Plans (PQCP) submitted by Tualatin to meet long-term industrial needs. The remainder of the area was shown as residential on the city of Sherwood's PQCP for the area. (cite)

Urban Reserve Factors 1 through 4

The city of Tualatin included a 117-acre portion of this reserve in its PQCP included with the September 23, 2009, staff report (cite). Referred to in that document as "Knife River," the area occurs on the north and south sides of Tonquin Road and is of interest primarily for transportation connectivity to extend SW 124th Avenue and to expand the city's industrial land base. The core 4 technical team rated this area a high suitability for sewer service and medium suitability for provision of water service. For transportation, the area received a medium ranking indicating that this area is somewhat suitable for providing a transportation system capable of accommodating urban levels of development. The city has evaluated the area for walkability and notes that the Knife River area can be designed to be walkable and served with a well-connected system of streets, bikeways, recreation trails and public transit by appropriate service providers. Cost estimates have been completed for provision of urban services to the area and together with remaining buildable lands within the UGB and other urban reserve lands throughout the region there will be sufficient development capacity to support a healthy economy.

The remaining area features predominately Goal 5-designated resources. Urban development in this area would likely be non-residential. The area could also serve employment lands. Potential exists for pedestrian and bike trail development along Coffee Lake Creek and Rock Creek.

Urban Reserve Factors 5 through 8

Future development of the area will need to account for the presence of significant natural features in the area, including creeks, floodplains, and wetlands. Parts of the area are in the county's mineral and aggregate overlay district and the Tonquin Geologic Area is included in Metro's Natural Features Inventory. A well-connected system of trails throughout the area can be designed to avoid or minimize potential adverse effects on adjoining natural landscape features. (Record reference # XX) Tualatin's concept plan did not designate residential use for this area due in part to the existing non-residential uses noted above. Farm and forest uses doe not abut the reserve boundary and impacts to either resource are not anticipated.

Why This Area was Designated Urban Reserve: The natural features in this area can be protected and enhanced under the existing regulatory framework in Washington County, Sherwood and Tualatin. The 568 acres in Area 5F is located between the cities of Sherwood and Tualatin and is bordered on three sides by the existing UGB. This area includes quarry activity, Tualatin Valley Fire and Rescue training facilities and the Tualatin Valley Sportsman's Club. Capacity exists to provide land to support future business/industrial growth and will support important transportation connections. The city of Tualatin has developed general service costs estimates and has agreed to provide governance and public facilities and services to eastern portion of this area.

Urban Reserve 6A: Hillsboro South

General Description: Urban Reserve Area 6A abuts the southern edge of the City of Hillsboro and generally extends from the city limits south to Rosedale Road and from SW 209th Avenue on the east to SW River Road on the west. Area 6A covers approximately 2,007 acres. Cite. Urban Reserve Area 6A includes a variety of existing land uses including rural and suburban housing with connections to public water, a golf course (the Reserve Vineyards and Golf Club), landscape horticulture, greenhouse nurseries, orchards, field crops and small woodlands. Area 6A is divided north-south by Butternut Creek and its associated floodplain, the northwest corner of the area is traversed by Gordon Creek and the southeast corner of the area is traversed by Hazeldale Creek. This area is adjacent to the southeast corner of the city of Hillsboro.

How Urban Reserve 6A Fares Under the Factors: Urban Reserve Area 6A was included as part of a larger area in a Pre-Qualifying Concept Plan (PQCP) analyzed by the city of Hillsboro to meet long-term growth needs. This PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

There are approximately 1,442 acres of gross buildable land on this site (WashCo. Rec. ___) that can be efficiently and cost-effectively served by public facilities and services provided by the City of Hillsboro. Buildable lands within the UGB and Urban Reserve Area 8A can provide sufficient development capacity to support a healthy economy in Hillsboro and the region. The city has indicated that the lands in Area 6A can be designed to be walkable and appropriately served with a well connected system of streets, bikeways, recreation trails and public transit and can be efficiently and cost-effectively served with schools and other urban level facilities and services. The city's PQCP utilized 2040 Design Types and developed a summary of potential development capacity of the area. This summary estimates a housing capacity of over 10,200 dwelling units and an employment capacity of over 1,400 jobs. (*Reference Record pg. ___[9/23 staff report appendix 2 – Hillsboro – pg. 7]*).

Urban Reserve Factors 5 through 8

The riparian corridors and associated floodplains of Butternut, Gordon and Hazeldale Creeks can be protected and enhanced under the existing regulatory framework in Washington County and the city of Hillsboro. Buildable lands within the UGB, along with other urban reserve lands throughout the region, will provide sufficient development capacity to support a healthy economy. Future concept and community level planning can assure a site design that will preserve and enhance ecological systems. The city of Hillsboro has indicated that up to 925 acres of the South Hillsboro urban reserve area and adjoining undeveloped lands to the east may be dedicated to open space and parks and that these areas can be designed to preserve applicable natural landscape features. Concept and community level planning in conformance with established city plan policies can establish a site design which will avoid or minimize adverse impacts on farm practices and natural landscape features in the area. (*Reference Record pg. ____)* (*Hillsboro Pre-Qualifying Plan materials – September 23, 2009 Staff Report – Appendix 2 – pg.* 7)

Why This Area was Designated Urban Reserve: A large segment of this urban reserve has been the focus of development projections and planning by the city of Hillsboro for over twenty years. In February 2008, the city of Hillsboro developed a Draft South Hillsboro Community Plan, which fully integrates a design for future development of Urban Reserve Area 6A into the surrounding area. This draft plan integrates a proposed new town center with a neighborhood centers, residential neighborhoods, a complex greenspace system (including the golf course, community and neighborhood parks, protected floodplains, wetlands and other open space) and a well-connected, multi-modal transportation system.

Urban Reserve 6B: Cooper Mountain Southwest

General Description: Urban Reserve Area 6B is located on the west-facing slopes of Cooper Mountain and is bordered by the existing UGB on the north and east, SW Scholls Ferry Road on the south and Tile Flat Road and Grabhorn Road on the west. Urban Reserve Area 6B includes approximately 1,777 acres. Cite revised IGA Ex.B. Urban Reserve Area 6B includes a variety of existing land uses including rural and suburban housing with connections to public water, landscape horticulture and plant nurseries, orchards, field crops, small woodlands and many areas of unmanaged vegetation. The area is characterized by a number of steep slopes and drainage ravines. This area adjoins the city of Beaverton on the east and the unincorporated Aloha area on the north.

How Urban Reserve 6B Fares Under the Factors: Urban Reserve Area 6B is a portion of a larger area included in a Pre-Qualifying Concept Plan (PQCP) analyzed by the city of Beaverton to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

There are approximately 892 acres of gross buildable land in Urban Reserve Area 6B that could be developed at urban densities which is proposed to be served by the city of Beaverton. Buildable lands within the UGB and other urban reserve areas throughout the region will provide sufficient development capacity to support a healthy economy. As indicated by its pre-qualifying concept plan, the city of Beaverton has indicated that the lands in Urban Reserve Area 6B can reasonably be designed to be walkable and appropriately served with a well connected system of streets, bikeways, recreation trails and public transit and can be efficiently and cost-effectively served with schools and other urban level facilities and services. (*Reference Record pg.*___)

Urban Reserve Factors 5 through 8

Headwaters to two tributaries to the Tualatin River originate in the reserve, which are identified as local and regional Goal 5 resources. Steep slopes and public open space that will likely constrain future development of the area. These limitations are addressed in the "Principles for Concept Planning of Urban Reserves" attached as Exhibit B to the Intergovernmental Agreement between Metro and Washington County that provides for implementation of urban and rural reserves in the county. These concept planning principles were established specifically to address concerns related to environmental impacts that could occur as a result of urbanization of the sensitive lands in Urban Reserve Area 6B. (*Reference Record pg.*) Existing development standards implemented by Washington County, Clean Water Services and the city of Beaverton will provide protection and potentially require enhancement of designated significant resources.

Why This Area was Designated Urban Reserve: Urban Reserve Area 6B lies within a designated critical groundwater area and supports only limited commercial agricultural activities. Approximately thirty percent of the area is developed suburban home sites, is immediately adjacent to fully serviced urban development and provides opportunity to serve local market demand for housing. The city of Beaverton has agreed to provide governance and urban services to this area.

Urban Reserve 6C: Roy Rogers West

General Description: Urban Reserve Area 6C is located in the Bull Mountain area south of Scholls Ferry Road near the northwest corner of the city of Tigard. This reserve area is approximately 562 acres. Urban Reserve Area 6C includes a variety of existing land uses including rural housing, landscape horticulture, orchards, small woodlands and small scale

agriculture. The southern portion of Urban Reserve Area 6C, east of Roy Rogers Road, is included in the preferred draft concept plan for the West Bull Mountain urban planning area. In order to provide appropriate transportation system links and to limit pumping of sewage and stormwater, the design relies upon expansion of the planning area to include this southern portion of Area 6C.

How Urban Reserve 6C Fares Under the Factors: Urban Reserve Area 6C included in Pre-Qualifying Concept Plans (PQCP) prepared by Washington County and the city of Tigard to address how the area would meet long-term growth. The area includes a portion of land that is part of the West Bull Mountain planning area. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

There are approximately 340 acres of gross buildable land in Urban Reserve Area 6C that could be developed at urban densities and which could be efficiently and cost-effectively served by public facilities and services provided by the city of Tigard. Buildable lands within the UGB and other urban reserve lands throughout the region will provide sufficient development capacity to support a healthy economy. The city of Tigard has indicated that the lands in Urban Reserve Area 6C can reasonably be designed to be walkable and appropriately served with a well connected system of streets, bikeways, recreation trails and public transit and can be efficiently and cost-effectively served with schools and other urban level facilities and services.. (*Reference Record pg.*)

Urban Reserve Factors 5 through 8

Urban Reserve Area 6C includes small scale drainage areas and forested upland wildlife habitat. This area can support a range of housing types which would be expected to develop at average densities ranging from 10 to 12 units per acre. (*Reference Record pg.*___) Although there are no designated significant landscape features within this urban reserve area, existing development standards implemented by Washington County, Clean Water Services and the city of Tigard will provide protection and potentially require enhancement of designated significant Goal 5 resources. The majority of Area 6C is naturally buffered from surrounding commercial agricultural activities by the broad floodplain of the Tualatin River and local tributaries or by established small woodlands.

Why This Area was Designated Urban Reserve: Urban Reserve Area 6C lies within a designated critical groundwater area and has very limited access to water for commercial agricultural operations. This area adjoins the West Bull Mountain Community Planning area in unincorporated Washington County and approximately 248 acres of this urban reserve area has been included in that planning study in order to provide appropriate transportation system connectivity and support the creation of a more complete community. The city of Tigard has agreed to provide governance and urban services to this area.

Urban Reserve 6D: Beef Bend South

General Description: Urban Reserve Area 6D is located in the Bull Mountain area south of Beef Bend Road near the northwest corner of Tigard. This urban reserve is approximately 521 acres. Many of the taxlots within this urban reserve area are devoted to suburban housing with an average lot size of approximately 1.4 acres. The remainder of the area includes agricultural activities primarily focused on landscape horticulture, field crops and small woodlands.

How Urban Reserve 6D Fares Under the Factors: Urban Reserve Area 6D is included in a Pre-

Qualifying Concept Plan (PQCP) analyzed by the city of King City to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

There are approximately 253 acres of gross buildable land in Urban Reserve Area 6D that could be developed at urban densities and which could be efficiently and cost-effectively served by public facilities and services provided by the city of King City. Buildable lands within the UGB and other urban reserve lands throughout the region will be sufficient development capacity to support a healthy economy. The city of King City has indicated that the lands in Urban Reserve Area 6D can reasonably be designed to be walkable and appropriately served with a well connected system of streets, bikeways, recreation trails and public transit and can be efficiently and cost-effectively served with schools and other urban level facilities and services.. *(Reference Record pg. ___)*

Urban Reserve Factors 5 through 8

This urban reserve includes a segment of the Tualatin River floodplain, which is included in Metro's Natural Landscape Features Inventory. The city has indicated that natural areas along the river would be protected. The Beef Bend South urban Reserve Area can support a range of housing types which would be expected to develop at average densities of approximately 10 units per acre. (*Reference Record pg. [King City pg. 10]*). The majority of Area 6D is buffered from surrounding commercial agricultural activities by the broad floodplain of the Tualatin River and local tributaries to the south and by Roy Rogers Road to the west. Lands to the north of Beef Bend Road are either developed or lie within Urban Reserve Area 6C.

Why This Area was Designated Urban Reserve: Urban Reserve Area 6D lies within a designated critical groundwater area and has very limited access to water for commercial agricultural operations. This area adjoins the western edge of the city of King City and will provide capacity to support projected housing and jobs growth in Washington County (record cite: __). King City has agreed to provide governance and urban services to this area.

Urban Reserve 7A: David Hill

General Description: Urban Reserve Area 7A is located at the northwest corner of Forest Grove and generally extends along the northwestern edge of the UGB northeast and southwest of David Hill Road. The northeast edge of this area extends to Thatcher Road while the southwest boundary extends to Gales Creek Road. This area is approximately 340 acres. Urban Reserve Area 7A is generally characterized by rolling hillside lands containing diverse rural land uses. These uses range from small woodlands to a variety of small to moderate scale agricultural activities primarily focused on landscape horticulture. This urban reserve area was added by the Core 4 during its deliberations.

How Urban Reserve 7A Fares Under the Factors:

Urban Reserve Factors 1 through 4

Due to location and general terrain, the David Hill site will be generally limited to residential use, park areas and open space. The city of Forest Grove has developed preliminary recommendations for the use of this area. The majority of areas with steeper slopes are recommended for clustered single family development, while areas of lesser slope are proposed as multi-family residential areas and a small area of neighborhood commercial. The David Hill area could reasonably be developed at urban densities which would efficiently utilize existing and future infrastructure investments and includes sufficient development capacity to support a healthy economy. These lands can be designed to be walkable and appropriately served with a well connected system of streets, bikeways, recreation trails and public transit and can be served with schools and other urban level facilities and services.

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and Forest Grove will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of the David Hill area. The developable lands in this area can support a range of needed housing types and can be designed to avoid or minimize potential adverse effects on surrounding farms and natural landscape features. *(Reference Record pg. ___)*.

Why This Area was Designated Urban Reserve: The city of Forest Grove has agreed to provide governance and urban services to lands within Urban Reserve area 7A – David Hill. The buildable land within this area will provide opportunities to meet long-term housing needs in the city of Forest Grove. (Ref record pg.____ (F.G.6))

Urban Reserve 7B: Forest Grove North

General Description: Urban Reserve Area 7B is located along the northern edge of Forest Grove and generally extends from the existing UGB north to Purdin Road between Highway 47 on the east and Thatcher Road on the west. This area is approximately 508 acres.

How Urban Reserve 7B Fares Under the Factors: Urban Reserve Area 7B is a small portion of a Pre-Qualified Concept Plan (PQCP) area analyzed by the city of Forest Grove to meet long-term growth needs. This PQCP analysis included a detailed review of the initial planning area and

provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

Urban Reserve Area 7B contains approximately 508 acres. Roughly 374 acres are considered buildable with few constraints. Record, pp. This area can reasonably be developed at urban densities that would efficiently utilize existing and future infrastructure investments. Buildable lands within the UGB and other urban reserve areas in the region include sufficient development capacity to support a healthy economy. The city of Forest Grove has recommended a variety of uses for this area, including Industrial, Office, Residential, Mixed-Use and Agricultural Services. The city has also indicated that these lands can be designed to be walkable and appropriately served with a well connected system of streets, bikeways, recreation trails and public transit and can be efficiently and cost-effectively served with schools and other urban level facilities and services. (*Reference Record pg. ___)*.

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and Forest Grove will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of the Forest Grove North area. The developable lands in this area can support a range of needed housing types and can be designed to avoid or minimize potential adverse effects on surrounding farms and adjoining natural landscape features. *(Reference Record pg. ____)*.

Why This Area was Designated Urban Reserve: Urban Reserve Area 7B will add needed jobs and housing capacity to support the employment continuing growth in Washington County. This area was derived from a much larger proposed urban reserve within a PQCP developed by the city of Forest Grove. The larger PQCP area was over 3,100 acres and was designed to meet long-term growth needs for the city of Forest Grove through the year 2060. The city of Forest Grove has agreed to provide governance and needed urban services to this urban reserve area.

Urban Reserve 7C: Cornelius East

General Description: Urban Reserve Area 7C is located along the eastern edge of the city of Cornelius and generally extends north of Tualatin Valley Highway to the north and east to the floodplains of Council Creek and Dairy Creek. This area also includes a 6.5-acre parcel of land adjoining the eastern limits of the city of Cornelius south of Tualatin Valley Highway between the highway and Southern Pacific Railroad line. Urban Reserve Area 7C is approximately 137 acres. The area supports approximately 96 detached single family homes and a small number of commercial activities.

How Urban Reserve 7C Fares Under the Factors: Urban Reserve Area 7C is a small portion of a Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Cornelius to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

This urban reserve contains approximately 118 acres of buildable land together with a variety of infill and redevelopment opportunity sites. This area could reasonably be developed at urban densities which would efficiently utilize existing and future infrastructure investments. Buildable lands within the UGB, along with other urban reserve lands within the region provide sufficient development capacity to support a healthy economy. The city of Cornelius has indicated that these lands can be designed to be walkable and appropriately served with a well-connected system of streets, bikeways, recreation trails and public transit and can be efficiently and cost-effectively served with schools and other urban level facilities and services. (*Reference Record pg. ____)*.

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and the city of Cornelius will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of Urban Reserve Area 7C. Although a significant portion of this area currently supports low-density single family development, the remaining vacant buildable lands, along with redevelopment and infill lands will provide sufficient land to support a range of needed housing types. This area can be designed to avoid or minimize potential adverse effects on surrounding farms and adjoining natural landscape features. The broad floodplains of Council Creek and Dairy Creek provide effective buffers between urban and rural uses in the area. (*Reference Record pg. ____*).

Why This Area was Designated Urban Reserve: Urban Reserve Area 7C will add needed housing capacity to support continuing employment growth in Washington County. The city has indicated a need to include approximately 40 acres of this urban reserve in a 2010 UGB expansion designed to meet short term growth needs. The established land use pattern in the area is suburban residential and the area is isolated from surrounding large block agricultural lands by the broad floodplains of Council Creek and Dairy Creek, which will buffer urban development from surrounding commercial agricultural operations. Lands south of Tualatin Valley Highway are separated from surrounding farm and forest lands by the Southern Pacific Railroad line approximately 600 ft. south of the highway. The city of Cornelius has agreed to provide governance and all needed urban services to this area.

Urban Reserve 7D: Cornelius South

General Description: Urban Reserve Area 7D is located at the southeastern corner of Cornelius between the existing city limits and the Tualatin River floodplain on the west and SW 345th Avenue on the east. The urban reserve is approximately 211 acres.

How Urban Reserve 7D Fares Under the Factors: Urban Reserve Area 7D is a small portion of a Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Cornelius to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and

provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

Urban Reserve Area 7D contains approximately 173 acres of buildable land with few development constraints. This area could reasonably be developed at urban densities which would efficiently utilize existing and future infrastructure investments. Buildable lands within the UGB along with other urban reserve lands within the region provide sufficient development capacity to support a healthy economy. The city of Cornelius has indicated through its PQCP for the area that these lands can be designed to be walkable and appropriately served with a well-connected system of streets, bikeways, recreation trails and public transit and can be efficiently and cost-effectively served with schools and other urban level facilities and services. (*Reference Record pg.*).

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and Cornelius will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of the urban reserve. The developable lands in this area can support a range of needed housing types and can be designed to avoid or minimize potential adverse effects on surrounding farms and adjoining natural landscape features. (*Reference Record pg.*___).

Why This Area was Designated Urban Reserve: This urban reserve area will add needed housing capacity to support continuing growth in Washington County. The relatively large parcels of undeveloped land will support the larger scale development projects that can make the most efficient and cost effective use of public facilities and services. The city of Cornelius has agreed to provide governance and needed urban services to this area. This area includes a 41-acre parcel owned by the Hillsboro School District, which has indicated a need to develop a new high school on this site within the next three to five years.

Urban Reserve 7E: Forest Grove South

General Description: Urban Reserve Area 7E is located along the southeastern edge of the city of Forest Grove adjoining the southern edge of the UGB south of Highway 47 at the southern terminus of Elm Street. The northwest border of the urban reserve follows the existing Forest Grove city boundary while the remaining borders of the area are defined by the 100 year floodplain of the Tualatin River. This area includes portions of two tax lots covering approximately 38 acres of those lots lying outside of the 100 year floodplain. This area is generally characterized by relatively flat agricultural lands. The city of Forest Grove prepared a pre-qualifying concept plan for this area to address how it met the urban reserve factors.

How Urban Reserve 7E Fares Under the Factors: Urban Reserve Area 7E is a small portion of a Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Forest Grove to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and

provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

Forest Grove's PQCP indicated that this site will likely be committed to industrial use due to its limited size, relative isolation and existing industrial uses in the immediate area. The urban reserve could be developed at urban industrial densities which would efficiently utilize existing and future infrastructure investments. The site is within close proximity to the Pacific & Western rail line and has access to Highway 47.

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and Forest Grove will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of this urban reserve area. The developable lands in the area can be designed to avoid or minimize potential adverse effects on surrounding farms and natural landscape features.

Why This Area was Designated Urban Reserve: The city of Forest Grove has agreed to provide governance and urban services to lands within this urban reserve. There are approximately 36 acres of buildable land within this area that will provide opportunities to support jobs growth in the city of Forest Grove.

Urban Reserve 7I: Cornelius North

General Description: Urban Reserve Area 7I is located along the northern edge of the city of Cornelius and generally extends north of Council Creek, north and east to Long Road and the floodplain of Dairy Creek. The western border is Cornelius-Schefflin Road. Area 7I includes approximately 624 acres.

How Urban Reserve 7I Fares Under the Factors: Urban Reserve Area 7I is a portion of a Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Cornelius to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

The urban reserve contains approximately 470 acres of buildable land with limited development constraints. This area could reasonably be developed at urban densities which would efficiently utilize existing and future infrastructure investments. Buildable lands within the UGB and other urban reserve lands within the region provide sufficient development capacity to support a healthy economy. The city of Cornelius has prepared a pre-qualifying concept plan, which indicated that these lands can be designed to be walkable and appropriately served with a well connected system of streets, bikeways, recreation trails and public transit and can be efficiently

and cost-effectively served with schools and other urban level facilities and services. (*Reference Record pg.*___).

Urban Reserve Factors 5 through 8

The existing regulatory framework in Washington County and Cornelius will preserve and support enhancement of natural ecological systems potentially impacted by future urbanization of the urban reserve. The concept plan map shows a mix of inner neighborhood and industrial uses for the reserve area, consistent with the county's suitability analysis, with buffers along Council Creek and its tributaries and open space adjacent to Dairy Creek. The developable lands in this area can support a range of needed housing types and can be designed to avoid or minimize potential adverse effects on surrounding farms and adjoining natural landscape features. (*Reference Record pg.*___).

Why This Area was Designated Urban Reserve: This urban reserve will add needed jobs and housing capacity to support the continuing growth in Washington County. Approximately 178 acres of this area (~28% of total land in Urban Reserve Area 7I) has been recommended by Cornelius for UGB expansion in 2010. This area can help support Metro recommendation for roughly 3,000 acres of land suitable for large-parcel industrial use, which provides capacity for specific industrial uses such as the existing high-tech industrial sector. Cite to Metro record. Cornelius has indicated a need for approximately 150 acres of industrial land. The relatively large parcels of undeveloped land in this urban reserve can support the larger scale developments that facilitate efficient and cost-effective provision of public facilities and services. These parcels would accommodate the establishment of a large industrial site of approximately 100 acres. The city of Cornelius has agreed to provide governance and needed urban services to this area.

Urban Reserve 8A: Hillsboro North

General Description: Urban Reserve Area 8A is located along the northwest edge of the city of Hillsboro and generally extends from the city limits/UGB north to Sunset Highway and west from NW Shute Road to the eastern edge of the 100 year floodplain of McKay Creek. The urban reserve also contains Waibel Creek, which runs north-south, with the northern portion featuring Storey Creek, which runs east-west. This area is situated northwest of existing industrial and employment lands north of Hillsboro, is adjacent to the Hillsboro Airport and totals approximately 2,712 acres in size.

How Urban Reserve 8A Fares Under the Factors

Urban Reserve Area 8A is a portion of a larger Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Hillsboro to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

There are approximately 2,265 acres of buildable land on this site that could be developed at urban densities which could be efficiently and cost-effectively served by public facilities and services provided by the city of Hillsboro. Buildable lands within the UGB and other urban reserve lands in the region will provide sufficient development capacity to support a healthy economy. Hillsboro prepared a pre-qualifying concept plan which identified how the industrial areas within this urban reserve can be designed to include pedestrian facilities along with an appropriate system of well-connected streets, bikeways, recreation trails and public transit service.

Urban Reserve Factors 5 through 8

The natural ecological systems within Waibel and Storey Creeks and their associated floodplains on this site will be protected and enhanced under the existing regulatory framework in Washington County and Hillsboro. Both concept and community level planning can assure a site design that will preserve and enhance ecological systems. This urban reserve area can be designed to preserve natural landscape features. Concept and community level planning in conformance with established city plan policies can establish a site design which will minimize adverse impacts on farm practices and natural landscape features in the area. (*Hillsboro Pre-Qualifying Plan materials – September 23, 2009 Staff Report – Appendix 2*)

Why This Area was Designated Urban Reserve: Urban Reserve Area 8A was specifically selected for its key location along the Sunset Highway and north of existing employment land in Hillsboro and also because of the identified need for large-lot industrial sites in this region. Cite Metro record. This area's pattern of relatively large parcels can help support the Metro recommendation for roughly 3,000 acres of large-parcel areas which provide capacity for emerging light industrial high-tech or biotech firms such as Solarworld and Genentech. Transportation needs for this sector and other development in the reserve can be met by Highway 26, which provides a high-capacity transit link to other areas of the region. Additionally, industrial development in this area will be proximate to existing and future labor pools residing in Hillsboro and nearby cities. These lands will also provide opportunities to attract new industries which would help diversify and balance the local and regional economy.

Urban Reserve 8B: Shute Road Interchange

General Description: Urban Reserve Area 8B is located at the northwest quadrant of the intersection of Sunset Highway and NW Shute Road. This site totals approximately 88 acres and includes land within the 100 year floodplain of Waibel Creek. The existing UGB and the corporate limits of Hillsboro run along the eastern border of the site, while the southern boundary runs along Sunset Highway and is contiguous to Urban Reserve Area 8A. Lands to the north and west of the site are agricultural lands.

How Urban Reserve 8B Fares Under the Factors: Urban Reserve Area 8B is a small portion of a Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Hillsboro to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

There are approximately 60 acres of buildable land within this urban reserve that could be developed at urban densities and served efficiently and cost-effectively by public facilities and services provided by the City of Hillsboro. Buildable lands within the UGB along with other urban reserve lands throughout the region will provide sufficient development capacity to support a healthy economy. In conjunction with existing urban lands to the east, this area could be designed to be walkable and to include pedestrian facilities along with a well-connected system of streets, bikeways, recreation trails and public transit service (reference record ____).

Urban Reserve Factors 5 through 8

The natural ecological systems within the tributary of Waibel Creek and its associated floodplain on this site will be protected and potentially enhanced under the existing regulatory framework in Washington County and Hillsboro. Both concept and community level planning can assure a site design that will preserve and enhance ecological systems. Independent of other urban reserve lands in the region, this site is of adequate size to support a mix of housing types and, following a detailed community planning process, could be developed in a way that preserves applicable natural landscape features. Concept and community level planning in conformance with established city plan policies can establish a site design which will minimize adverse impacts on farm practices and natural landscape features in the area. Adjoining lands are not designated rural reserves.

Why This Area was Designated Urban Reserve: Urban Reserve Area 8B sits at the northwest corner of a major highway interchange which has recently received funding commitments for significant improvements. This interchange is located at the northwestern edge of a very large technology-based industrial area. This site will provide flexibility in planning for needed interchange improvements as well as other infrastructure needs (e.g. sewer and stormwater management) for developing urban lands to the east.

Urban Reserve 8C - Bethany West

Note: Urban Reserve Area 8C is comprised of 2 separate collections of parcels which are further identified as: *Urban Reserve Area 8C- Bethany West / PCC Rock Creek*; and *Urban Reserve Area 8C- Bethany West / West Union* – separate findings and conclusions for these subareas are provided below.

Study Area 8C - Bethany West / PCC Rock Creek

General Description: Including the Peterkort site, the PCC Rock Creek portion of Study Area 8C is approximately 173 acres in size. This land is located near the intersection of NW Springville Rd. and NW 185th Avenue at the northern end of the PCC Rock Creek Campus. This area abuts the current UGB along its eastern and southern boundaries.

One of the Metro conditions for the ordinance that brought North Bethany into the UGB called for the county to "recommend appropriate long-range boundaries for consideration by the Council in future expansions of the UGB or designation of urban reserves." Additional urban land to the immediate west of the North Bethany Community Planning Area is necessary for the provision of sanitary sewer and storm drainage and to assist in the funding for a primary road link to SW 185th Avenue.

Following the directives of the Board of County Commissioners at its May 25, 2010 public hearing on Ordinance No. 733, the Peterkort site was included within this Urban Reserve subarea. In order to address a number of concerns raised in relation to the wetlands and floodplains on the Peterkort site as well as within the "West Union" portion of Urban Reserve Area 8C, a Special Concept Plan Area overlay was added to Ordinance No. 733 (Special Concept Plan Area C). This special plan overlay requires application of the "Integrating Habitats" approach to planning and development of these lands. Independent findings for inclusion of the Peterkort site are provided above under *Section B* of these findings. Additional information relating to the Peterkort site is included in the record on pages ______ to _____ (*Reference Record*)

How Urban Reserve 8C Fares Under the Factors: Note that this urban reserve area is included as an important element of the North Bethany Community Planning area. See associated findings related to the Peterkort site under *Section B* of these findings. This section of Urban Reserve Area 8C is a small portion of a Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Beaverton to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

Together with the West Union portion of this area, approximately 141 acres of this reserve area is considered buildable land with few development constraints. Ref Record p.) The land is reasonably flat and contains a portion of Rock Creek and its associated floodplain. The established regulatory framework in Washington County will protect and potentially require buffers from and enhancement to this important landscape feature.

This area will support extension and/or expansion of public facilities (e.g. sewer and storm drainage) from adjoining urban areas, especially the new North Bethany community. Urban services are currently being provided to lands immediately east and south of this area. Although constrained by floodplain and related buffers, developable portions of this area can be connected to surrounding trails and roadways within the North Bethany community. Public transit currently serves adjacent lands to the south. The developable portions of this area \, together with other urban reserves and lands already inside the UGB, provide sufficient development capacity to support a healthy economy.

Urban Reserve Factors 5 through 8

The natural ecological systems within the segments of Rock Creek and associated floodplain on this site will be protected and potentially enhanced under the existing regulatory framework in

Washington County, as well as through the application of Special Concept Plan Area requirements. These requirements state that future concept and community planning of the area must take into account Metro's "Integrating Habitats" program to ensure that future development protects natural features. Lands on this site can provide stormwater management, wetlands mitigation and provide public facility links to support housing and related urban development in adjoining urban areas.

Concept and community planning of the developable portion of Urban Reserve Area 8C would be considered as part of the North Bethany development scheme. The area would be planned as one of a series of walkable neighborhoods oriented around parks and misxed us areas and would be designated to provide a variety of housing types. Incorporating the "Integrating Habitats" program as required by Special Concept Plan Area C language (record p. – Ex of A-Eng 733) into the planning for this area will ensure the preservation of landscape features. As in the North Bethany planning process, impacts to farm uses in the adjoining rural area will be considered and mitigated.

Why This Area was Designated Urban Reserve: This urban reserve will support critical infrastructure links to the North Bethany Community planning area located immediately east of this site. These lands will also support required connections to primary transportation, sewer and stormwater facilities, as well as key opportunities for wetlands mitigation on currently degraded wetlands along Rock Creek. A final financing plan for North Bethany did not include funding projections from the lands within Urban Reserve Area C; however, a new neighborhood could provide the opportunity for additional funding to support the provision of infrastructure such as Road A.

Urban Reserve 8C: Bethany West / West Union:

General Description: The West Union segment of this urban reserve is located within the northwestern quadrant of the intersection between NW West Union Road and NW 185th Avenue. This site is approximately 132 acres and includes home sites and a small commercial site at the intersection of NW 185th Avenue and NW West Union Road. This site is bordered on the east and south by the UGB and to the north and west by Rock Creek. Approximately 28 % of this site lies within the 100 year floodplain of Rock Creek.

How Urban Reserve 8C Fares Under the Factors: This portion of Urban Reserve Area 8C is a small area included in a larger Pre-Qualifying Concept Plan (PQCP) area analyzed by the city of Beaverton to meet long-term growth needs. The PQCP analysis included a detailed review of the initial planning area and provided findings demonstrating conformance with the "Factors for Designation of Lands as Urban Reserves" under OAR 660-027-0050. (cite)

Urban Reserve Factors 1 through 4

Together with the PCC Rock Creek portion of this area, there are approximately 141 acres of buildable land in this urban reserve that could be developed at urban densities which could be efficiently and cost-effectively served by public facilities and services. Cite This site could also support the extension of services designed to improve the efficiency of service to surrounding

urban lands. Buildable lands within the UGB along with other urban reserve lands throughout the region will provide sufficient development capacity to support a healthy economy. Development in the surrounding area includes pedestrian facilities along with a well-connected system of streets, bikeways, recreation trails and public transit service. The pre-qualifying concept plan submitted by city of Beaverton indicates that the site can be reasonably linked to these facilities and services.

Urban Reserve Factors 5 through 8

The natural ecological systems within the segments of Rock Creek and associated floodplain on this site will be protected and potentially enhanced under the existing regulatory framework in Washington County. Both concept and community level planning can assure a site design that will preserve and enhance ecological systems. Independent of other urban reserve lands in the region, this site is of adequate size to support a broad mix of housing types and, following a detailed community planning process, could be developed in a way that preserves adjoining natural landscape features. Rock Creek and its associated broad floodplain (averaging over 800 feet in width at this location) provides an excellent buffer between the potential urbanization of this site and surrounding rural reserve lands. Concept and community level planning in conformance with established county plan policies can establish a site design which will avoid or minimize adverse impacts on farm practices and natural landscape features in the area.

Why This Area was Designated Urban Reserve: The West Union segment of this urban reserve is located at the intersection of two major urban arterials (NW West Union Road and NW 185th Avenue) and is physically isolated from surrounding rural resource lands by Rock Creek and its floodplain. This site provides opportunity to extend and expand gravity flow sewer service as well as large scale stormwater management facilities to this site as well as the North Bethany community planning area located to the northeast.

C. Washington County: Rural Reserves

1. Introduction

The following general comments are applicable to the specific subarea findings below:

Undesignated Area

Undesignated areas appeared under two different scenarios in the final recommendations contained in the September 23, 2009 staff report. Area around Banks and North Plains were left undesignated to provide the opportunity for each city to undergo UGB management and urban reserves planning under Oregon Administrative Rule 660-021. It is the county's expectation that such planning will result in application of urban reserve designations in appropriate locations and quantities within these currently undesignated areas. (Cite to record policy 29 - tentative. Also - Cite issue paper on undesignated)

The other type of undesignated area was derived from the iterative GIS analysis that resulted in a rural reserve suitability determination for lands outside the UGB. These undesignated areas were shown on Map 36 in the appendix to the September 23, 2009 staff report (cite). These areas did

not qualify as a rural or urban reserve under the applicable factors. During Core 4 deliberations from October 2009 to February 2010, many previously undesignated areas were folded into adjacent rural reserves with the exception of the areas around North Plains and Banks and five undesignated areas adjacent to either a proposed urban reserve or the existing UGB. Technical map amendments adopted June 15 by the Board of Commissioners adjusting the total acreage of urban and rural reserve areas for the purposes of correcting mapping errors, "parcel shifts" when digital map layers are updated, and right-of-way adjustments to reserves boundaries. These adjustments increased the net amount of undesignated area outside the UGB by approximately 105 acres, primarily through the right-of-way adjustments. In addition, the Core 4 left some areas as undesignated for future consideration – these include North of Sunset Hwy near Urban Reserve Area 8B near Roy Rogers Road.

Subject to urbanization-OAR 660-027-0060(2)(a);(3)(a)

Staff divided the subject to urbanization factor into three classifications: high, medium, and low. These three classifications were applied to the 41 sub-areas in the rural reserve study area. Areas considered highly subject to urbanization were the initial areas of interest by cities. (Cite to record Map 8, 09/23/09 staff report - tentative). Medium subject to urbanization areas began from the outer edge of the city interest areas and included areas where potential urbanization over the reserves 50-year timeframe was possible (cite to record p 19 09/23/09 staff rept.-tentative). Low subject to urbanization areas were those areas in the study area beyond the medium subject areas, where urbanization potential was least likely. Fair market value was evaluated through a number of analytical iterations, yet staff found the application of "fair market value" independent of other indicators did not provide a conclusive indication of lands that may be subject to urbanization. (cite to record 09/23/09 staff report p 22).

Safe Harbor factor- OAR 660-027-0060(4)

This factor [OAR 660-027-0060(4)] allows for a county to "deem that Foundation Agricultural Lands or Important Agricultural Lands within three miles of a UGB qualify for designation as rural reserves under section (2) without further explanation under OAR 660-027-0040(10)." Staff was compelled to conduct a more rigorous analysis of county agricultural land given the broad application of foundation farmland to the county study area. Staff did not use the three mile "safe harbor" factor as it would not reasonably capture the extent of analysis staff conducted to arrive at rural reserve recommendations. This factor is therefore not applicable to the rural reserve area findings and is not addressed therein.

Agricultural and Forestry Considerations - OAR 660-027-0060(2)

Agricultural and forestry considerations were applied to the above rule separately when considering which areas were most suitable as rural reserves. The study area was classified into 41 sub-areas included in four tiers. Tier 1 areas ranked as the highest priority for rural reserves based on either agricultural, forestry, or natural landscape feature considerations. A composite map for all Tier 1 areas resulted in the final map noting those areas most suitable for rural reserves. (Cite to record map 27 of staff rept appendix)

The map results from the ODA analysis are limited to a total of three classifications in the 2007 Agricultural Lands Inventory: Foundation, Important, and Conflicted lands. The overwhelming majority of the acreage in Washington County was considered foundation land; this designation was broadly applied and made no further distinction among those agricultural areas. (As an example, the entirety of Hagg Lake and relatively large blocks of forestland were classified as foundation land.) To better apply the rural reserve factors found under OAR 660-027-0060, staff believed a more intensive agricultural analysis was important to the rural reserve designation process. Components of this analysis included parcelization, dwelling density, potential crop productivity based on successive agricultural inputs, and possession of a water right or inclusion within the Tualatin Valley Irrigation District. Cite to record Staff report pp.21-30)

Staff asked both the Department of Agriculture and the county Farm Bureau for quantitative information that would help us better address Factor (2)(d), which calls for a consideration of the sufficiency of agricultural infrastructure in the rural area. A quantitative response specific to agricultural infrastructure was not provided by the ODA or Farm Bureau. This factor is briefly addressed in the findings below. Generally, staff could not find quantitative information that established a threshold for continued viability of agricultural suppliers when considering this factor relative to a 'tipping point' when considering this factor and the associated loss of farm acreage.

To map forestlands, staff used the Oregon Department of Forestry's (ODF) Wildland Forest Inventory mapping data from 2008. (Cite to record this report) This data more accurately assessed on-the-ground conditions relative to forest lands by including eight separate land use categories. ODF recommended larger blocks of forested land in the outer edges of the study area for protection. Cite. These areas (Wildland Forest) were included as Tier 1 candidates for rural reserve recommendation. The ODF inventory states that *Wildland Forest* areas need to be protected in order to sustain long-term forestry operations for forest land.⁷ Tier ranking determinations for forestry were facilitated by this greater level of detail.

Natural Features Considerations - OAR 660-027-0060(3)

Natural feature considerations were applied to the above rule separately from agricultural and forestry considerations. Tier 1 areas for natural landscape features ranked as the highest priority for rural reserves. A composite map for Tier 1 forestry, agriculture, and natural feature areas resulted in a final map noting the areas most suitable for rural reserve designation. (Appendix 1, Map 27 09/23/2009 RCC Reserve Recommendation Staff Report).

Metro's Natural Landscape Features map formed the basis of staff's natural landscape features analyses. This map included county floodplains as well as the Hagg Lake watershed and natural areas such as the Tonquin Scablands, Killen Wetlands, and Wapato Lake. (Cite to record NLFI map in appendix) Staff additionally considered the county's Goal 5 Significant Natural Resource inventory as suitable for rural reserve designation. This includes areas protected for floodplain, riparian corridor, and/or wildlife habitat value. Areas with slopes over 25% were also included as

⁷ As described in Forests, Farms and People: Land Use Changes on Non-Federal Land in Western Oregon, 1973-2000, Oregon Department of Forestry, May, 2002.

pertinent information in determining rural reserve designation under this factor given constraints on urban development in these areas. Finally, a criterion that included a "sense of place" [factor (3)(e)] was met by including all areas above 350 feet in elevation as suitable for rural reserve designation in addition to those natural areas that might shape and define a regional identity perspective. Limiting urban development above 350 foot elevation level helps provide a sense of place by preserving viewpoints and minimizing residential density. The composite map for the above features revealed a reserves map that included all areas of the Chehalem Mountains as suitable for rural reserve designation.

2. Rural Reserve Descriptions

Rural Reserve 5C: East Chehalem Mountains

General Description: This 15,152 acre reserve area has a similar land use pattern as reserve 6E, with larger agricultural lots on the valley floor and smaller parcels in the Chehalems. The Tualatin River flows through the northern portion of the reserve. The larger sub-basins that flow into the Tualatin include Heaton Creek, Baker Creek, and Chicken Creek. Key natural landscape features include the river and the Tualatin River National Wildlife Refuge. Scholls Ferry and Scholls Sherwood Roads are the primary arterials.

Urban Reserve Area 5A (Sherwood North - 123 acres) is located on the rural reserve's northern border, while Urban Reserve Area 5B (Sherwood West - 1,280 acres) occurs on the east border of the reserve and Urban Reserve Areas 6D (Beef Bend South - 519 acres) and 6C (Roy Rogers West - 557 acres)) are located on the north border. An undesignated area of approximately 199 acres is located immediately west of SW Roy Rogers Road. The area was initially included in a rural reserve but was changed to undesignated during Core 4 deliberations from February 8, 2010, to the date of the IGA adoption between the county and Metro on February 25, 2010. Land originally recommended as undesignated between Mountain Home and Scholls-Sherwood Roads was added to the rural reserve recommendations based on public input and discussion among the county planning directors, elected officials, and the Core 4.

Rural Reserve Area 5C best qualifies as a rural reserve through agricultural factors and natural features factors.

Findings: Designation of Lands as Rural Reserves

Factor (2)(a) is addressed under the *general comments* section in the rural reserves introduction.

Agricultural Considerations Under Factor (2)(b-d)

A portion of this reserve area was identified as Tier 1 suitability for agriculture (Cite to record index 3) in the September 23, 2009, staff report. The Tier 1 area correlates roughly to the Tualatin River floodplain south to Scholl's-Sherwood Road, extending east to Roy Rogers Road. Proposed urban reserves immediately west of Sherwood and King City were ranked as Tier 3 areas for agriculture based on degree of parcelization and proximity to urban areas.

Capability for agricultural operations was determined by an evaluation of existing agricultural uses, soil class, and availability of water. Approximately one third of the reserve area is located

within the Chehalem Mountains. Class II and Class III soils are the dominant soil classes with pockets of Class IV soils immediately adjacent to the river. Additional Class IV (and Class VI) soils occur in the Chehalems in those areas noted as Tier 3 or Tier 4 in the county's agricultural analysis (Cite to record#). The most capable area for agricultural operations is within the Tualatin River's floodplain. The larger farm operations (greater than 35 acres) in this reserve are located within a half-mile to three-quarters of a mile of the river, generally between Scholls-Sherwood Road and Scholls Ferry Road.

The Tualatin floodplain in this reserve area is the southern limit of the TVID. TVID boundaries and existing water rights were mapped to help define agricultural infrastructure. Numerous water rights exist within the floodplain (cite to record index#). Scattered rights to groundwater and surface water also occur in the foothills. Availability of water was an important consideration in staff's analysis of capable farm areas given assumptions of climate change impacts and expected limitations to in-stream flow over the reserves timeframe.

The area of existing large lot agricultural use is likewise most suitable for long-term agricultural operations due to existing use patterns and the degree of parcelization elsewhere within the reserve. Most of the lots in the southern portion of this reserve (the Chehalems) are less than 15 acres, resulting in a greater degree of parcelization than elsewhere. Residential density in this area of the Chehalems is greater relative to the Chehalem area in adjacent Rural Reserve Area 6E to the west.

Forestry Considerations Under Factor (2)(b-d)

Based on aerial photos, forested areas in this reserve occur primarily along the Tualatin River riparian corridor and in the riparian areas of the river's tributaries. A number of smaller residential parcels are timbered. Commercial, large-scale forestry operations do not occur in this reserve.

Land designated by ODF as *Wildland Forest* occurs on either side of Highway 219 near the Yamhill County line. Areas designated as *Wildland Forest* were included as Tier 1 areas suitable for rural reserve based on the department's analysis. Most of the mountain is in contiguous timber and is either in small-woodlot cultivation or unmanaged forest use. Future commercial forestry operations may be constrained due to existing parcelization of the area, steepness of the topography, and existing and future transportation limitations.

Natural Landscape Feature Considerations Under Factor (3)(a-h)

Factor (3)(a) is addressed under the general comments section of the rural reserves introduction.

The Tualatin River and the Chehalem Mountains are prominent natural features in this proposed reserve. The river's floodplain serves important hydrological functions related to flood water retention and discharge and additionally serves important biologic functions such as its use as a wildlife dispersal corridor and provision of critical habitat for anadromous fish. The Chehalem Mountains provide upland habitat and have the potential as a wildlife corridor for east-west dispersal. Both features are significant identifiers for a sense of place at a local and regional level.

The river's floodplain can also function as a buffer between the mixed farm and residential use found in the Chehalems and the transition to urban uses north of the river.

Several units of the Tualatin River National Wildlife Refuge form an effective natural buffer between resource lands and the cities of Sherwood, King City and Tualatin. The refuge also provides a regional sense of place by providing natural habitat features in close proximity to urban areas.

Consideration was given to provision of recreational access to natural features in the area. A segment of the trail alignment for the proposed Tonquin Trail connecting Sherwood, Wilsonville, and Tualatin borders the 88-acre section of the reserve to the northeast. Changes are not anticipated to the transportation system that would limit existing or future access to recreational opportunities.

Rural Reserve 5I: Parrett Mountain

General Description: This reserve consists of approximately 1,922 acres centered around Parrett Mountain and 88 acres east of Baker Road in the Tonquin Scablands area. The Parrett Mountain area is west of Baker and Tooze Roads and bounded by Highway 99W east to the county boundary at SE Ladd Hill Road. Parrett Mountain Road divides the topography of the area with most of the parcels north of the road in forest use and parcels south of the road in agricultural and residential use. Proposed urban reserve area 5D (539 acres) is on the north border of the reserve. Rural reserve area (in Clackamas County) is located south and west of the smaller Tonquin area of the reserve. Immediately east of this unit is the city of Tualatin and north is Urban Reserve Area 5F (568 acres). The area best qualifies as a rural reserve through forestry and natural features factors.

Cedar Creek and its tributaries are the predominant natural landscape features in addition to Parrett Mountain.

Findings: Designation of Lands as Rural Reserves

Agricultural Considerations Under Factor (2)

Factor (2)(a) is addressed under the general comments section in the rural reserves introduction.

Agricultural Considerations Under Factor (2)(b-d)

This rural reserve area was ranked at Tier 4 (lowest ranking) for agriculture in staff's analysis. The area was mapped as conflicted land in the Oregon Department of Agriculture's (ODA) agricultural inventory. The west unit of this reserve area consists primarily of the uplands of Parrett Mountain and is unsuitable for agricultural operations due to topography and lack of prime soils. Exceptions exist south of Parrett Mountain Road, which is relatively flat and is capable of sustaining long-term agriculture, and north of Parrett Mountain adjacent to Highway 99. Both areas are primarily residential or in limited farm use.

The east unit of the reserve consists primarily of Coffee Lake and is unsuitable for agricultural use.

Forestry Considerations Under Factor (2)(b-d)

Forest cover is generally limited to the undeveloped areas of Parrett Mountain. Some forest cover occurs within the riparian corridor of Cedar Creek adjacent to Highway 99 and in isolated pockets between Cedar Creek and the north slope of the mountain. Commercial forestry operations are not present and the area does not appear to be in active woodlot management, based on aerial photos. However, the area is capable of sustaining forestry based on soil type and the existing forest cover. Moderate-sized forestry operations and small woodlot management is possible.

The ODF forest inventory includes much of Parrett Mountain as *Wildland Forest* with the exception of an existing subdivision centered on either side of Labrousse Road. South of Parrett Mountain Road the map shows the area as *Mixed Forest & Agriculture*. The *Wildland Forest* section of Parrett Mountain was ranked as a Tier1 area in staff's analysis given the *Wildland Forest* designation.

Natural Landscape Feature Considerations Under Factor (3)(a-h)

Factor (3)(a) is addressed under 'general comments' in the rural reserves introduction.

Areas included on Metro's Natural Features Inventory area were included as Tier 1 areas for rural reserve designation in staff's analysis. This includes the 88 acres in the Tonquin Scablands area. The Parrett Mountain area was also included as a Tier 1 consideration given the regional sense of place that is found in the area. Parrett Mountain likely contains suitable habitat for wildlife, including big game cover, and also provides a buffer between the city of Sherwood and rural areas south of the mountain.

Consideration was given to provision of recreational access and no changes are expected to the transportation system that would limit any existing access to recreational opportunities.

Rural Reserve 6E: Central Chehalem Mountains

General Description: This 25,381-acre rural reserve is almost evenly divided by the Tualatin River, which is a key natural feature of the reserve. The Chehalem Mountains are also a prominent natural feature. The north half of this reserve area is typified by farm parcels adjacent to and north of the river. South of the river and Highway 219, the lots are smaller and uses are more varied, including residential use, nursery use, and small farm and forest use parcels. The Chehalem foothills start in this southern half and extend south-southwest to the county line. The upper drainages in the Chehalems feed into the McFee Creek basin. The reserve area is divided by several arterials, including Highway 219, Farmington Road, and River Road. Proposed urban area 6B (Cooper Mountain Southwest) abuts the northeast corner of the reserve and Urban Reserve area 6A (Hillsboro South) is located northeast of the junction of Rosedale and River Roads.

Two undesignated areas are located on the north boundary. One area of approximately 358 acres is located between the Tualatin River and Minter Bridge Road south of the Hillsboro city limits. The area has remained undesignated throughout the reserves mapping changes. The other undesignated portion near Rural Reserve Area 6E is approximately 568 acres and encompasses

the quarry area between Farmington Road and Clark Hill Road. This area was initially recommended as an urban reserve by the WCRCC in the September 23, 2009, staff report. The status of the area was changed to undesignated with the release of the Bragdon/Hosticka Urban and Rural Reserves map of 12/08/09. A small amount of additional undesignated acreage area was added to the area during Core 4 deliberations from February 8, 2010 to the date of the IGA adoption between the county and Metro on February 23.

Rural Reserve Area 6E best qualifies as a rural reserve through application of the agricultural, forestry, and natural features factors.

Findings: Designation of Lands as Rural Reserves

Agricultural Considerations Under Factor (2)

Factor (2)(a) is addressed under the general comments section of the rural reserves introduction.

Agricultural Considerations Under Factor (2)(b-d)

Much of the central area of this reserve was classified as Tier 1 for agricultural operations and is capable of supporting agricultural operations over the 50-year reserves timeframe. The Tier 1 defined area includes the area from Bald Peak Road east to Highway 210 and from Highway 219 east to River Road and is bounded by the Tualatin river floodplain (cite). The majority of the area is considered Foundation farm land on the Oregon Department of Agriculture map (cite). Capability was determined through soil class and availability of water. Availability of water was an important consideration in staff's analysis of capable farm areas given assumptions of climate change impacts and expected limitations to in-stream flow over the reserves timeframe.

Class II and class III soils predominate, with isolated pockets of Class I soils and some Class IV soils immediately adjacent to the river. Class III and IV predominate in the Chehalem Mountains. Numerous parcels in the river's floodplain are included in the Tualatin Valley Irrigation District and existing water rights are widespread. Numerous water rights also exist outside the water district in the Chehalem foothills. (Cite to record #Map 18) As with Rural Reserve 8E, the area is potentially some of the most productive land in the study area for agricultural purposes, based on Staff's analysis.

The majority of parcels in the Tier 1 area are 35 acres or larger and are currently in agricultural use. This area discussed above under Tier 1 considerations is a component of the larger sub-area 25(Cite to record #). These farm parcels are typically on the valley floor, gradually transitioning to smaller lots and more residential use as one moves south into the Chehalem foothills. The gradual transition to residential lots containing pasture or small woodlots acts as an effective buffer to the existing agricultural uses on the valley floor.

As noted above, TVID boundaries and existing water rights were mapped to help define agricultural infrastructure. Infrastructure to support agricultural uses is likely sufficient given the predominance of relatively large agricultural operations throughout the valley floor.

Forestry Considerations Under Factor (2)(b-d)

Aerial photos show that forest canopy in the Tier 1 agricultural area described above is limited to a few streams. Forested areas in this reserve occur south of the Tualatin River in the Chehalem Mountains. Commercial forestry operations do not occur in this reserve.

An area designated *Wildland Forest* by the Oregon Department of Forestry is present at the crest of the Chehalems adjacent to the county line. Staff included this area as suitable for rural reserve based on this forestry consideration. Cite. No other *Wildland Forest* designations occur in the reserve area. Existing parcelization of the area, steepness of the topography, and existing and future transportation limitations preclude large-scale forestry operations.

Natural Landscape Feature Considerations Under Factor (3)

Factor (3)(a) is addressed under the general comments section in the rural reserves introduction.

The Tualatin River and the Chehalem Mountains are prominent natural features in this proposed reserve. The river floodplain serves important hydrological functions related to flood water retention and discharge and additionally serves important biologic functions such as provision of a wildlife dispersal corridor and critical habitat provisions for anadromous fish. Both features are also significant identifiers for a sense of place at a local and regional level. Additionally, Jackson Bottoms is a regionally significant wetland that provides wintering habitat for ducks, geese, and swans as well as other migrants. This area also provides a sense of place year-round as a natural area.

Urban Reserve Area 6A abuts south Hillsboro and Urban Reserve Area 6B abuts the western boundary. The floodplain of the Tualatin River helps form the west boundary of Urban Reserve Area 6A. Existing floodplains can function as buffer areas between future development in the proposed urban reserve and the agricultural uses south of Rosedale Road and west of River Road. Urban Reserve Area 6B consists primarily of the southwest slopes of Cooper Mountain. The topography of the area creates an effective buffer between agricultural uses on the valley floor and the more intense residential development located east of the Metro-owned and operated 231-acre Cooper Mountain Nature Park located on the mountain's upper slopes. The park provides an additional buffer between urban and rural uses. Consideration was given to provision of recreational access to natural features in the area.

Rural Reserve 7F: Hagg Lake

General Description: This approximately 25,652 acre area includes land west and southwest of Forest Grove to the study area boundary. Gales Creek Road forms the northern edge and Highway 47 its eastern edge. With the exception of the Gales Creek and Tualatin River floodplains, the reserve area is characterized by incised ravines and rolling topography to an elevation of approximately 1,000 feet. The predominant landscape features are Gales Peak and Hagg Lake. Commercial forestry operations occur throughout much of the area with farm parcels within the Gales Creek floodplain and on either side of the Highway 47 corridor. The area best qualifies as a rural reserve through forestry factors.

The community of Dilley is located between Forest Grove and Gaston west of Highway 47.

Findings: Designation of Lands as Rural Reserves

Agricultural Considerations Under Factor (2)

Factor (2)(a) is addressed under 'general comments' for the rural reserves introduction.

Agricultural land in this reserve is located in the area between Gales Creek south to the hills around Hagg Lake as well as land between Old Highway 47 and Highway 47. The Patton Valley Road area south to the county line is also in agricultural use. The area in the vicinity of Gales Creek was ranked as Tier 1 for agriculture in the staff analysis. Row crops are the predominant agricultural use in the area. Several large parcels in nursery use occur in the vicinity of SW Stringtown Road and SW Ritchey Road.

Soil classes in the Tier 1 area are predominantly Class II and Class III. Availability of water was an important consideration in staff's analysis of capable farm areas given assumptions of climate change impacts and expected limitations to in-stream flow over the reserves timeframe. Virtually all of the flat area of Rural Reserve 7F is currently in farm use and is capable of supporting agriculture over the reserves timeframe.

Agricultural infrastructure in the area is likely to be sufficient given the on-going agricultural use in the farm areas noted above. The towns of Forest Grove, Cornelius and Hillsboro are close enough to the reserve to provide agricultural support such as machinery purchase and repair as well as supply and distribution outlets.

Forestry Considerations Under Factor (2)

The majority of this reserve includes the mountainous west end of the study area. The area northeast of Hagg Lake rises to approximately 1,000 feet in elevation and gradually increases to approximately 1,600 feet northwest of the lake. Virtually all of the area is commercial forest land, including a number of contiguous parcels held by Stimson Lumber Company. Most of the hilly terrain in the reserve is included as *Wildland Forest* in ODF's forest inventory (cite source) and was therefore proposed as a high priority for rural reserve designation by staff. This area includes the largest contiguous block of forested land in the Washington County reserves study area.

Stimson Lumber Company maintains an active log processing facility in Scoggins Valley that provides an outlet for much of the timber harvested in the hills above Hagg Lake. The cities of North Plains and Banks also have mills that provide log processing. Logging supply and equipment repair facilities can be found in surrounding communities, including McMinnville in Yamhill County.

Natural Landscape Feature Considerations Under Factor (3)

Factor (3)(a) is addressed under general comments in the rural reserves introduction.

Much of the reserve area, including the foothills north of Hagg Lake and the Gales Creek floodplain, occur on the Natural Landscape Features Inventory (cite source). Significant portions of the reserve are either in a floodplain or in areas where slopes are greater than 25%. The area is considered Wildlife Habitat in the county's Goal 5 Inventory with the recognition that the contiguity of the forest cover provides important habitat throughout the life cycle of big game

species and other mammals. Most of the topography is over 350 feet in elevation, providing a visual sense of place and a relatively undisturbed mountainous area close to the county's westernmost cities.

The Reserve area provides some measure of separation between the cities of Forest Grove and Gaston, limiting the type of development that could extend beyond each city's boundary.

Hagg Lake is one of the county's most significant recreational facilities. Access to the area is via Scoggins Valley Road, an improved two-lane road. Access to the recreational potential of the Gales Creek watershed is provided by Gales Creek Road, also a two-lane improved road.

Rural Reserve 7G: West Chehalem Mountains

General Description: This diverse area of approximately 26,898 acres includes the west end of the Chehalem Mountains, farm lots of varying sizes, residential parcels with pasture and/or woodlots, and timbered parcels. Numerous perennial tributaries of the Tualatin River originate in this reserve, including Davis, Christenson and Mill Creeks. The Tualatin River floodplain is the predominant natural feature and forms the northern boundary of the area, with Highway 47 serving as the western boundary. Bald Peak Road forms the area's southern boundary and Highway 219 forms the eastern boundary. The small community of Laurelwood is located southeast of the town of Gaston. Roads south of Cornelius and Forest Grove include Tongue Lane, Blooming Fern Hill Road, and Golf Course Road. Urban Reserve Area 7D (Cornelius South) is located adjacent to Cornelius at the north boundary of the reserve area. A 1,013-acre undesignated area south of Cornelius was initially recommended as an urban reserve by the WCRCC in September 2009 (record cite: September 23, 2009 staff report). The status of the area was changed to undesignated (without acreage adjustments) with the release of the Bragdon/Hosticka Urban and Rural Reserves map of December 8, 2009. The area remained unchanged from this designation during the rest of the Core 4 deliberative process into February 2010.

The area best qualifies as a rural reserve through agricultural factors.

Findings: Designation of Lands as Rural Reserves

Agricultural Considerations Under Factor (2)

Factor (2)(a) is addressed under the general comments section in the rural reserves introduction.

The majority of the relatively flat land in this reserve is currently devoted to agriculture use. Nursery operations are not uncommon south of the Tualatin River floodplain. The area comprising the floodplain boundaries south to Simpson Road and north to the Forest Grove city limits was ranked as the highest suitability for agriculture (Tier 1) in this reserve. Class I soils are located between Golf Course Road and Blooming Hill Road with Class II and Class III soils in the remaining area. The land use pattern supports this area as being highly suitable for agricultural use. The larger parcels in the area are currently in farm use and most are located within the Tualatin Valley Irrigation District. Water rights are present throughout much of the valley floor. Staff presumes that an adequate agricultural infrastructure currently exists in the surrounding area given the number of farm operations in this reserve.

Forestry Considerations Under Factor (2)

The remaining area of the reserve includes the western end of the Chehalem Mountains, which are characterized by smaller lots, variable topography, and multiple uses, including small hobby farms, residential parcels, and larger lots north of Dixon Mill Road that historically have been used for forestry operations. Metro has recently purchased approximately 1,143 acres that were in historic forestry use for the Chehalem Ridge Natural Area, a new regional park that is currently undeveloped. The new park area was mapped as *Mixed Forest and Agriculture* on the ODF inventory (cite).

Natural Landscape Feature Considerations Under Factor (3)

Factor (3)(a) is addressed under the general comments section in the rural reserves introduction.

The important natural landscape features of the area include the west end of the Chehalem Mountain Ridge, the Wapato Lake area north of Gaston and a section of the Tualatin River that flows through this reserve. Each of these features was ranked as the highest priority for rural reserve in the staff analyses. The Fernhill Wetlands complex south of Forest Grove provides regionally important wintering habitat for ducks, geese, swans, and other migratory birds. Including this feature, as well as other County Goal 5 inventoried resources in a rural reserve will protect important fish and wildlife habitat from the effects of urbanization and provides a regional sense of place that would be lost with urban encroachment. Water quality can be maintained by limiting impervious surfaces and urban development in the Chehalem area where tributaries to the river are located. The floodplain helps form a natural boundary between the urban uses in Forest Grove and Cornelius and the farmland south of those cities.

Consideration was given to provision of recreational access to natural features in the area. Changes are not anticipated to the transportation system that would limit existing or future access to recreational opportunities.

Rural Reserve 7H: West Fork Dairy Creek

General Description: This wedge-shaped area is approximately 15,696 acres northwest of Forest Grove and west of the city of Banks. State Highway 47 and Gales Creek Road define the east and west boundaries, respectively. Highway 47 is classified as a principal arterial on the county's Transportation Plan and Gales Creek Road as an arterial. David Hill and the west fork of Dairy Creek and its tributaries are the predominant landscape features. Much of the area is characterized by farm parcels over 30 acres with scattered residential dwellings. Urban Reserve Areas 7A (David Hill) and 7B (Forest Grove North) abut the northern edge of Forest Grove. Land around Banks has been left undesignated to allow for that's city's future growth. The area qualifies as a rural reserve through agricultural, forestry, and natural landscape features factors.

Findings: Designation of Lands as Rural Reserves

Agricultural Considerations Under Factor (2)

Factor (2)(a) is addressed under the general comments section of the rural reserves introduction.

The agricultural land in this reserve is farmed up to the lower slopes of the hills that encircle the floodplain of the west fork of Dairy Creek. This area has been in agricultural use for decades and is capable of maintaining that use. The reserve contains large blocks of contiguous Class II soils and also has the largest contiguous block of parcels within the Tualatin Valley Irrigation District. Availability of water was an important consideration in staff's analysis of capable farm areas given assumptions of climate change impacts and expected limitations on water removal from instream flow over the reserves timeframe. Large areas west, southwest and north of Banks have water rights outside of the irrigation district. (Reference water rights map)

Parcels in the agricultural area are contiguous and typically over 35 acres in size, which can facilitate large-scale farming operations.

Agricultural infrastructure in the area is likely sufficient given the ongoing agricultural use in the farm areas noted above. The towns of Forest Grove, Cornelius, and Hillsboro are close enough to the reserve to provide agricultural support such as machinery purchase and repair and supply and distribution outlets.

Forestry Considerations Under Factor (2)

As noted above, the agricultural area in the reserve is ringed by forested hills to an elevation of approximately 500 feet northwest of Banks and just over 1,100 feet in the David Hill area. Based on aerial photographs, much of the forested area in the reserve has been harvested in the past and continues to be in commercial rotation or small-scale woodlot management. With the exception of smaller parcels on the lower slopes of David Hill and exception lands northwest of Banks, the forested lands of this reserve include very limited residential development.

The majority of David Hill is ranked as *Wildland Forest* by the ODF as is a wedge of land at the north edge of the reserve between SW Cedar Canyon Road and Highway 47. (Cite to Record____), Staff ranked these areas as Tier 1 and Tier 2 (i.e. most suitable) in applying the forestry element under this factor. The ODF ranked the remaining hill areas above the floodplain as *Mixed Forest & Agriculture*. Staff determined through the analyses iterations that these (non-Tier 1) hill areas be left undesignated given the lack of priority for either forestry or agriculture. During Core 4 deliberations, the undesignated areas within this reserve were assimilated into surrounding rural reserves, with the exception of undesignated area around the city of Banks.

David Hill is buffered by Hillside Road to the north and Gales Creek Road to the south, effectively creating a forested island above the valley floor. Cedar Canyon Road separates the forested uses northwest of Banks from the agricultural uses on the valley floor.

Natural Landscape Feature Considerations Under Factor (3)

Factor (3)(a) is addressed under the general comments section in the rural reserves introduction.

The west fork of Dairy Creek and David Hill are the predominant natural landscape features in the reserve area. The David Hill area and much of the surrounding hill areas contain slopes too excessive for efficient and cost-effective urban development and are included as Tier 1 (forestry)

lands for this reason alone. Residential development in the hill areas is limited and contiguous blocks of forest in varying age classes are not uncommon, providing a variety of habitat potential for wildlife. Feeder streams to the west fork tributaries originate in the surrounding hills and help to maintain water quality and quantity for Dairy Creek, a stream recognized by the Oregon Department of Fish and Wildlife as important for anadromous and resident fish.

David Hill is the highest hill in this reserve area and provides views from its summit north to the Tualatin Mountains and south to Yamhill County. The Dairy Creek floodplain covers both this reserve and Rural Reserve Area 8E (Dairy Creek) to the east and encompasses the largest contiguous agricultural area in the county. Both features serve to provide a sense of place. The floodplain further functions as a natural buffer from the urban uses south to Forest Grove.

Rural Reserve 8E: Dairy Creek

General Description: This area of approximately 19,182 acres consists of the relatively flat agricultural land located north of the city of Forest Grove to Highway 26. Highway 47 defines the western boundary and McKay Creek defines the east boundary. The east and west forks of Dairy Creek meet in the approximate center of the reserve to form the main stem of Dairy Creek, which flows southeast through the southern half of this reserve. Cornelius-Schefflin Road, Zion Church Road, Verboort Road, and Martin Road are classified as arterials in the county's Transportation Plan. The small communities of Verboort and Roy are located within this reserve. Urban Reserve Areas 7I (Cornelius North) and 7C (Cornelius East) are located at the southern edge of the reserve adjacent to Cornelius. Urban Reserve Area 8A (Hillsboro North) is located on the northeast boundary of this area. The area qualifies as a rural reserve through agricultural and natural landscape features factors.

Findings: Designation of Lands as Rural Reserves

Agricultural Considerations Under Factor (2)

Factor (2)(a) is addressed under the general comments section in the rural reserves introduction.

This reserve area continues to be a key agricultural sector of the county due to the contiguity of larger parcels in agricultural use, the proximity to perennial water from McKay Creek and the east and west forks of Dairy Creek, and the presence of high-value farm soils. Class II soils predominate in this reserve and relatively large areas of Class I soils occur between Zion Church Road and North Plains, west of Gordon Road, and the vicinity of Scotch Church and Glencoe Roads. The area benefits from being centrally located between the cities of Hillsboro, North Plains, Banks, Forest Grove and Cornelius relative to agricultural infrastructure such as seed and feed distribution, farm equipment repair, and transportation capacity . This area has been in long-term farm use and maintains the capability for long-term agricultural use.

Forestry Considerations Under Factor (2)

This area is recommended as a rural reserve given its agricultural importance and suitability under factor (3) below. Forest cover is limited in this reserve to the riparian corridors of Dairy Creek and McKay Creek.

Natural Landscape Feature Considerations Under Factor (3)

Factor (3)(a) is addressed under the general comments section in the rural reserves introduction.

The east and west forks of Dairy Creek meet in the approximate center of the reserve, creating a large floodplain area that serves important hydrologic and biological functions. Stormwater retention and release, water quality, and lower water temperatures are facilitated by limits on impervious surface area and its associated run-off. The creek and associated tributaries provide full life cycle habitat as migration corridors, rearing area for young, and feeding and resting areas for anadromous and native fish and amphibians. The east and west forks of Dairy Creek are the main cutthroat trout spawning and rearing areas within the Tualatin sub-basin. Species of concern found in the drainage include the northern red-legged frog and steelhead trout.

The entire reserve consists of flat to gently rolling topography that is almost exclusively in agricultural use. Views south into the reserve from Highway 26 provide a sense of place by connecting Metro area residents to close-in farmland identified through numerous public comment submittals as important elements in the regional identity.

Trails and parks are currently not found in this reserve area but adequate access to potential trail areas, such as along the riparian corridors, is available through the existing road network.

Rural Reserve 8F: Highway 26 North

General Description: Highway 26 (Sunset Highway) forms the southern boundary of this approximately 21,446-acre rural reserve. The north and west boundaries are defined by the edge of the study area and the east boundary is formed by Rock Creek. The area is characterized by several tributaries flowing south from the Tualatin Mountains, including Waibel, Storey, and Holcomb Creeks. Sections of McKay Creek and the East Fork of Dairy Creek also flow through this reserve area. The topography of the area is characterized by the foothills of the Tualatin Mountains. Tributary ravines are common in the area, particularly in the eastern half. NW Cornelius Pass Road and NW West Union Road are designated arterials in the county's Transportation Plan; collector roads include NW Shady Brook, NW Jackson School, NW Helvetia, and NW Phillips Roads. Urban Reserve Area 8C (West Bethany) occurs as two small units located on the east boundary adjacent to the regional UGB. The area best qualifies as a rural reserve through agricultural and natural landscape features factors.

The community of Helvetia is located in this reserve.

Findings: Designation of Lands as Rural Reserves

Agricultural Considerations Under Factor (2)

Factor (2)(a) is addressed in the general comments section in the rural reserves introduction.

Land in existing agricultural use extends from the south reserve boundary north to the foothills of the Tualatin Mountains. The larger parcels, such as those located adjacent to Jackson School Road and Mountaindale Road, are in agricultural use. Class II soils predominate north of West Union Road. Areas of Class I soils exist south of West Union Road in the vicinity of Jackson School road and on either side of Helvetia Road. Relatively large areas of Class I soil occur north of North Plains and Mountaindale Road. Mountainous areas of the reserve tend to be Class III and IV soils. Water rights are concentrated along McKay and Dairy Creeks and intermittently along Waibel Creek and Rock Creek. Water rights are sporadic throughout the rest of the reserve. Cite. Residential and small farm use is typical in the foothills, where parcels are generally smaller than those on flatter terrain to the south. Availability of water was an important consideration in staff's analysis of agricultural lands given assumptions of climate change impacts and expected limitations to in-stream flow over the reserves timeframe.

The majority of this reserve ranked as Tier 2 and Tier 3 for rural reserve designation. Relative to other rural areas of the county, dwelling density and parcelization is high throughout much of the reserve, particularly in the Helvetia area. Cite. Also, agricultural productivity ratings developed by applying the Huddleston methodology ranked considerably lower throughout this reserve than rural reserve areas in the Tualatin River floodplain and the Dairy Creek basin between Banks and Forest Grove. The most productive agricultural areas in the reserve are located northwest of North Plains in the Mountaindale area. Cite.

Forestry Considerations Under Factor (2)

The majority of this reserve area is in agricultural use. Forested parcels and rural residential areas occur in the foothills of the Tualatin Mountains. The ODF inventory included several areas designated *Wildland Forest* at the northern edge of the study area, including north of the Highway 26/Highway 6 junction as well as areas at the county's east edge northeast of North Plains. All areas designated *Wildland Forest* in the ODF inventory had Tier 1 suitability in the county's forestry analysis. The foothills are typified by scattered woodlots and soils are potentially suitable for long-term forestry operations. Existing parcelization and dwelling density would likely limit larger commercial forestry operations.

Natural Landscape Feature Considerations Under Factor (3)

Factor (3)(a) is addressed under the general comments section in the rural reserves introduction.

Rock Creek, McKay Creek, and the East Fork of Dairy Creek flow through this reserve and several important tributaries - including Bledsoe Creek, Jackson Creek, and Holcomb Creek - originate in the Tualatin Mountain foothills. These streams are critical for enhancement of water quality and quantity necessary for resident and anadromous fish habitat. Downstream flow for agriculture is dependent on the tributary streams in this reserve. Relatively large floodplain areas exist in the Mountaindale area north of Highway 26 and north of North Plains, providing a buffer between rural uses and the city.

Elevations over 350 feet were included as Tier 1 areas for rural reserves to address factor (3)(e) relative to a sense of place. Portions of the hills above this elevation were also included in Metro's Natural Features Inventory given their significance as headwaters to Rock Creek. Foothills to the Tualatin Mountains provide a natural buffer between agricultural uses closer to the Sunset Highway and the more intensive residential use further north. Access to recreation areas such as Forest Park and Sauvie Island in Multnomah County are provided through several roads that run north-south in this reserve. The Banks-to-Vernonia State Trail from Stub Stewart

State Park to the city limits of Banks occurs in this reserve and is likewise unimpeded from recreational access.

IX. CONSISTENCY WITH REGIONAL AND STATE POLICIES

A. Regional Framework Plan

Policy 1.1: Urban Form (1.1.1(a); 2.3)

The determination of the amount of urban reserves needed to accommodate growth to the year 2060 was based upon the current focus of the 2040 Growth Concept on compact, mixed-use, pedestrian-friendly and transit-supportive communities and a new strategy of investment to use land more efficiently. The reserves decision assumes that residential and commercial development will occur in development patterns more compact than the current overall settlement pattern in the UGB. In addition, amendments made by the reserves decisions to Title 11 (Planning for New Urban Areas) of the Urban Growth Management Functional Plan place greater emphasis than the previous version of Title 11 on "great communities" that achieve levels of intensity that will support transit and other public facilities and services.

Policy 1.4: Economic Opportunity (1.4.1)

The four governments selected urban reserves with factor OAR 660-027-0050(2) (healthy economy) in mind. Rating potential urban reserves for suitability for industrial development, using staff maps and the *Business Coalition Constrained Land for Development and Employment Map* produced by Group McKenzie, resulted in designation of thousands of acres suitable for industrial and other employment uses as urban reserves. These reserves are distributed around the region to provide opportunities in all parts of the region.

Policy 1.6: Growth Management (1.6.1(a)) See finding for Policy 1.1.

Policy 1.7: Urban/Rural Transition

The four governments inventoried important natural landscape features outside the UGB and used those features to help make a clear transitions from urban to rural lands. The findings above explain how the governments applied the landscape features factors in OAR 660-027-0060(3) in designation of urban and rural reserves and demonstrate the use of natural and built features to define the extent of urban reserves.

Policy 1.11: Neighbor Cities

The four governments reached out to the non-Metro cities within the three counties and to Columbia, Yamhill and Marion counties and their cities to hear their concerns about designation of reserves near their boundaries. All expressed an interest in maintenance of separation between the metro urban area and their own communities. The four governments were careful not to designate urban reserves too close to any of these communities. As the findings above indicate, the counties consulted with "neighbor cities" within their borders about which lands near them should be left un designated so they have room to grow, and which lands to designate rural reserve to preserve separation. The city of Sandy asked Metro and Clackamas County to revise the three governments' agreement to protect a green corridor along Hwy 26 between

Gresham and Sandy. At the time of adoption of these decisions, the three governments agreed upon a set of principles to guide revision to the agreement to use reserves to protect the corridor.

Policy 1.12: Protection of Agriculture and Forest Resource Lands (1.12.1; 1.12.3; 1.12.4) See section II of the findings for explanation of the designation of farmland as urban or rural reserves. Metro's Ordinance No. 10-1238A revises Policy 1.12 to conform to the new approach to urban and rural reserves.

Policy 1.13 Participation of Citizens

See sections III and IX (Goal 1) of the findings for full discussion of the public involvement process. The findings for each county (sections VI, VII and VIII) discuss the individual efforts of the counties to involve the public in decision-making.

Policy 2.8: The Natural Environment

The four governments inventoried important natural landscape features outside the UGB and used the information to identify natural resources that should be protected from urbanization. The findings above explain how the governments applied the landscape features factors in OAR 660-027-0060(3) in designation of rural reserves for long-term protection of natural resources.

B. Statewide Planning Goals

Goal 1 - Citizen Involvement

The four governments developed an overall public involvement program and, pursuant to the Reserve Rule [OAR 660-027-0030(2)], submitted the program to the State Citizen Involvement Advisory Committee (CIAC) for review. Metro Rec. ___. The CIAC endorsed the program. Metro Rec. ___. The four governments implemented the program over the next two and a half years. Each county and Metro adapted the program to fit its own public involvement policies and practices, described above. In all, the four governments carried out an extraordinary process of involvement that involved workshops, open houses, public hearings, advisory committee meeting open to the public and opportunities to comment at the governments' websites. These efforts fulfill the governments' responsibilities under Goal 1.

Goal 2 - Land Use Planning

There are two principal requirements in Goal 2: providing an adequate factual base for planning decisions and ensuring coordination with those affected by the planning decisions. The record submitted to LCDC contains an enormous body of information, some prepared by the four governments, some prepared by their advisory committees and some prepared by citizens and organizations that participated in the many opportunities for comment. These findings make reference to some of the materials. The information in the record provides an ample basis for the urban and rural reserve designated by the four governments.

The four governments coordinated their planning efforts with all affected general and limited purpose governments and districts and many profit and non-profit organizations in the region (and some beyond the region, such as Marion, Yamhill and Polk Counties and state agencies) and, as a result, received a great amount of comment from these governments. The governments

responded in writing to these comments at several stages in the two and one-half year effort, contained in the record submitted to LCDC. See Attachment 2 to June 3, 2010, Staff Report, Metro Rec.___. These findings make an additional effort to respond to comments from partner governments (cities, districts, agencies) on particular areas. These efforts to notify, receive comment, accommodate and respond to comment fulfill the governments' responsibilities under Goal 2.

Goal 3 - Agricultural Lands

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations for lands subject to Goal 3. Designation of agricultural land as rural reserve protects the land from inclusion within an urban growth boundary and from redesignation as urban reserve for 50 years. Designation of agricultural land as urban reserve means the land may be added to a UGB over the next 50 years. Goal 3 will apply to the addition of urban reserves to a UGB. The designation of these urban and rural reserves is consistent with Goal 3.

Goal 4 - Forest Lands

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations for lands subject to Goal 4. Designation of forest land as rural reserve protects the land from inclusion within an urban growth boundary and from redesignation as urban reserve for 50 years. Designation of forest land as urban reserve means the land may be added to a UGB over the next 50 years. Goal 4 will apply to the addition of urban reserves to a UGB. The designation of reserves is consistent with Goal 4.

Goal 5 - Natural Resources, Scenic and Historic Areas and Open Spaces

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations for lands inventoried and protected as Goal 5 resource lands. Designation of Goal 5 resources as rural reserve protects the land from inclusion within an urban growth boundary and from re-designation as urban reserve for 50 years. Designation of Goal 5 resources as urban reserve means the land may be added to a UGB over the next 50 years. Goal 5 will apply to the addition of urban reserves to a UGB. The designation of reserves is consistent with Goal 5.

Goal 6 - Air, Water and Land Resources Quality

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations intended to protect air, water or land resources quality. Nor does designation of reserves invoke state or federal air or water quality regulations. The designation of reserves is consistent with Goal 6.

Goal 7 - Areas Subject to Natural Hazards

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations intended to protect people or property from natural hazards. Nonetheless, the four governments consulted existing inventories of areas subject to flooding,

landslides and earthquakes for purposes of determining their suitability for urbanization or for designation as rural reserve as important natural landscape features. This information guided the reserves designations, as indicated in the findings for particular reserves, and supported designation of some areas as rural reserves. Goal 7 will apply to future decisions to include any urban reserves in the UGB. The designation of reserves is consistent with Goal 7.

Goal 8 - Recreational Needs

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations intended to satisfy recreational needs. The designation of reserves is consistent with Goal 8.

Goal 9 - Economic Development

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations for lands subject to Goal 9. All urban and rural reserves lie outside the UGB. No land planned and zoned for rural employment was designated rural reserve. Designation of land as urban reserve helps achieve the objectives of Goal 9. Much urban reserve is suitable for industrial and other employment uses; designation of land suitable for employment as urban reserve increases the likelihood that it will become available for employment uses over time. The designation of reserves is consistent with Goal 9.

Goal 10 - Housing

All urban and rural reserves lie outside the UGB. No land planned and zoned to provide needed housing was designated urban or rural reserve. The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations and does not remove or limit opportunities for housing. The designation of reserves is consistent with Goal 10.

Goal 11 - Public Facilities and Services

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations and does not place any limitations on the provision of rural facilities and services. The four governments assessed the feasibility of providing urban facilities and services to lands under consideration for designation as urban reserve. This assessment guided the designations and increases the likelihood that urban reserves added to the UGB can be provided with urban facilities and services efficiently and cost-effectively. The designation of reserves is consistent with Goal 11.

Goal 12 - Transportation

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations and does not place any limitations on the provision of rural transportation facilities or improvements. The four governments assessed the feasibility of providing urban transportation facilities to lands under consideration for designation as urban reserve, with assistance from the Oregon Department of Transportation. This assessment guided the designations and increases the likelihood that urban reserves added to the UGB can be

provided with urban transportation facilities efficiently and cost-effectively. The designation of reserves is consistent with Goal 12.

Goal 13 - Energy Conservation

The designation of urban and rural reserves does not change or affect comprehensive plan designations or land regulations and has no effect on energy conservation. The designation of reserves is consistent with Goal 13.

Goal 14 - Urbanization

The designation of urban and rural reserves directly influences future expansion of UGBs, but does not add any land to a UGB or urbanize any land. Goal 14 will apply to future decisions to add urban reserves to the regional UGB. The designation of urban and rural reserves is consistent with Goal 14.

Goal 15 - Willamette River Greenway

No land subject to county regulations to protect the Willamette River Greenway was designated urban reserve. The designation of urban and rural reserves is consistent with Goal 15.

STAFF REPORT

IN CONSIDERATION OF ORDINANCE NO.10-1238A, FOR THE PURPOSE OF ADOPTING URBAN RESERVES AND CONFORMING AMENDMENTS TO THE REGIONAL FRAMEWORK PLAN AND THE URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN

Date: June 9, 2010

Prepared by: Ray Valone, x1808

BACKGROUND

A New Approach

Past Urban Growth Boundary (UGB) processes and results left few stakeholders satisfied. For a host of reasons, the application of the state's prime growth management tool resulted in very contentious and eventually unsatisfactory decisions for the metropolitan area At the request of a consortium of governmental leaders in the region who wanted to change course of how we decide where to urbanize in the future, the Oregon Legislature authorized Metro and Clackamas, Multnomah and Washington counties to designate urban and rural reserves. Senate Bill 1011, passed in 2007, gave the region an opportunity to use a new approach within the framework of a more inclusive partnership for making such an important decision.

Oregon Administrative Rule 660 Division 27, the implementing rule for SB 1011, establishes procedures for the designation or urban and rural reserves, and requires agreements among the three counties and Metro to realize these reserves. It also prescribes factors that must be applied when choosing such designations. The intent of urban reserves is to facilitate long-term planning for urbanization and to provide greater certainty to the various stakeholders involved in these growth management decisions about the locations of future urban areas. The intent of rural reserves is to provide long-term protection for large blocks of agricultural land and forest land, and for important natural landscape features that limit urban development or define natural boundaries of urbanization.

An important objective of the rule is striking a "balance in the designation of urban and rural reserves that, in its entirety, best achieves livable communities, the viability and vitality of the agricultural and forest industries and protection of the important natural landscape features that define the region for its residents." The balance is to be achieved through weighing the urban and rural factors listed in the state rule.

The Journey

The undertaking to designate reserves commenced in late 2007 with the establishment of the Core 4 and Reserves Steering Committee (RSC). The RSC, an assembly of regional and state stakeholders, met throughout 2008 and 2009, concluding their work in October 2009. The Core 4, composed of one member each of the Metro Council and the three counties commissions, continued to meet through February 2010 to work out an agreed-upon reserves map.

The technical work was performed by staff from all four partner jurisdictions. A Project Management Team led this effort and a Technical Team, comprised of several partner planners carried out a significant portion of the analysis. This team structure supported the RSC and Core 4 throughout the process. This effort started with a study area of 405,000 acres surrounding the existing Urban Growth Boundary. The state administrative rule factors were applied to this study area through a series of high-to-lower level 'screen' analyses. This included technical assessments of the four major services defined in the rule – sewer, water, schools and transportation. As the level of analyses became more focused on smaller areas, the county staff took more of a lead for their respective jurisdictions.

Throughout the almost two and a half years of the reserves process, there was an extensive outreach effort to the region to help shape the final designations. It was a many-tiered approach, starting with the members of the RSC who represented social, economic, natural resource and governmental communities. A Coordinated Public Involvement Plan was completed in early 2008 to guide the outreach effort, including the approach, activities, messages, mediums and time lines. A public involvement team consisting of staff from each of the four governments was established to implement the plan. Committees were formed in each county to serve as a local venue for informing and reviewing county staff technical work and giving citizens an on-going avenue for participating in the process. At key junctures in the process, 20 open houses were held throughout the region. Two virtual 'open houses' were held on the Metro web site, and the web site was continually-updated throughout the project.

Elected officials and staff from every partner jurisdiction made presentations to various organizations, from planning to advocacy to chamber of commerce groups. They appeared on television, radio news broadcasts and talk shows, and cable video broadcasts. Displays and information was made available at public gathering places, such as farmers' markets, libraries and retail outlets. Materials were made available in Spanish in all three counties.

The outreach effort resulted in more than 180 discrete opportunities for citizens to directly inform decision-makers of their views on the reserves process. For a complete account of this process, see Attachment 1.

Many local governments and agencies – cities, school districts, service districts and others – and nine state agencies participated in the reserves process as well. Representatives of some units of government served on the RSC. Other units were represented on standing advisory committees, including the Metro Policy Advisory Committee, Metro Technical Advisory Committee, Joint Policy Advisory Committee on Transportation and Transportation Policy Alternatives Committee, participated at various stages during the process. For a record of comment from these government agencies and coordination with them, see Attachment 2.

The result of the above effort was the signing of three Intergovernmental Agreements (IGA) among the four partners, one each between Metro and each county. Signed in February 2010, the IGAs contain language concerning policy actions that Metro will take, policy actions that each county will take, some considerations going forward for two of the counties, and most importantly, three maps showing the proposed urban and rural reserves within each county. The three maps represent 28,615 acres of urban reserves and 266,912 acres of rural reserves, with Clackamas and Washington counties accounting for 97% of the urban reserves split evenly between them.

The Ordinances & Findings

County Ordinances

Between the signing of the IGAs in February and the date of this staff report, the three counties have developed comprehensive plan amendments and held hearings to adopt ordinances to implement the agreements in the IGAs. Through these hearings, each county has considered changes to its IGA map.

Clackamas and Washington counties have proposed changes; Multnomah County has not done so. Clackamas County proposed changes totaling 163.6 acres including shifting 113.7 acres from rural reserve to urban reserve, 24.5 acres from undesignated to urban reserve, and 25.4 acres from rural reserve to undesignated. The Metro Council agreed to six of these changes, and on June 3 approved a resolution revising the original IGA to reflect this agreement. Washington County proposed two changes to the reserves map. First, a set of amendments that change how rights-of-way are mapped when they serve as reserve area boundaries and that make very minor changes to boundaries as a result of new property line data from the assessor's office. The second proposal was to change a 129-acre parcel on the west side of the North Bethany 2002 UGB expansion area from rural reserve to urban reserve. The Metro Council agrees with the first change and will discuss the second change during its June 10th meeting. The agreed upon acreage changes plus the 129-acre area adjacent to North Bethany are included in the summary of urban and rural reserve acreages below and on the reserves map in Exhibit A of Ordinance 10-1238A.

The status of the three counties' ordinances is as follows:

- On May 27, 2010, Clackamas County adopted ZDO-233, which designates 13,874 acres of urban reserves and 68,703 acres of rural reserves.
- On May 13, 2010, Multnomah County adopted Ordinance No. 2010-1161, which designates 857 acres of urban reserves and 46,706 acres of rural reserves.
- Washington County took action to Engross Ordinance No. 733 on May 25, 2010, and will take final action on the amendment on June 15, 2010. It includes 13,884 acres of urban reserves and 151,526 acres of rural reserves.

The total amount of urban reserve land is 28,615 acres, and the total amount of rural reserve land is 266,935 acres.

Joint Findings

The findings of fact and conclusion of law (Findings) for the designation of urban and rural reserves is a joint document among the four partner jurisdictions. Each jurisdiction adopted the overall Findings for the decision (Exhibit E, Sections I – V) and each county developed, and Metro adopted, the Findings for the individual urban reserve and rural reserve areas (Exhibit E Sections VI – IX). The overall Findings address the regional balance that was struck by the partner governments in designating a sufficient amount of urban reserves to accommodate the estimated urban population and employment growth in the Metro area for 30 years beyond the 20-year period from 2010-2030, or until 2060. It covers several important components of what constitutes this regional balance, including the following:

A. *Amount of Urban Reserve Acreage:* Metro developed a 50-year range forecast, based on national and regional trends, for population and employment within the UGB. The partner governments ended up using the middle third of this forecast to increase the probability of it being accurate. This focused range translated to the need to accommodate from 484,800 dwelling units at the lower end of the middle third, given a 50-year time horizon, to 531,600 dwelling units at the higher end of the middle third, given a 50-year time horizon. Job estimates for this same range and years are estimated at 624,300 to 834,100.

The existing residential capacity within the UGB was calculated by Metro to accommodate 379,200 dwelling units over the next 50 years. This leaves 152,400 units to be accommodated within urban reserves over the 50-year time frame.

The employment analysis shows that there is sufficient capacity with the existing UGB over the same 50-year time frame. There is, however, a consensus among Metro and local governments that the region should provide larger-parcel areas for industrial uses within the urban reserves to

meet the preferences of some industries for large sites. Based on the analysis done in the Urban Growth Report for the 20-year time frame plus historical demand estimates, it is estimated that 100 acres per year would be appropriate over the 50-year urban reserves time period. Thus, approximately 3,000 net acres of large-lot land suitable for industrial use are warranted. For a more thorough discussion on ways to provide for large-lot industrial uses, see the final report of the Metropolitan Policy Advisory Committee Employment Subcommittee, Attachment 3.

Metro assumes that residential land will develop at higher densities and employment land will develop more efficiently in the urban reserves. The residential assumption is based on the following: The 'great communities' principles laid out in the Great Communities report¹ and that new urban areas would either complete such communities or create new ones; the fact that future development of urban reserves land would be on green field sites; and that demographic trends indicate increasing demand for smaller housing units. For these reasons, Metro thinks it reasonable to assume a density of 15 units per net acre overall on urban reserve land. The employment assumption is based on the emerging shift of industrial activity from production to research and development with the resultant higher floor area ratios, more demand for office-type building products and more of a focus on the smaller products being located along corridors and centers. Given the land analyses referred to above and the future change of development patterns, the proposed 28,615 acres of urban reserve land will be able to accommodate both the 152,400 new dwelling units needed outside the existing UGB and the approximately 3,000 acres of large-lot industrial land.

Metro conducted a preliminary buildable land analysis on the 28,615 urban reserve acres that resulted in approximately 12,850 acres of net buildable land.² Deducting 3,000 of these acres for large-lot industrial uses leaves approximately 9,850 net buildable acres for residential and non-industrial employment uses. Based on the assumption that new urban land from reserves will achieve 15 dwelling units per net acre, this amount of buildable acreage will accommodate approximately 148,000 units. Of the original 28,615 acres of urban reserve, an estimated 4,800 acres fall under Metro's Title 13 restrictions and 500 acres fall under the category of over 25% sloped land. There is no way of determining a precise capacity of units for this combined 5,300 acres without performing a development-level analysis on Title 13 lands or establishing a local zoning code that addresses land with greater than 25% slopes. However, we do know that there will be some development capacity on these lands. Deducting 25% of this acreage for future roads, schools and parks, this leaves approximately 4,000 acres. Assuming only 25% of this acreage is developed at a reduced density (five dwelling units per net acre), an additional 5,000 units can be accommodated. Adding the capacity from the unconstrained land (148,000 units) and the capacity from the partially constrained land (5,000 units) yields the 152,400 dwelling units needed within the 50-year reserves period.

B. *Protection of Foundation and Important Agricultural Land*³: Based on the Oregon Department of Agriculture (ODA) map, Foundation and Important Agricultural Land comprises approximately 13,981 acres, or 49%, of the 28,615 acres of proposed urban reserves. This represents only 5% of all such agricultural land studied within the three-county area. This percentage is even lower if the actual land zoned as Exclusive Farm Use is measured against the proposed urban reserve land

¹ "Great Communities Final Report", December 2006, Cogan Owens Cogan, SERA Architects, et al

² The approach to arrive at this figure is to first deduct the following type of land: slopes equal to or greater than 25%, Title 3, Title 13, public tax-exempt, parks (also includes golf courses and home owner association land) and major utility easements. This leaves 17,154 acres. Next, a 25% reduction is applied to account for future roads and schools, resulting in the 12,865 acreage number.

³ As defined by the Oregon Department of Agriculture report of January 2007 entitled "Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands."

(Attachment 4). The rest of the proposed urban reserve land (51%) consists entirely of Conflicted Agricultural Land. In addition, almost all of the urban reserve land is bordered either by the existing UGB or rural reserve designated land, thus creating a 50-year 'hard' edge between future urbanizable land and Foundation and Important Agricultural Land. Of the 266,912 acres of proposed rural reserves, 249,116 acres are mapped as Foundation or Important Agricultural land.

Despite the relatively small amount of Foundation and Important Agricultural Land proposed as urban reserve, some such land is proposed to be used for future urbanization. In a very real sense, there is little choice to do so, given the nature of the land surrounding the existing UGB. Simply based on land suitability for urban uses and functions, such as creating walkable, mixed use neighborhoods, providing services in an efficient and cost-effective manner, developing a well-connected transportation system and realizing densities to support transit, the best geography is relatively flat, undeveloped and unencumbered land. See the *State of the Centers: Investing in Our Communities*, January, 2009 (Attachment 5). This type of land also contains some of the region's best farmland. For example, comparison of the ODA map of agricultural land and the "Business Coalition Constrained Land for Development and Employment Map" (Attachment 7) shows that most of the land suitable for industrial use is Foundation and Important Agricultural Land.

Further, converting existing low-density rural residential development into compact, mixed-use communities through infill and re-development is not only very expensive, it is politically difficult. This has been borne out by the city of Damascus, which has been trying since its addition to the UGB in 2002 to gain acceptance of its citizens for a plan to urbanize a few flat areas among steeply sloping buttes and incised stream courses and natural resources. See Apostol and Yap, "The Damascus Story: A Great Oregon Experiment", Oregon Planners' Journal, July/August, 2009 (Attachment 6).

Given the above considerations, the four partner governments had a difficult decision to make to adequately serve both of these important functions. The reserves record and subsequent recommendation reflect this dilemma and the partners think a good balance has been struck that preserves the vast majority of farmland while accommodating the future projected population and employment growth for the next 50 years. Striking this balance translates to accommodating a 74% increase of population on an 11% increase of land, if all the urban reserves are used within the 50-year time frame and the region receives the projected growth.

C. *Protection of Natural Landscape Features*: The state rule factors reflect the importance of protecting these features, which were initially identified in an inventory completed for Metro.⁴ However, due to how the rule addressed this protection, an on-going debate and discussion emerged among the four government partners. The most frequent discussion was whether it was better to protect some of the natural features through placing them in rural reserves or placing them in urban reserves and applying pro-active protection measures. Under the factors for designation of urban reserves part of the rule, two subsections address natural systems and the natural features in a way that can be interpreted to come down on the side of including them in urban reserves section, it can be interpreted to consider using rural reserves to protect the natural features.

As the above discussion unfolded, staff of all four governments met with experts in the field to better inform the Core 4 and RSC in their deliberations. While most of the larger and more

⁴ "Natural Landscape Features Inventory", February 2007

prominent natural features were never included within candidate urban reserves, others due to their location and relationship to possible urban areas were included at times during the process. Changes were made, however, as the reserve boundaries were refined. Therefore, based on the following facts and circumstances, the four partner governments believe a balance was struck that protects the natural landscape features:

- Of the 26 identified natural landscape features from the inventory, six are outside the original reserves study area and, therefore, weren't affected by the designation of specific urban and rural reserves.
- Of the 20 remaining features: 14 are entirely within rural reserves or almost all rural reserves with the rest of land left undesignated; 4 areas are mostly rural reserve with a small amount (3 of them less than 20%) in urban reserves; one is entirely left undesignated, though is within the Columbia River; and one is designated as urban reserve.

Metro Amendments

Metro Ordinance No. 10-1238A includes amendments to the Regional Framework Plan (RFP) and Urban Growth Management Functional Plan (UGMFP) to conform these policy and regulatory documents to the adoption of reserves. Under this ordinance, Policies 1.7 (Urban/Rural Transition), 1.9 (Urban Growth Boundary) and 1.11 (Neighbor Cities) of the RFP would be completely revised to reflect the establishment of reserves; Policy 1.12 (Protection of Agriculture and Forest Resource Lands) would be repealed (Findings, Exhibit B).

Title 5 (Neighbor Cities) of the UGMFP would be repealed under this ordinance as it is rendered out of date by adoption of reserves and amendments to RFP policies and functional plans (Findings, Exhibit C). Title 11 (Planning for New Urban Areas) would undergo changes to provide for concept planning for urban reserve areas prior to their coming into the UGB. It also contains a new section adding outcomes that must be achieved by the concept plan. Other changes include needed clarifications on the responsibilities of affected parties, annexation issues and the process of moving from concept plan to local plans (see Findings, Exhibit D).

The Outcome

In the three years since the Oregon State Legislature passed Senate Bill 1011, this region has worked diligently and constantly on trying to make urban and rural reserves a reality. The establishment of committees, technical work, extensive outreach to the public and many various stakeholders, policy discussions and negotiations have taken a tremendous amount of time and energy on the part of many people. The number and, at times, intensity of the challenges throughout the process have been outweighed by the region's desire to put a long-term growth management strategy in place that will, hopefully, prove to be far superior to the old way of considering and bringing new urban land into the UGB.

The reserves legislation and administrative rule envisions a new way of deciding where to expand urban uses and where not to do so. The old state hierarchy of suitable land for expansion, defined to a great extent by the type of soil, is not the driving force for designation of reserves. What and where makes a great community and preservation of natural landscape features are co-equals with preserving valuable and viable farm land. The final outcome of the reserves process recognizes this new approach, and has struck a good balance among, at times, seemingly competing needs and desires. This proposed decision sets aside an adequate number of acres for future urbanization on land that meets the state factors for such uses, while preserving over 266,000 acres of land for farming, forestry and natural resource protection. So, while some good farmland, as defined by the ODA, is included within the proposed urban reserves, the percentage of such land is very small as compared to the overall land studied; and while not every part

of the natural landscape features were included in rural reserves, the adjacent urban reserve and undesignated land is situated in a way that will enable full protection of such features; and while a great deal of land that has good characteristics for urbanization was not included as urban reserve, there is enough land to accommodate the additional capacity needed beyond the existing UGB over the 50-year time frame of reserves.

In summary, the locations and final proposed urban reserve acreage of 28,615, the locations and final proposed rural reserve acreage of 266,912 and the size and location of lands that were designated as neither, create a mix that "...is a balance in the designation of urban and rural reserves that, in its entirety, best achieves livable communities, the viability and vitality of the agricultural and forest industries and protection of the important natural landscape features that define the region for its residents." [Oregon Administrative Rule 660, Section 660-027-0005(2)]

ANALYSIS/INFORMATION

- 1. **Known Opposition** [identify known opposition to the proposed legislation] Given a process and decision of this magnitude, some stakeholders will inevitably be dissatisfied with components of the final agreement. For example, the Council received testimony from One Thousand Friends of Oregon, some agricultural interests and individual property owners expressing dissatisfaction and indicating the intent to challenge the final decision.
- 2. **Legal Antecedents** [identify legislation related to the proposed legislation, including federal, state, or local law and Metro Code, using appropriate resolution or ordinance numbers, ballot measure numbers, etc.]
 - Senate Bill 1011 / Oregon Revised Statute 195.137 195.145
 - Oregon Administrative Rule 660 Section 27
- 3. Anticipated Effects [identify what is expected to occur if the legislation is adopted]
 - The legislation would create a 50-year reserve of potential urban land, providing more certainty for land owners, local governments, service providers and residents affecting by UGB additions.
 - The legislation would create a 50-year reserve of rural land, protecting vital farmland, forest land and significant natural landscape features.
- 4. **Budget Impacts** [identify the cost to implement the legislation]
 - Metro's current growth management work program anticipates the adoption of urban and rural reserves. We expect the reserves to simplify the present growth management decision and those of future years, facilitating more efficient decision-making. If reserves are not adopted, any urban growth boundary expansions made as part of the 2010 growth management decision would need to be based on the "old rules" based on soil hierarchy, which would have a significant impact on the cost and timeline of the process.

RECOMMENDED ACTION

Staff recommends that the Metro Council adopt Metro Ordinance No. 10-1238, thus enacting urban and rural reserves for the entire region.

Comparison of Coordinated Public Involvement Plan for Urban and Rural Reserves (March 2008) with Implemented Regional Public Involvement Processes Attachment 1 to Staff Report, Ordinance 10-1238A June 1, 2010

Introduction

The following report compares the principles and activities directed by the Coordinated Public Involvement Plan¹ (CPIP) adopted by the regional Reserves Steering Committee (RSC), the Core 4, Department of Land Conservation and Development's (DLCD) Citizen Involvement Advisory Committee and county advisory committees in March and April of 2008 with the accomplishments of Clackamas, Multnomah and Washington counties and Metro.

The public involvement team (PI Team) included members from each county and Metro who worked collaboratively for two years. Team members cooperated in all regional efforts (20 open houses, three online surveys, development of presentation / printed materials and analysis / summaries of comments). Team members also implemented jurisdictionally-specific public engagement activities and shared methodologies, materials and results.

All public involvement efforts conducted throughout the process held to the intent and principles of the CPIP to provide clear and timely communications and multiple opportunities for community input. During each project phase, key efforts focused on creating and maintaining updated websites, hosting strategically located open houses, and conducting surveys. Input was compiled with summaries (and verbatim comments) provided to advisory committees, the Core 4 and the RSC.

Phase One: Informing Recommendations of Reserve Study Areas

Winter and Spring 2008

Abstract from CPIP:

Phase One will focus on providing an introduction to the urban and rural reserves process. This will include an explanation of the need for this approach, the process that will be undertaken to develop urban and rural reserves, and the outcomes that the region seeks to achieve. Public involvement events and activities during this phase will also discuss the analytical approach that will be applied in the identification of reserve study areas. These meetings will be the first of several rounds of meetings with community groups and it will be emphasized that staff and elected officials from the counties and Metro will return at different phases of the project to provide updates and seek public input that informs the study and analysis of proposed reserve areas.

Main messages will focus on:

- The need for a new approach to managing urban growth in this region
- The advantages of designating urban and rural reserves
- A brief overview of the factors that will be considered in evaluating potential urban and rural reserves
- How the process of studying and designating urban and rural reserves will work
- The ultimate outcomes the region seeks to achieve

Implementation

Phase 1 included the formation of advisory / coordinating committees for each county in addition to the regional Reserves Steering Committee². Advisory committee descriptions are provided in Addendum B to this report. The primary intent of public involvement activities for this phase was to solicit and summarize public comment

¹ Attached as Addendum A. Drafted in early 2008, the CPIP was reviewed and amended by LCDC's CIAC with refinements provided to and adopted by the regional Reserves Steering Committee in April, 2008.

² Attached as Addendum B, June 2, 2008 Report to Core 4 and Reserves Steering Committee

on appropriate areas to be studied for potential urban and rural reserve designation; benefits/issues the community initially has with the project; and desired outcomes.

Key public involvement efforts included:

- Identified and created contact lists of stakeholder groups / organizations and interested parties
- Developed websites:
 - 1. Metro: <u>www.oregonmetro.gov/reserves</u> (site URL is updated to current name)
 - 2. Clackamas County: http://www.clackamas.us/transportation/planning/reserves.htm
 - 3. Multnomah County: www2.co.multnomah.or.us/reserves
 - 4. Washington County: <u>www.co.washington.or.us/reserves</u>
- Developed outreach materials including:
 - 1. PowerPoint presentation illustrating the background (Shape of the Region studies, Senate Bill 1011, OAR factors, project timeline, intended project goals and intention to provide greater certainty)
 - 2. Summary publication Shape of the Region
 - 3. Project work program publication
 - 4. Reserves milestones graphic
 - 5. Counties' public involvement processes
 - 6. Decision-making graphic illustration
 - 7. Description of Reserves Steering Committee and members list
- Presentations to county planning organizations (CPOs), committees for citizen involvement (CCIs), and other key stakeholder groups (Westside Economic Alliance, Metropolitan Area Realtors Association, Washington County Farm Bureau, Clackamas County Coordinating Committee (C-4), Clackamas County Economic Development Commission, Clackamas County Business Alliance, North Clackamas Chamber of Commerce, Clackamas County Planning Commission, Publicized date/time/location of county advisory committee meetings and regional RSC meetings
- Provided public comment opportunities at county advisory committee and RSC meetings
- Developed media relations and provided media releases (and responded to media inquiries)

Utilization of public comments

A summary of input was provided to counties and regional advisory committees and Core 4 members. The summary included both highlights of issues/statements most often received and verbatim records of input.

Phase Two: Developing Reserve Study Areas

Summer 2008

Abstract from CPIP:

Phase Two will focus on the selection of reserve study areas for further analysis. As we continue to share information with the public on the importance of urban and rural reserves and describe the analytical approach being taken to evaluate potential reserve areas, we will outline proposed study areas on maps for review and comment by the public. These outreach activities will also include discussions on how growth may be accommodated in communities inside the existing UGB. In addition to the main messages provided in Phase One, this phase of the program will focus on addressing at least two primary questions:

- 1. Are these the areas that the Reserves Steering Committee should study and analyze further?
- 2. What additional information should be considered in defining these study areas?

Information received through various citizen involvement activities during this phase will inform the decisions of the Reserves Steering Committee to formally establish reserve study areas for further analysis.

Implementation

Phase 2 began with the RSC's June 9, 2008 reserves study area recommendation. All public involvement activities focused on the two identified questions above in addition to continued regional community awareness-building and expansion of partnering groups/organizations. Phase 2 public involvement activities were completed through delivery of a report to each jurisdiction's advisory committees and the RSC presentation³ on August 13, 2008.

Key public involvement activities included:

- Continued to expand contact list of stakeholders/organizations and interested parties
- Ongoing website updates
- Expanded outreach materials to include:
 - 1. Expanded PowerPoint presentation by adding the key questions
 - 2. Described on the web, in presentations and in the press, the processes each county proposed to analyze the Reserves Study Area utilizing the OAR Factors
 - 3. Developed, printed (5,000) and distributed "Shaping the Region for the next 50 years" fourcolor brochures
 - 4. Explained the OAR Factors for urban and rural reserves
- Presentations to CCIs, CPOs and at regional events (Tualatin Tomorrow Annual Town Hall, Washington County Fair, , Clackamas River Water District, Clackamas County Coordinating Council (C-4), farmers markets, cities, hamlets)
- Created and distributed posters and press releases for open houses
- Prepared and hosted seven regional open houses (Beaverton, Forest Grove, Gresham, Tualatin, Oregon City, central Portland Metro, and northwest Portland)
- Developed a survey used both in print (at the open houses, distributed through presentations) and online (with links on each website)
- Continued media relations development and provided article source materials, media releases
- Crafted and distributed newsletter articles and event notifications to CCIs, CPOs, Neighborhood Association Committee coordinators and expanding list of outreach partners (chambers of commerce, business, development, agricultural, environmental organizations and libraries/local businesses, special service districts, hamlets,)
- Conducted radio interview KUIK
- Crafted and produced cable access television spot Tualatin Valley Cable Television
- Produced and distributed postcards highlighting project websites (4000 printed and distributed through libraries, city offices and partner locations)
- Publicized date/time/location of county advisory committee meetings and regional RSC meetings
- Provided public comment opportunities at advisory committee and RSC meetings

Use of public comment

Periodic updates were provided to advisory committees throughout the process. At end of the phase, a summary of input was provided to counties and regional advisory committees and Core 4 members. The summary included both highlights of issues/statements most often received and verbatim records of input.

³ Included as Addendum C, Report to Core 4 and Reserves Steering Committee, August 13, 2008

Phase Three: Analyzing Reserve Study Areas

Fall 2008 through Fall 2009

Abstract from CPIP

Phase Three, which follows the establishment of the reserve study areas by the Reserves Steering Committee in summer 2008, will be the longest and employ the most intensive analytical rigor leading to the development of preliminary recommendations for reserve designations. The analyses will apply the findings of the various elements of the Shape of the Region study and the factors to consider in the designation of urban and rural reserves as described in Oregon law and administrative rule. The analyses will incorporate information related to transportation and infrastructure needs, population and employment trends, and other inputs.

Public involvement events and activities during this phase will focus on educating the public about the application of these data and factors to the reserve study areas and will solicit citizen feedback on how the Metro Council and the boards of county commissions should weigh various factors in the designation of urban and rural reserves. Included in public outreach activities during this phase will be discussions about how additional growth can be accommodated in communities already inside the UGB. In addition to the main messages emphasized in the first two phases of this project, public involvement activities during this phase will seek input on the analysis provided by staff from Metro and the counties as well as the relative weight that should be given to different factors in the ultimate designation of urban and rural reserves.

Implementation

Phase 3 kicked off with county advisory committees' recommendations and successive RSC recommendation (September 8, 2008) for the final Reserve Study Area.

Outreach efforts focused on continuing to build project awareness and providing multiple opportunities and pathways for the community to review/understand and comment on the analysis process and the initial recommendations coming forth. Tools included county-specific and regional maps, a three-dimensional map (to provide topographical context), PowerPoint presentations, printed materials, online surveys, open houses, presentations to groups/organizations, and updated websites.

Key public involvement activities included:

- Continued expansion of contact list of stakeholders/organizations and interested parties
- Ongoing website updates
- Expanded outreach materials to include:
 - 1. Expanded PowerPoint presentation by adding the key questions
 - 2. Described on the web, in presentations and in the press, the approaches each county used in analyzing and preparing initial urban and rural reserve recommendations
 - 3. Developed and distributed individual county-specific four-color printed "Reserve Candidate Areas" brochures describing the Factors, how they were applied and rationale for initial recommendations
 - 4. Produced and distributed four-color maps indicating reserve recommendations and attributes that lead to those recommendations
 - 5. Posters describing "Great Communities" attributes illustrating different options of community design (24-hour community, 12-hour community, etc.)
 - 6. Population and employment projections for the seven-county region and Washington County specific
- Presented to CCIs, CPOs and regional events (Tualatin Tomorrow Annual Town Hall, Washington County Fair, American Association of University Women, Washington County Public Affairs Forum, Tualatin River Watershed Council, Washington County Farm Bureau, Tualatin Chamber of Commerce Forum luncheon, Washington County Managers and Supervisors quarterly meeting, North Clackamas

Chamber of Commerce, Stafford Hamlet, Hamlet of Beavercreek, Economic Development Commission, CPO Leaders, Clackamas County Planning Commission, Clackamas Stewardship Partners)

- Created and distributed posters and press releases for open houses
- Prepared and hosted seven regional open houses (Forest Grove, Gresham, Linnton, Tigard, Oregon City, central Portland Metro, and Wilsonville)
- Developed surveys used both in print (at the open houses, distributed through presentations) and online (with links on each website) April June 2009 and July September 2009
- Continued media relations development and provided article source materials, media releases
- Crafted and distributed newsletter articles and event notifications to CCI, CPOs, Neighborhood Association Committee coordinators and expanding list of outreach partners (chambers of commerce, business, development, agricultural, environmental organizations and libraries/local businesses)
- Conducted radio interviews Oregon Public Broadcasting, KEX
- Crafted and produced cable access television spot Clackamas County Cable Television
- Produced and distributed postcards highlighting project websites and announcing upcoming public hearing (13,000 printed and distributed to unique addresses within the Reserves Study Area in Washington County plus one lot deep in existing UGB)
- Convened three Clackamas County Planning Commission public hearings (August 10, 17 and 24, 2009)
- Convened Washington County Reserves Coordinating Committee public hearing (August 20, 2009 including all WCRCC advisory committee members, three Washington County commissioners and several Metro Councilors)
- Released Metro Chief Operating Officer recommendation for *Making the Greatest Place, Strategies for a Sustainable and Prosperous Region,* that included recommendations for reserves.
- Presented COO recommendation to, and solicited feedback from, over 40 stakeholder groups
- Hosted seven open houses in Hillsboro, North Portland, Beaverton, Gresham, Happy Valley, Oregon City and Metro Regional Center in Portland and convened five Metro Council public hearings.
- Created more than 100 counter-top displays with postcards and printed brochures and distributed them to farm supply stores, churches, city offices and gathering places such as cafes
- Publicized date/time/location of county advisory committee meetings, regional RSC and Core 4 meetings
- Provided public comment opportunities at advisory committee and RSC meetings

Utilization of public comment

A Phase 3 Public Comment Report⁴ was delivered to the county and regional advisory committees, Core 4 and county boards of commissioners in July 2009. The input informed ongoing discussions leading to revised final recommendations in August and September.

Phase Four: Recommending Reserve Designations

Fall and Winter 2009

Abstract from CPIP

Phase Four will seek public input on the preliminary urban and rural reserve designations recommended by the Reserves Steering Committee for adoption by the Metro Council and the boards of commissioners of Clackamas, Multnomah and Washington counties. Staff and elected officials from Metro and the three counties will continue to meet with the audiences and organizations that have been engaged in the study and designation of

⁴ Included as Addendum D, Report to county advisory committees, RSC and Core 4, July, 2009

the urban and rural reserves with the aim of illustrating how citizen input has contributed to the formation of the recommended reserve designations and seeking additional public comment to inform the decisions of the Metro Council and county commissions to designate reserve areas through intergovernmental agreements.

The questions to be addressed during this phase will focus on whether the Metro Council and the boards of county commissioners should adopt the recommendations of the Reserves Steering Committee and, if amendments to the proposed reserve designations are desired, how those proposed reserve designations should be amended and why.

Implementation

Phase 4 began with the county advisory committees providing final recommendations to the RSC (October 14, 2009) for the urban and rural reserves. The RSC subsequently considered the counties' recommendations and forwarded them with suggested revisions to the Core 4 and county boards of commissioners for discussion.

Outreach efforts focused on continuing to build project awareness and providing multiple opportunities and pathways for the community to review/understand and comment on the analysis process and the recommendations. Tools included county-specific and regional maps, a three-dimensional map (to provide topographical context), PowerPoint presentations, printed materials, online surveys, open houses, presentations to groups/organizations, draft copies of the intergovernmental agreements and updated websites. During Phase 4 each county and the Metro Council convened public hearings.

Questions sought community opinion on appropriateness of the recommendations. The public was asked to express support for recommendations or suggest revisions to individual proposed areas along with rationale. Regionally a number of areas were still under consideration for urban or rural reserve consideration or neither. The public was asked for preferences regarding those undecided areas. The community also was provided draft language of the inter-governmental agreements to be signed between Metro and each county – again for review and comment.

Key public involvement activities included:

- Ongoing contact list expansion of stakeholders/organizations and interested parties lists
- Ongoing website updates
- Expanded outreach materials to include:
 - 1. Expanded the PowerPoint presentation by adding the key questions
 - 2. Described on the web, in presentations and in the press, the ongoing discussions among the RSC and Core 4 as determinations were being formed
 - 3. Created and distributed four-color maps showing reserve recommendations and highlighting areas remaining under discussion by the Core 4
 - 4. Distributed draft intergovernmental agreements and accompanying "Planning Principles" (providing additional clarification for future decision-making)
- Presentations to CCIs, CPOs, Hamlets, cities
- Created and distributed press releases for open houses
- Produced, emailed and mailed 27,000 postcards announcing upcoming open houses and Metro Council public hearings
- Prepared and hosted six regional open houses (Hillsboro, Gresham, Sherwood, Oregon City, central Portland Metro, and Wilsonville)
- Created and hosted an online "virtual open house" experience that included regional and area-specific reference maps, an interactive map for looking up specific properties, and regional and area-specific surveys
- Hosted telephone information line with Spanish translation

- Convened four concurrent Metro Council public hearings with open houses in Gresham, Sherwood, Metro and Wilsonville
- Produced and mailed 3061 postcards to property owners announcing the Multnomah County Planning Commission August 10, 2009 public hearing.
- Held two Clackamas County Board of Commissioners public hearings (September 8 and 10, 2009)
- Held three Multnomah County Board of Commissioners public hearings (September 10 and December 10, 2009, and February 23, 2010.)
- Held two Washington County Board of Commissioners public hearings (December 8 & 15, 2009)
- Developed survey used both in print (at the open houses) and online (with links on each website) January, 2010
- Continued media relations development and provide article source materials, media releases
- Crafted and distributed newsletter articles and event notifications to CCI, CPOs, and outreach partners
- Publicized date/time/location of county advisory committee meetings, regional RSC and Core 4 meetings
- Provided public comment opportunity at advisory committee and RSC meetings
- Developed and distributed English Spanish language announcements for open houses and public hearings

Use of public comment

A Draft Phase 4 Public Comment Report⁵ was delivered to the Core 4 February 1, 2010. Input provided public perspective on the Core 4's final recommendations including input on those areas still under discussion.

Additional Outreach Information

Public Outreach Goals

The ultimate goal would be that every community member understands this new process, provides suggestions for implementation and helps develop a durable outcome. The practical public involvement goals included:

- A multitude of communication channels to build awareness and capture feedback
- Engagement from a broad spectrum of social, political and economic interests
- Accessible avenues of information that could be updated frequently to respond to the dynamics of the process
- Reframed technical information to be understandable (or dare say enjoyable) to a mostly non-technical audience
- Decision-maker access to multiple perspectives
- A touch of levity to the process

It is always difficult to establish success-metrics. Several approaches were used including: the number of attendees at events and those taking online/printed surveys; the number of testimonies received or provided at hearings; the number of articles published in local and regional media; the success of grass-roots efforts to affect the outcome (which was determined by the affect on the final areas designated for urban or rural reserves versus grass-roots' outcome desires); the number of website hits at critical phases; and the general level of community member understanding towards the conclusion of the process.

Secondly, we were to provide decision-makers with the feedback obtained through the multitude of outreach channels. As there were multiple phases, and public input was desired at each stage, the feedback was compiled and presented in executive summaries, illustrative maps and verbatim compilations. These approaches allowed the decision makers opportunity to review in depth or in summary.

⁵ Included as Addendum E, Report to Core 4, January 2010

A third goal, although no less important, was establishing or enhancing relationships with partner organizations and the media. The jurisdictions partnered with more than 55 organizations representing interests from the development community, environmental and agricultural interests, chambers of commerce, schools and universities, city governments within the county, the farm community, neighborhood groups and Spanish-speaking leadership interests.

We provided the varied organizations with presentations, updated project information and relevant materials for their newsletters and outreach efforts. Providing channels of communications with grass-roots groups resulted in delivery of more than 750 signatures to the Washington County Board of Commissioners noting the group's preferences for a series of decisions.

Measuring Success

Measuring the success of citizen participation is difficult and the metrics used provide only a glimpse of the outcome. That being said, the following are some of the quantifiable outcomes of this process:

- More than 1800 community members attended 21 regional open houses
- More than 2000 finished surveys were received
- More than 350 people provided testimony in public hearings in Washington County, approximately 350 in Multnomah County and
- Local and regional newspapers published more than 200 articles, including dozens on the front page
- More than 1850 emails, letter and faxes were received in Washington County, approximately 1600 in Multnomah County
- More than 11,000 hits were recorded on the Metro website during the January 11-22, 2010 comment period

Grass-roots level efforts resulted in changing more than 1800 acres of proposed urban reserves to rural reserves in Washington County, protecting the agricultural lands and forests for the next 50 years. Regarding community understanding, there is no clear metric; however the questions being posed and the level of detail provided to the media indicates the public increasingly understood the trade-offs and policy-direction assumptions. During the last open house there was almost equal input in support for and in opposition to proposed designations, up from 90% plus opposition in the early phases.

Addendum A

Coordinated Public Involvement Plan Urban and Rural Reserves March 2008

This public involvement plan is the product of a coordinated effort of the staffs of Metro and of Clackamas, Multnomah and Washington counties to incorporate citizen involvement into the study and designation of urban and rural reserves. Metro and the counties are implementing a reserves study and designation process that involves the clear communication of information and timely opportunities for meaningful involvement by local and state governments, interested organizations, and members of the public.

This plan is designed to illustrate the types of public involvement activities, messages and communications methods that will be utilized at different phases of this effort. It does not provide an exhaustive list of meetings and activities that will be scheduled, target audiences that will be engaged, or messages that will be employed. Staff from Metro and Clackamas, Multnomah and Washington counties will be working closely throughout this effort to coordinate public involvement activities and will keep the Reserves Steering Committee, the Metro Council, the boards of commissioners of the three counties, the respective Metro and county citizen involvement committees, and other policy advisory committees informed of and engaged with the implementation of various citizen involvement activities throughout the different phases of the urban and rural reserves effort.

This plan incorporates the requirements of Oregon law and administrative rules governing citizen involvement in land use planning decisions. This plan reflects comments and feedback received from the Metro Council, Core 4 members, the respective citizen involvement committees of Metro and the three counties, and other county-level advisory committees, as well as the Reserves Steering Committee. The Citizen Involvement Advisory Committee of the Oregon Land Conservation and Development Commission (LCDC) has also reviewed this plan as required by administrative rule.

Background Information on Urban and Rural Reserves

Metro and Clackamas, Multnomah and Washington counties are leading a regional effort to help determine the shape of this region over the next 40 to 50 years. Urban and rural reserves are intended to provide greater predictability for the region as to where future growth may take place both inside and outside the current urban growth boundary (UGB) over the next 40 to 50 years, while protecting important farmland and natural areas from urbanization for that same period of time. The process for designating these reserves offers the region greater flexibility in determining which areas are more suitable for accommodating growth than others.

The longstanding system for managing the region's UGB has produced less than desirable, and often impractical, urban development patterns. This system has also failed to provide long-term protection for the region's most productive agricultural lands or for important natural landscape features, and it leaves out any consideration of the types of communities the region seeks to create when the UGB is expanded. This approach, which requires Metro to start from scratch every five years, has led to conflict, uncertainty, and frustration for local governments, farmers, businesses, and landowners.

In 2007 the Oregon Legislature approved Senate Bill 1011. This bill enables Metro and the counties of the region to establish urban reserves—areas outside the UGB that, based on a number of factors, may be better suited to accommodate population and job growth over 40 to 50 years—as well as rural reserves, which are areas outside the UGB needed to protect valuable farm and forestland for a similar period. The

establishment of urban and rural reserves is intended to provide greater predictability for local governments and landowners for where future growth may be accommodated and where it will not be accommodated. The process of studying and designating urban and rural reserves is also designed to provide greater flexibility in considering multiple factors for determining which areas are suitable for future urbanization and which areas should be set aside to enhance the agricultural economy and protect natural areas.

Urban and Rural Reserves Study and Designation Process

A Reserves Steering Committee has been convened to oversee the study of urban and rural reserve areas and to make recommendations to the boards of commissioners of Clackamas, Multnomah and Washington counties and the Metro Council on the final designation of reserve areas. The Reserves Steering Committee is co-led by one Metro Councilor and one commissioner from each of the three counties (the "Core 4"). All decisions by the Reserves Steering Committee with regard to the establishment of study areas and recommendations of reserve designations must be made by a unanimous vote of the Core 4. The Core 4 members are:

- Metro Councilor Kathryn Harrington
- Clackamas County Commissioner Martha Schrader
- Multnomah County Commissioner Jeff Cogen
- Washington County Chair Tom Brian

The Steering Committee also has seats for representatives from the two largest cites in each county, as well as one seat for each county representing the smaller cities of that county. One representative is designated to represent the neighboring cities outside Metro's urban growth boundary. In addition, the Steering Committee includes representatives of the business community, the agricultural community, the natural resources community, social and economic equity organizations, and state agencies. A full list of Reserves Steering Committee members is included as "Attachment A" to this coordinated public involvement plan.

The Reserves Steering Committee is scheduled to meet monthly throughout 2008 and will continue to meet into 2009 when it will submit recommendations to the Metro Council and the county commissions on the designations of urban and rural reserves. Urban and rural reserve recommendations will be made through agreements between the Metro Council and the county commission in whose jurisdiction a reserve area is located. Following the signing of the intergovernmental agreements recommending reserve areas in summer 2009, the Metro Council will adopt the designation of urban reserves through amendments to the Regional Framework Plan, and the county commissions will adopt the designation of rural reserves through amendments to their comprehensive land use plans. The amendments to both the Regional Framework Plan and the county comprehensive land use plans will be submitted to the Oregon Department of Land Conservation and Development for review and acknowledgement in late 2009.

A chart illustrating the process and key milestones for designating urban and rural reserves is included as "Attachment B" to this coordinated public involvement plan. This public involvement plan is organized around four important phases of this work, culminating in intergovernmental agreements between Metro and the counties in summer 2009. Public meetings and outreach efforts are part of every phase of this project.

Following the signing of the intergovernmental agreements, the Metro Council and county commissions will conduct public hearings and other public outreach required by Oregon law and administrative rules

prior to the formal designation of the reserve areas in the Regional Framework Plan and county comprehensive land use plans.

Principles of Public Involvement

The following principles will apply to all public involvement activities:

- 1. As the designation of urban and rural reserves are linked, public outreach and citizen engagement events should be coordinated by Metro and the counties and should discuss <u>both</u> urban and rural reserves.
- 2. At major public open houses or other events designed for broad participation, both the affected county and Metro staff should coordinate and carry out the activity. It is the goal to involve elected officials from the Metro Council and the boards of county commissioners in as many activities as schedules will permit.
- 3. The effort of designating urban and rural reserves should be framed in aspirational terms: this is about <u>shaping what this region will look like</u> over the next 40 to 50 years. This will focus on protecting rural and natural areas that we treasure while determining which areas may be better suited to accommodate population and employment growth that will provide for a healthy economy.
- 4. Each public involvement activity related to the study of potential reserve areas should begin with a brief presentation of the need for a new approach to managing urban growth in this region, the advantages of designating urban and rural reserves, and information on the findings of the Shape of the Region Study and how those findings are applied to this work. These activities, at different phases of this work, will also feature study questions that will assist the Reserves Steering Committee in developing its recommendations.
- 5. Metro and the counties will seek to solicit public input through electronic means. Any public feedback solicited online or through other media should address the same study questions asked at public forums and other in-person meetings.
- 6. Public comments received by Metro and by the counties on matters related to urban and rural reserves will be recorded and responses published in a manner that supports the single, coordinated set of findings required by LCDC's Reserves Rule (OAR 660 Division 27).
- 7. Attendees at public meetings and forums who submit their names and contact information for the public record will be kept informed through written communications of the progress of the urban and rural reserve study and designation process.
- 8. Metro and each county may carry out their own processes for informing proposals on urban and rural reserves. Public involvement activities related to these processes are included in this coordinated public involvement plan. Input received through these processes will ultimately come to the Reserves Steering Committee to inform its recommendations on urban and rural reserve designations.

Phase One: Informing Recommendations of Reserve Study Areas

Winter and Spring 2008

Phase One will focus on providing an introduction to the urban and rural reserves process. This will include an explanation of the need for this approach, the process that will be undertaken to develop urban and rural reserves, and the outcomes that the region seeks to achieve. Public involvement events and activities during this phase will also discuss the analytical approach that will be applied in the identification of reserve study areas. These meetings will be the first of several rounds of meetings with community groups and it will be emphasized that staff and elected officials from the counties and Metro will return at different phases of the project to provide updates and seek public input that informs the study and analysis of proposed reserve areas.

Main messages will focus on:

- The need for a new approach to managing urban growth in this region
- The advantages of designating urban and rural reserves
- A brief overview of the factors that will be considered in evaluating potential urban and rural reserves
- How the process of studying and designating urban and rural reserves will work
- The ultimate outcomes the region seeks to achieve

Primary audiences and events will include:

- **Citizen organization meetings**⁶: Staff from Metro and the counties will attend regularly scheduled citizen organization meetings in selected areas to provide introductory information on urban and rural reserves and to hear concerns, ideas and other feedback for informing the process of developing urban and rural reserve study areas.
- **Citizen involvement committees:** Staff and elected officials from Metro and the counties will meet with their respective citizen involvement committees to describe plans and goals for soliciting and incorporating citizen involvement into the study and designation of urban and rural reserves. Ideas for enhancing citizen involvement throughout this effort will also be sought.
- County Coordination and Policy Advisory Committees: The counties will staff and facilitate their respective advisory committees to develop recommendations specific to the county. In addition, Metro staff and elected officials will brief the Metro Policy Advisory Committee (MPAC) on the details of this citizen involvement plan and on the work of the Reserves Steering Committee.

Materials will include:

- A PowerPoint presentation that briefly explains, at a minimum:
 - Why urban and rural reserves are needed
 - The Shape of the Region study and how it informs the reserves study and designation process
 - The timeline for studying and designating urban and rural reserves
 - What the region hopes to achieve through this process
- A brochure that briefly describes the urban and rural reserves program and timeline
- A description of the county's public involvement process (if applicable)
- Summaries of the three components of the Shape of the Region Study
- A description of Reserves Steering Committee: who its members are and how it operates
- A timeline of events and decision points (Reserves Milestones Chart)
- Web sites maintained by Metro (<u>www.metro-region.org/reserves</u>) and the counties (specific Web addresses to be determined) that describe the need for urban and rural reserves and the process for studying and designating reserve areas

Maps that are utilized during this phase will illustrate the broader region outside of the Metro UGB that is being considered for study for potential reserve areas, both urban and rural. These maps will not identify areas as likely to be included in either rural or urban reserves. During this phase Metro and the counties will be gathering initial input from the public on issues and concerns regarding which areas should be studied for further analysis. There are no preconceptions as to which areas will be studied as potential urban reserves.

⁶ For purposes of this coordinated public involvement plan, the term "citizen organization" refers to citizen participation organizations (Washington County); community planning organizations, hamlets and villages (Clackamas County), and recognized neighborhood associations (in all three counties).

At the conclusion of Phase One, public comment will have informed the staff of Metro and the counties in the development of their preliminary recommendations to the Reserves Steering Committee on identifying reserve study areas for further analysis.

Phase Two: Developing Reserve Study Areas Summer 2008

Phase Two will focus on the selection of reserve study areas for further analysis. As we continue to share information with the public on the importance of urban and rural reserves and describe the analytical approach being taken to evaluate potential reserve areas, we will outline proposed study areas on maps for review and comment by the public. These outreach activities will also include discussions on how growth may be accommodated in communities inside the existing UGB. In addition to the main messages provided in Phase One, this phase of the program will focus on addressing at least two primary questions:

- 3. Are these the areas that the Reserves Steering Committee should study and analyze further?
- 4. What additional information should be considered in defining these study areas?

Information received through various citizen involvement activities during this phase will inform the decisions of the Reserves Steering Committee to formally establish reserve study areas for further analysis.

Primary audiences and events will include:

- **Public open houses:** Metro and the counties will jointly sponsor and publicize public open houses during this period to describe the purpose of urban and rural reserves and illustrate potential study areas. These open houses will solicit public input on the scope of the reserve study areas and related considerations. Consistent messages and questionnaires will be used at all open houses.
- **Citizen organization meetings:** Staff and/or elected officials from Metro and the counties will attend citizen organization meetings in selected areas to illustrate potential study areas and solicit feedback on the scope of the proposed study areas and the factors to consider in evaluating those study areas.
- **County coordinating committee meetings:** Staff and/or elected officials from the counties and Metro will meet with coordinating committees in each of the three counties to describe the recommended study areas and solicit feedback on the scope of the proposed study areas and the factors to consider in evaluating those study areas.
- Other stakeholder meetings: Staff from the counties and Metro will present information and collect input from a range of other stakeholder groups, including but not limited to county planning commissions, agricultural organizations, local business groups, other interest groups and affected public agencies.

Communication materials utilized during this phase will include:

- A PowerPoint presentation that briefly explains, at a minimum:
 - Why urban and rural reserves are needed
 - The Shape of the Region study and how it informs the reserves study and designation process
 - The timeline for studying and designating urban and rural reserves
 - What the region hopes to achieve through this process
 - The questions to be addressed at this phase of the project
- Brochure that briefly describes the urban and rural reserves program and timeline
- Maps of potential study areas

- Summaries of the three components of the Shape of the Region Study
- A description of the processes being utilized by the county and Metro for gathering input on potential urban and rural reserves
- A description of Reserves Steering Committee: who its members are and how it operates
- Timeline of events and decision points (Reserves Milestones Chart)
- Written articles for publication in neighborhood and CPO newsletters, promoting attendance at open houses and describing the effort to study and designate urban and rural reserves
- Web sites maintained by Metro (<u>www.metro-region.org/reserves</u>) and the counties (specific Web addresses to be determined) that describe the need for urban and rural reserves and the process for studying and designating reserve areas, publicize upcoming open houses and other public forums for citizen involvement, include maps of recommended study areas, and solicit feedback from the public on the primary questions being addressed in this phase of the project
- News releases and notices in local newspapers publicizing the open houses.

At the conclusion of Phase Two, the Reserves Steering Committee will endorse study areas for further analysis.

Phase Three: Analyzing Reserve Study Areas

Fall 2008 and Winter and Spring 2009

Phase Three, which follows the establishment of the reserve study areas by the Reserves Steering Committee in summer 2008, will be the longest and employ the most intensive analytical rigor leading to the development of preliminary recommendations for reserve designations. The analyses will apply the findings of the various elements of the Shape of the Region study and the factors to consider in the designation of urban and rural reserves as described in Oregon law and administrative rule. The analyses will incorporate information related to transportation and infrastructure needs, population and employment trends, and other inputs.

Public involvement events and activities during this phase will focus on educating the public about the application of these data and factors to the reserve study areas and will solicit citizen feedback on how the Metro Council and the boards of county commissions should weigh various factors in the designation of urban and rural reserves. Included in public outreach activities during this phase will be discussions about how additional growth can be accommodated in communities already inside the UGB. In addition to the main messages emphasized in the first two phases of this project, public involvement activities during this phase will seek input on the analysis provided by staff from Metro and the counties as well as the relative weight that should be given to different factors in the ultimate designation of urban and rural reserves.

Primary audiences and events will include:

- **Public open houses:** Metro and the counties will jointly sponsor and publicize public open houses during this period to illustrate the study areas and describe the factors and findings being applied in the analyses of these study areas. These open houses, which will include the involvement of elected officials from the counties and Metro, will solicit public input on the application of the factors and additional issues and concerns to consider. Consistent messages and questionnaires will be used at all open houses.
- **County planning commissions**⁷: Staff from Metro and the counties will present information to county planning commissions describing the approach to designating urban and rural reserves,

⁷ As the counties will designate rural reserves through amendments to their comprehensive land use plans in 2009, and as staff resources are limited, the focus here is on county planning commissions. However, Metro and county

highlighting the reserves study areas, explaining the factors and analytical methodology being applied to the reserve study areas, and the effects that designating urban and rural reserves will have on growth management decisions at the local and regional level. Staff will seek input from planning commissions on the application of the factors.

- **Citizen organization meetings:** Staff from Metro and the counties will attend citizen organization meetings in selected areas to illustrate potential study areas and solicit feedback on the scope of the proposed study areas and the factors to consider in evaluating those study areas.
- **County coordinating committee meetings:** Staff and/or elected officials from the counties and Metro will meet with coordinating committees of the three counties to describe the recommended study areas and solicit feedback on the scope of the study areas and the factors to consider in evaluating those study areas.
- Other stakeholder meetings: Staff from the counties and Metro will present information and collect input from a range of other stakeholder groups, including those listed for Phase Two and others that are identified during the analytical work.

Materials will include:

- A PowerPoint presentation that briefly explains, at a minimum:
 - Why urban and rural reserves are needed
 - The process of establishing study areas up to this point
 - How public input received up to this point has informed the establishment of the study areas
 - The Shape of the Region study and how it informs the reserves study and designation process
 - What comes next in the process of studying urban and rural reserves
 - What the region hopes to achieve through this process
 - The questions to be addressed at this phase of the project
- Brochure that briefly describes the urban and rural reserves program and timeline
- Maps of study areas
- Summaries of the three components of the Shape of the Region Study
- A description of the processes being utilized by the county and Metro for gathering input on potential urban and rural reserves
- Technical information developed to address the factors for selection of study areas
- Timeline of events and decision points (Reserves Milestones Chart)
- Written articles for publication in neighborhood and CPO newsletters, promoting attendance at open houses and describing the effort to study and designate urban and rural reserves
- Web sites maintained by Metro (<u>www.metro-region.org/reserves</u>) and the counties (specific Web addresses to be determined) that describe the need for urban and rural reserves and the process for studying and designating reserve areas, publicize upcoming open houses and other public forums for citizen involvement, include maps of study areas, and solicit feedback from the public on the primary questions being addressed in this phase of the project
- News releases and notices in local newspapers publicizing the open houses.

At the conclusion of Phase Three, the Core 4 members of the Reserves Steering Committee will, by unanimous vote, formally recommend the designations of specific urban and rural reserves to the Metro Council and boards of county commissioners for their adoption through intergovernmental agreements.

staff will provide information to city planning staffs for their use to inform city decision makers and citizen organizations.

Phase Four: Recommending Reserve Designations

Spring and Summer 2009

Phase Four will seek public input on the preliminary urban and rural reserve designations recommended by the Reserves Steering Committee for adoption by the Metro Council and the boards of commissioners of Clackamas, Multnomah and Washington counties. Staff and elected officials from Metro and the three counties will continue to meet with the audiences and organizations that have been engaged in the study and designation of the urban and rural reserves with the aim of illustrating how citizen input has contributed to the formation of the recommended reserve designations and seeking additional public comment to inform the decisions of the Metro Council and county commissions to designate reserve areas through intergovernmental agreements.

The questions to be addressed during this phase will focus on whether the Metro Council and the boards of county commissioners should adopt the recommendations of the Reserves Steering Committee and, if amendments to the proposed reserve designations are desired, how those proposed reserve designations should be amended and why.

Primary audiences and events will include:

- **Public open houses:** Metro and the counties will jointly sponsor and publicize public open houses (at least two per county) during this period to illustrate the recommended reserve designations. These open houses, which will include the involvement of elected officials from the counties and Metro, will solicit public input on factors for the Metro Council and the county commissions to consider when determining urban and rural reserve designations.
- **Public hearings:** In addition to public open houses, public hearings will be held by the Metro Council and the boards of county commissioners to receive public comment on the recommendations for reserve designations made by the Reserves Steering Committee and to provide feedback on the draft intergovernmental agreements to be negotiated between the Metro Council and the boards of county commissioners.
- **County planning commissions:** Staff from Metro and the counties will present information to county planning commissions describing the recommended reserve designations and the factors and other considerations that contributed to those recommendations. Staff will also discuss the steps following the adoption of intergovernmental agreements designating the reserve areas, including the amendments to comprehensive plans and the Regional Framework Plan, and the roles and responsibilities of planning commissions relating to the zoning and planning of reserve areas.
- **Citizen organization meetings:** Staff from Metro and the counties will attend selected citizen organization meetings to illustrate the recommended reserve designations and solicit public feedback to present to the Metro Council and the county commissions prior to adoption of the intergovernmental agreements. The focus of this outreach effort will be on those citizen organizations serving areas in or nearest to the recommended areas for reserve designations.
- **County coordinating committee meetings:** Staff and/or elected officials from the counties and Metro will meet with coordinating committees from each of the three counties to describe the recommended reserve designations and solicit public feedback to present to the Metro Council and the county commissions prior to adoption of the intergovernmental agreements.

Materials will include:

- A PowerPoint presentation that briefly explains, at a minimum:
 - Why urban and rural reserves are needed
 - o The process of establishing recommended reserve designations up to this point

- What was learned in applying the technical analyses and public input to the study areas, and how they inform the recommended reserve designations
- The next steps to be undertaken by the Metro Council and the county commissions
- What the region hopes to achieve through this process
- The questions to be addressed at this phase of the project
- Maps of recommended reserve designations
- A description of the processes being utilized by the county and Metro for gathering input on potential urban and rural reserves
- Technical information developed to address the factors for selection of study areas
- Written articles for publication in neighborhood and CPO newsletters, promoting attendance at open houses and describing the effort to study and designate urban and rural reserves
- Web sites maintained by Metro (<u>www.metro-region.org/reserves</u>) and the counties (specific Web addresses to be determined) that describe the need for urban and rural reserves and the process for studying and designating reserve areas, publicize upcoming open houses and other public forums for citizen involvement, include maps of study areas, and solicit feedback from the public on the primary questions being addressed in this phase of the project
- News releases and notices in local newspapers publicizing the open houses and public hearings.

At the conclusion of Phase Four, after receiving public comment through a variety of activities and events, the Metro Council and the boards of county commissioners will adopt intergovernmental agreements recommending the designations of urban and rural reserves. The formal designations of the reserve areas will take place in Phase Five, when the Metro Council will amend the Regional Framework Plan to designate urban reserves and the counties will amend their comprehensive plans to designate rural reserves. The amendments to these plans will be subject to review and acknowledgement by LCDC.

Phase Five: Formal Designations of Urban and Rural Reserves

Summer and Fall 2009

Phase Five will deal with the amendment of the Regional Framework Plan to designate urban reserves and the amendments to the comprehensive land use plans of Clackamas, Multnomah and Washington counties to designate rural reserves. Specific public involvement activities related to these amendments will be planned in 2009 prior to the adoption of the intergovernmental agreements described in Phase Four of this coordinated public involvement plan. These activities will be conducted in accordance with requirements for public involvement established in Oregon law, Goal 1 of Oregon's Statewide Planning Goals and Objectives, and other applicable administrative rules.

Reserves Steering Committee Members as of March 14, 2008 Attachment A

	as of March 14, 2008	
<u>Core 4</u> Metro Council	Kathryn Harrington	
Clackamas County	Martha Schrader	
Multnomah County	Jeff Cogen	
Washington County	Tom Brian	
washington County		
<u>Cities</u>	Member	Alternate
Portland	Gil Kelley	Bob Clay
Beaverton	Rob Drake	
Gresham	Shane Bemis	
Hillsboro	Tom Hughes	Aron Carleson
Lake Oswego	Judie Hammerstad	Donna Jordan
Oregon City	Alice Norris	Doug Neeley
Other cities – Clackamas County	Charlotte Lehan, Wilsonville mayor	Norm King, West Linn mayor
Other cities – Multnomah County	David Fuller, Wood Village mayor	Julie Odell, Wood Village
Other cities – Washington County	Chris Barhyte, Tualatin city councilor	Richard Kidd, Forest Grove
Neighbor cities	Bob Austin, Estacada mayor	mayor Kathy Figley, Woodburn
Neighbor chies	Bob Austin, Estacada mayor	mayor
		mayor
Non-governmental stakeholders	<u>Member</u>	<u>Alternate</u>
Business	Greg Manning	
Construction/Real Estate	Greg Specht	Bob LeFeber
Urban Development	Craig Brown	Drake Butsch
Agriculture	Jeff Stone	Shawn Cleave
Natural Resources	Mike Houck	Jim Labbe
Land Use	Mary Kyle McCurdy	
Social/Economic Equity	Sue Marshall	Ron Carley
<u>State Agencies – serving in</u>	<u>Member</u>	Alternate
coordination roles	D' 1 137/1 '/	
Department of Land Conservation	Richard Whitman	Bob Rindy
and Development Department of Transportation	Lainie Smith	Lidwien Rahman
Department of Forestry	David Morman	Doug Decker
* * *		Doug Decker
Economic and Community	Karen Goddin	John Rakowitz
•	Karen Goddin	John Rakowitz
Development Department		John Rakowitz
Development Department Water Resources Department	Bill Ferber	
Development Department Water Resources Department Department of State Lands	Bill Ferber Kirk Jarvie	John Rakowitz Peter Ryan
Development Department Water Resources Department Department of State Lands Department of Environmental	Bill Ferber	
Economic and Community Development Department Water Resources Department Department of State Lands Department of Environmental Quality Department of Agriculture	Bill Ferber Kirk Jarvie	

Addendum B

June 2, 2008 Report on Activities in Phase 1 of the Reserves Work Program And Coordinated Public Involvement Plan

MEMORANDUM









- **DATE:** June 2, 2008
- TO: Councilor Kathryn Harrington, Metro Commissioner Martha Schrader, Clackamas County Commissioner Jeff Cogen, Multnomah County Chair Tom Brian, Washington County Reserve Steering Committee Members
- **FROM**: Reserves Core 4 Technical and Public Involvement Staff
- **SUBJECT:** Report on activities in Phase 1 of the Reserves Work Program and Coordinated Public Involvement Plan

<u>Summary</u>

The Reserves work program is divided into five phases. Each phase is accompanied by a key milestone which, when accomplished, signals transition into a new focus of activities. This report is intended to summarize Phase 1 activities and document the completion of the Phase 1 key milestone: "Agreement on analytical approach and the public involvement process." As noted on the "Coordinated Work Program Overview" document, Phase 1 activities include:

- Establish Reserves Steering Committee
- Create Coordinated Public Involvement Plan
- Establish County coordinating Committees
- Develop analytical approach

This memo summarizes activities related to each of these items and includes a summary of public comments gathered to this point. This memo is for informational purposes only; no formal decision is required.

Establish Reserves Steering Committee

To assist with the study and development of urban and rural reserves, a Reserves Steering Committee has been formed, consisting of officials from local cities, counties and Metro, as well as representatives of various business sectors, the agricultural community, the environmental conservation community, and social and economic equity organizations.

As urban and rural reserves will be formally designated through agreements between the Metro Council and Clackamas, Multnomah and Washington counties, the representatives of the Metro Council and the

three counties are the only voting members of the Reserves Steering Committee. These four representatives, who co-chair the Reserves Steering Committee, are:

- <u>Metro Councilor Kathryn Harrington</u>
- <u>Clackamas County Commissioner Martha Schrader</u>
- <u>Multnomah County Commissioner Jeff Cogen</u>
- Washington County Chair Tom Brian

The steering committee also has seats for representatives from the two largest cites in each county, as well as one seat apiece representing the smaller cities of each county. There is also one representative for the neighboring cities outside Metro's urban growth boundary. The city representatives are:

- **Portland:** Gil Kelley, Planning Director (Bob Clay, Chief Planner, alternate)
- **Gresham:** Shane Bemis, Mayor
- **Beaverton:** Rob Drake, Mayor
- Hillsboro: Tom Hughes, Mayor (Aron Carleson, Councilor, alternate)
- Lake Oswego: Judie Hammerstad, Mayor (Donna Jordan, Councilor, alternate)
- **Oregon City:** Alice Norris, Mayor (Doug Neeley, Commissioner, alternate)
- Clackamas County's other cities: Charlotte Lehan, Wilsonville Mayor (Norm King, West Linn Mayor, alternate)
- Multnomah County's other cities: David Fuller, Wood Village Mayor (Julie Odell, Wood Village staff, alternate)
- Washington County's other cities: Chris Barhyte, Tualatin City Councilor (Richard Kidd, Forest Grove Mayor, alternate)
- Neighboring cities: Bob Austin, Estacada Mayor (Kathy Figley, Woodburn Mayor, alternate)

In addition, the representatives of various non-governmental stakeholder groups include:

- **Business:** Greg Manning, First Horizon Construction Lending
- **Construction/Real Estate:** Greg Specht, Specht Development, Inc. (Bob LeFeber, Commercial Realty Advisors, LLC, alternate)
- Urban Development: Craig Brown, Matrix Development (Drake Butsch, First American Title Insurance Co., alternate)
- Agriculture: Jeff Stone, Oregon Association of Nurseries (Shawn Cleave, Oregon Farm Bureau, alternate)
- **Natural Resources:** Mike Houck, Urban Greenspaces Institute (Jim Labbe, Audubon Society of Portland, alternate)
- Land Use: Mary Kyle McCurdy, 1000 Friends of Oregon
- Social and Economic Equity: Sue Marshall, Coalition for a Livable Future (Ron Carley, Coalition for a Livable Future, alternate)

State agencies are also working closely with the Reserves Steering Committee to provide policy and technical expertise. These agencies and their representatives are:

- **Department of Land Conservation and Development:** Richard Whitman (Bob Rindy, alternate)
- **Department of Transportation:** Lainie Smith (Lidwien Rahman, alternate)
- **Department of Agriculture:** Katy Coba (Jim Johnson, alternate)
- **Department of Forestry:** David Morman (Doug Decker, alternate)
- Economic and Community Development Department: Karen Goddin
- Water Resources Department: Bill Ferber (Sabrina White-Scarver, alternate)
- Department of State Lands: Kirk Jarvie (Peter Ryan, alternate)

- **Department of Environmental Quality:** Keith Johnson
- Department of Fish and Wildlife: Jeff Boechler (Susan Barnes, alternate)

The Reserves Steering Committee meets once each month and has met four times to date. All meetings of the Reserves Steering Committee are open to the public and held at <u>Metro Regional</u> <u>Center</u>, located at 600 NE Grand Avenue in Portland. More information regarding schedules and meeting materials is available on Metro's web site.

Create Coordinated Public Involvement Plan

DLCD's administrative rules on reserves and the reserves work program call for the creation of a Coordinated Public Involvement Plan (PIP) to illustrate the types of public involvement activities, messages and communications methods that will be utilized at different phases of the reserves program. This document was developed jointly by Clackamas, Multnomah and Washington Counties and Metro as part of Phase 1 activities. The plan incorporates the requirements of Oregon law and administrative rules governing citizen involvement in land use planning decisions. The PIP also reflects comments and feedback received from the Metro Council, Core 4 members, the respective citizen involvement committees of Metro and the three counties, and other county-level advisory committees, as well as the Reserves Steering Committee. The Citizen Involvement Advisory Committee of the Oregon Land Conservation and Development Commission (LCDC) also reviewed and endorsed the plan as required by administrative rule.

The Coordinated Public Involvement Plan does not provide an exhaustive list of meetings and activities that will be scheduled, target audiences that will be engaged, or messages that will be employed. Staff from Metro and Clackamas, Multnomah and Washington counties will be working closely throughout the reserves effort to coordinate public involvement activities and will keep the Reserves Steering Committee, the Metro Council, the boards of commissioners of the three counties, the respective Metro and county citizen involvement committees, and other policy advisory committees informed of and engaged with the implementation of various citizen involvement activities throughout the different phases.

Establish County Coordinating Committees/conduct Phase 1 outreach

This section summarize the public involvement activities and outcomes of those activities for Clackamas, Multnomah and Washington Counties and Metro for Phase 1 of the Coordinated Public Involvement Plan.

Phase 1 of the PIP was designed to focus on the need for urban and rural reserves and introduce members of the public to the process. It was intended to be completed in the winter and spring of 2008. The messages associated with this phase are relevant and necessary to inform the Phase II work, therefore the outreach will continue through the summer of 2008. The PIP says (text in italics is quoted):

Phase One will focus on providing an introduction to the urban and rural reserves process. This will include an explanation of the need for this approach, the process that will be undertaken to develop urban and rural reserves, and the outcomes that the region seeks to achieve. Public involvement events and activities during this phase will also discuss the analytical approach that will be applied in the identification of reserve study areas. These meetings will be the first of several rounds of meetings with community groups and it will be emphasized that staff and elected officials from the counties and Metro will return at different phases of the project to provide updates and seek public input that informs the study and analysis of proposed reserve areas.

Main messages will focus on:

- The need for a new approach to managing urban growth in this region
- The advantages of designating urban and rural reserves

- A brief overview of the factors that will be considered in evaluating potential urban and rural reserves
- How the process of studying and designating urban and rural reserves will work
- The ultimate outcomes the region seeks to achieve

The plan identified primary audiences and events:

- Citizen Organizations
- Citizen involvement committees
- County Coordination and Policy Advisory Committees

The plan lists a series of materials that were to be developed cooperatively by the four jurisdictions and used in public outreach processes. The materials used extensively during Phase 1 public involvement activities are contained in the attachments to this document.

Public Involvement Activities

Each jurisdiction responded to their community needs and priorities in their activities for Phase 1 public involvement. To disseminate information broadly, each jurisdiction created a website that is linked to each of the others. These are:

- Metro website: <u>www.oregonmetro.gov/reserves</u>
- Clackamas County website: <u>www.clackamas.us/transportation/planning/urban.htm</u>
- Multnomah County website: <u>www2.co.multnomah.or.us/reserves</u>.
- Washington County website: <u>www.co.washington.or.us/reserves</u>

More details on each county's public involvement activities are discussed below.

Clackamas County

Clackamas County worked extensively with citizen organizations, the county citizen involvement office and city coordination groups, and developed a Policy Advisory Committee for the process. Contacts with several of these groups actually began before 2008, but work began in earnest early in the calendar year.

<u>Clackamas County Coordinating Committee (C4)</u> is a group of city and county elected officials who meet to coordinate a wide range of issues. This group requested several updates about the Reserves process prior to the beginning of the Phase One work, and was part of the discussions that led to development of the regional process and the county coordination process. This group recommended seven members to the county's Policy Advisory Committee (PAC) to represent the cities.

<u>Clackamas Community Committee for Citizen Involvement (CCI)</u> is a group of residents who coordinate the county's extensive Citizen Planning Organizations (CPO), Hamlets and Villages. This group and the CCI staff worked together to recommend seven members to the PAC to represent CPOs and Hamlets. CCI's monthly meetings are attended by project staff, and they are regularly updated on the Reserves process.

<u>County Policy Advisory Committee (PAC)</u> for Urban and Rural Reserves is a committee appointed by the county commissioners to advise the commissioners on selection of urban and rural reserves. This group has 21 members – seven from cities, seven from CPOs/Hamlets, and seven representing agriculture, homebuilders, forestry and other stakeholders. This group met for the first time on April 22^{nd} . The PAC roster is included in the appendix.

<u>Citizen Planning Organizations and Hamlets</u> – Project staff for Clackamas County emailed the 18 CPOs and Hamlets most likely to be impacted by Urban or Rural Reserves and encouraged them to invite staff to come to one of their meetings to discuss and answer questions about urban and rural

reserves. To date, 10 CPOs and Hamlets have requested a presentation. Many of these presentations will occur in May or June. If appropriate, staff will include information from Phase Two of the PIP in the later presentations. Attachment 4 lists the CPO visits and summarizes the outcomes.

Multnomah County

Multnomah County's efforts in phase 1 focused on the formation of their Citizens Advisory Committee and conducting targeted outreach as described below.

<u>Citizens Advisory Committee for Urban and Rural Reserves</u> is made up of 19 volunteer community members appointed by the Multnomah County Board of County Commissioners to a land use committee to advise the commissioners on selection of urban and rural reserves. Meetings will be held monthly at the County's Multnomah Building in Portland. The first meeting was held May 1. The membership roster is included as an attachment to this report.

 \underline{CPOs} – Project staff for Multnomah County have begun meeting with community planning organizations to discuss urban and rural reserves. These meetings will continue throughout the reserves effort.

Washington County

Washington County placed emphasis along several tracks to develop outreach and provide avenues for input. One track created a county-wide forum for discussion (Washington County Urban and Rural Reserves Coordinating Committee) which will consider the potential effects of reserves designations. Another track identified and developed partnerships with county-wide organizations and agencies to outreach to their individual constituencies, to provide up-to-date information and solicit input. A third track is developing a key stakeholders group to discuss the designation process and provide input at periodic milestones.

Washington County Reserves Coordinating Committee

Washington County worked extensively in Phase I establishing and informing the Washington County Reserves Coordinating Committee (RCC). The RCC was created to provide a forum for cooperative participation between and among the County, its cities and service providers regarding urban and rural reserves designations within the county. The committee's primary function is to review policy related issues and develop consensus-based recommendations to the regional Reserves Steering Committee. The committee also will address other growth management issues related to the Reserves planning process, including: performance-based growth management, investing in our communities and the urbanization forum (provision of urban services.)

RCC members are the chief officer or designate of each member's elected governing body. The committee is chaired by the Washington County Core-4 representative (Commissioner Tom Brian) and the vice-chair position is shared among three Reserves Steering Committee members representing cities in Washington County (Mayor Rob Drake – Beaverton, Mayor Tom Hughes – Hillsboro, Councilor Chris Barhyte – Tualatin City Council.)

Member governments, agencies and special districts represented include:

- Washington County
- Cities: Banks, Beaverton, Cornelius, Durham, Forest Grove, Gaston, Hillsboro, King City, North Plains, Sherwood, Tigard, Tualatin
- Clean Water Services
- Special Districts (one position representing all other special service districts)
- Metro (two ex-officio positions for Councilors representing Washington County)

The RCC meets monthly and meetings are open to the public - all meeting agendas will include scheduled comment periods. The RCC is served by a technical advisory committee comprised of Planning Directors or designated staff. The Washington County Planning Directors group meets monthly prior to each RCC meeting - these meetings are open to the public as well.

Schedules for both the RCC and the Planning Directors meetings are available on the Washington County reserves website.

Building Outreach Partnerships

Based on the Washington County Public Involvement Plan and addendum Communications Plan, county staff is developing partnerships with organizations, interest groups and other agencies to provide affected stakeholders and interested parties current project information and multiple avenues to provide input. Partnerships have been established with more than 20 county-wide organizations representing business, agricultural, environmental and service delivery interests.

County staff, in collaboration with regional partners, is identifying broad public input opportunities through geographically diverse open houses to discuss the initial Draft Broad Urban and Rural Reserves Study Area and related project activities in mid- to late-June. That outreach effort is supported with special presentations to groups and organizations, news releases, up-to-date websites information and several announcement venues.

Key Stakeholder Discussions

Identified key stakeholders will be provided periodic opportunities to discuss the designation process including draft study areas, analysis criteria and process refinements.

Metro

Metro utilized existing committee structures (such as the Metropolitan Policy Advisory Committee, Metropolitan Technical Advisory Committee, and Metro Committee for Citizen Involvement) and attendance at various City Council and citizen organization meetings in Phase 1. Metro councilors and staff attended City Council and County Commission meetings around the region as well as CPO, neighborhood association, and stakeholder group meetings. Metro also invited neighboring cities and counties to attend two "Neighbor Cities" meetings to share information on reserves and maintain communication channels to these jurisdictions.

Phase 1 desired outcomes and comments received to date

The desired outcome of Phase 1 public involvement activities is basic education of the public and stakeholders about the urban and rural reserves project. This includes an explanation of the need for a new approach, the process that will be undertaken to develop urban and rural reserves, and the outcomes that the region seeks to achieve.

In Phase 1 Metro and the counties gathered initial input from the public on issues and concerns regarding which areas should be studied for further analysis (remembering that there are no preconceptions as to which areas will be studied as potential urban reserves or rural reserves). Public comment in Phase 1 informed the staff of Metro and the counties in the development of their preliminary recommendations to Core 4 and the Reserves Steering Committee on identifying reserve study areas for further analysis.

Comments and questions received to date are summarized below, grouped by general categories:

Amount of land needed:

• What is the minimum number of acres needed for Urban Reserves?

- What will be the impact of the recent election in Damascus on reserves? If growth can't take place in Damascus, does that mean more growth will have to take place somewhere else, e.g., Stafford?
- Does each county have to put aside a certain amount of land?
- Does the same amount of urban and rural land need to be designated in each county?
- Is there a specific amount of land that has to be designated urban and/or rural reserves? Do urban and rural reserves have to be a 50/50 match?
- How do lands outside of the 3-county Metro area fit into our land need assumptions?
- Improved technology provides increased farm harvest levels. How much agricultural lands are needed to support anticipated growth in the region?
- How does the question of *where people want to live* versus where this process identifies they *should* live be addressed?

Technical /project methodology:

- Combine transportation information with reserves information roads and other transportation infrastructure make a big difference for urban and rural areas. For example, use map overlays that show the impact of transportation needs on the area.
- Where we can see the maps that go with the Shape of the Region study?
- The maps the study is based on should reflect topographic and wetland information otherwise people can't really see what the land is like and what it can be used for. Someone should drive by and look at areas before they designate them urban reserves.
- What is the definition of urban density (e.g., how many houses/acre)? Look at density as well as population.
- How accurate were past population projections? The perception is the projections are always wrong.
- What are the assumptions behind the projection that the metro area population will grow by one million by 2030? Don't just look at population trend lines; look at what the region wants. If the projection is wrong, major land use decisions will have been made based on erroneous information.
- How will the factors apply? How flexible are they?

Urban Design:

- People want open, rural land near where they live, like Central Park in New York City. Rural reserves add value to the nearby urban reserves, and shouldn't be so far away that urban people can't easily enjoy them.
- How will plans for sustainable living (areas kind of "in between" urban and rural) fit into the reserves?
- Very concerned about density impacts in existing urban areas
- How will the big look affect this study?
- Try to account for and acknowledge areas in Clackamas County (CPOs, Villages, Hamlets) that are doing their own visioning processes.

Consequences of designations:

- If your property is designated a rural reserve, will there be any change in land use regulations?
- If your property is designated an urban reserve, you will eventually be urbanized, but will there be any changes in land use regulations right now? Will a designation of "urban reserve" carry any additional restrictions?
- What are the consequences if your property remains undesignated?

- What happens to lands not designated as either urban or rural reserves? Might they be pressured to develop in 20 years or so if the urban reserves are used up?
- Will the current law limiting land divisions within one mile of the UGB go away?
- How will individual property owners be affected by having their property being in an urban reserve or in a rural reserve?
- The combination of designations + population/employment forecasts = speculation. How can a "land rush" of speculative buying be addressed to minimize the rapid valuation disparity of neighboring properties when one falls within an urban reserve vs. the adjoining property outside that designation?
- How can the near-term effects of possible reduced property value and homeowner equity be addressed when large tracts of land are designated urban reserves and brought inside the UGB?

How this project relates with neighboring/"outlying" cities:

- If we have land inside the city of Sandy's Urban Reserve Area, are we part of the process?
- What is the relationship between this project and any decision by the City of Molalla to establish Urban Reserves or expand the City's UGB?
- What happens to Canby and other cities that are outside Metro but within the 5-mile buffer?
- Concern about areas and cities not represented on the Clackamas County PAC, especially Sandy
- Is there any consideration for mergers of cities to increase efficiency of service delivery and reduce redundancies?

Public involvement:

- When you talk about this issue with the public, use lots of maps.
- How will we know about public input opportunities?
- What's the point of public hearings scheduled at the end of the process, after the decisions have been essentially made?
- Provide info on the website.
- When you send out written notice, make sure the print is big, easy to read
- What's the difference between adopting IGAs and approving recommendations? Perhaps the Planning Commission could do the first step and BCC do the second?
- What's the role of the Planning Commission in the process?
- What's the relationship between the Clackamas County PAC, the Reserves Committee and Core 4?

Impact of individual and neighborhood preferences:

- Mulino sent a letter to the Clackamas County BCC asking that the entire hamlet be designated as a rural reserve. They know it's a little early in the process to get a response.
- Should our hamlet do what Mulino did (and ask the Clackamas County BCC to be designated as a rural reserve)?
- What if we don't want to be designated as either an urban or rural reserve?
- Will areas that want to be designated as an urban or rural reserve have any say?

Decision-making / process:

- What if the Core 4 members don't agree and/or if the deadline isn't met?
- How much power will Metro have in this process?
- Since the BCC gets the final vote on rural reserves, could that be different than what is agreed to with Metro?
- Are there any indications that this law/process will be challenged?
- If reserves are set for next 40-50 years, when during that time will they be reviewed?
- How will reserves be implemented? How will reserves be protected?

• What's the relationship between reserves and Measure 49? Will Measure 49 apply in Urban Reserve areas?

People/groups selected to make the recommendations/decisions:

- If part of the purpose is to provide consistency for agriculture, then why are representatives of all these other interests (landscape, recreation, cities, CPOs) making the decision? There is never any shortage of people willing to speak for farmers.
- How do we make sure rural people are really heard?
- It looks like all the power is in just four people this is just a way to cut individuals and voting out of the process.
- Industrial land interests are inadequately represented on Clackamas County's PAC.
- Agricultural interests are inadequately represented throughout the process
- Forestry interests are inadequately represented throughout the process

Develop Analytical Approach

The final task scheduled for Phase 1 was the development of an overall approach to developing reserve areas. This work was completed by development and review of a "Coordinated Reserves Work Program Overview" document, which outlined the proposed approach and timelines for the Reserves project. The Reserves Steering Committee has discussed the work program overview and approach at several meetings. Generally stated, the process includes the development of Reserves Study Areas in Phase 2 of the work program, with the main technical analysis occurring in Phase 3. The factors established under administrative rule will be utilized broadly in Phase 2 and with increasing refinement in Phase 3. More detailed information on the technical analysis process will be presented at Reserves Steering Committee meetings in July and August 2008.

DOCUMENTS REFERENCED

A number of attachments are referred to in this memorandum; all have been provided previously or are available on reserves web sites. To avoid duplication some of these have not been included in this packet. Please contact Core 4 staff if you are not able to locate any of these documents.

- 1. Coordinated Public Involvement Plan (includes Reserves Steering Committee membership list) & comment letter on Plan from State of Oregon Citizen Involvement Advisory Committee
- 2. Phase One Public Involvement Materials
 - a. Coordinated Reserves Work Program Overview
 - b. Key Milestones for Designating Urban and Rural Reserves
 - c. Clackamas County PowerPoint Presentation
 - d. Clackamas County Flyer
 - e. Summary: Shape of the Region Study
 - f. Washington County Coordinated Public Involvement Plan
 - g. Washington County Communications Plan addendum to the Public Involvement Plan
 - h. Washington County PowerPoint presentation
 - i. Senate Bill 1011
 - j. DLCD Administrative Rules OAR 660-027
 - k. Making the Greatest Place Winter 2008 Metro Newsletter
- 3. Clackamas County Policy Advisory Committee Roster
- 4. Clackamas County CPO Meeting Schedule/Summaries
- 5. Multnomah County Public Advisory Committee Roster and meeting notes
- 6. Washington County Reserves Coordinating Committee Roster and meeting notes
- 7. Public Involvement Team contact information (attached)

ATTACHMENT 7

Coordinated Public Involvement Team, Urban and Rural Reserves

Clackamas County www.clackamas.us/transportation/planning/urban.htm

Ellen Rogalin, Community Relations Specialist 503-353-4274 ellenrog@co.clackamas.or.us

Maggie Dickerson, Principal Planner 503-353-4534 maggied@co.clackamas.or.us

Multnomah County <u>http://www2.co.multnomah.or.us/reserves</u>

Shawn Cunningham, Multnomah County Public Affairs Office 503-988-4369 shawn.d.cunningham@co.multnomah.or.us

Chuck Beasley, Senior Planner 503-988-3043 ext 22610 charles.beasley@co.multnomah.or.us

Washington County <u>www.co.washington.or.us/reserves</u>

Mike Dahlstrom, Public Involvement Coordinator 503-846-8101 mike dahlstrom@co.washington.or.us

Steve Kelley, Senior Planner 503-846-3593 steve_kelley@co.washington.or.us

Metro <u>www.oregonmetro.gov/reserves</u>

Ken Ray, Senior Public Affairs Coordinator 503-797-1508 ken.ray@oregonmetro.gov

Marcia Sinclair, Senior Public Affairs Specialist 503-797-1814 marcia.sinclair@oregonmetro.gov

John Williams, Regional Planning Manager 503-797-1635 john.williams@oregonmetro.gov

Addendum C

August 13, 2008 Report on Activities in Phase 2 of the Reserves Work Program Including Preliminary Summary of Public Input and Coordinated Public Involvement Plan Updates

MEMORANDUM









- **DATE:** September 8, 2008
- TO: Commissioner Martha Schrader, Clackamas County Commissioner Jeff Cogen, Multnomah County Chair Tom Brian, Washington County Councilor Kathryn Harrington, Metro Reserve Steering Committee Members
- **FROM**: Reserves Core 4 Technical and Public Involvement Staff
- **SUBJECT:** Report on activities in Phase 2 of the Reserves Work Program and Coordinated Public Involvement Plan including a summary of public input.

Summary

The Reserves work program is divided into five phases. Each phase is accompanied by a key milestone which, when accomplished, signals transition into a new focus of activities. This report is intended to summarize Phase 2 activities of the adopted Coordinated Public Involvement Plan and Phase 2 public input. Phase 2 focuses on a DRAFT Reserves Study Area recommended by the Reserves Steering Committee at the June 9, 2008 meeting and two key questions:

- Are these the areas that the Reserves Steering Committee should study and analyze further?
- What additional information should be considered in defining these study areas?

This information is being provided well in advance to make it easier for committee members to act in their role as representatives of broader constituent groups, as outlined in the Reserves Steering Committee Operating Principles.

Phase 2 Public Involvement Plan Update

Between June 16 and August 15, 2008 Clackamas, Multnomah and Washington counties and Metro collaborated on a variety of activities to engage citizens in a discussion of urban and rural reserves including hosting seven public open houses. These events were planned and executed by a team of public involvement and planning staff from all four jurisdictions. Recognizing that there was limited public awareness that a reserves designation process was under way, the public involvement team identified two primary purposes to these events:

- 1. Help citizens unfamiliar with the designation process grasp the history, purpose, decision structure, timeline and import of reserves designation within a context of simultaneous regional planning processes (Making the Greatest Place)
- 2. Ask for citizen guidance on whether the proposed reserves study area is the appropriate area to consider for reserves designation.

The open houses were strategically placed in locations across the region in which people from surrounding areas regularly conduct their business. The intent was to attract people both inside and outside the urban growth boundary to a regional conversation in a convenient and familiar location. The content of open house materials and presentations was essentially identical to the others so that people across the region could choose a convenient location, date and time in which to participate and be assured of receiving the same information and having the same opportunity to weigh in.

Additional outreach activities included public involvement team members' presentations to neighborhood, business, agricultural and environmental groups. The team created a questionnaire used extensively throughout the phase and developed and launched an online survey (also based on the questionnaire). Displays were created and placed at other county-wide events including the Washington County Fair. More than 50% of responses were received through mail-in and online input.

Publicity

A variety of methods were employed to publicize these events and build awareness including press releases, announcements at meetings, flyers and posters, invitations sent by email and circulated on email networks, postings on blogs and community calendars. News coverage included articles in the Oregonian, the Forest Grove News Times, Hillsboro Argus, Portland Tribune, Damascus Observer, and stories on Oregon Public Broadcasting and KATU Channel 2. A key component to providing project awareness is maintaining up-to-date project websites.

Open House Format

Seven regionally spaced open houses were held: Beaverton, Forest Grove, Gresham, Tualatin, Oregon City, central Portland (Metro) and NW Portland. All but the Metro open house were held in the evenings and the central Portland event was held on a Saturday morning. Open houses included a brief informal period followed by a formal presentation at which elected officials from the hosting city, county and/or Metro greeted guests and provided a few comments. After questions and answers, attendees were encouraged to explore materials at each station and provide feedback on the proposed reserve study area. Citizen comments were captured on flip charts, large and small maps and questionnaires.

Attendance

Altogether more than 340 people attended the open houses. Also the team has presented to more than 650 additional attendees at group and organizational discussions.

Summary of Public Input to Phase 2 Key Questions

What we heard:

A compilation of verbatim comments accompanies this memo.

In general, people asked questions and raised issues ranging from very broad (save farmland or make better use of industrial land inside the UGB) to very specific (my land cannot be farmed). People's interests in the process ranged from global to preservation of individual lifestyles. The comments on maps will provide helpful information in identifying specific attributes of the landscape and understanding attitudes toward rural or urban designation.

People suggested additional things to consider; made recommendations or asked questions about the designation process, asked how economic trends and population are factored in, asked for additional public education and wanted to know how they might remain involved.

With regard to changes in the proposed study area boundary, there were a few recommendations to expand into Yamhill, Marion or Clark counties.

With regard to Clackamas County PAC recommendation to expand the study area to 211 there were 6 for and 12 against. The reasons were varied.

What we learned:

For the most part, there was little substantive feedback on the study area itself.

People were drawn to the public events and presentations for a variety of reasons. Many expressed a concern for the region, land use and future lifestyle in broad terms and from an abstract philosophical perspective. Some attended in order to champion a specific designation for a portion of the region. A few championed a specific designation for a parcel.

People raised questions about the reserves process and the aftermath including the lifespan of reserves (such as when will we revisit the decisions we make in 2009); the process for weighing factors and how this process fits with other planning efforts. These questions need to be resolved as soon as feasible as their resolution will be valuable to the designation process itself. Some of the answers can be provided in a revised FAQ while others will take time to resolve.

To the extent possible, we will want to have process questions clarified for future outreach materials, presentations and events. There is a need to bring up citizen understanding of broad areas of land use planning and link other elements of regional planning including transportation and infrastructure investment. Many people said the events were useful and informative.

While the public involvement team had hoped for greater open house turnout, these events provided a number of side benefits. They brought together staff from four jurisdictions and helped jell the team to more easily capitalize on each other's strengths. The events provided a basis for earned media that would have otherwise been difficult to generate. The open houses provided a deadline under which the four jurisdictions crafted outreach materials including web sites with interactive features, publications and presentations and a well-honed collection of supporting documentation.

Next steps

Once the Reserves Study Area is defined, the next, analysis, phase begins to address how the guiding Department of Land Conservation and Development urban and rural reserves factors are applied. The Reserves Steering Committee, Project Management Team and technical advisory team, along with each of the partner's advisory committees will spend the next several months refining the Reserves Study Area and bringing back to the community initial considerations for reserves designation.

Coordinated Public Involvement Team, Urban and Rural Reserves

Clackamas County <u>www.clackamas.us/transportation/planning/urban.htm</u> Ellen Rogalin, Community Relations Specialist 503-353-4274 <u>ellenrog@co.clackamas.or.us</u>

Maggie Dickerson, Principal Planner 503-353-4534 <u>maggied@co.clackamas.or.us</u>

Multnomah County <u>http://www2.co.multnomah.or.us/reserves</u>

Shawn Cunningham, Multnomah County Public Affairs Office 503-988-4369 shawn.d.cunningham@co.multnomah.or.us

Chuck Beasley, Senior Planner 503-988-3043 ext 22610 charles.beasley@co.multnomah.or.us

Washington County <u>www.co.washington.or.us/reserves</u>

Mike Dahlstrom, Public Involvement Coordinator 503-846-8101 mike dahlstrom@co.washington.or.us

Steve Kelley, Senior Planner 503-846-3593 steve_kelley@co.washington.or.us

Metro <u>www.oregonmetro.gov/reserves</u>

Ken Ray, Senior Public Affairs Coordinator 503-797-1508 ken.ray@oregonmetro.gov

Marcia Sinclair, Senior Public Affairs Specialist 503-797-1814 marcia.sinclair@oregonmetro.gov

John Williams, Regional Planning Manager 503-797-1635 john.williams@oregonmetro.gov

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
9/10/2008	Letter request by the City of Molalla to change the study area boundary		Clackamas County and Metro agreed to revise the study area boundary to recognize Molalla's growth aspirations.
3/12/2009	Email from Pete's Mountain Water Co., that company has capacity for growth	Dickerson; FROM: Suzanne C.	Metro and Clackamas County agree to leave the northern portion of Pete's Mtn undesignated to allow future UR designation and to designate the southern portion rural reserve due to Important Agricultural Land and landscape features.
4/8/2009	Letter from city of Sandy regarding designation of urban and rural reserves between Sandy and the Multnomah County line and Sandy and Eagle Creek, and preservation of Sandy and Gresham as separate cities (dated April 6, 2009)	TO: Reserves Steering Committee; FROM: Linda Malone, Mayor, City of Sandy	Metro and Clackamas County are working with the city of Sandy to revise the three-party agreement on the green corridor along Hwy 26 between the UGB and Sandy to recognize urban reserves and improve protection of the corridor.
4/13/2009	City of West Linn resolution on Stafford, including West Linn Resolution no. 09-05 - Stafford - 3-23- 09, forwarded by Councilor Teri Cummings	John Williams FROM: Ken Ray	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Metro agreed with Clackamas County goals for planning the area to ensure protection of natural resources in the Stafford area.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
8/14/2009	Letter from city of Tigard asking the area identified on maps provided to the county (west of Bull Mountain and areas 63 and 64) to be urban reserves	TO: Washington County Board of Commissioners, Kathryn Harrington, Members of the Tigard City Council FROM: Craig Prosser, City Manager, City of Tigard	Metro and Washington County agreed to designate areas 6B, 6C and 6D west of Tigard to accommodate regional growth in the vicinity of Tigard. Metro and the county decided to designate as rural reserve some of the land recommended by the city for urban reserve in order to protect the farmland in the area.
9/17/2009	Letter from city of Tualatin regarding Stafford Basin (dated August 10), included in Clackamas County packet of 9/17)	TO: Reserves Steering Committee, Core 4 FROM: Lou Ogden	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Metro agreed with Clackamas County goals for planning the area to ensure protection of natural resources in the Stafford area.
10/9/2009	Letter from Mayors of Cities of Forest Grove, Hillsboro, Banks, Cornelius, and North Plain	TO: Regional Reserves Core 4 Committee, Washington County Board of Commissioners, and Regional Reserves Steering Committee, and Metro COO,	Metro and Washington County agreed to designate extensive areas of urban reserve that are suitable for industrial use adjacent to the cities of Hillsboro, Forest Grove and Cornelius. The two governments also agree to leave land east, west and south of the city of North Plains and on all sides of the city of Banks to accommodate their future growth.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
10/13/2009	Letter from city of Lake Oswego opposed to making the whole Stafford Basin an urban reserve area	TO: David Bragdon, Metro Council; FROM: Jack Hoffman, Lake Oswego City Council	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Metro agreed with Clackamas County goals for planning the area to ensure protection of natural resources in the Stafford area.
10/13/2009	Comment from city of Fairview supporting Troutdale's request for addition of 759 acres to the urban reserve	TO: Metro Council; FROM: Mike Weatherby, Mayor of Fairview	Metro and Multnomah County considered the Troutdale request, but decided not to designate urban reserves in the area due to its value as agricultural land and the opportunities to accommodate growth in the UGB in this part of the region.
10/13/2009	Comment from city of Wilsonville supporting urban reserves immediately adjacent to Wilsonville and designation of the French Prairie area as a rural reserve	TO: Metro Council; FROM: Stephan Lashbrook	Metro and Clackamas County agreed that Metro would designate areas 4G, 4H, 5G and 5H as urban reserves adjacent to Wilsonville.
10/14/2009	Letter from neighboring cities of Yamhill and Marion Counties requesting the maintenance of separation of the metro area		The four reserves partners designated urban reserves with neighboring cities of Yamhill and Marion counties in mind. Several miles of rural reserve designations or undesignated land maintain the separation of the cities from the metropolitan region.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
10/14/2009	Letter from Oregon Dept of Land Conservation and Development; Oregon Dept of Agriculture; Oregon Business Development Dept; Oregon Dept of Forestry; Oregon Dept of State Lands; Oregon Dept of Transportation; Oregon Dept of Environmental Quality; Oregon Dept of Fish and Wildlife; and Oregon Water Resources	TO: Metro Regional Reserves Steering Committee; Core Four	Differences noted by the agencies between the need estimated by Metro and by Washington County have been reconciled as set forth in the findings. The four governments chose a 50-year supply rather than the 40-year supply recommended by the agencies in order to provide longer-term protection to resources land. Allocation of urban reserves was based more upon the factors in LCDC rules than an allocation based upon policies in the RFP or modeling. Nonetheless, URs are well-distributed around the region. Title 11 will ensure that concept plans will protect state highway interchanges [3.07.1110C(2) and 1120C(8)] and that the region is aware of costs of infrastructure prior to addition of land to the UGB [3.07.1110C(1) and C(2)]. The four governments took agency comments about particular areas into account as set forth in the findings.
10/14/2009	Letter from city of Tualatin recommending that Stafford area be designated a rural reserve with the exception of the 840 acres located in Washington County within the Stafford Basin (I-5 on the west, I- 205 on the north, 65th Ave on the east and Frobase Rd on the south); also recommending urban reserve in the Sherwood/west Wilsonville area		Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Urban reserve areas 4E and 4F conform generally to the areas suggested by the city of Tualatin for urban reserve. Metro and Clackamas and Washington County, consistent with Tualatin suggestions, designated Areas 5F and 5G as urban reserve.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
10/15/2009	Letter from city of Forest Grove recommending area south of Purdin Rd and west of hwy 47 be designated urban reserve, and that area from hwy 47 to McKibbon Rd, south of Verboort Road (305 acres) be added for employment	TO: Reserves Core 4, Washington County Board of Commissioners, Michael Jordan FROM: Peter Truax, President of Forest Grove City Council	Metro and Washington County agreed to designate areas 7A and 7B urban reserve adjacent to Forest Grove to accommodate regional growth in this part of the region. Metro and the county decided to designate as rural reserve some of the land recommended by the city for urban reserve (east of Hwy 47) in order to protect the farmland in the area.
10/15/2009	Comment from city of Cornelius regarding designation of urban reserve for area subject to Washington County Omnibus Pre-Qualifying Concept Reserves Plan	TO: Metro Council FROM: Bill Bash, City of Cornelius	Metro and Washington County agreed to designate areas 7C, 7D and 7I to accommodate regional growth in this part of the region. Metro and the county did not designate as urban reserve all of the land subject to Cornelius' pre- qualifying concept plan in order to protect the farmland in the area.
10/15/2009	Letter from Bill Wyatt, Executive Director of Port of Portland urging designation of suitable industrial land as urban reserve	TO: David Bragdon, President; Metro Council	The four governments designated thousands of acres as urban reserve with the characteristics emphasized by the Port of Portland, relying in part on the analysis of suitability by NAIOP.
10/15/2009	Comment from city of Cornelius regarding city's ability to provide infrastructure to proposed urban reserves	TO: Metro Council FROM: Dave Waffle	Metro and Washington County agreed to designate areas 7C, 7D and 7I to accommodate regional growth in this part of the region. It was important to both governments that the city is willing to provide urban services to the areas.

John Williams, Metro Multromah County agreed to designate most the area (9A, 9B and 9C) between Forest Par and the UGB to the southwest as rural reserv protect important landscape features in the ar Metro will support efforts by the city of Portlar to accommodate growth in a compact, mixed use, pedestrian and transit supportive development pattern to avoid expansion of th UGB onto urban reserves. 10/20/2009 Letter from city of Sherwood regarding growth need and community support for designation of UR 7, UR 8 and UR 9 as urban reserves TO: Metro Council, Core 4 Sherwood Metro and Washington County agreed to designate areas 5A, 5B, 5D and 5F adjacent Sherwood 10/20/2009 Letter from city of Tualatin opposing designation of certain areas near city as urban reserve due to prohibitive infrastructure cost TO: Chair Brian, MPAC members Metro and Clackamas County agreed that Metro ubar reserves are sufficient to accommodate growth in this part of the region out all the city requested, Metro believes the designate options of the Stafford area urban reserves ner sufficient to accommodate growth in this part of the region in order to avoid having designate more urban reserves on the region best farmland. Metro understands it will be difficult and expensive to provide infrastructur to portions of the area. But given that urban reserves are intended to be urbanized over th next 50 years, and that infrastructure is		DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
and community support for designation of UR 7, UR FROM: Keith Mays, Mayor of S and UR 9 as urban reserves designate areas 5Å, 5B, 5D and 5F adjacent i Sherwood 10/20/2009 Letter from city of Tualatin opposing designation of certain areas near city as urban reserve due to prohibitive infrastructure cost TO: Chair Brian, MPAC members FROM: Lou Ogden, City of Tualatin Metro and Clackamas County agreed that Metro accommodate provide infrastructure is expensive everywhere, infrastructure cost want the set of the area of the area of the area of the area.	10/16/2009	Letter from Sam Adams, Mayor, City of Portland		development pattern to avoid expansion of the
certain areas near city as urban reserve due to prohibitive infrastructure cost	10/20/2009	and community support for designation of UR 7, UR	FROM: Keith Mays, Mayor of	designate areas 5A, 5B, 5D and 5F adjacent to Sherwood to accommodate regional growth in this part of the region. Although these areas are not all the city requested, Metro believes the
	10/20/2009	certain areas near city as urban reserve due to	members FROM: Lou	difficult and expensive to provide infrastructure to portions of the area. But given that urban reserves are intended to be urbanized over the next 50 years, and that infrastructure is expensive everywhere, infrastructure cost was not sufficient reason to leave this area

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
10/27/2009	Letter from city of Canby asking regarding rural, urban and undesignated lands near the city (includes letter to Maggie Dickerson dated April 1, 2009)	Board of County Commissioners, Canby City Council, Maggie Dickerson, Kathryn Harrington, Charlotte Lehan, Jeff Cogen, Tom Brian FROM: Bryan C. Brown	Metro and Clackamas County agreed to revise their designations of rural reserves in the vicinity of Canby to more closely accord with the city's preferences for it own long-term growth.
11/4/2009	Letter from city of Canby requesting no urban or rual designation for land to the northwest of the city	TO: Chair Lynn Peterson FROM: Bev Doolittle, Canby Chamber of Commerce	Metro and Clackamas County agreed to revise their designations of rural reserves in the vicinity of Canby to more closely accord with the city's preferences for it own long-term growth.
11/17/2009	Letter from city of Hillsboro responding to state agency comments on urban and rural reserves and supporting urban reserve designation for land south of Hwy 26 bounded by Hwy 26, Meek Rd and Waibel/McKay Creeks	TO: David Bragdon, Metro Council Members, Reserves Core 4, Richard Whitman and state agencies FROM: Jerry Willey	Metro and Washington County agreed to designate areas 8A adjacent to Hillsboro, including the area south of Hwy 26 noted by the city, as urban reserve, in part due to its suitability for industrial use.
12/10/2009	Letter: Urge Metro Council that the area between the City of Sandy and Metro UGBs be designated as a rural reserve or extend rurual reserve 200 feet south of hwy 26 and include a condition for future development that this buffer be planted with a thick screen of native conifers. Includes Map with suggested compromise modification to Metro proposed map.	TO: President Bragdon, Councilor Hosticka, Charlotte Lehan, Reserves Steering Committee FROM: Linda K. Malone, Mayor of Sandy	Metro and Clackamas County are working with the city of Sandy to revise the three-party agreement on the green corridor along Hwy 26 between the UGB and Sandy to recognize urban reserves and improve protection of the corridor.
12/23/2009	Email from city of Cornelius supporting urban reserves north of Council Creek	TO: Carlotta Collette, Dave Waffle FROM: Richard Meyer, City of Cornelius	Metro and Washington County agreed to designate Area 7I north of Cornelius to accommodate regional growth in this part of the region.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
	Attachment 2 to Staff Report Ordinance No. 10- 1238A		
1/11/2010	Comment from city of Portland with specific recommendinf rural reserve designation for the south NW Hills area in Multnomah County Powerline/Germantown Rd./ Lower Springville Rd including areas known as East Bethany and Bonny Slope East	TO: Metro Council FROM: Sam Adams, Mayor of Portland	As requested by the city of Portland, Metro and Multnomah County agreed to designate most of the area (9A, 9B and 9C) between Forest Park and the UGB to the southwest as rural reserve to protect important landscape features in the area.
1/13/2010	Letter from city of Portland to Metro Council regarding Rural Reserves between Forest Park and North Bethany, dated 1/11/2010.	TO: David Bragdon & Metro Councilors FROM: Mayor Sam Adams & Commissioner Amanda Fritz	As requested by the city of Portland, Metro and Multnomah County agreed to designate most of the area (9A, 9B and 9C) between Forest Park and the UGB to the southwest as rural reserve to protect important landscape features in the area.
1/14/2010	Comment from city of Canby supporting negotiated position between city and Clackamas County board with regard to designation of rural reserves north of Canby and lack of rural reserve designation to the east	TO: Metro Council FROM: Bryan Brown, City of Canby Planning Director	As requested by the city of Canby, Metro and Clackamas County agreed to revise the boundaries of rural reserves north and east of the city.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
1/14/2010	Comment from city of Lake Oswego that Stafford area (particulary UR 4a) does not meet criteria for either urban or rural reserves and should maintain as undesignated status	TO: Metro Council FROM: Sally Moncreiff, City Councilor, City of Lake Oswego	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Metro agreed with Clackamas County goals for planning the area to ensure protection of natural resources in the Stafford area.
1/14/2010	Comment from city of Cornelius that it needs land and has chosen areas that are not the best farmland to accommodate future growth	TO: Metro Council FROM: Richard Meyer, staff, City of Cornelius	Metro and Washington County agreed to designate areas 7C, 7D and 7I to accommodate regional growth in this part of the region. Metro and the county did not designate as urban reserve all of the land subject to Cornelius' pre- qualifying concept plan in order to protect the farmland in the area.
1/14/2010	Comment from city of West Linn view that Stafford area should remain rural consistent with hamlet vision	TO: Metro Council FROM: Teri Cummings, Councilor, City of West Linn	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Metro agreed with Clackamas County goals for planning the area to ensure protection of natural resources in the Stafford area.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
1/20/2010	Comment from city of Tualatin opposing urban reserve designation of land east of 65th and in the Stafford Basin; supporting land east of I-5 and west of 65th as an urban reserve; supporting land south of Sherwood and Tualatin as an urban reserve	TO: Metro Council FROM: Monique Biekman, City of Tualatin	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Urban reserve areas 4E and 4F conform generally to the areas suggested by the city of Tualatin for urban reserve. Metro and Clackamas and Washington County, consistent with Tualatin suggestions, designated Areas 5F and 5G as urban reserve.
1/20/2010	Comment from city of Cornelius supporting Core 4 compromise map	TO: Metro Council FROM: Jeff Dalin, Councilor, City of Cornelius	Metro and Washington County agreed to designate areas 7C, 7D and 7I to accommodate regional growth in this part of the region. Metro and the county did not designate as urban reserve all of the land subject to Cornelius' pre- qualifying concept plan in order to protect the farmland in the area.
1/20/2010	Comment from city of Tigard requesting change to map in area 6C; supporting city of Sherwood regarding area 5E; noting that area 6B would connect with Scholls Ferry Rd	TO: Metro Council FROM: Craig Dirksen, Mayor, City of Tigard	Metro and Washington County agreed to designate areas 6B, 6C and 6D west of Tigard to accommodate regional growth in the vicinity of Tigard. Metro and the county decided to designate as rural reserve some of the land recommended by the city for urban reserve in order to protect the farmland in the area.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
1/20/2010	Comment from city of Canby suporting a larger area of undesignated land to the north of Canby (letter of same date)	TO: Metro Council FROM: Bryan Brown, City of Canby	As requested by the city of Canby, Metro and Clackamas County agreed to revise the boundaries of rural reserves north and east of the city.
1/20/2010	Comment from city of Beaverton regarding city growth plans and accommodation of higher densities within city	TO: Metro Council FROM: Don Mazziotti, City of Beaverton	Metro and Washington County agreed to designate Area 6B west of Beaverton as urban reserves in the event efforts by the city and the region as a whole cannot accommodate growth to the year 2060.
1/20/2010	Comment from city of Tualatin opposing urban reserve east of 65th or in Stafford; supporting land south of Tualatin (5E) and 5F as urban reserve except for one area as urban reserve	TO: Metro Council FROM: Councilor Bateman, City of Tualatin	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Urban reserve areas 4E and 4F conform generally to the areas suggested by the city of Tualatin for urban reserve. Metro and Clackamas and Washington County, consistent with Tualatin suggestions, designated Areas 5F and 5G as urban reserve.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
1/21/2010	Comment from city of Cornelius upporting the regional proposed map as a compromise	TO: Metro Council FROM: Bill Bash, Mayor of Cornelius	Metro and Washington County agreed to designate areas 7C, 7D and 7I to accommodate regional growth in this part of the region. Metro and the county did not designate as urban reserve all of the land subject to Cornelius' pre- qualifying concept plan in order to protect the farmland in the area.
1/21/2010	Comment from city of Lake Oswego opposing urbanization of the Stafford Area and expressing city aspiration to redevelop centers and corridors and preserve neighborhood character; supporting some urban designation along the Borland Corridor	TO: Metro Council FROM: Mary Olson, Councilor, City of Lake Oswego	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland, and in the event efforts by the city of Lake Oswego and the region as a whole cannot accommodate growth to the year 2060.
1/21/2010	Letter from city of Sherwood urging designation of 5E as Urban Reserve to provide a complete balanced community	TO: Metro Council, Core 4, Jim Patterson, Tom Pessemier & Julia Hajduk FROM: Keith Mays, Mayor of the City of Sherwood	Metro and Clackamas County agreed that Area 5E would remain undesignated because designation of areas 5A, 5B, 5D and 5F provided sufficient land to accommodate regional growth in this part of the region. Leaving 5E undesignated will allow re-designation to urban reserve if the regional forecast proves low.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
1/21/2010	Comment from city of Wilsonville packet supporting rural reserve designation for the eastern portion of area 5E	TO: Metro Council FROM: Steve Hurst, Councilor, City of Wilsonville	Metro and Clackamas County agreed that most of Area 5E would remain undesignated to allow re-designation to urban reserve if the regional forecast proves low. However, the two governments agreed to designate a portion of 5E as rural reserve to protect the important natural landscape features in the area.
1/21/2010	Comment from city of Wilsonville urging designation of Areas 5E (eastern portion) and 4F as rural reserve and 4G and 4H as urban reserve	TO: Metro Council FROM: Michele Ripple, Councilor, City of Wilsonville	Metro and Clackamas County agreed that most of Area 5E would remain undesignated to allow re-designation to urban reserve if the regional forecast proves low. However, the two governments agreed to designate a portion of 5E as rural reserve to protect the important natural landscape features in the area. Metro and Clackamas County also agreed to designate areas 4G and 4H as urban reserves, as the city of Wilsonville requested.
1/21/2010	Comment from city of Forest Grove urging urban reserve designation near Thatcher Rd, Hwy 27 (area 7B) to allow for future industrial and commerical growth and1,600 dwelling units and 4,000 jobs	TO: Metro Council FROM: Mayor Peter Truax, City of Forest Grove	Metro and Washington County agreed to designate areas 7A and 7B urban reserve adjacent to Forest Grove to accommodate regional growth in this part of the region. Metro and the county decided to designate as rural reserve some of the land recommended by the city for urban reserve (east of Hwy 47) in order to protect the farmland in the area.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
1/21/2010	Comment from city of West Linn asking that the Stafford area remain rural	TO: Metro Council FROM: Mayor Patti Galle, City of West Linn	Metro and Clackamas County agreed that Metro would designate portions of the Stafford area as urban reserves notwithstanding objections from the cities in the region in order to avoid having to designate more urban reserves on the region's best farmland. Metro agreed with Clackamas County goals for planning the area to ensure protection of natural resources in the Stafford area.
1/22/2010	Letter from Beaverton School District seeking school sites in the SW area of the district, particularly south of SW Scholls Ferry Rd.	TO: Michael Jordan, Brent Curtis FROM: Richard Steinbrugge, Beaverton School District	Metro and Washington County agreed to desigane areas 6B and 6C on the north and sourth sides of SW Scholls Ferry Road. These areas should offer school sites.
1/27/2010	Letter from Sherwood School Districts seeking land for a school southeast of Sherwood	TO: Kathryn Harrington,Carl Hosticka, Charlotte Lehan,Keith Mays and Jim Patterson FROM: Dan C. Jamison, Superintendent, Sherwood School District	Metro added the Brookman Road area to the UGB south of Sherwood in 2002. The school district participated in that effort. Metro and Washington County agreed to designate areas 5A, 5B, 5D and 5F adjacent to Sherwood. These areas, totalling more than 2,400 acres, provide opportunties for siting schools.
2/25/2010	Comment from city of Beaverton that city will be careful steward of land coming into the UGB	TO: Metro Council FROM: Mayor Denny Doyle, City of Beaverton	Metro and Washington County agreed to designate Area 6B west of Beaverton as urban reserves in the event efforts by the city and the region as a whole cannot accommodate growth to the year 2060.

	DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
2/25/2010	Comment from city of Hillsboro supporting protection of land added to the UGB for industrial uses	TO: Metro Council FROM: Mayor Jerry Willey, City of Hillsboro	Metro and Washington County agreed to designate areas 8A adjacent to Hillsboro, including the area south of Hwy 26 noted by the city, as urban reserve, in part due to its suitability for industrial use.
2/25/2010	Comment from city of Portland expressing support of the Multnomah County revised IGA and map	TO: Metro Council FROM: Bob Clay, City of Portland	As requested by the city of Portland, Metro and Multnomah County agreed to designate most of the area (9A, 9B and 9C) between Forest Park and the UGB to the southwest as rural reserve to protect important landscape features in the area.
5/13/2010	Letter from Special Districts Association of Oregon seeking option in Title 11 to urbanization only upon annexation to a city.	TO: Metro Council FROM: Greg Baker, Executive Director	Metro recognizes the potential obstacles in the path to urbanization in parts of the region where annexation to cities has proved difficult. Nonetheless, the policy objective – that urban areas be part of cities – is sound. Metro and the cities of the region will monitor the implementation of Title 11 and consider optional methods of urbanization if concerns raised by SDAO are realized.
5/17/2010	Letter from Linda K. Malone, Mayor of City of Sandy	TO: Metro Council FROM: Linda K. Malone, Mayor	Metro and Clackamas County are working with the city of Sandy to revise the three-party agreement on the green corridor along Hwy 26 between the UGB and Sandy to recognize urban reserves and improve protection of the corridor.

DOCUMENT DESCRIPTION	TO/FROM	RESPONSES
Memo from Sherwood School District regarding potential school sites southeast of Sherwood	Jamison, Sherwood School District	Metro added the Brookman Road area to the UGB south of Sherwood in 2002. The school district participated in that effort. Metro and Washington County agreed to designate areas 5A, 5B, 5D and 5F adjacent to Sherwood. These areas, totalling more than 2,400 acres, provide opportunties for siting schools.

Attachment 3 to Staff Report Ordinance No. 10-1238A

Metro | Memo

Date: May 5, 2010 To: MPAC From: MPAC employment subcommittee: Robin McArthur, Metro, Chair of Subcommittee Mayor Shane Bemis, City of Gresham, Chair of MPAC Mayor Sam Adams, City of Portland Mayor Denny Doyle, City of Beaverton Councilor Carl Hosticka, Metro Councilor Rod Park, Metro Mayor Jerry Willey, City of Hillsboro **Richard Whitman, Director of DLCD** Charlie Allcock, PGE Gary Barth, Clackamas County Steve Dotterer and Bob Clay, City of Portland Susie Lahsene, Port of Portland Steve Peterson, CH2M Hill Patrick Quinton, PDC Pat Ribellia, City of Hillsboro Doug Rux, City of Tualatin Mike Wells, Cresa Partners; Mark Clemons, Group Mackenzie

Re:

Background:

Attracting and retaining traded-sector industrial companies is critical to the region's economic prosperity. Traded-sector companies sell goods to buyers outside of the Metro region, bringing additional wealth into the region. The 2009 Urban Growth Report (UGR) identified demand for an additional 200 to 1,500 acres in large lot configurations (more than 50 buildable acres in a single site) for traded-sector industrial uses. The MPAC employment subcommittee was formed to consider how the growth management decisions that will be made in December 2010 can address large lot demand and help the region to achieve its desired outcomes.

Final report to MPAC on addressing large-industrial-site demand

The subcommittee's recommendations to MPAC include short-term and long-term strategies, which are elaborated on in the body of this memo:

Short-term strategies for providing large sites

- Strengthen Title 4 of the Urban Growth Management Functional Plan to protect against specific conflicting uses (parks, schools, churches) in Regionally Significant Industrial Areas
- Create a large-site-metering system
- When making a growth management decision in 2010, consider factors such as the current trend in unemployment rates, the employment forecast, the need for site choices, and the region's history of developing large lots added to the UGB.

Long-term strategies for providing large sites

- Pursue new infrastructure funding strategies to make sites development-ready
- Elevate brownfield cleanup to a regional priority
- Require concept planning of urban reserves before UGB expansion
- Revamp Title 4 of the Urban Growth Management Functional Plan to recognize blurry boundaries between employment uses
- Explore the concept of large-lot industrial tax deferral

This memo is organized under two broad themes:

- Recommendations for large sites already inside the UGB
- Recommendations if UGB expansions are made to provide additional large sites

Subcommittee recommendations for large sites already inside the UGB

- 1. Strive to make the region's large lot inventory development-ready:
 - An inventory of vacant sites is, alone, inadequate for attracting traded-sector industrial employers. The region should have a goal to increase its supply of development-ready sites. This would better align local and regional efforts with Statewide Planning Goal 9 (Economic Development), which calls for maintaining a competitive short-term supply of land for employment uses. Multiple public and private entities must collaborate to achieve a goal of making a site development ready within 180 days of approval of a development application. Infrastructure must be available, zoning must be adopted, and the site must be annexed into a city. The actions recommended in this memo would help to increase the number of development-ready sites in the region.
- 2. Protect unique industrial areas from conflicting uses:

Regulations are essential for protecting large industrial sites from conversion to non-industrial uses. However, there is a need to tailor land use regulations and other strategies to achieve a better balance of public and private sector benefits and burdens. The subcommittee recommends further work on two possible options:

Balance public and private interests with a large-lot industrial tax deferral program

Oregon's farm use tax assessment program could serve as a model for tax assessment of large, vacant industrial sites. Under the farm use assessment system, lands kept in active farm use are assessed at a lower rate through use of a tax deferral. The subcommittee recommends Metro staff research the feasibility of an industrial tax deferral program. Such a system could offset the

use restrictions placed on these sites as they await industrial development. The program would also seek to ensure that public infrastructure investments serve their intended purpose (to serve future industrial areas). Depending on the circumstances, market-rate back taxes could be collected on properties that get used or rezoned for non-industrial purposes.

The subcommittee recommends further exploration of the applicability of this concept for large, vacant industrial sites. Because this type of program would require legislative changes, it is a longer-term recommendation.

Issues for further discussion regarding a large lot tax deferral system

- 1. How much foregone tax revenue would such a system entail? Are there other funding mechanisms that could limit the fiscal impacts to cities if this program were instituted?
- 2. What are the financial incentives and disincentives that would need to be created in order for the program to work? For example, what level of back taxes may need to be incurred to discourage conversion of industrial land to non-industrial uses?
- 3. Is there a way to use this type of program as an incentive to encourage lot assembly?
- 4. What legislative changes would be necessary and how likely is it that efforts to change the law would be successful?

<u>Focus Title 4 of the Urban Growth Management Functional Plan on protecting Regionally</u> <u>Significant Industrial Areas</u>

Title 4 of the Urban Growth Management Functional Plan seeks to provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas, Industrial and Employment Areas.

In the short-term (before any UGB expansions are made in 2010), the subcommittee recommends that Title 4 be amended to prohibit new schools, places of assembly, recreation facilities and parks (with exceptions for habitat protection) in Regionally Significant Industrial Areas.

In the long-term (2011), the subcommittee recommends more significant changes to Title 4 and the Title 4 map. These changes would implement the recommendations of the 2004 Greater Metropolitan Employment Lands Study (GMELS). Generally, the proposed changes are:

- Work with jurisdictions in the region to identify key industrial sanctuaries with unique site characteristics or infrastructure facilities.
- Focus regulations on protecting the region's most important industrial areas and their associated public facilities (e.g. transportation facilities)
- Loosen regulations in other employment areas to allow for a wider range of uses that reflects the sometimes blurry lines between industrial and non-industrial uses
- 3. Prioritize brownfield cleanup as a strategy for increasing the region's supply of developmentready sites:

Some traded-sector industrial uses require large sites with marine or other specialized terminal access or, more generally, locations in existing urban areas. These needs cannot be accommodated through UGB expansions. However, some of the region's large industrial sites are contaminated. Brownfield cleanup will be essential in order to accommodate some priority sectors.

The subcommittee recommends that brownfield cleanup be elevated to a regional priority. Brownfield cleanup should be as much of a funding priority as paying for the infrastructure necessary to make greenfield sites development-ready. New sources of funding are needed for cleanup. Federal and State legislative changes are needed to reduce future property owner liabilities.

The subcommittee suggests identifying the large sites that are regional priorities for cleanup. This could be accomplished through the use of a tiered list of priority sites. The subcommittee also recommends documenting the potential cleanup costs for high-priority brownfield sites.

4. Pursue new infrastructure funding strategies to make sites development-ready:

Sites will not be development-ready if public facilities are not available. Existing infrastructure funding mechanisms are inadequate for ensuring the region's economic competitiveness. According to Metro's 2008 Regional Infrastructure Analysis, the estimated cost of building the public and private facilities needed to accommodate growth in jobs and housing in the three-county Portland region through 2035 is \$27-41 billion. Traditional funding sources are expected to cover only about half that amount. Even if the region does not experience this projected growth, \$10 billion is needed just to repair and rebuild our existing infrastructure. The subcommittee recommends that new collaborative funding strategies be explored at the local, regional, and state level.

Subcommittee recommendations if UGB expansions are made

5. Require concept planning of urban reserves before UGB expansion:

A critical step towards providing development-ready sites is to complete some level of concept planning for urban reserve areas. The intergovernmental agreements that were signed by Metro and the three counties on urban and rural reserves require that concept planning be completed. These concept plans¹ will provide more certainty for how an area will be developed, could be used to market sites to potential firms, and would provide the means for making UGB expansions that intentionally accomplish regional and community goals. Pre-expansion concept planning would be necessary to make the UGB metering process, summarized in recommendation six, function properly.

The subcommittee recommends that pre-UGB-expansion concept plans be specific enough to inform UGB expansion decisions, but not be overly-prescriptive such that they become immediately outdated or preclude some degree of flexibility with future land uses.

<u>Recommended contents of a concept plan for large lot industrial uses</u> A pre-expansion concept plan for large lot industrial uses should describe the following.

- 1. The suitability of the site for particular industry sectors.
- 2. The general locations of the types of uses desired for the area.
- 3. The general locations of sewer, water and storm-water systems and transportation facilities, and a description of either connections of these systems to existing systems within the UGB or a description of how decentralized infrastructure systems may be

¹ Note - if UGB expansions are made in 2010, there will not be time for pre-expansion concept planning; this is a longer-term recommendation for future UGB expansion areas.

configured on site. These descriptions should include preliminary estimates of the costs to provide the facilities and services.

- 4. Natural features that will be subject to protection under Titles 3 and 13 of Metro's Urban Growth Management Functional Plan.
- 5. An understanding between or among the county, the city or cities that will provide any urban service to the area, and other service providers that determines which city, cities or special districts will be the eventual providers of urban services.
- 6. An understanding between or among the county and the city or cities that determines the city or cities that will have authority to annex the area, or portions of it, following addition to the UGB.
- 7. An evaluation of possibilities for the assembly of smaller taxlots.

Issues for further discussion regarding concept planning

The subcommittee recommends further discussion of the following issues regarding pre-UGB-expansion concept planning:

- 1. Who will pay for concept planning?
- 2. What level of plan specificity is appropriate?
- 3. Before UGB expansions are made, cities have a greater leverage to encourage cooperation amongst landowners to assemble larger sites for industrial uses. After UGB expansions are made, it is more likely that there will be landowners that will hold out for high sales prices. Because cities are unable to provide landowners with any certainty that their properties will be included in the UGB in the near term, devising a strategy for lot assembly before UGB expansions are made would be challenging. To address this challenge, the subcommittee proposes the following ideas for further consideration:
 - a. Cities could enter into option agreements with landowners to assemble large sites.
 - b. Service providers could withhold services to properties until a taxlot assembly plan or agreement is in place for a UGB expansion area.
- 6. Create a land-metering mechanism to maintain the region's inventory of large industrial sites: Growth management decisions made in 2010 will provide an additional 200 to 1,500 acres in large site configurations. In order to ensure that the region maintains a supply of large industrial sites that is competitive with other regions, the MPAC employment subcommittee recommends the creation of a land-metering process that operates in the intervening years of the five-year growth management decision cycle.

With a land-metering mechanism, as large sites inside the UGB get developed, they would be replenished through fast-track UGB expansions or through an action that makes land inside the UGB available (e.g. taxlot assembly or brownfield cleanup²)³. The Metro Council would return the region's large-site supply to its baseline target within a year of notification that ground has been broken on a large site.

² Standards need to be developed to determine whether a brownfield has been cleaned sufficiently to make it part of the large site inventory. An example of possible standards for brownfield cleanup are those that DEQ applies.

³ To satisfy state law, before expanding the UGB, Metro would first need to determine whether efficiency measures can be taken.

Regional large-lot demand and supply would again be reassessed in the 2014 urban growth report, which would be the basis for a growth management decision in 2015. The large lot supply that results from those decisions would be the new baseline inventory inside the UGB to maintain through 2030. The metering process would again be used in those intervening years to maintain a competitive supply within the UGB.

Elements of large-site-metering mechanism

- 1. With the 2010 growth management decision, the Metro Council establishes a baseline target for the number of vacant, buildable large sites to be maintained inside the UGB.
- 2. Metro and local governments identify the urban reserves with potential to provide large sites once inside the UGB.
- 3. Metro and local governments monitor the large-site supply inside the UGB.
- 4. The Metro Council adopts a fast-track process for adding industrial land to the UGB from urban reserves.
- 5. When the supply drops below the target (large sites are no longer vacant or buildable), the Metro Council has one year to return the baseline supply of large sites to its target. This can be accomplished either through efficiency measures such as brownfield cleanup and taxlot assembly or through a UGB expansion. If the UGB is expanded, use the fast-track process between five-year capacity cycles, or the legislative process associated with the next cycle if the drop occurs within one year of the capacity analysis. In making UGB expansions, consider the efficient distribution of employment opportunities throughout the region.
- 6. The Metro Council reviews the target to adjust to market changes at each five-year capacity cycle.
- 7. Aim to accommodate priority traded-sector industries when making growth management decisions:

A number of cities in the region have recently completed economic opportunity analyses (EOAs) that describe their economic development priorities⁴. These priorities include attracting several industries in traded sectors that have preferences for large lots. The specific site preferences of priority sectors listed in EOAs as well as the freight facilities that support those sectors should be a particular focus in upcoming growth management decisions.

8. Location matters: policy considerations to guide where within the 200-to-1,500-acre range to plan: Individual industry sectors and clusters have specific site size, transportation network, infrastructure, and labor needs. Efforts to attract firms in these sectors could be more successful if there are a variety of sites in a variety of locations from which to choose. When deciding where within the 200-to-1,500-acre range to plan, MPAC and the Metro Council should plan for a point in the range that provides future firms with adequate site choices.⁵

⁴ Note – other sectors are also economic development priorities for cities in the region. This short list only includes traded-sector industries that have historically had a preference for large sites and that are mentioned in EOAs. Included are manufacturing (especially high-tech, solar, medical devices, and advanced manufacturing) and logistics, warehousing, and distribution (including marine and air terminal uses).

⁵ If a land-metering process is adopted, as described in recommendation number six, it could reduce the risk of making more modest cyclical UGB expansions.

Examples of factors that influence demand and potential supply include:

- Current unemployment rates
- Employment forecast
- Potential adoption of a large-site-metering mechanism
- Potential adoption of additional protections for industrial areas
- Need for site choices to attract traded-sector firms and clusters
- History of development in past UGB expansion areas
- Current industrial building vacancy rates

RESERVES ACREAGE BREAKDOWN

Attachment 4 to Staff Report for Ordinance No. 10-1238A

Total Reserves Acreage

	Rural	Urban	Total
Clackamas	68,713	13,874	82,587
Multnomah	46,706	857	47,563
Washington	151,536	13,884	165,419
Total	266,954	28,615	295,569

Total Reserves Acreage by ODA Designations

	Conflicted	Foundation	Important	No Ag Status	Total
Clackamas	21,757	26,213	34,422	194	82,587
Multnomah	1,833	37,193	7,727	809	47,563
Washington	7,837	130,944	26,597	42	165,419
Total	31,427	194,350	68,747	1,045	295,569

Rural Reserves and Urban Reserves by ODA Designations

	Cor	nflicted	Fou	ndation	Imp	ortant	No A	g Status	Total
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	
Clackamas	10,156	11,602	24,889	1,323	33,588	835	80	114	82,587
Multnomah	1,833		36,336	857	7,727		809	0	47,563
Washington	4,948	2,889	121,214	9,730	25,361	1,235	12	29	165,419
Total	16,937	14,490	182,439	11,911	66,677	2,070	901	144	295,569

Total Reserves by EFU Zoning

	EFU	Other Zoning	Total
Clackamas	40,812	41,774	82,587
Multnomah	16,785	30,778	47,563
Washington	86,507	78,913	165,419
Total	144,104	151,465	295,569

Rural and Urban Reserves by EFU Zoning

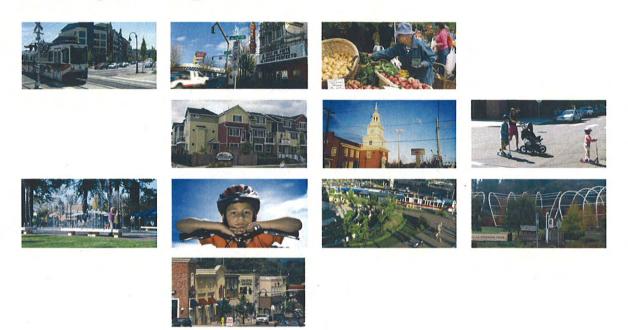
		EFU	Othe	Total	
	Rural	Urban	Rural	Urban	
Clackamas	37,494	3,318	31,218	10,556	82,587
Multnomah	16,372	413	30,334	444	47,563
Washington	79,470	7,036	72,065	6,847	165,419
Total	133,336	10,768	133,618	17,847	295,569

Total Reserves by ODA Designations & EFU Zoning

		EF	U		Other Zoning			Other Zoning Total	
	Conflicted	Foundation	Important	No Ag Status	Conflicted	Foundation	Important	No Ag Status	
Clackamas	3,452	17,869	19,397	94	18,305	8,344	15,025	100	82,587
Rural	1,329	17,314	18,795	56	8,826	7,576	14,792	24	68,713
Urban	2,123	555	602	38	9,479	768	233	77	13,874
Multnomah	520	14,826	1,435	4	1,314	22,367	6,292	805	47,563
Rural	520	14,413	1,435	4	1,314	21,923	6,292	805	46,706
Urban		413		0		444		0	857
Washington	652	83,691	2,157	6	7,185	47,253	24,439	36	165,419
Rural	0	78,019	1,449	1	4,948	43,194	23,912	11	151,536
Urban	651	5,672	708	5	2,237	4,058	527	25	13,884
Total	4,623	116,387	22,990	103	26,804	77,963	45,756	942	295,569

Attachment 5 to Staff Report Ordinance No. 10-1238A

www.oregonmetro.gov



Regional planning and development State of the Centers

Investing in our communities

January 2009

Metro | People places. Open spaces.

In 1995, Metro, with the help of residents in the region, adopted the 2040 Growth Concept to guide development over the coming decades. The Growth Concept identified more than three dozen centers across the region as the focus for redevelopment, multi-modal transportation and concentrations of homes and jobs.

This report contains profiles of each of those centers and is intended to help communities understand their current conditions as well as develop their aspirations for the future. The centers in our region are varied. Some support activities throughout the day and evening, some are more active in a concentrated time period.

For purposes of this discussion, we have highlighted six centers that host daily activity that ranges from 14 to 24 hours. These "typologies" can be used to help local leaders define how they want to maintain and enhance their communities as their populations continue to grow.

In the coming months, Metro will work with local leaders to understand how their local aspirations fit within the context of regional growth management, and will provide tools and assistance to help them achieve their stated aspirations.

Metro Department of Planning and Development 600 NE Grand Ave. Portland, OR 97232 503-797-1700

www.oregonmetro.gov

State of the Centers

Table of Contents

Introduction: Where we are today	1
Local Aspirations: What type of place	2
do you want to be?	

Activity Spectrum: What happens in our centers 6

Typologies: Examples of centers in the Portland metropolitan region

Downtown and the Pearl District	10
Nob Hill	12
Lloyd District	14
West Moreland	16
Clinton	18
Hillsdale	20

Regional Centers: Seven areas of concentration

Beaverton	26
Clackamas	28
Gateway	30
Gresham	32
Hillsboro	34
Oregon City	36
Washington Square	38

Town Centers: Building a strong community

Aloha	44
Bethany	46
Cedar Mill	48
Damascus	50

Fairview	
Forest Grove	
Gladstone	56
Happy Valley	
Hillsdale	
Hollywood	
King City	
Lake Grove	
Lake Oswego	
Lents	
Milwaukie	
Murrary/Scholls	
Orenco	
Pleasant Valley	
Raleigh Hills	
Rockwood	
Sherwood	
St. Johns	
Sunset Transit Center	
Tanasbourne	
Tigard	
Troutdale	
Tualatin	
West Linn	98
West Portland	100
Wilsonville	
Publication List	

State of the Centers

Where we are today



In 1995, with the support of the public and elected officials of the region, Metro adopted the 2040 Growth Concept as a vision to guide growth and development over the coming decades. The Growth Concept calls for maintaining the region's connections with nature, preserving existing neighborhoods, strengthening employment and industrial areas, and concentrating growth in designated centers and corridors. By adopting the 2040 Growth Concept, the region committed to create compact, vibrant communities and to protect the region's farm and forestland.

The 2040 Growth Concept designates 37 Centers across the region as the focus for redevelopment, multi-modal transportation and concentrations of households and employment. Over the last ten years, local governments have taken numerous actions to create vibrant centers including amending their comprehensive plans, providing financial assistance and investing in essential public The State of the Centers report is intended to help communities understand their current conditions and develop their aspirations for the future.

infrastructure. Centers vary greatly in geographic size, urban form and transportation access. Some, such as the undeveloped Pleasant Valley Town Center, have only recently been included in the Metro urban area, while others, such as St. Johns Town Center, reflect early twentieth century streetcar-era development patterns. Each of the centers is truly unique.

The Portland region is enjoying an increase of new activity and interest in its urban communities. With this growth a new generation of main street retailers, restaurateurs, and coffee shops is flourishing, bringing life, energy and activity to communities. In part, this growth has occurred because the Portland region is simply a great place to live, a great place to visit and a great place to work. But the other, reason is the thoughtful planning and strategic investments made by public and private partners to bring jobs, homes and businesses to our communities. Cities across the region have taken many actions and have had much success in activating their centers, despite this, many jurisdictions have further aspirations.

The State of the Centers Report is intended to facilitate discussion about local aspirations for the future and to compliment the many actions taken by the region's cities. The State of the Centers report presents three separate sections to further support implementation of the 2040 growth concept, including:

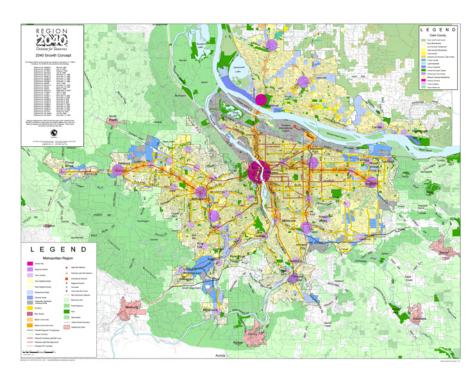
Activity spectrum and typologies

that provide examples of successful centers in the Portland area that can be used to better understand relationships between transit, people per acre, urban form and the diversity of businesses in a vibrant community. More specifically, this analysis looks at certain businesses as 'urban amenities' that help create desirable local destinations and raise the activity levels of centers. These 'Urban Living Infrastructure (ULI)' businesses include brewpubs, bookstores, and coffee shops, among others.

Regional and town center

descriptions that illustrate current population and employment concentrations as well as the number of ULI businesses. The report also provides current statistics on each centers' residents, including median age, income and household size, current park and transit services, and key infrastructure for center development. These data represent a snapshot in time and will be updated periodically.

A publications list summarizes a number of publications that Metro has prepared to assist local communities develop their centers.



The State of the Centers report is particularly timely now, as the region moves toward a series of growth management decisions including how to meet the growth needs for the next 20 years, the size and location of urban and rural reserves for a 40 to 50 year time period, and the region's transportation priorities. These decisions will be made in a time when limited financial capacity makes the return-on-investment calculations even more important.

The aspirations that a community has for its center, and the actions communities are willing to take to achieve those aspirations, will help support these centers as vibrant places. The State of the Centers report is intended to help communities understand their current conditions and develop their aspirations for the future. Metro is committed to providing on-going assistance for achieving highperforming, vibrant centers across the region.

This report reflects current development and geographies of all of the centers in the Metro region using the most up-to-date data available. As a first draft, we are prepared to revise and add additional measures over time to make it more useful. We welcome questions and suggestions and value your input. Centers, like all places, are dynamic and constantly evolving, and we anticipate the need to update the information in this report over time.

Local Aspirations

What type of place do you want to be?



Making a vision a reality is no simple task. Often when people are asked to describe what they want their community to be like in the future they use descriptions of how it should look and function. They describe the businesses that would anchor the community and the amount of people coming and going on the street. Vibrant communities come in many varieties and, unfortunately, what makes them work is not easily derived from a simple formula. There are, however, a number of steps communities can take to encourage the development of a successful center. Most importantly, a successful, vibrant center needs a critical mass of people, both residents and workers, to sustain local businesses and to provide for efficient transit and other services. This base population can leverage a community's ability to create the kind of place it desires. The State of the Centers report provides information and tools for Metro area communities to examine, and to evaluate what kind of center they aspire to be, what their center could look like and what steps might be needed to get there.

The Activity spectrum and typologies

The Activity Spectrum and the associated Typologies are two comparative tools that can help communities in understanding How to use the Activity Spectrum and Typologies All places are unique and there is no one formula that would change an aspiring community into a vibrant center. The Activity Spectrum and Typologies provide an in-depth look at vibrant centers and can serve as benchmarks for comparison with the existing conditions of the Regional and Town Centers. The information presented here is aimed at assisting local communities in achieving the community aspirations they have envisioned.

and discussing their community aspirations. The first tool, the Activity Spectrum, shows successful centers of various sizes and activity levels. The intention of the tool is to provide reference points that can be used to establish specific population targets in order to achieve a community's aspiration. The Activity Spectrum uses six different districts within the City of Portland - three small neighborhood districts, similar to 2040 Main Streets or smaller Town Centers, and three large districts similar to 2040 Regional Centers or large Town Centers. They were selected to represent the wide range of possibilities for development in centers throughout the region, and their specific geographies have been selected for their compact mixeduse nature. These districts exhibit desirable characteristics such as an active pedestrian environment, access to a variety of transit options, and a successful mix of retail, employment and housing that make many of them active during the day or through the evening.

The different districts are called 'Typologies' because they represent varying types of successful centers. An in-depth look at sociogeographic form using three primary indicators - Urban Amenities (ULI businesses as explained in the previous section), demographics and urban form are provided. Demographics include the number of people living and working in the district. Urban form is represented by the 'Floor Area Ratio' (FAR) which is the ratio of building area to lot size, and is a good measure of how intensely the land is being utilized.

Urban amenities

The data from the Activity Spectrum and Typologies show that there is a basic relationship between the number of people living and working in a given district and the number of urban amenities. As the number of total people (residents plus employees) goes up, so does the number of amenities. In addition the data show that there is variety in intensity, and for the most part, the lower the FAR the lower the number of amenities. Interestingly, the majority of the most intensely developed areas in the region are primarily two to four stories in

	1
Ý	0
<u>40</u>	0
	1
(0
ê	1
*	1
M	19
	6
	0
Z	2
	6
	0
\square	24
	0
Š	4
	1
Ď	0
	1

height. This shows that successful centers can take on many different forms and, with only moderately tall buildings, can accommodate a significant portion of the region's households.

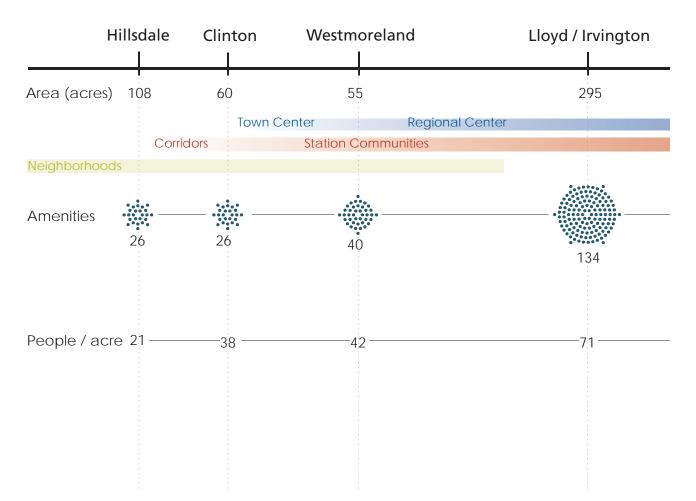
About the data

Geographic data are from Metro's **Regional Land Information** System (RLIS), a comprehensive set of geographic layers for the metropolitan region. The center boundaries reflect the definitions adapted by local jurisdictions and provided to Metro. Aerial imagery was taken in July 2007. Demographic and business data are derived from the Environmental Systems Research Institute (ERSI, www.esri.com) and infoUSA (www. infousa.com). Whenever possible, we have updated the businesses' data with local sources in order to provide the most up to date and accurate portrayal of the centers possible. The geographic areas used for these Typologies (and center descriptions) assumes that parks, streets and highways are not developable land and therefore are net areas and not the total gross acreage.

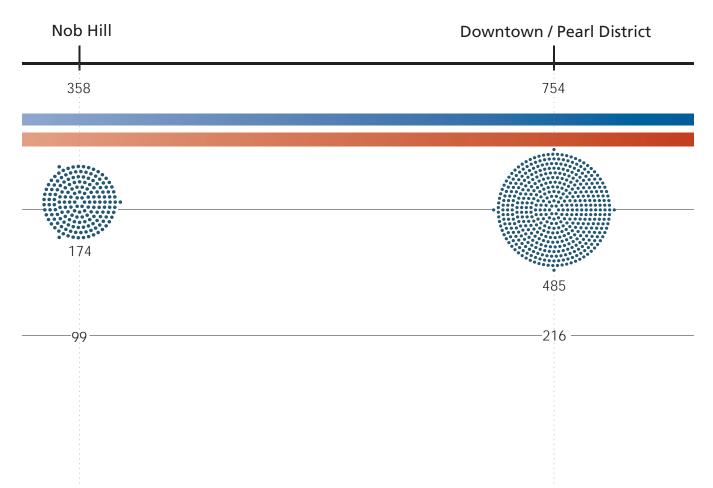
The Urban Living Infrastructure (ULI) amenities are a set of land use amenities that together comprise an active urban environment. These characteristics of place are based on the work of Urban Living Infrastructure Report commissioned by Metro and written by Johnson Gardner in June 2007. The box to the left gives a sample of a center's ULI amenities.

There are many ways to display similar statistics, and we have attempted to provide statistics that illustrate the best comparisons possible. For instance, in each of the Regional and Town Center descriptions, the centers are compared to either unweighted Town Center averages or unweighted Regional Center averages. All centers are different and have varying geographies. Some, such as the Hollywood Town Center, are small primarily mixed-use areas, but surrounded by large residential areas. Others, like Forest Grove, have comparatively small populations, but have unique circumstances (Forest Grove has a large student population not included in census population numbers). As stated in the report's introduction, all centers are constantly evolving as new residents arrive and businesses grow or change hands. The data provided here gives a general picture of the state of each center, but it is also important to look for other circumstances that make each center unique.









Typologies



Downtown and the Pearl District

FOCUS | Employment, entertainment hub and tourist destination



Activity level 24 hour Jobs to housing ratio 8:1 **Economic focus** Employment and Tourism Median household size 13 Median household **income** (2007) \$26,000 Median age 36 Home ownership 13% People per acre 216 **Dwelling units per acre** 24 Floor Area Ratio (FAR) 3:1

Downtown and the Pearl District include significant amounts of employment and businesses and an expanding housing stock. More than 13,000 residents live within a quarter mile of the district and during the day the district and this surrounding area host more than 75,000 workers. Additionally, the area is the primary tourist destination in the region, boasting multiple theaters, museums, restaurants and high-end retailers.

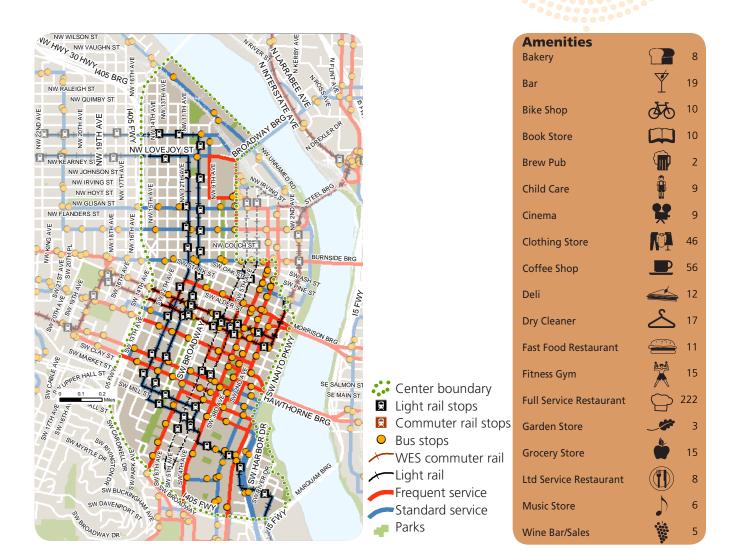
The area has a jobs to housing balance of 8:1, highlighting its primary function as the regional employment center. The area includes a substantial amount of housing stock in the form of urban-style condos and apartments, allowing for many to live and work within the district.

Downtown and the Pearl is considered a 24-hour activity center, with daytime uses that includes office jobs, high-end and specialty retailers, grocery stores, farmers markets, museums and many limited-service restaurants. Nighttime activity includes full-service fine dining restaurants, coffee shops, theaters, bars and nightclubs. Within the area there is a wide range of businessess, especially restaurants, coffee shops and specialty clothing stores, with an additional range of businesses that include: bars, bakeries, dry cleaners, fitness gyms, child care and book stores.

Residents, workers and visitors can easily access the area through a variety of transportation options. The area is served by multiple light rail lines, multiple bus lines, a streetcar system and pedestrian friendly streetscapes based on an urban style grid network and narrow streets. Additionally, this center serves as the central hub for all bus lines in the region, meaning most major bus routes stop in this district at some point. Auto access is prevalent with access to several major highways and thoroughfares that further support the area's accessibility to others from outside the region. Land values in this center allow for the strategic placement of structured parking throughout. Large, mixed-use parking structures and underground parking are prevalent. In addition, surface parking lots can also be found in key locations along the edge of the district. Various forms of public transit and walkable streetscapes help make the car a secondary choice for transportation into and out of the district.







Urban form of selected buildings

Typologies ...

Distribution of building heights within the entire district



Nob Hill District

FOCUS | Tourism and entertainment



Activity level 24 hour Jobs to housing ratio 2:1 **Economic focus** Toursim and entertainment Median household size 1.4 Median household income (2007) \$37,000 Median age 34 **Home ownership** 12% People per acre 99 **Dwelling units per acre** 28 Floor Area Ratio (FAR) 1.14:1

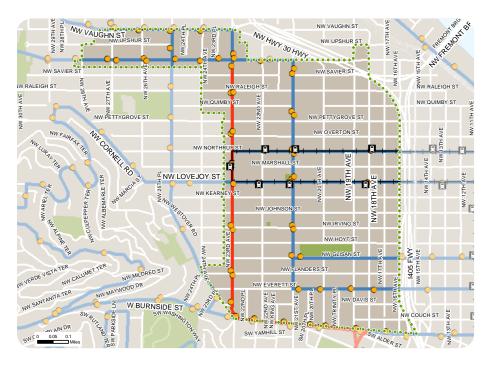
The Nob Hill District includes significant housing, employment and commercial businesses. It serves the local population and functions as a regional and tourist destination, because of its unique combination of fine dining, specialty foods, clothing and accessory retail. Including the immediate surrounding area the district has more than 8,500 residents and 13,000 workers. The area has a jobs to housing balance of 2:1, and while it is a hub for employment it also has a significant amount of housing providing considerable opportunity for those living in the district to also work in the district.

Nob Hill is considered a 24-hour activity location, with daytime office uses and supporting services such as limited service restaurants and other services such as a grocery and dry cleaning that can be easily accessed by workers and residents alike. Nighttime retail activities include restaurants, a cinema, bars and brew pubs. There are many businesess in the district especially restaurants, coffee shops and specialty clothing stores, with an additional range of businesses that include: bars, bakeries, dry cleaners, fitness gyms, grocery stores and bookstores.

Residents, workers and visitors can easily access the area through a variety of transportation options. The area is served by frequent bus service, a streetcar system and pedestrian friendly streetscapes based on an urban style grid network and narrow streets. Auto access is prevalent with access to several major highways and thoroughfares that further support the area's accessibility to others from outside the region. There is limited structured and surface parking in the area, however adequate on-street parking is available. Various forms of public transit and walkable streetscapes provide multiple travel options into and out of the district.



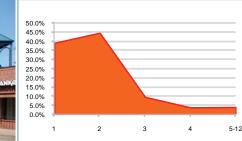




- Center boundary
 Light rail stops
 Commuter rail stops
 Bus stops
 WES commuter rail
- Light rail (under construction) Light rail frequent service Standard service Parks

Amenities Bakery 5 Ý 6 Bar d to **Bike Shop** 6 3 **Book Store** \Box **Brew Pub** 2 ΠP **Child Care** 2 Cinema 1 27 **Clothing Store Coffee Shop** 15 2 2 Deli **Dry Cleaner** 4 2 Fast Food Restaurant 5 Fitness Gym **Full Service Restaurant** 77 1 Garden Store 1 9 **Grocery Store** Ltd Service Restaurant 1 **Music Store** 1 Wine Bar/Sales 3

Distribution of building heights within the entire district



Urban form of selected buildings

Typologies



Lloyd / Irvington District

FOCUS | Shopping and employment



Activity level 18 hour Jobs to housing ratio 7:1 **Economic focus** Shopping and Employment Median household size 1.5 Median household income (2007) \$42,000 **Median age** 37 **Home ownership** 20% People per acre 71 **Dwelling units per acre** 8 Floor Area Ratio (FAR) 1.48:1

Lloyd / Irvington is a moderately populated district with an emphasis on employment and commercial retail activities. This district focuses on office and retail employment, which is highlighted by a regional shopping center and several largescale office complexes. Additionally, the core of the center is surrounded by low to medium density housing in the form of single-family housing and several apartment buildings.

The area has a jobs to housing ratio of almost 7:1, which indicates that a large percentage of the workers in the center travel from outside the area to a job within the district. Additionally, the regional shopping center draws many trips in from outside the area.

The Lloyd / Irvington district is considered an 18-hour activity center, with a majority of daytime uses in the form of office jobs and retail employment. These uses are supported by many fast food and limited service restaurants as well as dry cleaners, child care and coffee shops. Nighttime activity includes a limited number of full-service fine dining restaurants, bookstores, specialty retail and a major movie theater.

As an employment and regional shopping destination, the area can be easily accessed by a variety of transportation options. The area is served by a light rail line for morning and evening commutes in and out of the district, as well as multiple bus lines. The automobile is the primary form of transportation in this district. Several major highways and thoroughfares provide access to the regional shopping and employment locations. The area is mainly comprised of surface and on-street parking with some structured parking attached to major employment/office locations. The street network tends to be a mix of small block grids in the residential neighborhood areas and "super blocks" in the office and shopping areas, making walking somewhat more difficult in several areas as wide streets and fast-moving traffic discourage pedestrian movement between the residential areas and the shopping/office areas.





3

Amenities

Bakery



bulkery		
Bar	Ý	1
Bike Shop	4 0	3
Book Store		4
Brew Pub	m	0
Child Care	Ŵ	4
Cinema	¥	1
Clothing Store	M	29
Coffee Shop		13
Deli		0
Dry Cleaner	Z	4
Fast Food Restaurant		10
Fitness Gym		2
Full Service Restaurant	\square	52
Garden Store		0
Grocery Store		1
Ltd Service Restaurant		1
Music Store	5	4
Wine Bar/Sales		1

Urban form of selected buildings

Typologies



ewrub	THE	Ŭ
ild Care	Ĥ	4
nema	¥	1
othing Store	M	29
offee Shop		13
li		0
y Cleaner	$\underline{\mathcal{S}}$	4
st Food Restaurant		10
ness Gym		2
Il Service Restaurant	\square	52
arden Store		0
ocery Store	*	1
d Service Restaurant		1
usic Store		4
ine Bar/Sales		1

Distribution of building heights within the entire district

5-2

. . . .

Westmoreland District

FOCUS | Specialty retail, small town feel



Activity level 18 hour Jobs to housing ratio 3:1 **Economic focus** Shopping and dining Median household size 1.8 Median household income (2007) \$49,000 **Median age** 41 **Home ownership** 55% People per acre 42 **Dwelling units per acre** 9 Floor Area Ratio (FAR) .41:1

Westmoreland is a moderately populated district with an emphasis on dining and specialty retail shopping. It serves the local population and functions as a regional and tourist destination because of its unique combination of fine dining, specialty foods and clothing and accessory retail. The area was historically considered a Main Street. Today, it still serves the same purpose but it has evolved into a destination location.

The area has a jobs to housing balance of almost 3:1, and while it is a hub for specialty retail it also has a significant amount of housing in the surrounding area. The majority of the housing is single-family residential, of which 55 percent is owner occupied. The majority of the jobs in the district are retail oriented, meaning that most people leave the area to work.

Westmoreland is considered an 18-hour activity center, with a majority of daytime uses in the form of grocery stores, garden stores, clothing stores and coffee shops. Nighttime activity includes several bars, two cinemas and multiple full-service restaurants.

As a regional shopping destination, the majority of access comes in the form of automobile traffic. Parking is handled by multiple surface lots and considerable on-street parking. Additionally, parking tends to move into the residential neighborhoods during peak dining and shopping times. The area is served by bus lines, with a frequency of 15-minute head-ways and multiple stops. The street network is mainly small block in nature with narrower residential streets just off the main thoroughfare. This street network promotes pedestrian movement throughout the district.







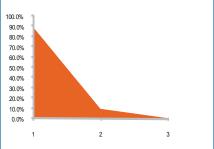
Urban form of selected buildings

Typologies



Amenities Bakery		0
Bar	Ý	3
Bike Shop	90	1
Book Store		1
Brew Pub	(0
Child Care	Ť	0
Cinema	¥	2
Clothing Store	M	7
Coffee Shop		5
Deli		0
Dry Cleaner	Z	2
Fast Food Restaurant		0
Fitness Gym		1
Full Service Restaurant	\bigcirc	16
Garden Store		0
Grocery Store		1
Ltd Service Restaurant		1
Music Store	5	0
Wine Bar/Sales		0

Distribution of building heights within the entire district



Clinton District

FOCUS | Dining and entertainment



Activity level 18 hour Jobs to housing ratio 2:1 **Economic focus** Dining and entertainment Median household size 1.95 Median household income (2007) \$50,000 Median age 34 **Home ownership** 44% People per acre 38 **Dwelling units per acre** 11 Floor Area Ratio (FAR) .55:1

Clinton is a moderately populated district with a focus on dining and entertainment. There are several full service restaurants and bars in this district, a movie theater and a specialty video rental store. The area also includes a number of coffee shops, vintage clothing stores and record shops. This unique district serves the local population and is also a popular scene for younger people to come and hang out at the local bars and restaurants. Ample outside seating is present at most of the restaurants, cafes and bars.

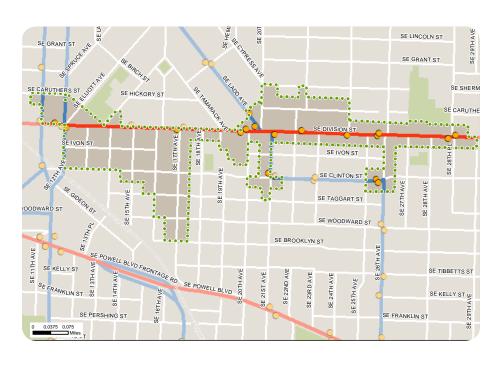
The area has a job to housing balance of 2:1 which, coupled with its low employment numbers, indicates that many of the residents of the area leave to go to work. The majority of the employment is centered around retail, restaurants and entertainment activities. The housing stock is primarily from the early 20th century and includes a mix of single-family residential and multi-family structures of which 44 percent is owner occupied. Significant infill development has also been prevalent in this area primarily in the form of duplexes and condominium development.

Clinton is considered an 18-hour activity center, with a majority of daytime uses in the form of coffee shops, clothing stores and music stores. Nighttime activity includes full-service and limited-service restaurants, as well as multiple bars and theaters.

The Clinton district is accessed through several different transportation options. The district is a network of narrow streets and small blocks, making it very pedestrian friendly. Additionally, Clinton is an official bike boulevard, making bike travel a viable and often-used option. Several bus lines cross through this district with multiple stops and short headways. The area has frequent bus service to assist in the movement of workers into and out of the district during morning and evening peak travel times.







Center boundary
 Light rail stops
 Commuter rail stops
 Bus stops



Amenities Bakery		0
Bar	Ý	5
Bike Shop	50	1
Book Store		0
Brew Pub	m	0
Child Care	i	0
Cinema	¥	1
Clothing Store	N	2
Coffee Shop		3
Deli		0
Dry Cleaner	Δ	0
Fast Food Restaurant		0
Fitness Gym		0
Full Service Restaurant		8
Garden Store	_	0
Grocery Store		2
Ltd Service Restaurant		1
Music Store	1	2
Wine Bar/Sales		0

Distribution of building heights

within the entire district

Urban form of selected buildings



Typologies

6205 ¹⁹

. . . .

Hillsdale District

FOCUS | Dining and local services



Activity level 14 hour Jobs to housing ratio 3:1 **Economic focus** Dining and local services Median household size 2.08 Median household income (2007) \$55,000 Median age 33 **Home ownership** 36% People per acre 29 **Dwelling units per acre** 10 Floor Area Ratio (FAR) 0.38:1

Hillsdale is a district with a more suburban, single-family residential feel. The area was historically considered a Main Street, serving the local population. Today, the area is still primarily geared toward serving the local population, but the main street is now a state highway and significant efforts have been made or are underway to improve the pedestrian environment. Despite having a state highway as the main street in this district, it has evolved into a destination location for restaurants and a farmers market. The area also has several trails and schools within walking distance from the district.

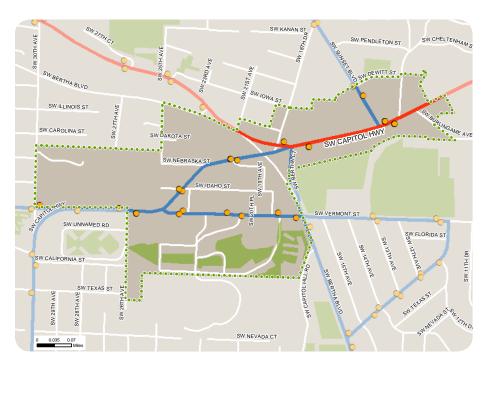
The area has a job to housing balance of 3:1, but the total number of jobs is actually quite low. This would indicate that a majority of the population leave the area to work, while any jobs found within the center are predominantly retail or restaurant focused. Housing in the district is mainly single-family residential with some multi-family housing located in clusters near the main highway.

Hillsdale is considered a 14-hour activity center, with a majority of daytime uses in the form of coffee shops, clothing stores and child care. Nighttime uses are centered around the restaurants found in the center. There are no bars or nightclubs located within the Hillsdale center.

Hillsdale is accessed predominantly via the automobile. The area displays a more curvilinear street pattern, with a lack of sidewalks in some areas. Parking is generally found in surface lots and on street. The use of parking structures is limited due to land values and uses in this center. Frequent bus and several other buses serve Hillsdale, providing public transit to the area.







Center boundary Light rail stops Commuter rail stops Bus stops 0



Amenities Bakery		2
Bar	Ý	0
Bike Shop	90	0
Book Store		0
Brew Pub	P	0
Child Care	i	4
Cinema	*	0
Clothing Store	M	4
Coffee Shop		6
Deli		2
Dry Cleaner	Z	4
Fast Food Restaurant		2
Fitness Gym		1
Full Service Restaurant	\square	22
Garden Store		0
Grocery Store	Ť	1
Ltd Service Restaurant		4
Music Store	5	0
Wine Bar/Sales		0

Urban form of selected buildings



21 6203

Typologies

Regional Centers

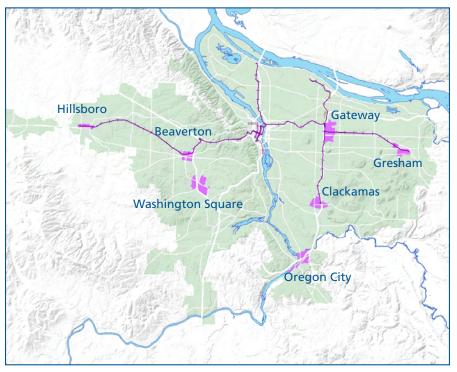


Regional Centers

Seven areas of concentration



Regional Centers are the focus of redevelopment, multi-modal transit connections, and concentrated future growth. Eventually, rail connections will tie all of the regional centers to each other and the central city area of Portland. There are seven regional centers, serving four market areas (outside of the central city market area). Hillsboro, Beaverton and Washington Square serve Washington County, the West Hills and the communities along the 1-5 Corridor. Oregon City and Clackamas serve northern Clackamas County and the I -205 Corridor. Gresham and Gateway serve Portland east of I-205 and all of eastern Multnomah County. All of the centers, with the exception of Oregon City are well connected to the rest of the region through MAX lines, the WES and frequent bus service. Urban form varies greatly from center to center. Hillsboro, Oregon City, Beaverton and Gresham all have grid street patterns and maintain a small city feel. Washington Square, Clackamas and Gateway all arose through concentrations of retail outlets especially those situated in large suburban style malls. A few Regional Centers, such as

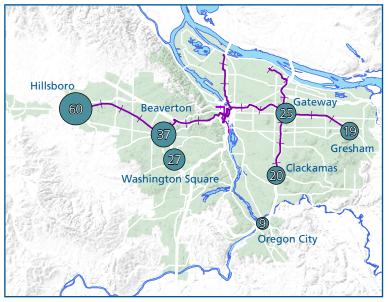


Hillsboro, Gateway and Clackamas are utilizing Urban Renewal to spur growth. While the others have unique circumstances that have encouraged development. Oregon City, for example, is the site of a new large lifestyle center that should bring more shopping and employment into the center. All centers are actively planning for redevelopment and access improvements.

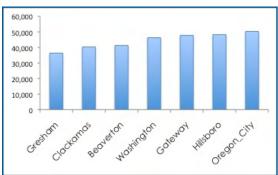
Beaverton Clackamas Gateway Gresham Hillsboro Oregon City Washington Square



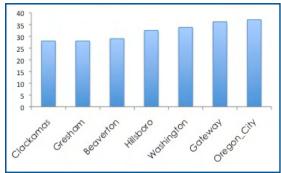
People per acre



Median income



Median age

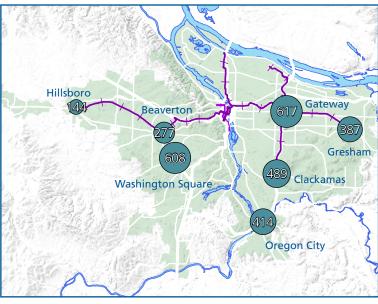


Dwelling units per acre

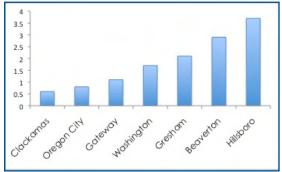


Total acres

Regional centers ...



Total businesses per acre



Beaverton Regional Center



	1
Ý	4
<u>40</u>	2
	3
m	0
	0
1	1
M	12
	9
	1
Z	2
e	4
	5
\square	45
	2
	9
	1
Ď	1
	0

The Beaverton Regional Center covers 277 acres and is a mix of residential, employment and commercial businesses. It is easily accessed by the major arterial Highway 217, among other major bisecting arterials. The center is well connected to Washington County and the region with two MAX light rail stops and multiple frequent and regular services bus routes. Beaverton has 100 Urban Living Infrastructure businesses, 37 people per acre and a jobs housing ratio of 6:1.

By the numbers	Beaverton	Regional Center Averages
Jobs to housing ratio	6:1	9:1
Median household size	2.6	2.7
Median household income (2007)	\$41,217	\$44,326
Median age	29	32
Home ownership	25%	34%
People per acre	37	28
Dwelling units per acre	4	3
Total businesses per acre	2.9	1.85





Beaverton Regional Center





Clackamas Regional Center

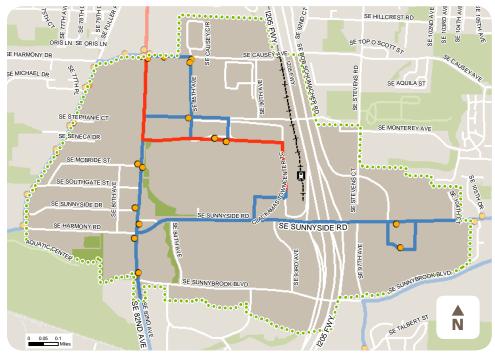


Amenities		
Bakery		1
Bar	Ý	0
Bike Shop	<u>40</u>	0
Book Store		1
Brew Pub	m	1
Child Care	Ĩ	0
Cinema	1	1
Clothing Store	M	56
Coffee Shop		8
Deli		0
Dry Cleaner	Z	1
Fast Food Restaurant	e	19
Fitness Gym		2
Full Service Restaurant	\square	21
Garden Store		0
Grocery Store		1
Ltd Service Restaurant		2
Music Store	Ď	3
Wine Bar/Sales		0

The Clackamas Regional Center encompasses 489 acres and is the retail hub of northern Clackamas County and much of east Portland. Located conveniently along Interstate 205, the center is home to a large regional mall and many destination shops and services. Starting in 2009 a MAX Green Line station will open connecting the center to downtown Portland with a travel time less than 45 minutes. The center has abundant surface parking and is part of an active Urban Renewal district.

By the numbers	Clackamas	Regional Center Averages
Jobs to housing ratio	2:1	9:1
Median household size	2.2	2.7
Median household income (2007)	\$40,305	\$44,326
Median age	28	32
Home ownership	16%	34%
People per acre	20	28
Dwelling units per acre	6	3
Total businesses per acre	0.6	1.85





Clackamas Regional Center

- Center boundary
 Light rail stops
 Commuter rail stops
 Bus stops
 Light rail (under construction)
 Light rail
 Frequent service
 Standard service
 - Parks



Gateway Regional Center

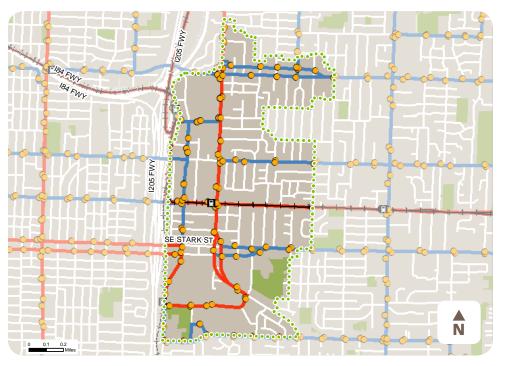


Amenities		
Bakery		0
Bar	Ý	5
Bike Shop	<u>40</u>	1
Book Store		2
Brew Pub	m	0
Child Care	Ŵ	0
Cinema	*	0
Clothing Store	M	7
Coffee Shop		7
Deli		3
Dry Cleaner	Z	4
Fast Food Restaurant	(*****)	4
		4
Fitness Gym		6
Fitness Gym Full Service Restaurant		
		6
Full Service Restaurant		6 34
Full Service Restaurant Garden Store		6 34 0
Full Service Restaurant Garden Store Grocery Store		6 34 0 4

The Gateway Regional Center covers 617 acres and serves northeast and eastern portions of the city of Portland along with shoppers and travelers from most locations east of the Willamette River and both sides of the Columbia River. The center is well connected to the entire region as it is the crossing point of interstate highways 205 and 84. Currently there are two and soon there will be three MAX light rail lines that run frequently through the center along with the already present multiple bus lines. The center is also part of an active Urban Renewal district.

By the numbers	Gateway	Regional Center Averages
Jobs to housing ratio	2:1	9:1
Median household size	2.5	2.7
Median household income (2007)	\$47,721	\$44,326
Median age	36	32
Home ownership	42%	34%
People per acre	25	28
Dwelling units per acre	6	3
Total businesses per acre	1.1	1.85





Gateway Regional Center





Gresham Regional Center

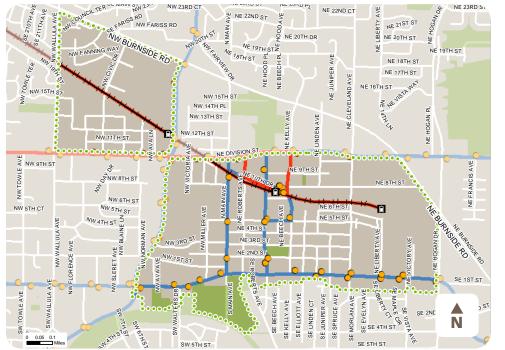


Amenities		
Bakery		1
Bar	Ý	2
Bike Shop	đ	3
Book Store		1
Brew Pub	1	1
Child Care	Ŵ	2
Cinema	*	1
Clothing Store		12
Coffee Shop		5
Deli		2
Dry Cleaner	Z	2
Fast Food Restaurant		2
Fitness Gym		2
Full Service Restaurant	\bigcirc	28
Garden Store		1
Grocery Store	È	3
Ltd Service Restaurant		1
Music Store	Ď	0

The Gresham Regional Center is a 387 acres Regional Center that serves all of eastern Multnomah County and is the final eastern terminus of the MAX Blue Line. Although not on an interstate highway the center is easily accessed by multiple major arterials. The center has 19 people per acre, a median age of 28 and a jobs to housing ratio of 5:1. The Civic Center station area, within the Regional Center, has developed as one of the region's transit oriented development sites, with planned public and private investments surrounding the transit station.

By the numbers	Gresham	Regional Center Averages
Jobs to housing ratio	5:1	9:1
Median household size	2.8	2.7
Median household income (2007)	\$36,325	\$44,326
Median age	28	32
Home ownership	17%	34%
People per acre	19	28
Dwelling units per acre	3	3
Total businesses per acre	2.1	1.85





Regional centers ...

Gresham Regional Center





Hillsboro Regional Center

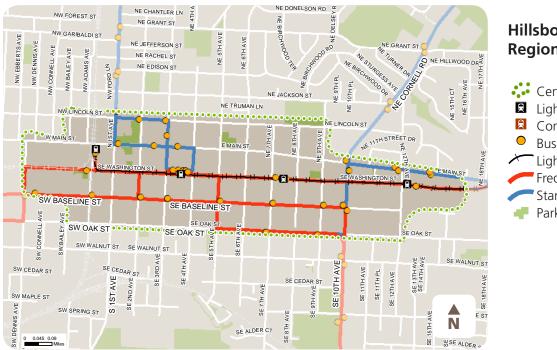


Amenities		
Bakery		2
Bar	Ý	1
Bike Shop	đ	1
Book Store		1
Brew Pub	1	0
Child Care	Ŵ	4
Cinema	¥	0
Clothing Store	M	9
Coffee Shop		3
Deli		3
Dry Cleaner	Z	3
Fast Food Restaurant		3
Fitness Gym		0
Full Service Restaurant	\square	3
Garden Store		0
Grocery Store	*	4
Ltd Service Restaurant		1
Music Store	Ď	0
Wine Bar/Sales		0

Hillsboro covers 144 acres and is the western terminus of the MAX Blue Line. The center serves Washington County along with many rural areas outside of the urban growth boundary. Unlike other more centrally located regional centers, Hillsboro maintains its small city feel, with a thriving main street and grid street network. The center is served by Tualatin Valley Highway, and is well served both by the MAX and frequent bus service.

By the numbers	Hillsboro	Regional Center Averages
Jobs to housing ratio	13:1	9:1
Median household size	2.8	2.7
Median household income (2007)	\$48,224	\$44,326
Median age	33	32
Home ownership	47%	34%
People per acre	60	28
Dwelling units per acre	3	3
Total businesses per acre	3.7	1.85





Hillsboro Regional Center





Oregon City Regional Center

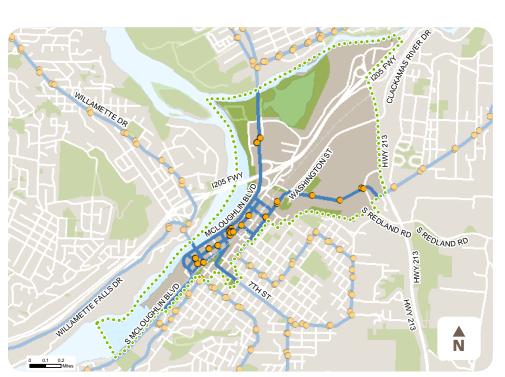


Amenities		
Bakery		1
Bar	Ý	8
Bike Shop	4 0	1
Book Store		2
Brew Pub	(0
Child Care		0
Cinema	¥	0
Clothing Store	M	0
Coffee Shop		3
Deli		1
Dry Cleaner	Z	0
Fast Food Restaurant		3
Fitness Gym		2
Full Service Restaurant	\square	15
Garden Store		1
Grocery Store		0
Ltd Service Restaurant		0
Music Store	Ď	0
Wine Bar/Sales		0

Oregon City, at 414 acres, is the southernmost Regional Center and serves Clackamas County along with neighboring cities. One of the earliest incorporated cities in the state, Oregon City has a grid pattern street network and abuts the Willamette River. Retail and housing development has increased in the northern section of the center close to Interstate 205. There are several bus lines that connect Oregon City to the region, and light rail connections are in an early planning phase.

By the numbers	Oregon City	Regional Center Averages
Jobs to housing ratio	23:1	9:1
Median household size	2.6	2.7
Median household income (2007)	\$50,270	\$44,326
Median age	37	32
Home ownership	52%	34%
People per acre	9	28
Dwelling units per acre	0.3	3
Total businesses per acre	0.8	1.85





Oregon City Regional Center





Regional centers

Washington Square Regional Center

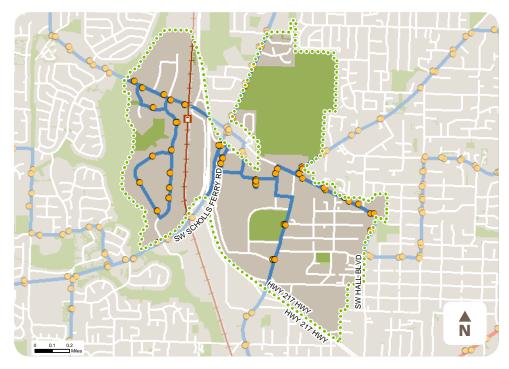


Amenities		
Bakery		1
Bar	Ý	0
Bike Shop	<u>40</u>	0
Book Store		4
Brew Pub	1	1
Child Care		3
Cinema	1	0
Clothing Store	M	66
Coffee Shop		11
Deli		3
Dry Cleaner	Z	2
Fast Food Restaurant		18
Fitness Gym		4
Full Service Restaurant	\square	31
Garden Store		1
Grocery Store		2
Ltd Service Restaurant		0
Music Store	Ď	1

Washington Square is a 608 acre center and a major retail hub for its section of the region. The Washington Square mall is a thriving shopping center and has attracted many other satellite retail developments. Situated at the intersection of two major arterials, Washington Square is well connected to other parts of Washington County. Starting in 2009 the WES Commuter Rail will connect Washington Square to a corridor of development from Wilsonville to Beaverton.

By the numbers	Washington Square	Regional Center Averages
Jobs to housing ratio	11:1	9:1
Median household size	2.3	2.7
Median household income (2007)	\$46,222	\$44,326
Median age	34	32
Home ownership	36%	34%
People per acre	5	28
Dwelling units per acre	2	3
Total businesses per acre	1.7	1.85





Washington Square Regional Center





Regional centers

Town Centers



Town Centers

Building a strong community

1

2

3

4

5

6

7

8

9

10

11 12 13

14 15

16

17

18

19

20

21

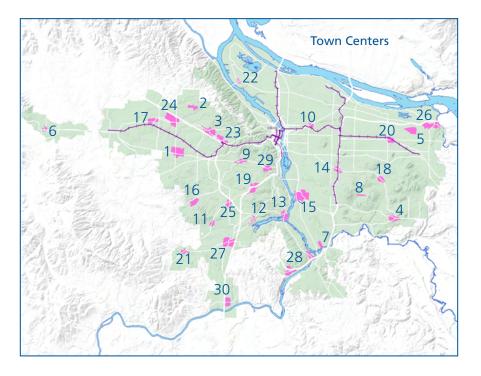
22 23

24 25



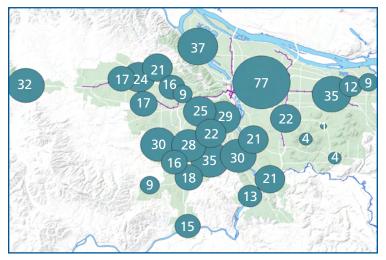
Aloha
Bethany
Cedar Mill
Damascus
Fairview
Forest Grove
Gladstone
Happy Valley
Hillsdale
Hollywood
King City
Lake Grove
Lake Oswego
Lents
Milwaukie
Murrary/Scholls
Orenco
Pleasant Valley
Raleigh Hills
Rockwood
Sherwood
St. Johns
Sunset Transit
Tanasbourne
Tigard
Troutdale
Tualatin
West Linn
West Portland
Wilsonville

The 2040 growth concept designates 30 town centers. Town Centers serve local populations with everyday needs and on occasion have specialty and destination retail. Town Centers are usually connected to regional centers via major road networks and transit, although the development of Town Centers varies greatly. For example, Damascus and Pleasant Valley, having been included in the most recent urban growth boundary expansion, are primarily rural and auto-oriented in nature. St. Johns, Hollywood and Gladstone were original 'streetcar suburbs' and have more of a traditional grid street network. Transit service also varies greatly from center to center. A few, such as Orenco and Rockwood, are easily connected to the regional MAX system, while others, like Cedar Mill and Bethany, lack even frequent bus service.

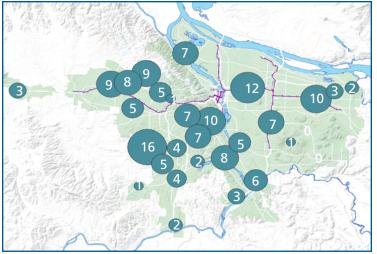




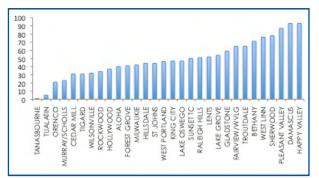
People per acre



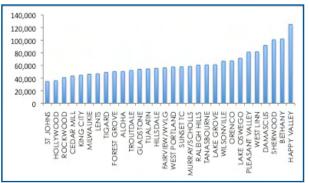
Dwelling units per acre



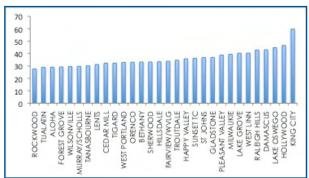
Percent owner occupied households



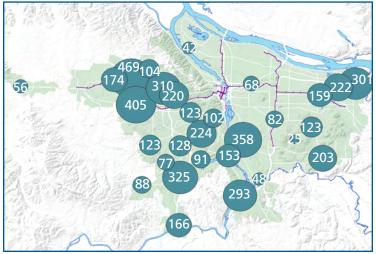
Median income



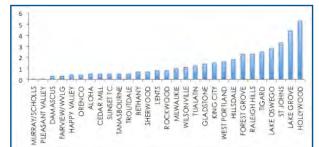
Median age



Total acres



Total businesses per acre



Town centers

Aloha Town Center

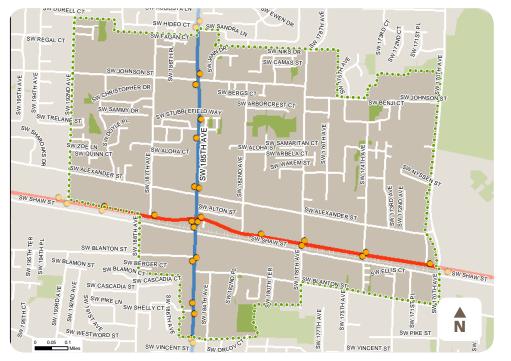


Amenities		
Bakery		1
Bar	Y	0
Bike Shop	90	0
Book Store		0
Brew Pub		0
Child Care	Ŵ	4
Cinema	¥	0
Clothing Store	M	0
Coffee Shop		1
Deli		0
Dry Cleaner	Z	2
Fast Food Restaurant	-	3
Fitness Gym	X	1
Full Service Restaurant	\square	8
Garden Store		2
Grocery Store		3
Ltd Service Restaurant		1
Music Store		0
Wine Bar/Sales		0

Aloha Town Center is 405 acres located along Tualatin Valley Highway, roughly at the intersection of 185th Avenue. The center has access to major arterials and is serviced by two separate bus lines, including one frequent service line along Tualatin Valley Highway. There is a scattering of retail locations that provide local services for the surrounding community along Tualatin Valley Highway. The center has the structure of a grid street network along its major streets and cul-de-sacs in residential areas. Aloha is one of the largest centers with one of the lowest jobs to housing ratios.

By the numbers	Aloha	Town Centers Average
Jobs to housing ratio	0.5:1	3:1
Median household size	2.88	2.4
Median household income (2007)	\$50,480	\$61,897
Median age	29	36
Home ownership	40%	46%
People per acre	17	22
Dwelling units per acre	5	5
Total businesses per acre	0.5	1.3





Aloha Town Center





Bethany Town Center

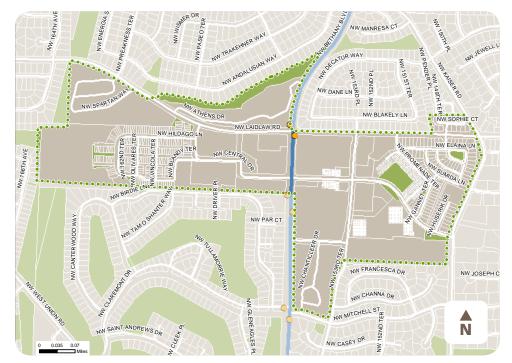


Amenities		
Bakery		0
Bar	Ý	0
Bike Shop	àto	1
Book Store		0
Brew Pub		0
Child Care	ő	1
Cinema	1	0
Clothing Store		0
Coffee Shop		1
Deli		0
	2	1
Dry Cleaner	$ \simeq $	
Fast Food Restaurant		0
Fitness Gym		1
Full Service Restaurant	$\hat{\Theta}$	5
Garden Store		0
Grocery Store	-	1
Ltd Service Restaurant		1
Music Store	Ď	0
Wine Bar/Sales		0

Bethany Town Center, located in unincorporated Washington County, encompasses 104 acres, functioning as a local retail shopping destination and multi-family housing location. The area has access to Highway 26 via Bethany Boulevard. The center is serviced by one limited service bus line along Bethany Road and is characterized by curvilinear street network. Bethany has one of the highest median incomes, highest home ownership rate and lowest jobs to housing ratio.

By the numbers	Bethany	Town Centers Average
Jobs to housing ratio	0.5:1	3:1
Median household size	1.99	2.4
Median household income (2007)	\$101,970	\$61,897
Median age	33	36
Home ownership	71%	46%
People per acre	21	22
Dwelling units per acre	9	5
Total businesses per acre	0.7	1.3





Bethany Town Center





Cedar Mill Town Center



Amenities		
Bakery		1
Bar	Ý	1
Bike Shop	đ.	0
Book Store		0
Brew Pub	(0
Child Care	ĥ	1
Cinema	12	0
Clothing Store		1
Coffee Shop		2
Deli		0
Dry Cleaner	\sim	3
Fast Food Restaurant		3
Fitness Gym		1
Full Service Restaurant	\square	10
Garden Store	_	2
Grocery Store		1
Ltd Service Restaurant		2
Music Store	D	0
Wine Bar/Sales		0

Cedar Mill is a 310-acre Town Center located in the City of Beaverton north of Highway 26, along Cornell Road. The area is characterized by single-family housing and local retail shopping. The center has two bus lines that connect to the Sunset Transit Center to the south and points further west along Cornell Road. The center has a curvilinear street layout and is accessed by two major arterials, Cornell Road and Murray Road. Cedar Mill has an average number of dwelling units per acre when compared to all other Town Centers.

By the numbers	Cedar Mill	Town Centers Average
Jobs to housing ratio	1:1	3:1
Median household size	2.27	2.4
Median household income (2007)	\$43,178	\$61,897
Median age	32	36
Home ownership	31%	46%
People per acre	16	22
Dwelling units per acre	5	5
Total businesses per acre	0.5	1.3





Cedar Mill Town Center





Damascus Town Center



Amenities		
Bakery		0
Bar	Ý	1
Bike Shop	90	0
Book Store		0
Brew Pub	m	0
Child Care	Ŵ	0
Cinema	¥	0
Clothing Store	M	0
Coffee Shop		4
Deli		0
Dry Cleaner	Δ	1
Fast Food Restaurant		2
Fitness Gym		1
Full Service Restaurant	\square	2
Garden Store		0
Grocery Store	*	1
Ltd Service Restaurant		1
Music Store	5	0
Wine Bar/Sales		0

The Damascus Town Center is 203 acres of land included in the most recent urban growth boundary addition to the metro area. The community is in the process of developing a comprehensive plan and therefore has yet to determine the final decision as to the geography of the Town Center. Damascus has no direct access to the interstate system, but has access through Highway 212, which bisects the center. The center has no transit service available.

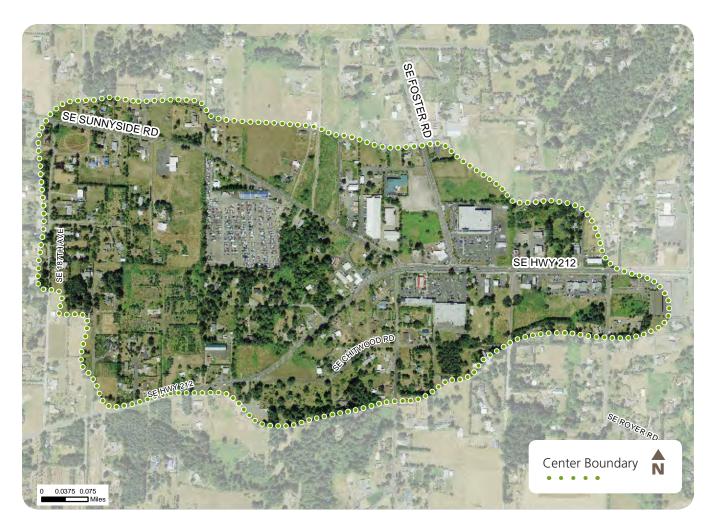
By the numbers	Damascus	Town Centers Average
Jobs to housing ratio	6:1	3:1
Median household size	3.17	2.4
Median household income (2007)	\$91,821	\$61,897
Median age	43	36
Home ownership	93%	46%
People per acre	4	22
Dwelling units per acre	0.4	5
Total businesses per acre	0.3	1.3





Damascus Town Center





Fairview / Wood Village Town Center



Amenities		
Bakery		0
Bar	Ý	0
Bike Shop	đ.	0
Book Store		0
Brew Pub	(0
Child Care		0
Cinema	ų.	0
Clothing Store		0
Coffee Shop		0
Deli		0
Dry Cleaner	Z	0
Fast Food Restaurant	_	0
Fitness Gym	<u>ko4</u>	1
Full Service Restaurant	\bigcirc	4
Garden Store	_	1
Grocery Store	-	2
Ltd Service Restaurant		1
Music Store		0
Wine Bar/Sales		0

The Fairview/Wood Village Town Center encompasses 222 acres south of interstate 84 located at the intersection of Halsey Street and Fairview Road. The center has direct access to Interstate 84 and is serviced by the major arterials of Halsey Street and Glisan Street. The center is serviced by two bus lines, one of which is a frequent service route. Fairview/Wood Village is characterized by major arterials and a curvilinear local street network. The Fairview/Wood Village has one of the lowest number of businesses per acre.

By the numbers	Fairview	Town Centers Average
Jobs to housing ratio	1:1	3:1
Median household size	2.52	2.4
Median household income (2007)	\$56,187	\$61,897
Median age	34	36
Home ownership	65%	46%
People per acre	12	22
Dwelling units per acre	3	5
Total businesses per acre	0.3	1.3







Forest Grove Town Center

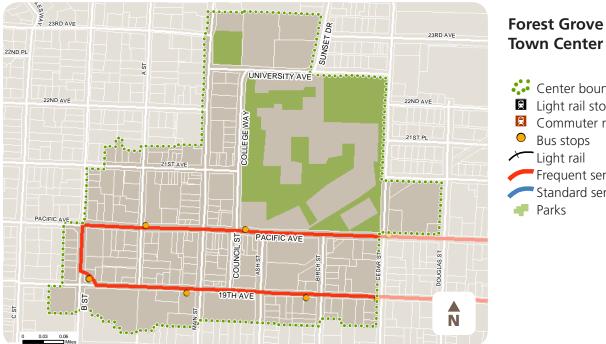


Amenities	_		
Bakery		0	
Bar	Ŷ	1	
Bike Shop	90	1	
Book Store		0	
Brew Pub	P	0	
Child Care	Î	1	
Cinema	1	1	
Clothing Store	M	0	
Coffee Shop		2	
Deli		1	
Dry Cleaner		0	
Fast Food Restaurant		0	
Fitness Gym		2	
Full Service Restaurant	\square	9	
Garden Store	_	0	
Grocery Store		1	
Ltd Service Restaurant		0	
Music Store)	0	
Wine Bar/Sales		0	

The Forest Grove Town Center encompasses 56 acres and functions as a cultural and commercial center for the town. The town has no major interstate access, but is accessed by the major arterial Highway 8 through its center. One frequent service bus line runs along Highway 8 with a connection to Hillsboro and the MAX line. Forest Grove is characterized by a grid street network in its center. Forest Grove has the highest median household size reflecting the large student population. It also has high businesses per acre and jobs to housing ratios.

By the numbers	Forest Grove	Town Centers Average
Jobs to housing ratio	4:1	3:1
Median household size	5.83	2.4
Median household income (2007)	\$50,297	\$61,897
Median age	29	36
Home ownership	41%	46%
People per acre	32	22
Dwelling units per acre	3	5
Total businesses per acre	2.3	1.3











Gladstone Town Center

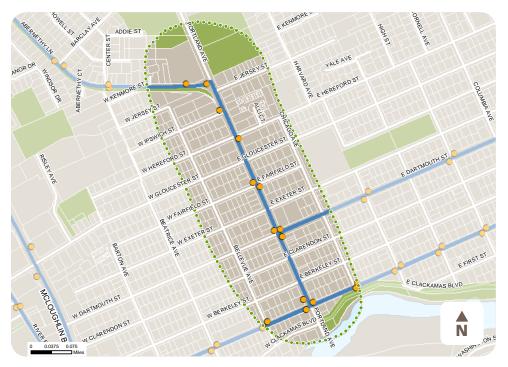


Amenities		
Bakery		1
Bar	Ý	2
Bike Shop	90	0
Book Store		0
Brew Pub	1	0
Child Care		0
Cinema	1	0
Clothing Store	M	0
Coffee Shop		1
Deli		2
Dry Cleaner	Z	1
Fast Food Restaurant		0
Fitness Gym		0
Full Service Restaurant	\square	3
Garden Store		0
Grocery Store	-	1
Ltd Service Restaurant		1
Music Store	Ď	0
Wine Bar/Sales		0

Gladstone is a 48-acre Town Center located along a previous street car line of Portland Avenue. Gladstone has no direct interstate access, however a half mile west of the Town Center is McLoughlin Boulevard, a major arterial. The center is serviced by two bus lines. Gladstone has a grid street network pattern, encouraging pedestrian connectivity from the surrounding neighborhood to the main street. Gladstone is one of the smallest Town Centers and is average on most measures.

By the numbers	Gladstone	Town Centers Average
Jobs to housing ratio	1:1	3:1
Median household size	2.8	2.4
Median household income (2007)	\$53,873	\$61,897
Median age	37	36
Home ownership	59%	46%
People per acre	21	22
Dwelling units per acre	6	5
Total businesses per acre	1.4	1.3





Gladstone Town Center





Happy Valley Town Center

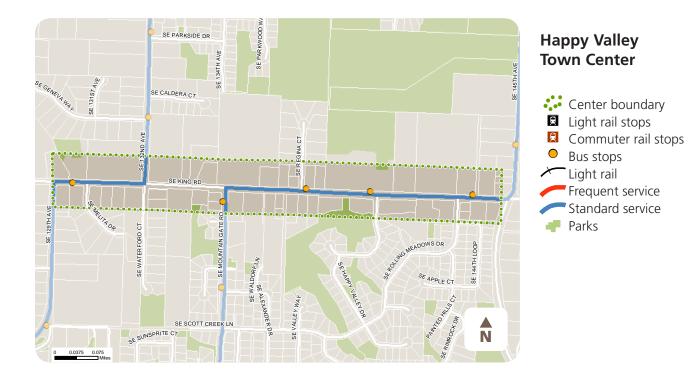


Amenities		
Bakery		0
Bar	Ý	0
Bike Shop	<u>40</u>	0
Book Store		0
Brew Pub	m	0
Child Care		0
Cinema	1	0
Clothing Store	M	0
Coffee Shop		0
Deli		0
Dry Cleaner	Z	0
Fast Food Restaurant		0
Fitness Gym		0
Full Service Restaurant	\square	0
Garden Store	_	0
Grocery Store	-	0
Ltd Service Restaurant		0
Music Store	Ď	0
Wine Bar/Sales		0

The Happy Valley Town Center is the smallest town center in the metro region at 25 acres. The center is not accessible by either the interstate or a major arterial, but through surface streets and one existing bus line. The center is located along King Road and a block on either side. The low development of the center reflects that the city is still in its early planning and development phase.

By the numbers	Happy Valley	Town Centers Average
Jobs to housing ratio	5:1	3:1
Median household size	2.92	2.4
Median household income (2007)	\$125,000	\$61,897
Median age	36	36
Home ownership	93%	46%
People per acre	4	22
Dwelling units per acre	0.5	5
Total businesses per acre	0.4	1.3







Hillsdale Town Center

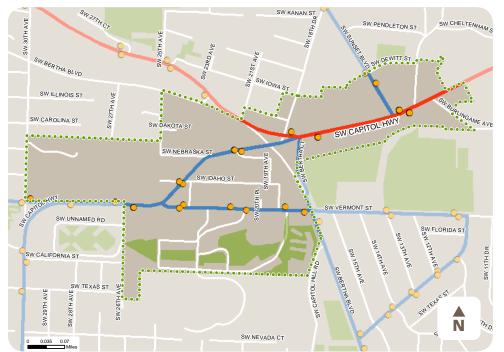


Amenities		
Bakery		2
Bar	Ý	0
Bike Shop	90	0
Book Store		0
Brew Pub	P	0
Child Care	Ŵ	4
Cinema	¥	0
Clothing Store	M	4
Coffee Shop		6
Deli		2
Dry Cleaner	Δ	4
Fast Food Restaurant		2
Fitness Gym		1
Full Service Restaurant	\square	22
Garden Store		0
Grocery Store	Č	1
Ltd Service Restaurant		4
Music Store	D	0
	•	

The Hillsdale Town Center covers 102 acres and is found in Southwest Portland, along Beaverton-Hillsdale Highway. The center is serviced by multiple bus lines, one of which is a frequent service line. In addition to the Highway, the center has a curvilinear street network. Hillsdale has average measures with the exception, of higher than average dwelling units per acre. Hillsdale Town Center is the only center that includes a high school and an elementary school.

By the numbers	Hillsdale	Town Centers Average
Jobs to housing ratio	3:1	3:1
Median household size	2	2.4
Median household income (2007)	\$55,413	\$61,897
Median age	33	36
Home ownership	44%	46%
People per acre	29	22
Dwelling units per acre	10	5
Total businesses per acre	1.7	1.3





Hillsdale Town Center





Hollywood Town Center

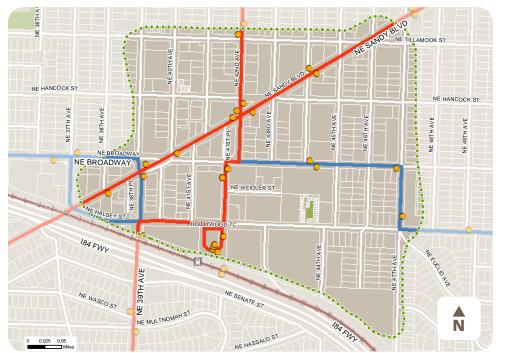


Amenities		1
Bakery		1
Bar	Ý	0
Bike Shop	90	0
Book Store		1
Brew Pub	(0
Child Care	Ĥ	1
Cinema	¥	1
Clothing Store	M	19
Coffee Shop		6
Deli		0
Dry Cleaner	Z	2
Fast Food Restaurant		6
Fitness Gym		1
Full Service Restaurant	$\hat{\mathbf{P}}$	24
Garden Store	_	0
Grocery Store	-	4
Ltd Service Restaurant		1
Music Store	$\mathbf{\tilde{b}}$	0
Wine Bar/Sales		1

Hollywood Town Center encompasses 68 acres surrounding the intersection of Northest Sandy Boulevard and Halsey Street. The area is high in employment concentrations and housing relative to its size. The center serves the local population with retail services, but also draws from the region due to the development of a concentration of specialty retail. The street network is generally characterized by narrow streets laid out in a grid network. The center has direct access to Interstate 84 and is serviced by one MAX stop, multiple bus lines that include frequent service routes, and automobile traffic along Halsey Street. Hollywood has the highest number of businesses per acre with 67 of those businesses as Urban Living Infrastructure.

By the numbers	Hollywood	Town Centers Average
Jobs to housing ratio	5:1	3:1
Median household size	1.34	2.4
Median household income (2007)	\$35,888	\$61,897
Median age	47	36
Home ownership	37%	46%
People per acre	77	22
Dwelling units per acre	12	5
Total businesses per acre	5.3	1.3





Hollywood Town Center





King City Town Center



Amenities		
Bakery		0
Bar	Ý	0
Bike Shop	<u>40</u>	1
Book Store		0
Brew Pub	(0
Child Care	Ŵ	0
Cinema	¥	0
Clothing Store		1
Coffee Shop		2
Deli		0
Dry Cleaner	Z	2
Fast Food Restaurant		0
Fitness Gym		1
Full Service Restaurant	\square	9
Garden Store	_	0
Grocery Store	-	3
Ltd Service Restaurant		0
Music Store	5	0
Wine Bar/Sales		0

The King City Town Center is approximately 77 acres bisected by Highway 99W (Southwest Pacific Highway). A single frequent service bus line is found along 99W, allowing for service from King City to surrounding communities along 99W and Portland. King City has the highest median age, reflecting its attractiveness as a retirement community.

By the numbers	King City	Town Centers Average
Jobs to housing ratio	2:1	3:1
Median household size	1.35	2.4
Median household income (2007)	\$44,447	\$61,897
Median age	60	36
Home ownership	47%	46%
People per acre	16	22
Dwelling units per acre	5	5
Total businesses per acre	1.6	1.3





King City Town Center





Town centers

Lake Grove Town Center

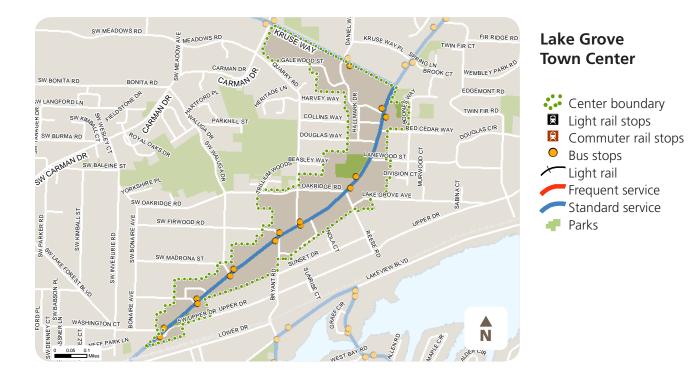


Amenities		
Bakery		1
Bar	Ý	0
Bike Shop	90	0
Book Store		0
Brew Pub	P	0
Child Care	Î	0
Cinema	¥	0
Clothing Store	M	3
Coffee Shop		4
Deli		0
Dry Cleaner	Δ	7
Fast Food Restaurant		3
Fitness Gym	×	0
Full Service Restaurant	\square	12
Garden Store		1
Grocery Store		2
Ltd Service Restaurant		2
Music Store	5	0
Wine Bar/Sales		1

The Lake Grove Town Center is 91 acres, located roughly at the intersection of Boones Ferry Road and Kruse Way. The center has a curvilinear street pattern with a low intersection density. Lake Grove is serviced by two separate bus lines, which allow for connectivity into Lake Oswego and on to the City of Portland, as well as eastern Washington County. Lake Grove has the second highest number of businesses per acre of all of the Town Centers.

By the numbers	Lake Grove	Town Centers Average
Jobs to housing ratio	14:1	3:1
Median household size	1.96	2.4
Median household income (2007)	\$61,038	\$61,897
Median age	40	36
Home ownership	54%	46%
People per acre	35	22
Dwelling units per acre	2	5
Total businesses per acre	4.4	1.3







Lake Oswego Town Center

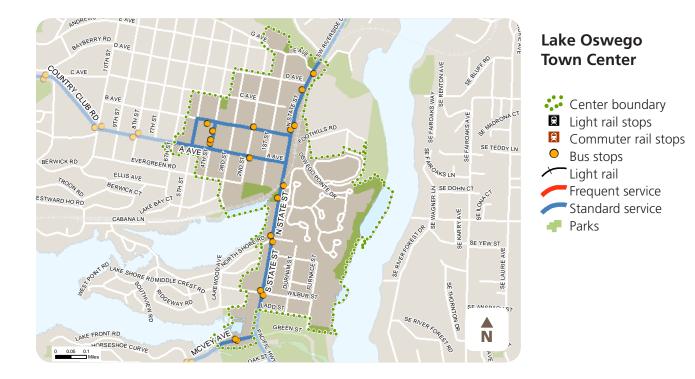


Amenities		
Bakery		1
Bar	Ý	2
Bike Shop	90	2
Book Store		0
Brew Pub	(0
Child Care	, i	1
Cinema	¥	1
Clothing Store	M	9
Coffee Shop		6
Deli		0
Dry Cleaner	$\underline{\mathcal{S}}$	5
Fast Food Restaurant		2
Fitness Gym		1
Full Service Restaurant	\square	15
Garden Store	_	3
Grocery Store	Ŵ	6
Ltd Service Restaurant		0
Music Store	Ď	0
Wine Bar/Sales		0

The Lake Oswego Town Center is 153 acres that includes a mix of employment, housing and commercial businesses. The Town Center has both a grid layout to the west and a curvilinear street network in its eastern half. Lake Oswego has access to the interstate system via State Highway 43 and Country Club Road. The center is serviced by three bus lines that connect to Portland and eastern Washington County. Lake Oswego has higher than average median income and ratios of people per acre and businesses per acre.

By the numbers	Lake Oswego	Town Centers Average
Jobs to housing ratio	2:1	3:1
Median household size	1.71	2.4
Median household income (2007)	\$71,492	\$61,897
Median age	45	36
Home ownership	47%	46%
People per acre	30	22
Dwelling units per acre	8	5
Total businesses per acre	2.8	1.3







Lents Town Center

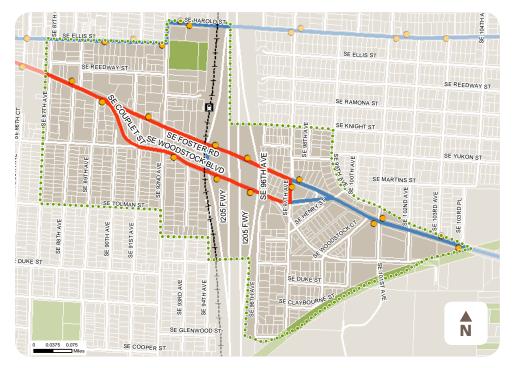


Amenities		
Bakery		0
Bar	Ý	2
Bike Shop	<u>40</u>	0
Book Store		0
Brew Pub	m	0
Child Care		0
Cinema	*	0
Clothing Store	M	0
Coffee Shop		0
Deli		1
Dry Cleaner	ک	1
Fast Food Restaurant		0
Fitness Gym		0
Full Service Restaurant	$\hat{\Theta}$	3
Garden Store		3
Grocery Store		1
Ltd Service Restaurant		0
Music Store	Ď	0
Wine Bar/Sales		0

The Lents Town Center is 82 acres located at the intersection of Interstate 205 and Foster Road in Southeast Portland. The center is characterized by a grid network on larger blocks. Interstate 84 bisects the town center as does Foster Road and Woodstock Boulevard. The area is serviced by two bus lines, one of which is frequent service, with a MAX Green Line station opening in 2009. Lents has one of the lowest jobs to housing ratios.

By the numbers	Lents	Town Centers Average
Jobs to housing ratio	0.5:1	3:1
Median household size	2.77	2.4
Median household income (2007)	\$46,748	\$61,897
Median age	31	36
Home ownership	52%	46%
People per acre	22	22
Dwelling units per acre	7	5
Total businesses per acre	0.8	1.3





Lents Town Center





Milwaukie Town Center

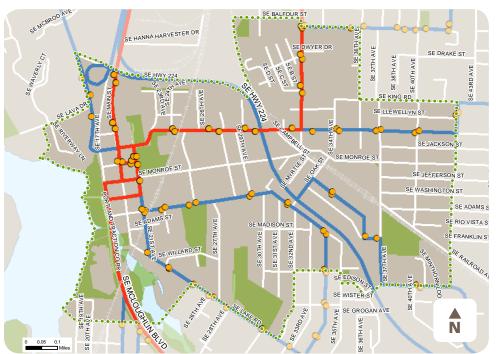


Amenities		
Bakery		0
Bar	Ý	2
Bike Shop	90	1
Book Store		1
Brew Pub	1	0
Child Care	Ŵ	2
Cinema	1	1
Clothing Store	M	1
Coffee Shop		4
Deli		0
Dry Cleaner	Z	3
Fast Food Restaurant		2
Fitness Gym		2
Full Service Restaurant	\square	15
Garden Store	_	0
Grocery Store	Ŵ	3
Ltd Service Restaurant		1
Music Store	5	0
Wine Bar/Sales		0

The Milwaukie Town Center is 358 acres including both the historic main street of downtown Milwaukie, the Highway 224 corridor and the surrounding residential neighborhoods in each area. The area is characterized by combination of both a grid and curvilinear street design with the presence of major arterials. The area is served by multiple bus lines and currently has a transit center in downtown that brings these lines into Milwaukie on a frequent basis. Milwaukie has average measures as compared to the rest of the town centers.

By the numbers	Milwaukie	Town Centers Average
Jobs to housing ratio	2:1	3:1
Median household size	2.1	2.4
Median household income (2007)	\$46,139	\$61,897
Median age	39	36
Home ownership	42%	46%
People per acre	21	22
Dwelling units per acre	5	5
Total businesses per acre	0.9	1.3





Milwaukie Town Center





Murray / Scholls Town Center

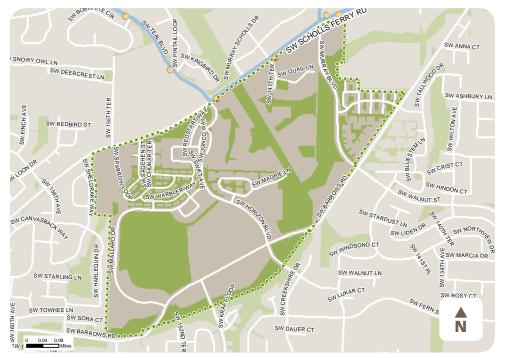


Amenities		
Bakery		0
Bar	Ý	0
Bike Shop	<u>40</u>	0
Book Store		0
Brew Pub	1	0
Child Care	Ŵ	0
Cinema	1	0
Clothing Store	M	0
Coffee Shop		0
Deli		0
Dry Cleaner	Z	0
Fast Food Restaurant		0
Fitness Gym		0
Full Service Restaurant	\bigcirc	0
Garden Store		0
Grocery Store		0
Ltd Service Restaurant		0
Music Store	5	0
Wine Bar/Sales		0

The Murray / Scholls Town Center is 123 acres located at the intersection of Murray Boulevard and Scholls Ferry Road. A mixture of single-family and multi-family residential units comprises the majority of the land uses within the center boundaries. The town center is characterized by a curvilinear street network. The center has no direct interstate or highway access and is serviced by two bus lines, one along Murray Boulevard and another along Scholls Ferry Road. Murray/Scholls has no businesses within its center boundaries, but with its residential developments it has a higher than average dwelling units per acre and people per acre.

By the numbers	/ Murray Scholls	Town Centers Average
Jobs to housing ratio	0.1:1	3:1
Median household size	2.09	2.4
Median household income (2007)	\$58,394	\$61,897
Median age	30	36
Home ownership	23%	46%
People per acre	30	22
Dwelling units per acre	16	5
Total businesses per acre	0	1.3





Murray / Scholls Town Center





Orenco Town Center

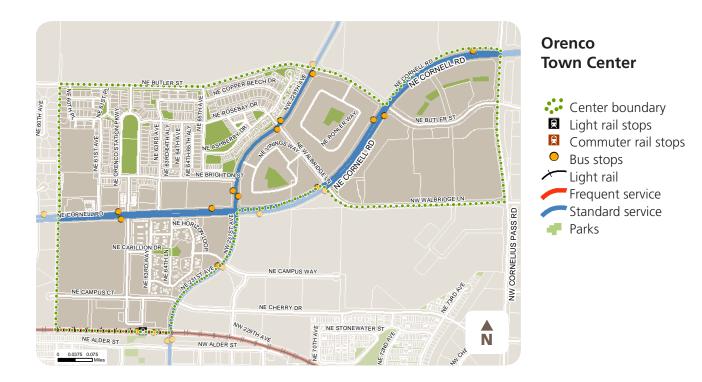


Amenities		
Bakery		0
Bar	Ý	1
Bike Shop	90	0
Book Store		0
Brew Pub	(0
Child Care		0
Cinema	1	0
Clothing Store	M	0
Coffee Shop		2
	,	
Deli		0
Deli Dry Cleaner		0 1
Dry Cleaner		1
Dry Cleaner Fast Food Restaurant		1 2
Dry Cleaner Fast Food Restaurant Fitness Gym		1 2 0
Dry Cleaner Fast Food Restaurant Fitness Gym Full Service Restaurant		1 2 0 5
Dry Cleaner Fast Food Restaurant Fitness Gym Full Service Restaurant Garden Store		1 2 0 5 0
Dry Cleaner Fast Food Restaurant Fitness Gym Full Service Restaurant Garden Store Grocery Store		1 2 0 5 0 2

The Orenco Town Center is 174 acres of retail and medium-density housing located in Hillsboro. No major interstate access is available to the Orenco Town Center however the major arterial of Cornell Road provides access to State Highway 26. The center is serviced by multiple bus lines and a MAX stop is located within its southern portion. The center is characterized by a curvilinear street layout centered around Cornell Road. Orenco has low businesses per acre and jobs to housing ratios, but a higher than average number of dwelling units per acre.

By the numbers	Orenco	Town Centers Average
Jobs to housing ratio	0.5:1	3:1
Median household size	1.79	2.4
Median household income (2007)	\$67,314	\$61,897
Median age	33	36
Home ownership	21%	46%
People per acre	17	22
Dwelling units per acre	9	5
Total businesses per acre	0.4	1.3







Pleasant Valley Town Center



Amenities		~
Bakery		0
Bar	Ý	0
Bike Shop	50	0
Book Store		0
Brew Pub	(0
Child Care	Ŵ	0
Cinema	*	0
Clothing Store	M	0
Coffee Shop		0
Deli		0
Dry Cleaner	Z	0
Fast Food Restaurant		0
Fitness Gym		0
Full Service Restaurant	\square	0
Garden Store		1
Grocery Store	è	1
Ltd Service Restaurant		0
Music Store	5	0
Wine Bar/Sales		0

The Pleasant Valley Town Center is 127 acres located in Gresham and was included in the metro area in 1998. The Town Center is in the initial phases of development with a recently adopted plan. The area is rural in nature, with no direct highway access. It is served by Foster Road, the only major street in the center. No bus service is currently available in Pleasant Valley.

By the numbers	Pleasant Valley	Town Centers Average
Jobs to housing ratio	0.5:1	3:1
Median household size	2.07	2.4
Median household income (2007)	\$81,185	\$61,897
Median age	39	36
Home ownership	87%	46%
People per acre	0.3	22
Dwelling units per acre	0.1	5
Total businesses per acre	0	1.3











Raleigh Hills Town Center

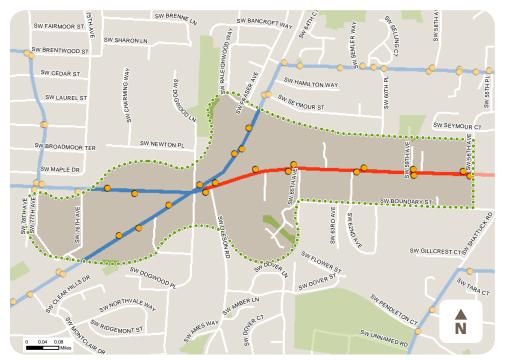


Amenities		
Bakery		1
Bar	Ý	1
Bike Shop	<u>40</u>	0
Book Store		0
Brew Pub	(0
Child Care	Î	0
Cinema	1	0
Clothing Store	M	3
Coffee Shop		1
Deli		1
Dry Cleaner	Z	4
Fast Food Restaurant		3
Fitness Gym		0
Full Service Restaurant	\square	13
Garden Store		0
Grocery Store		2
Grocery Store Ltd Service Restaurant		2
·		

Raleigh Hills is 127 acres located at the intersection of Beaverton-Hillsdale Highway and Scholls Ferry Road, approximately halfway between the Hillsdale Town Center and the Beaverton Regional Center in unincorporated Washington County. The center is served by three separate bus lines, two of which are frequent service. Raleigh Hills is above average in people per acre, dwelling units per acre and total businesses per acre.

By the numbers	Raleigh Hills	Town Centers Average
Jobs to housing ratio	2:1	3:1
Median household size	1.91	2.4
Median household income (2007)	\$60,549	\$61,897
Median age	43	36
Home ownership	51%	46%
People per acre	25	22
Dwelling units per acre	7	5
Total businesses per acre	2.3	1.3





Raleigh Hills Town Center





Rockwood Town Center

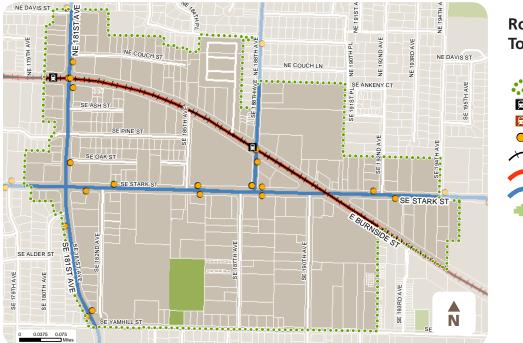


Amenities		
Bakery		0
Bar	Ý	1
Bike Shop	<u>40</u>	0
Book Store		0
Brew Pub	(0
Child Care		1
Cinema	1	0
Clothing Store	M	2
Coffee Shop		0
Deli		1
Dry Cleaner	Z	1
Fast Food Restaurant		4
Fitness Gym		0
Full Service Restaurant	\square	14
Garden Store		0
Grocery Store		2
Ltd Service Restaurant		1
Music Store	5	0
Wine Bar/Sales		0

The Rockwood Town Center is 159 acres located along the Eastside MAX line in Gresham. The center is characterized by a low-density street system, bisected by two major arterials - Burnside Street and Stark Street. Two separate MAX stops are within the town center boundaries, as well as two bus lines along Stark Street and 182nd Avenue. Rockwood has one of the larger median household sizes and a higher than average number of people per acre.

By the numbers	Rockwood	Town Centers Average
Jobs to housing ratio	1:1	3:1
Median household size	3.31	2.4
Median household income (2007)	\$40,540	\$61,897
Median age	28	36
Home ownership	34%	46%
People per acre	35	22
Dwelling units per acre	10	5
Total businesses per acre	0.8	1.3





Rockwood Town Center





Sherwood Town Center

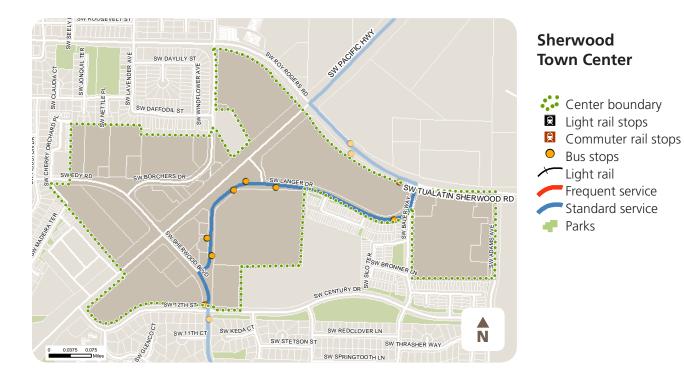


Amenities		
Bakery		0
Bar	Ý	0
Bike Shop	90	0
Book Store		0
Brew Pub	(0
Child Care	i	0
Cinema	¥	0
Clothing Store	M	2
Coffee Shop		0
Deli		0
Dry Cleaner	ک	0
Fast Food Restaurant		2
Fitness Gym		1
Full Service Restaurant	\square	5
Garden Store		0
Grocery Store	-	0
Ltd Service Restaurant		2
Music Store	Ď	0
Wine Bar/Sales		0

The Sherwood Town Center is 88 acres located at the junction of Highway 99W and Tualatin-Sherwood Road. Sherwood has no direct Interstate access. The street network consists mainly of high volume arterials with limited residential streets. One bus line services the town center while also servicing the Old Town portion of downtown Sherwood. The center has one of the highest jobs to housing ratio and lower than average dwelling units per acre and business units per acre.

By the numbers	Sherwood	Town Centers Average
Jobs to housing ratio	5:1	3:1
Median household size	2.57	2.4
Median household income (2007)	\$100,631	\$61,897
Median age	33	36
Home ownership	78%	46%
People per acre	9	22
Dwelling units per acre	1	5
Total businesses per acre	0.7	1.3







St. Johns Town Center

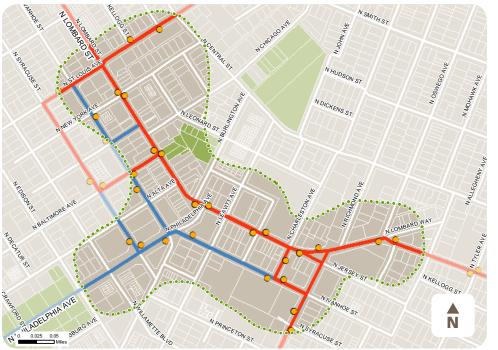


Amenities		
Bakery		1
Bar	Ý	2
Bike Shop	90	1
Book Store		1
Brew Pub	1	0
Child Care	Ŵ	1
Cinema	¥	2
Clothing Store	M	2
Coffee Shop		2
Deli		0
Dry Cleaner	Z	0
Fast Food Restaurant		2
Fitness Gym		1
Full Service Restaurant	\square	15
Garden Store	_	0
Grocery Store	-	2
Ltd Service Restaurant		0
Music Store	D	1
Wine Bar/Sales		0

The St. Johns Town Center is 42 acres located in North Portland adjacent to the Willamette River. St. Johns has no direct interstate access, but can access Highway 30 by crossing the Willamette River at the St. Johns Bridge. The area is served by five separate bus lines, including one frequent service line, allowing for multiple transportation options both in and out of the center. St. Johns has one of the highest people per acre ratios and has the lowest household median income.

By the numbers	St. Johns	Town Centers Average
Jobs to housing ratio	4:1	3:1
Median household size	2.11	2.4
Median household income (2007)	\$34,549	\$61,897
Median age	37	36
Home ownership	44%	46%
People per acre	37	22
Dwelling units per acre	7	5
Total businesses per acre	3.3	1.3





St. Johns Town Center





Sunset Transit Town Center

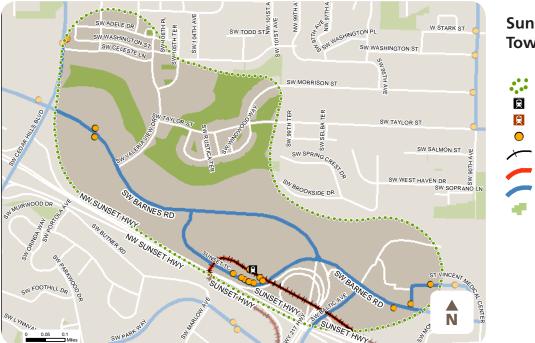


Amenities		
Bakery		0
Bar	Ý	0
Bike Shop	90	0
Book Store		0
Brew Pub	(0
Child Care	Ö	1
Cinema	¥	0
Clothing Store	M	0
Coffee Shop		3
Deli		0
Dry Cleaner	Δ	1
Fast Food Restaurant		0
Fitness Gym	×	1
Full Service Restaurant	\bigcirc	2
Garden Store		0
Grocery Store	Š	1
Ltd Service Restaurant		2
Music Store	♪	0
Wine Bar/Sales		0

The Sunset Transit Town Center is approximately 220 acres located in unincorporated Washington County at the intersection of several major arterials, including Barnes Road, Highway 26 and Highway 217. Sunset Transit Town Center serves as a transportation hub for the northern portion of Washington County and Northwest Portland. As a transit center, the area is served by multiple bus lines and both Blue and Red Line MAX trains. The street network can be characterized as low-density and curvilinear in nature. Sunset transit town center's highest jobs to housing ratio of all town centers reflects the small number of residents compared to the large employment center of Providence St. Vincent's Hospital located in the eastern portion of the center.

By the numbers	Sunset	Town Centers Average
Jobs to housing ratio	11:1	3:1
Median household size	2.01	2.4
Median household income (2007)	\$57,692	\$61,897
Median age	36	36
Home ownership	50%	46%
People per acre	9	22
Dwelling units per acre	1	5
Total businesses per acre	0.5	1.3





Sunset Transit Town Center





Tanasbourne Town Center



Amenities		
Bakery		1
Bar	Ý	0
Bike Shop	<u>40</u>	0
Book Store		1
Brew Pub	1	0
Child Care	i	1
Cinema	*	1
Clothing Store	M	19
Coffee Shop		6
Deli		0
Dry Cleaner	Z	2
Fast Food Restaurant		6
Fitness Gym		0
Full Service Restaurant		24
Garden Store		0
Grocery Store		4
Ltd Service Restaurant		1
Music Store	Ď	0
Wine Bar/Sales		1

The Tanasbourne Town Center, located in Hillsboro, is the largest town center in the region at 605 acres. It includes a mix of employment and commercial businesses, notably the Streets of Tanasbourne regional shopping center. The center is located adjacent to Highway 26, and is serviced by two major arterials - Cornell Road and 185th Avenue. Two bus lines bisect Tanasbourne. Tanasbourne has a high number of urban living infrastructure businesses in the Streets of Tanasbourne.

By the numbers	Tanasbourne	Town Centers Average
Jobs to housing ratio	1:1	3:1
Median household size	1.97	2.4
Median household income (2007)	\$60,882	\$61,897
Median age	30	36
Home ownership	1%	46%
People per acre	24	22
Dwelling units per acre	8	5
Total businesses per acre	0.5	1.3





Tanasbourne Town Center





Tigard Town Center



Amenities		
Bakery		0
Bar	Ý	0
Bike Shop	<u>40</u>	0
Book Store		0
Brew Pub	(0
Child Care		1
Cinema	¥	0
Clothing Store	M	0
Coffee Shop		1
Deli		1
Dry Cleaner	Z	2
Fast Food Restaurant		1
Fitness Gym		1
Full Service Restaurant	\square	14
Garden Store		0
Grocery Store	-	1
Ltd Service Restaurant		1
Music Store	5	0
Wine Bar/Sales		0

The Tigard Town Center is 128 acres located immediately adjacent to both Highway 99W and Highway 217. The center is focused around its historic main street that runs parallel to Highway 99W. The center is serviced by multiple bus lines and is home to a TriMet transit center and a WES Commuter Rail station. The Tigard Town Center has a higher people per acre ratio than average reflecting its higher number of businesses per acre than other centers.

By the numbers	Tigard	Town Centers Average
Jobs to housing ratio	4:1	3:1
Median household size	2.3	2.4
Median household income (2007)	\$48,899	\$61,897
Median age	32	36
Home ownership	31%	46%
People per acre	28	22
Dwelling units per acre	4	5
Total businesses per acre	2.5	1.3







Troutdale Town Center

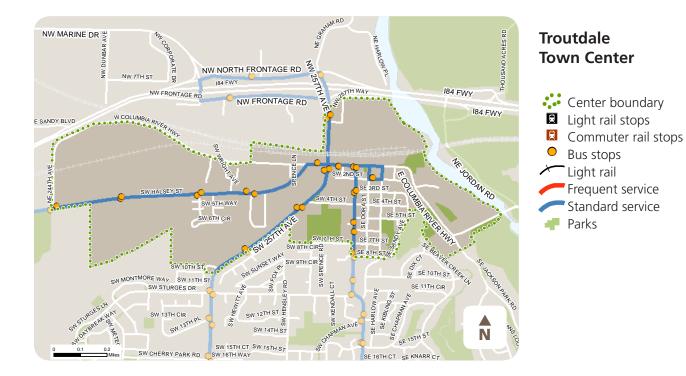


Amenities		
Bakery		0
Bar	Ý	1
Bike Shop	<u>40</u>	0
Book Store		1
Brew Pub	m	1
Child Care		1
Cinema	1	0
Clothing Store	M	9
Coffee Shop		1
Deli		0
Dry Cleaner	Z	0
Fast Food Restaurant		0
Fitness Gym		0
Full Service Restaurant	\square	5
Garden Store		0
Grocery Store	Č	0
Ltd Service Restaurant		1
Music Store	Ď	0
Wine Bar/Sales		0

The Troutdale Town Center is 301 acres of land located at the eastern end of the region. The center includes the historic main street of downtown Troutdale and a small portion of land north of Interstate 84. The center has direct access to Interstate 84 and is serviced by three separate bus lines. The street network is a mix of small block grids in the historic downtown and circuitous street layouts in the remaining areas. The majority of the center is auto-oriented with the exception of the downtown. The town center has a higher than average home ownership and lower than average people per acre.

By the numbers	Troutdale	Town Centers Average
Jobs to housing ratio	2:1	3:1
Median household size	2.5	2.4
Median household income (2007)	\$52,087	\$61,897
Median age	35	36
Home ownership	65%	46%
People per acre	9	22
Dwelling units per acre	2	5
Total businesses per acre	0.5	1.3







Tualatin Town Center



Amenities		
Bakery		0
Bar	Ý	1
Bike Shop	90	0
Book Store		0
Brew Pub	m	0
Child Care	, Î	1
Cinema	¥	0
Clothing Store	M	2
Coffee Shop		6
Deli		2
Dry Cleaner	Z	4
Fast Food Restaurant	e	5
Fitness Gym		2
Full Service Restaurant	\square	31
Garden Store		0
Grocery Store		3
Ltd Service Restaurant		2
Music Store	Ď	0
Wine Bar/Sales		0

The Tualatin Town Center is approximately 325 acres of land located just west of Interstate 5. The street network in Tualatin is centered around the major arterials with local streets and low intersection densities. The center is serviced by multiple bus lines and has a stop on the WES Commuter Rail line. The Tualatin Town Center has a total of 59 urban living infrastructure businesses and lower than average numbers of dwelling units, people and businesses per acre and an average jobs to housing ratio.

By the numbers	Tualatin	Town Centers Average
Jobs to housing ratio	3:1	3:1
Median household size	2.05	2.4
Median household income (2007)	\$54,527	\$61,897
Median age	29	36
Home ownership	5%	46%
People per acre	18	22
Dwelling units per acre	4	5
Total businesses per acre	1.2	1.3





Tualatin Town Center





West Linn Town Centers

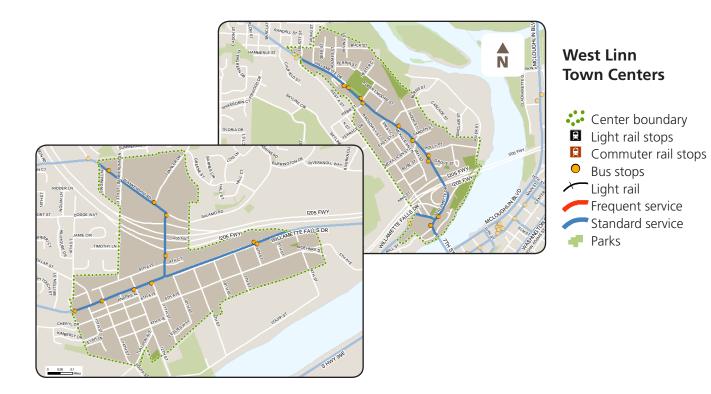


Amenities		
Bakery		1
Bar	Ý	0
Bike Shop	90	0
Book Store		0
Brew Pub	1	0
Child Care		3
Cinema	1	0
Clothing Store	M	2
Coffee Shop		4
Deli		0
Dry Cleaner	Z	2
Fast Food Restaurant		4
Fitness Gym		3
Full Service Restaurant	\square	10
Garden Store		0
Grocery Store	Ŵ	1
Ltd Service Restaurant		1
Music Store	Ď	0
Wine Bar/Sales		0

The West Linn Town Centers are located in two distinct geographic locations, representing a total of 293 acres. Both geographic locations are directly adjacent to the Interstate 205 corridor and are serviced by bus lines. Both locations have a mix of a grid street network and some unconnected local streets. The centers have a higher median income and home ownership rates than average reflecting the residential character of the area.

By the numbers	West Linn	Town Centers Average
Jobs to housing ratio	1:1	3:1
Median household size	2.49	2.4
Median household income (2007)	\$81,617	\$61,897
Median age	40	36
Home ownership	76%	46%
People per acre	13	22
Dwelling units per acre	3	5
Total businesses per acre	0.4	1.3







West Portland Town Center

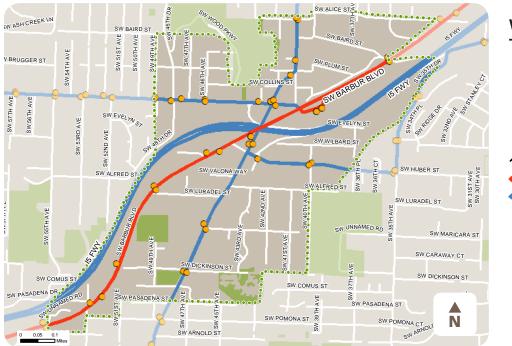


Amenities		
Bakery		1
Bar	Ý	0
Bike Shop	90	0
Book Store		2
Brew Pub	(0
Child Care	Î	2
Cinema	1	0
Clothing Store	M	1
Coffee Shop		2
Deli		0
Dry Cleaner	Z	1
Fast Food Restaurant		2
Fitness Gym		0
Full Service Restaurant	\square	6
Garden Store		0
Grocery Store	-	2
Ltd Service Restaurant		2
Music Store	Ď	0
Wine Bar/Sales		0

West Portland is a 224-acre Town Center located along the Interstate 5 corridor within the City of Portland. The majority of commercial activity in the center revolves around the interchange along Interstate 5 and businesses located along Barbur Boulevard. The area is serviced by multiple bus lines, with one frequent service line along Barbur Boulevard. The center has 21 urban living infrastructure business and above average people per acre.

By the numbers	West Portland	Town Centers Average
Jobs to housing ratio	1:1	3:1
Median household size	2.31	2.4
Median household income (2007)	\$57,440	\$61,897
Median age	33	36
Home ownership	46%	46%
People per acre	22	22
Dwelling units per acre	7	5
Total businesses per acre	1.6	1.3





West Portland Town Center





Wilsonville Town Center



Amonities		1
Amenities		
Bakery		1
Bar	Ý	0
Bike Shop	90	0
Book Store		0
Brew Pub	1	2
Child Care	Ť	0
Cinema	¥	1
Clothing Store	M	2
Coffee Shop		0
Deli		3
Dry Cleaner	Z	5
Fast Food Restaurant		3
Fitness Gym		17
	\sim	
Full Service Restaurant	Ľ	0
Garden Store	_#	0 1
) /*)	
Garden Store		1
Garden Store Grocery Store		1

The Wilsonville Town Center is 166 acres located east of Interstate 5, in what is considered downtown Wilsonville. The center has direct access to I-5, and is also serviced by bus into the Portland area, a shuttle that runs between Wilsonville and Salem during the week and a WES Commuter Rail stop located just outside of the center. The City of Wilsonville also operates its own transit service, SMART. The center is characterized by a curvilinear street network with limited intersection density. Wilsonville is below average in people per acre, but above average in jobs to housing ratio.

By the numbers	Wilsonville	Town Centers Average
Jobs to housing ratio	5:1	3:1
Median household size	2.05	2.4
Median household income (2007)	\$66,642	\$61,897
Median age	30	36
Home ownership	32%	46%
People per acre	15	22
Dwelling units per acre	2	5
Total businesses per acre	1.1	1.3





Wilsonville Town Center





Publication List



Metro provides a number of services and publications to help communities in the region plan for future growth and development. Below is a short list of publications offered; contact Metro for a complete list of guides and services.



Volume One: Financial Incentives. Volume one of the Community Investment Toolkit provides financial tools local jurisdictions can use to stimulate investment and encourage innovative development. Volume Two: Innovative Design and Development Codes. Volume two of the Toolkit outlines code changes and design guidelines that can assist in creating better neighborhoods. Chapters cover, among other topics, suburban / urban transitions, managing parking for urban form, and effective public involvement.

Impact-based system development charges report

A report containing model system development charge methodologies that promote greater financial equity and at the same time promote the region's 2040 Growth Concept. It outlines the relative costs of serving different development types and patterns and how to calculate differential SDCs to reflect these differences in infrastructure costs and impacts to the system.



Green Streets guides

Three guides that illustrate green street designs for efficient multimodal traffic use while maintaining nature in neighborhoods. The guides cover green street design, innovative solutions to stormwater and stream crossings and tree planting.

Affordable housing needs study

This study estimates current and future housing needs for the region, describes the demographic composition of households in the region, characterizes households in different housing consumption catagories, and identifies household categories that are likely to struggle to meet housing costs.

Metro

Planning and Development 600 NE Grand Ave. Portland, OR 97232 503-797-1735 WWW.Oregon**metro.gov**

Metro | People places. Open spaces.

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

Metro representatives

Metro Council President – David Bragdon

Metro Councilors

Rod Park, District 1 Carlotta Collette, District 2 Carl Hosticka, District 3 Kathryn Harrington, District 4 Rex Burkholder, District 5 Robert Liberty, District 6.

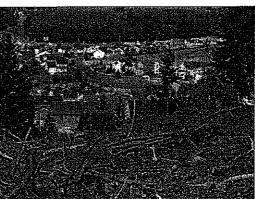
Auditor – Suzanne Flynn

Metro 600 NE Grand Ave. Portland, OR 97232-2736 503-797-1700 www.oregon**metro.gov** -3

THE DAMASCUS STORY

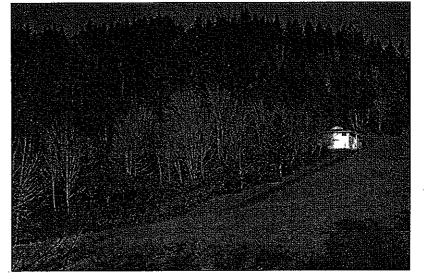
The **Constant**

Damascus Story



Attachment 6 to Staff Report to

Ordinance No. 10-1238A



By Dean Apostol, MIG and Anita Yap, City of Damascus

Photos courtesy of The City of Damascus

A Great Oregon Experiment

Damascus, founded in 2004, was the first new city incorporated in Oregon in over 22 years. (La Pine incorporated in 2006). Four years later, we report on the progress, challenges and lessons learned in the creation of this new American city in the 21st century.

THE JURY IS STILL OUT on whether Damascus will be a success. In the interim we have a story to tell that may have important lessons for planners and policy makers alike.

A Bit of History

The Portland Region established a large Urban Growth Boundary (UGB) in the late 1970s. Pressure to expand it built gradually. In 1998 Metro added 1,400 acres to the UGB in upper Pleasant Valley, a semi-rural enclave between Gresham and Portland. The rural center of Damascus is only a few miles south of Pleasant Valley. At that time, both areas were characterized by unplanned scatterings of random subdivisions separated by farms, nurseries, and forested buttes.

Farming was always marginal in this area. Crop choices and productivity were limited by lack of irrigation, presence of class 3 and 4 soils, and poor drainage. Berry growing thrived for a time but declined by the 1950s.

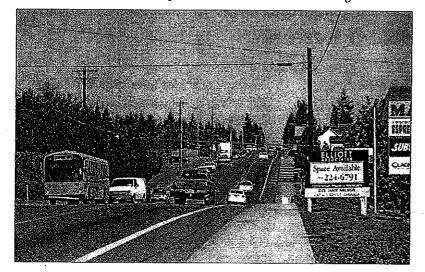
Ornamental nurseries have

CONTINUED on next page

been successful but require a lot of infrastructure investment, including deep wells for irrigation and dense networks of drain tile. Because of close proximity to Portland, many farms had been chopped into smaller part-time farming or forestry operations. Some landowners opted for subdivisions where septic fields could function.

In early 2002 Damascans and Boringonians (residents of nearby Boring) received notice that Metro was considering the area for urban expansion. 1000 Friends of Oregon scheduled a "design charrette" to explore how a city of 100,000 or more people could be squeezed onto the local hills and valleys using progressive planning principles. The "Damascus Charrette" produced a plan for a city of over 100,000 and alerted local people as to what was likely to be coming their way.

Community members were sent surveys about local values, asking what people liked about the land, whether they favored urban growth and so forth. In overwhelming numbers the answers were: we like it as it is and no thanks to urban growth. Bye-bye now, and don't let the screen door hit you on the way out. But planners are a stubborn lot accustomed to initial rejection. They knew that land use rules require "exception lands" (mostly rural residential zoning) to be urbanized before more productive farm and forest land, and that this would eventually push urban expansion into the Damascus area regardless of



Highway 212 traffic near the city center, over 22,000 vehicles daily travel on Highway 212.

local opinion.

Some community members formed the "Committee for the Future of Damascus" which became the voice of the community to elected officials. Most local residents remained on the sidelines. Others came to open houses to berate the planners and perhaps scare them off. "Thanks for coming, your input is very important to our process" was the usual response.

In the end Metro decided to expand the Urban Growth Boundary (UGB) by 12,500 acres around rural Damascus. Boring was spared, at least for the time being.

When in Doubt Form Another Committee

Metro has a requirement that a concept plan be created for new UGB expansions before rezoning and development can proceed. This is a sensible provision that slows things down, and prevents poorly planned development.

The chief problem at the outset was political. Since the 12,500-acre expansion area was unincorporated and not obviously attached to any existing city, who would be in charge? Clackamas County was on record that any urban development in the Damascus area would have to be within incorporated city limits. They already had their hands full providing urban services to unincorporated, previously urbanized areas, and did not want to govern another non-city. Ultimately the County and Metro teamed up and a \$1.4 million Federal Transportation grant was appropriated to pay for the effort. A combination staff and consulting team (OTAK) was assigned and an unwieldy advisory committee recruited (including one of the authors, Dean Apostol).

Eighteen months, many meetings, some spirited arguments, a new design charrette, and a few public open houses later a plan was agreed upon. This was a compromise stitched together from the disembodied parts of four or five previously considered alternatives. It was part two-dimensional land use map and part visionary urban design using smart

CONTINUED on next page

- 4

growth principles. But it was compromised to the point where few really liked it and it lacked defenders. The committee and community had begun with "let's build a vision" and ended with "this will have to do." The final open house had over 800 people. An anti-green contingent handed out anti-plan flyers at the entrance. People were herded from one display to another. "Your input is very important to our process" was the refrain.

Reactions ranged from "interesting" and "what are all these color blobs" to "You have got to be joking!" Three years of effort and the local community was no closer to embracing an urban future than it had been in the beginning. Faced with the prospect of apartments next door, new roads slicing through neighborhoods, subdivisions transformed to industrial parks, and every farm paved over the process had come full circle to "thanks but no thanks." The concept plan process ended with a loud bang when the antigreens joined forces with anti-new-roads-in-mybackyard neighbors in theatrical shout-fests at the final two Advisory Committee meetings.

The process closed with no modifications made to the plan that nobody liked very much. And the funds were all spent.

The New City of Damascus

Part way through the Concept Plan development Damascans voted to incorporate a new city. A few saw this as a hopeful sign that the community was organizing itself to go boldly where no Oregon community had gone before--to a planned future before the city was built. But the yes vote was rooted more in fear than in hope. Pro-incorporation campaigners knew that raising the specter of Happy Valley and/or Gresham gobbling up green space via annexations and paving over strawberry fields with ugly McMansions or cheap apartments was the surest way to get people to vote for what amounted to a hefty tax increase to pay for what few wanted in the first place. Sixty-five percent voted for incorporation.

One of the new city council's first acts was to

quietly bury the Concept Plan. Understandably, they wanted a fresh start, and brought in new consultants and the first of four community development directors to begin again. It went back out to the community, this time in small kitchen table "coffee klatch" groups (thus avoiding theatrics,) to ask everyone once again what their values were, what they liked about Damascus, and so forth. To no one's great surprise, the answers were as before.

Most people (of the several hundred who showed up) liked Damascus as it is, meaning a semi-rural tapestry of farm fields, forested slopes, and scattering of large lot or small acreage subdivisions. Some additional development was acceptable, but not too much and not too fast. Many liked the idea of having a nice new downtown, permanently conserved green spaces, walkable neighborhoods, retention of rural character, and so forth. These were codified in seven "Damascus Core Values," essentially the same as expressed before.

The new planners assured the participants that "your input is very important to our process."

Starting a new city proved to be more difficult than most had imagined. There needed to be a place to hold council meetings, someone to take meeting notes and make public records, an official budget, computers, desks, pencils and someone to answer the phone. It took several years for essential administrative tasks and a basic infrastructure to be put into place. Initially, all city administrative tasks were run by the Mayor, city council, and various consultants, most of whom had little relevant experience in city administration and political and community relations. New staff were hired and dispatched with alarming speed, including five city managers and four community development/planning directors in the first two years.

The Draft Comprehensive Plan Process

A new planning committee was formed, called the Community Coordinating Committee (C3). It included 23 members, all local

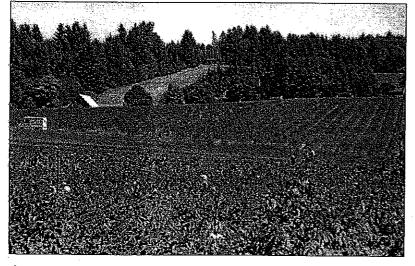
----- 5 --

citizens, property, or business owners. Their role was not well defined at the beginning, but they were expected to serve as a filter for planning until a formal commission could be created. They were asked to represent the wider community rather than their own personal interest. Opinions ranged from strong private property rights advocates to strong conservationists, with all shades in between. Additional committees were initiated for transportation, citizen involvement, codes, and natural resources.

Consultants did detailed mapping of natural resources (Goal 5) and hazards (Goal 7). Other consultants created land use suitability maps that used complex formulas that considered a range of variables (slope, wetness, proximity to main roads, parcel size, and so forth). A Community Atlas was assembled from various demographic and GIS databases. A scenic landscape survey was completed to get at the question of what citizens valued with respect to rural character (a key sticking point during the Concept Plan). Damascus was divided into four sub-areas to break a big planning problem down into more manageable bits. A series of workshops and a third design charrette were held, culminating in a Draft Comprehensive Plan.

The Proposal

The Draft Comprehensive Plan proposes a basic land use framework. It includes a base zone of at least 1-3 new housing units to the acre, so that



Thompson Farms looking east to the UGB edge

every landowner with more than an acre would likely get some new development opportunity. This is intended to soften the resistance of landowners with natural resource constraints. It includes a conservation overlay that encompasses steep slopes, stream corridors, wetlands, hazard areas, and forested habitats. A new downtown core is located in the Southeastern quadrant of the city, where slopes are gentle, tax lots large, and major highway access good. Employment centers are placed mostly at the periphery of the community. The interior includes several village centers at key intersections. All existing subdivisions are kept intact, possibly with light levels of infill, but no major land use changes. An "urban farm" overlay is included in part of the city, with the hope that some small to moderate scale local food growing can continue into the indefinite future.

So far, it is fair to say that the Draft Comprehensive Plan has been met with a less than enthusiastic response from the community, the C3, and the city council. The main arguments against it are that it lacks vision and does not correspond to the community core values. Negotiations are under way to figure out what to keep and what to change. We expect that this process will take several further iterations before a plan is created that has a critical mass of community support.

Lessons Learned

There are several reasons why planning and future development of Damascus has been, and will continue to be, difficult.

• First, there are simply too many landowners operating at cross-purposes. Successful planned communities the world over have been initiated and controlled by top-down authorities, either empires establishing colonies (Rome, Greece, Spain,) strong states creating orderly growth (Finland, Sweden, Great Britain, the Soviet Union,) or private developers who owned large areas of land as real estate ventures (Seaside, Irvine, Radburn, Riverside, and Reston among others). China has been CONTINUED on next page planning and building large cities over the top of rural residents, but they can and do simply order existing residents, who hold no title to the land, to move out and make way for progress. None of these are not going to happen in Damascus.

+ Second, a substantial majority of the community still resists the idea of transforming the rural place they live into a city. The local political climate is uneasy. Without a longterm track record of municipal decisions, the newly elected city council is uncertain about making any unpopular decision. Local citizens resent the rules imposed from above (Metro and the Land Conservation and Development Commission (LCDC)), and this resentment has fertilized the soil for seeding anti-government ballot initiatives. About 65% of current residents live on an acre or less, and have nothing to gain from development. The latest evidence of this resistance is a series of local ballot measures that restrict any and all methods to pay for planning and infrastructure. The most recent (not yet voted on) would prohibit all inter-governmental agreements without a direct vote of the people. Inter-governmental agreements are essential to the functioning of a new city, and it is difficult to imagine moving forward if the measure limiting them passes. Local control is unfortunately being used to keep most or all development out, rather than to make it better fit local values.

 Third, the projected cost of new infrastructure may be prohibitive. As every reader of this Journal well knows, there is not enough funding for infrastructure needed in existing communities, let alone to build a new one. Current estimates are that total infrastructure costs to service a Damascus of around 60,000 people will be \$4 billion, requiring systems development fees of \$40,000 a unit or more, which would be the highest in Oregon. (Note: a vote of the people is also required before SDCs can be established due to the aforementioned ballot measures).

+ Fourth, there is the land itself. If Damascus were a good place for a mid-sized city, in all likelihood one would have been built here years ago. The combination of steep topography, wet

soils, and high stream density all conspired to make Damascus a fairly isolated location. It was settled only a full two decades after the rest of the Willamette Valley was claimed, did not get electricity until the mid 1930s, and even today is hard to get in and out of by road. Several streams form deep canyons that are barriers to development and road crossings. It could be that these land constraints are significant enough to keep development away for many years to come.

 Fifth, the state-planning framework has no provision for planning and designing a new town. When Lawrence Halprin drafted Willamette Valley Choices for the Future in 1972, the foundation for Oregon's planning system, he called for identifying suitable locations for new towns, recognizing that if urban growth boundaries simply kept on expanding Oregon would end up with the very sprawl it wanted to avoid. But the state planning goals failed to make provision for entirely new towns (other than destination resorts, which are not meant to be complete towns).

The Metro Functional Plan and Statewide planning goals thus push Damascus into a planning approach designed to shape new growth in existing communities, not to create new communities. All Oregon planners and cities must work within the state framework, but every city in Oregon, including Keizer and La Pine, were substantially built before the rules were established. Damascus lacks a comprehensive plan policy framework. State administrative rules address requirements "at periodic review" or a "post acknowledgement plan amendment," but Damascus has no plan to amend. How do these rules apply to a new city? The regulatory jury is still out, waiting until Damascus can piece together a comprehensive plan, policy document, development code, zoning map, transportation system plan, Goal 5 and 7 program, a housing needs analysis, economic opportunities analysis, and numerous other requirements. A "chicken and egg" question follows every planning work task at hand. No adopted comprehensive plan map, no buildable lands CONTINUED on next page

inventory, no

ESEE analysis based on plan designations. What comes first?

Finding the Opportunities

While the challenges are substantial, opportunities to think and plan creatively are also abundant. The absence of existing urban infrastructure opens the door to exploring alternatives. City planners and consultants have been investigating an "ecosystem services" approach to public facility planning. This would place a value on the existing natural environment for the services it provides to the community. For example, healthy upland forests, riparian corridors, and wetlands all protect water quality and reduce stormwater management costs. Since Damascus has yet to implement new zoning and development regulations, it can charge valley bottom development to pay for upland forest conservation that reduces stormwater system costs. This approach has potential appeal to both the resource conservationists and property rights advocates who advocate compensation for providing green space for the community.

Oregon's land use program is based in large part on strict separation of farms and cities, and thus discourages or prohibits zoning exclusively for agriculture within an urban growth boundary. But Damascus has several property owners making a good living farming, and we know local citizens value farm conservation. We may be testing state assumptions by using various tools to set aside land for continued use for growing food, and integrating active farming and the agricultural heritage into urbanization, albeit at a scale appropriate to an urban community. Initiating a regional foodshed strategy is one possible outcome of these efforts.

Recognizing the high costs of infrastructure and limitations on groundwater and surface water supply, Damascus is exploring options for integrating potable water, wastewater, and stormwater management. We may be able to employ alternative wastewater systems, including reuse of stormwater, and marry this effort to farm conservation. Arguments over greenspace are what detailed the Concept Plan and open space conservation is probably the imake or break issue for Damascus. Nearly 40% of the circ is mapped as Goal 5 (Natural resource,) Goal 7 (Hazards,) or both Damascans are conflicted over conservation. Based on public input, most of the community supports conserving forests, steep slopes, and streams, but at the same time many also support private property rights and want there to be economic fairness when allocating new development rights. Planners are exploring three key methods for achieving both conservation and economic fairness.

- First, landowners would have to build their density allotment on only the most developable part of their property, avoiding natural resources and hazards.
- Second, the plan may organize the community into master plan districts that require or encourage multiple landowners to join together to plan development and conservation in concert. If one landowner has valuable conservation land, their entire development allotment could be transferred to nearby properties with less conservation value, with everyone receiving near equal value for their property.
- Third, a transferable development right option (TDR) could allow broader shifting of development rights from parts of the community with high conservation value (the forested buttes) to areas with high development potential (the new city center).

We expect some combination of these three methods, along with ecosystem service program.

Predictions about the Future are Hard

Damascus was incorporated to gain "local control," but cannot avoid the broad legal and policy framework established by state and regional officials. As the first new city ever preplanned in Oregon, Damascus may be allowed to test the edges, and possibly directly CONTINUED on next page challenge one or more aspects of the Oregon Land use program. This potential has several regulatory and watchdog organizations keeping their eye on our progress.

One positive outcome to date has been the impetus to build community where in the past there had not been one. Damascus was essentially a disparate cluster of subdivisions, with kids attending one of several school districts, some on community water systems, most not, some with homes hooked to County managed sewer systems, but most not. The only two entities in common were the Boring Fire District, the nursery ground for a number of community leaders, including the first City Mayor, Dee Westcott (recently passed away), and the local newspaper, the Damascus-Boring Observer. Planning a new city has brought the authors, City Council members, committee members and hundreds of others that have shown up at meetings together for the first time. Many have lived in the community 20 or more years but had never met most of their neighbors. City staff has begun to develop a neighborhood association program and has initiated other community building events. This is a slow process and building trust among community members, city staff, and elected officials will take some time.

Sometimes it is hard to see how this community will be able to move forward, create a workable plan, and gain enough support for managing and financing orderly development. Damascus may yet emerge one day as a model 21st century American city, or it may remain a lovely rural landscape that is a city in name only. A hardy few continue to meet and make plans.

The current economic crunch has bought some time for Damascus to regroup and get things right. If a good plan, supported by a critical mass of the community can be completed soon, perhaps the anti-development, anti-community backlash can be interrupted and even reversed. A lot rides on Damascus' shoulders, and we often feel that the whole state is watching us. If we can create a compelling community of walkable, solar powered villages and hamlets nested within green corridors, forested slopes, and urban farms, with employment close at hand, and if a way can be found to build an affordable infrastructure, Damascus could become the star on the crown of the state land use system. But if it continues to sink into an unproductive argument clinic, it could become a battering ram for those who want to take state planning down once and for all.

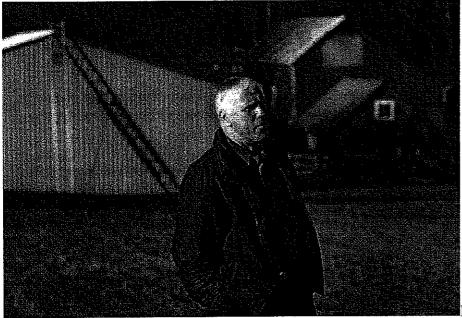
Readers who have any ideas that can help us should call or write. We are still in the planning stage, so stay tuned. Your input is very important to our process!

Dean Apostol is a senior landscape architect with MIG, a planning, urban design, and landscape architecture firm in Portland and Berkeley. He lives in Damascus on a small farm-nursery, and has published three books: Forest Landscape Analysis and Design, Restoring the Pacific Northwest, and Designing Sustainable Forest Landscapes. He writes regularly for the Damascus-Boring Observer (winner of the 2004 Oregon APA Merit Award in Journalism).

Anita Yap is the Damascus Community Development Director, the longest tenured planner in the history of Damascus (two years and fingers crossed). She previously worked for Bend, Coburg, Lane Council of Governments and Lane Transit District. She received several awards for her work on innovative projects and building community, including the Governor's Livability Award and the Oregon Downtown Award. She finds that the Damascus experience is the challenge of a lifetime.

Road to bigger, better Damascus leads to dead end

Posted by Amy Reifenrath, The Oregonian January 16, 2009 22:26PM



Randy L. Rasmussen/The

6897

OregonianDamascus resident Dan Phegley helped organize a taxpayer revolt after discovering that his 2.5-acre property fell into a proposed green area and becoming angered at the prospect of paying urbanlevel taxes on land that could be restricted to rural-density development. With state and federal funding also drying up, the city now has no way to pay for mammoth growth intended for the area.

DAMASCUS -- Seven years after planners tapped this Clackamas County hamlet as the epicenter of Portland-area residential growth, hardly a nail's worth of construction has been completed.

Visions of greenspaces, walking trails and bicycle paths wending through "villages" housing 50,000 new residents, it turns out, were just that. The decision backfired so badly that today, after passage of local anti-growth ballot initiatives, the metropolitan area once deemed most likely to develop appears to be the place where it's least likely to occur.

×

Now, with Metro once again facing a mandatory review of whether and where to expand the region's urban growth boundary, it's clear that the Damascus debacle has produced a philosophical sea change.

"I think this council will look very skeptically at further urban growth boundary expansions," David Bragdon, Metro Council president, said. "The reality is that we need to be more efficient with land already inside the boundary."

Growth expansions in Damascus and elsewhere were driven by a state law requiring larger urban areas to maintain a 20-year land supply on which development can take place.

What's lacking is any way to pay for that development.

The result, said Jim Chapman, president and general manager of Legend Homes, is a land-use system that is broken and perhaps unfixable. "Look at the trouble we have replacing even a single sewer plant," Chapman said. "What I know for sure is that places like Damascus won't develop in my lifetime."

Others share Chapman's opinion that Damascus, a semirural enclave served by septic tanks and narrow roads, never had any realistic chance of evolving into one of the state's larger cities. "We all stood back, rolled our eyes and said, 'This is nuts,'" said Tualatin Mayor Lou Ogden. "It was like a tree-planting movement at the North Pole. The Amazon, maybe, but not there."

Charlotte Lehan, Wilsonville's former mayor and new Clackamas County commissioner, said planners have learned a lesson. "I doubt this will ever happen again," she said. "It's very difficult to build a city from scratch."

Bragdon, who was a Metro councilor at the time of the 2002 decision, said he suspected all along that Damascus and the thousands of other acres added to the region's urban growth boundary in 2002 would never develop as planned, even if the economy had remained healthy. "The system is predicated on taxpayers providing free infrastructure on the edge of town," said Bragdon. "That may have been true decades ago, but it's just not the case anymore."

And it's not just Damascus. Thousands of acres on the region's west side, such as North Bethany and West Bull Mountain, sit virtually untouched. Despite the continued in-migration of thousands of new residents, those areas are likely to remain that way for years, planning officials and developers say.

Lack of money to pay for needed roads and services has other immediate implications, as well. It probably means that the era of building one new subdivision after another, platted on acreage spaced increasingly farther from existing urban services, is over.

Tight money

A quarter-century ago, local governments and developers relied on seemingly bottomless reserves of federal and state money to pay for the new roads and services needed to link increasingly outlying tracts of land with existing developments. In recent years, disappearing state and federal aid, combined with local tax-limitation measures, have severely crimped such subsidies.

Other difficulties have cropped up, as well.

Paying for new infrastructure in areas such as North Bethany and West Bull Mountain, for instance, became nearly impossible when developers, jumping at a then-red-hot housing boom, optioned land at top-of-the-market prices. The market's subsequent collapse sucked with it any ability for builders to chip in for new roads and services.

Real estate agents, who closely followed Metro's 2002 policy discussions, were stunned when they learned that roughly 12,000 acres of the total 18,600-acre expansion would encompass the buttes, valleys and rural hideaways around Damascus. The area, big enough to create another Beaverton, represented the largest residential boundary expansion in state history.

"We all took a deep breath and said, 'What are they thinking?" said Mikalan Moiso, principal broker in Re/Max Equity Group's Lake Oswego office. "No matter which direction they decided to expand, you can't throw that kind of growth in one particular area and think it's going to work."

http://blog.oregonlive.com/news impact/2009/01/road to bigger better damascus/print.ht... 1/20/2009

With the 2009 Legislature under way, there is little indication that lawmakers will look seriously at repealing the 20-year land-supply law.

Instead, policymakers are counting on a corollary planning effort now under way that could effectively supplant that law. The project, undertaken by Metro and Multnomah, Washington and Clackamas counties, will identify which edges of the current urban growth boundary will be developed in years to come and which will remain as rural reserves.

Regardless of the outcome, however, it won't erase the painful lessons still lingering from the Damascus decision.

A revolt by residents

The 12,000 residents living in and around Damascus responded to Metro's growth designation by voting, in 2004, to form Oregon's first new city in 22 years. The rallying cry became, if growth is truly on the way, we have a far better chance of controlling our own fate if we incorporate.

"When we looked to the west, all we saw was rooftops and asphalt," said Jim Wright, Damascus' newly elected mayor. "If 50,000 new folks were really on the way, we thought we could design our new city better than someone else."

Initially, some expected a land rush. A few longtime residents sold their properties to developers almost immediately. Some waited, hoping for higher land values, and became frustrated with the pace of the process. Others continued to oppose incorporation, fearing that the money needed to run the new city would wildly increase their property taxes.

Planning for the new city began with a series of neighborhood meetings and informal presentations. Aided by planning money provided by Metro, a concept plan finally was unveiled -- to decidedly mixed results. Some property owners who lived on the hillsides and other areas proposed as housing-free greenways heatedly objected, saying their development rights were being impinged.

Dan Phegley, who moved from Portland to Damascus in 1993, said he had difficulty even finding his property on the map. When he did, he was angered to see a proposed green overlay running through his lot.

Phegley subsequently founded an anti-city group called "Ask Damascus." The group pulled off a stunning coup in November's election by persuading nearly 70 percent of the city's voters to approve measures prohibiting the city charging, without a vote, a single dime for the systems charges that most municipalities rely on to pay the cost of new development.

"I'm not sure people understood exactly what they were voting for," Mayor Wright said. "But at this point, we're pretty much dead in the water."

Wright, however, remains philosophical.

"Most of us figured at first that the development coming our way meant we'd be built out in 10 years and, obviously, that's not going to happen," he said. "At this point, it may take 30 to 50 years, but come back then, and I predict that a lot will have changed around here."

-- Dana Tims; danatims@news.oregonian.com

http://blog.oregonlive.com/news impact/2009/01/road to bigger better damascus/print.ht... 1/20/2009

Road to pigger, better Damascus leads to dead end - Breaking News impact - The Oregon ... Page 4 of 8

Categories: Breaking News, Clackamas County, East Multnomah County, Top Stories

Comments

nativepdx says...

The revoke in Damascus happened, because Metro and the planners forgot to ask the people, that owned the property, what they wanted. Then the city council, working with Metro to rezone people private property, making some people very rich and other not, (sometime in the future). For some strange reason, people living in a rural area, were not all interested in living in a high density area. It just might be possible that they moved there, because they liked it, the way it was.

They forgot to "ask Damascus". But we should expect that from Metro. Metro knows better how we should live. And it was just too selfish, of many of the people in Damascus, to think they had a say how their property should be developed.

Metro is a bully with unlimited funds to push their agenda and Metro does not care about local control and how people feel in their neighborhoods.

Metro's job is to stack and pack our neighborhoods with as much development and density as possible. We should not be concerned, they are doing this to preserve our neighborhoods! NOT!

In Oregon we live on about 2% of the land and 98% of Oregon Is OPEN SPACE. Why Is Metro Mandating Density in our neighborhoods?

Every time Metro says they are doing this to preserve our way of life, It looks more like they are doing just the opposite.

Beware of false promises from Metro.

Posted on 01/17/09 at 7:04AM

2Z4 says...

Native - Metro didn't forget. They aren't interested in what the subjects think.

Posted on 01/17/09 at 8:17AM

bigguyII says...

It's now time for the people of the Tri-county area to vote to disolve Metro. Maybe the "ask Damascus" could get that started!!! Do we really need a nonresponsive qusi government bunch of green nut cases telling us how we should live in and develop the land in the tri-county area?? NO!! Lets vote to eliminate this unnecessary 3rd level of government now!!!

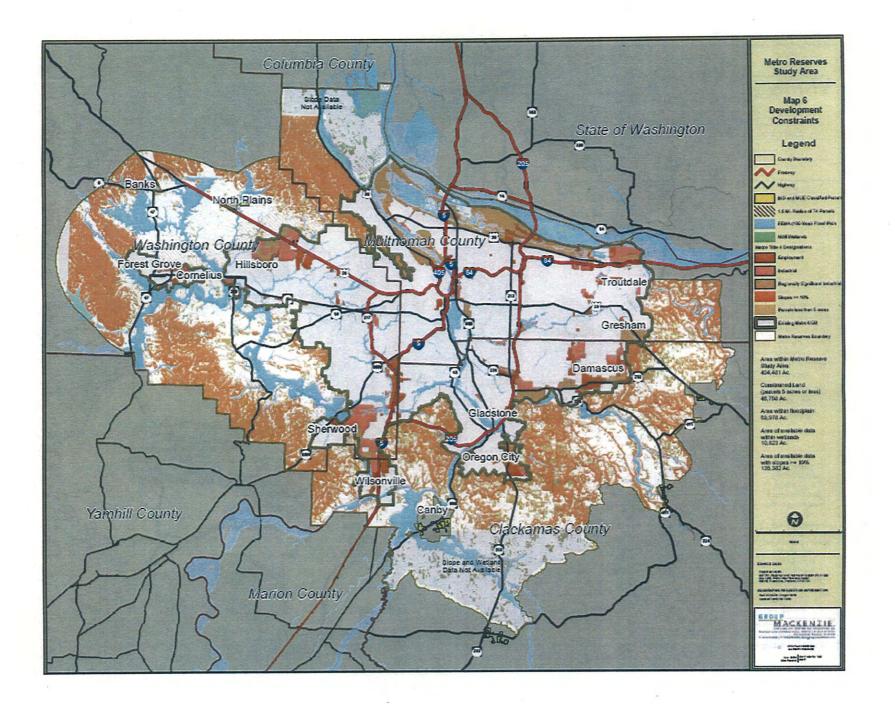
Posted on 01/17/09 at 10:01AM

embian says...

I agree-- Metro is a useless bureaucratic mess that is out of touch with reality.

http://blog.oregonlive.com/news impact/2009/01/road to bigger better damascus/print.ht... 1/20/2009

Attachment 7 to Staff Report Ordinance No. 10-1238A



Intergovernmental Agreement Between Metro and Clackamas County To Adopt Urban and Rural Reserves

This Agreement is entered into by and between Metro and Clackamas County pursuant to ORS 195.141 and 190.003 to 190.110 for the purpose of agreeing on the elements of an ordinance to be adopted by Metro designating Urban Reserves and of an ordinance to be adopted by Clackamas County designating Rural Reserves, all in Clackamas County.

PREFACE

This agreement will lead to the designation of Urban Reserves and Rural Reserves. Designation of the Urban and Rural Reserves by this agreement will help accomplish the purpose of the 2007 Oregon Legislature in enacting Senate Bill 1011, now codified in ORS 195.137 to 195.145 ("the statute"):

Facilitate long-term planning for urbanization in the region that best achieves

- Livable communities;
- Viability and vitality of the agricultural and forest industries; and
- Protection of the important natural landscape features that define the region.

RECITALS

WHEREAS, Metro and Multnomah, Washington and Clackamas Counties ("the four governments") have declared their mutual interest in long-term planning for the three-county area in which they exercise land use planning authority to achieve the purpose set forth in the statute; and

WHEREAS, the Oregon Legislature enacted the statute in 2007, at the request of the four governments and many other local governments and organizations in the region and state agencies, to establish a new method to accomplish the goals of the four governments through long-term planning; and

WHEREAS, the statute authorizes the four local governments to designate Urban Reserves and Rural Reserves to accomplish the purposes of the statute, which are consistent with the goals of the four governments; and

WHEREAS, the Land Conservation and Development Commission ("LCDC") adopted rules to implement the statute on January 25, 2008, as directed by the statute; and

WHEREAS, the statute and rules require Metro and Clackamas County ("the parties") to designate reserves and to enter into a formal agreement between them to designate reserves in a coordinated and concurrent process prior to adoption of ordinances adopting reserves; and

WHEREAS, the statute and the rules set forth certain factors to be considered in the designation of reserves, and elements to be included in ordinances adopting reserves; and

WHEREAS, the parties have followed the procedures and considered the factors set forth in the statute and the rule; and

WHEREAS, the parties have completed an extensive and coordinated public involvement effort; and

WHEREAS, the parties have coordinated their efforts with cities, special districts, school districts and state agencies in the identification of appropriate Urban and Rural Reserves;

NOW, THEREFORE, Metro and Clackamas County agree as follows:

AGREEMENT

- A. **Metro agrees** to consider the following policies and Urban Reserve designations at a public hearing and to incorporate them in the Regional Framework Plan, or to incorporate them as revised pursuant to subsections 3 and 4 of section C of this agreement:
- 1. A policy that designates as Urban Reserves those areas shown as proposed Urban Reserves on Exhibit A, attached to this agreement, or on any amendment to Exhibit A pursuant to section C of this agreement.
- 2. A policy that determines that the Urban Reserves designated by the Regional Framework Plan pursuant to this agreement are intended to provide capacity for population and employment between 2010 and 2060, a total of 50 years from the date of adoption of the ordinance designating the reserves.
- 3. A policy that gives highest priority to Urban Reserves for future addition to the urban growth boundary (UGB).
- 4. A map depicting the Urban Reserves adopted by Metro and the Rural Reserves adopted by Clackamas County following this agreement.
- 5. A policy that Metro will not add Rural Reserves designated by ordinance following this agreement to the regional UGB for 50 years.
- 6. A policy that Metro will not designate Rural Reserves as Urban Reserves for 50 years.
- 7. A policy that Metro will require a "concept plan", the required elements of which will be specified in the Urban Growth Management Functional Plan in consultation with the county, for an area of Urban Reserves under consideration for addition to the UGB to be completed prior to the addition. Concept plans shall include elements on finance, provision of infrastructure, natural resource protection, governance, the planning principles set forth in Exhibit B and other subjects critical to the creation of great

communities. Concept plans will provide that areas added to the UGB will be governed and planned by cities prior to urbanization.

- 8. A policy that Metro will review the designations of urban and rural reserves, in coordination with Clackamas, Multnomah and Washington Counties, 20 years after the adoption of reserves by the four governments pursuant to this agreement, unless the four governments agree to review the reserves sooner.
- B. Clackamas County agrees to consider the following policies and Rural Reserve designations at a public hearing and to incorporate them in its Comprehensive Plan, or to incorporate them as revised pursuant to subsections 3 and 4 of section C of this agreement:
- 1. A policy that designates as Rural Reserves the areas shown as proposed Rural Reserves on Exhibit A, attached to this agreement, or on any amendment to Exhibit A pursuant to section C of this agreement.
- 2. A map depicting the Rural Reserves designated by the Comprehensive Plan and the Urban Reserves adopted by Metro following this agreement.
- 3. A policy that Clackamas County will not include Rural Reserves designated pursuant to this agreement in the UGB of any city in the county for 50 years from the date of adoption of the ordinance designating the reserves.
- 4. A policy that the county will not re-designate Rural Reserves as Urban Reserves for a city in the county for 50 years from the date of adoption of the ordinance designating the reserves.
- 5. A policy that commits the county, together with an appropriate city or cities, to participation in development of a concept plan for an area of Urban Reserves under consideration for addition to the UGB.
- 6. A policy that the county will review the designations of Urban and Rural Reserves, in coordination with Metro and Multnomah and Washington Counties, 20 years after the adoption of reserves by the four governments pursuant to this agreement, unless the four governments agree to review the reserves sooner.
- C. Clackamas County and Metro agree to follow this process for adoption of the ordinances that will carry out this agreement:
- 1. Each government will hold at least one public hearing on its draft ordinance prior to its adoption.
- 2. Metro and the county will hold their final hearings and adopt their ordinances no later than June 8, 2010.

- 3. If testimony at a hearing persuades Metro or the county that it should revise its ordinance in a way that would make it inconsistent with this agreement, then it shall continue the hearing and propose an amendment to the agreement to the other party and to Multnomah and Washington Counties.
- 4. If Clackamas County or Metro proposes an amendment to the agreement, the party proposing the agreement will convene the four governments to consider the amendment. Any objections or concerns raised by a government that is not party to this IGA shall be considered carefully and the four governments shall take reasonable, good faith steps to reach consensus on the amendment. After this consultation, Clackamas County and Metro may agree to an amendment.
- 5. Metro and Clackamas County will adopt a common set of findings, conclusions and reasons that explain their designations of Urban Reserves and Rural Reserves as part of their ordinances adopting the reserves. Metro and the county will incorporate maps into their respective plans that show both the Urban and Rural Reserves in Exhibit A to this agreement, with the county showing only the reserves in the county.
- 6. Metro and Clackamas County will establish, in coordination with Multnomah and Washington Counties, a process for making minor revisions to boundaries between Urban Reserves and undesignated land that can be made at the time of concept planning, and a process for making minor additions to Rural Reserves, with notice to, but without convoking all four reserves partners.
- 7. Within 45 days after adoption of the last ordinance adopting reserves of the four governments, Clackamas County and Metro will submit their ordinances and supporting documents to LCDC in the manner of periodic review.
- D. Clackamas County and Metro further agree to work with the city of Sandy to revise their three-party Intergovernmental Agreement on Green Corridors and Rural Reserve and Population Coordination, dated December 3, 1997, to ensure protection of visual resources along U.S. Highway 26 between the Metro urban growth boundary and the Sandy urban growth boundary.
- E. This agreement terminates on December 31, 2060.

CLACKAMAS COUNTY

Chair, Clackamas County Board of Commissioners

Dated: 2-25-10 III.2.

Approved as to form:

Dan Chardler, County Coursel

METRO David Bragdon, David Bragdon, Metro Council President Dated: 3 M Ln Olo Approved as to form: Metro Concernation Approved as to form: Concernation Concernat

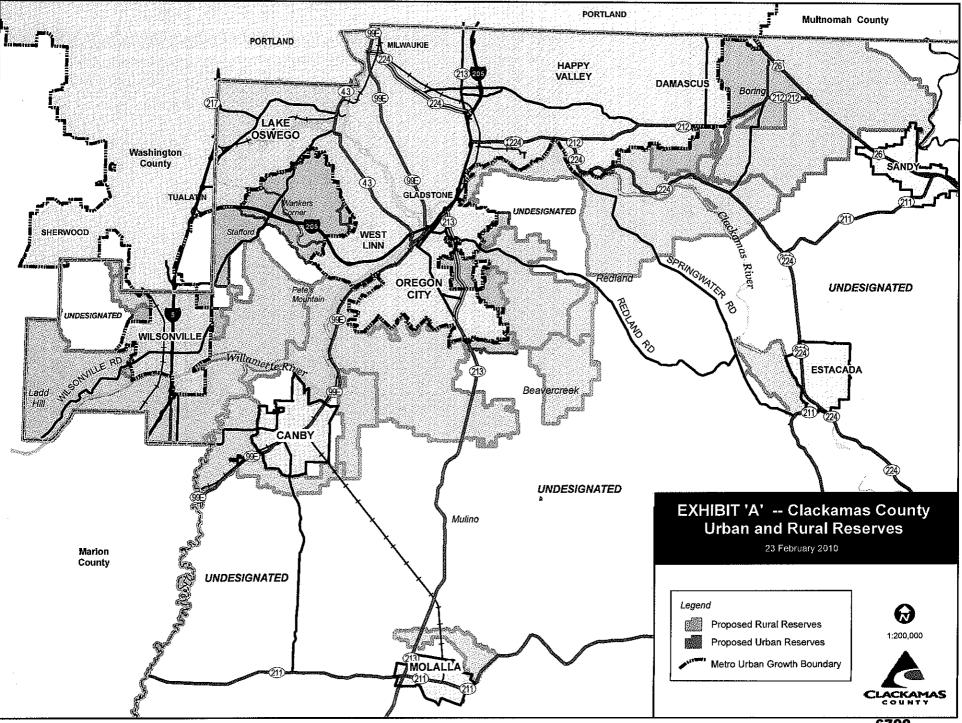


EXHIBIT B

PRINCIPLES FOR CONCEPT PLANNING OF URBAN RESERVES

- 1. Except for Areas 4A, 4C, and 4D concept planning for specific, enumerated Urban Reserves on the Urban and Rural Reserves map may occur separately and at different times. Concept planning for Areas 4A, 4C, and 4D must be coordinated so that Area 4C (Borland Road) is planned and developed as the town center serving the vast majority of Area 4A (North Stafford) and Area 4D (South Stafford).
- 2. A concept plan for any Urban Reserve area must be approved by the county, the city or cities who will govern the area and Metro, with ample opportunities for public involvement, including recognized citizen involvement entities, such as community planning organizations, hamlets and neighborhood associations. Concept plans will recognize community-based planning efforts such as the Stafford Hamlet Values & Vision Statement.
- 3. The following cities shall be invited to participate in concept planning of the following Urban Reserves:
 - Areas 1D and 1F (Clackanomah) Damascus, Gresham and Sandy
 - Area 3C (Newell Creek Canyon/Holly Lane) Oregon City
 - Area 4A and 4B (North Stafford Area) Tualatin, Lake Oswego and West Linn
 - Area 4C (Borland Road) Tualatin, Lake Oswego and West Linn
 - Area 4D (South Stafford) Tualatin, Lake Oswego, West Linn, and Wilsonville
- 4. Concept plans shall provide that any area added to the UGB shall be governed by one or more of the following cities, or a new city, with preferences to the following:
 - Areas 1D and 1F (Clackanomah) Damascus and Gresham
 - Area 3C (Newell Creek Canyon/Holly Lane) Oregon City
 - Area 4A and 4B (North Stafford Area) Tualatin, Lake Oswego and West Linn
 - Area 4C (Borland Road) Tualatin, Lake Oswego and West Linn
 - Area 4D (South Stafford) Tualatin, Lake Oswego, West Linn, and Wilsonville
- 5. Concept planning for Urban Reserve areas that are suitable for industrial and other employment uses – such as portions of Clackanomah and the Borland Road area - will recognize the need to provide jobs in this part of the region, and that the areas were brought into the Urban Reserves principally meet those needs.
- 6. Concept planning for Urban Reserve areas that are suitable for a mix of urban uses such as the Borland Road area will ensure the areas are developed with the opportunity to provide employment and mixed- use centers with housing at higher densities and intense employment at higher floor-to-area ratios, and will include designs for a walkable, transit-supportive development pattern.

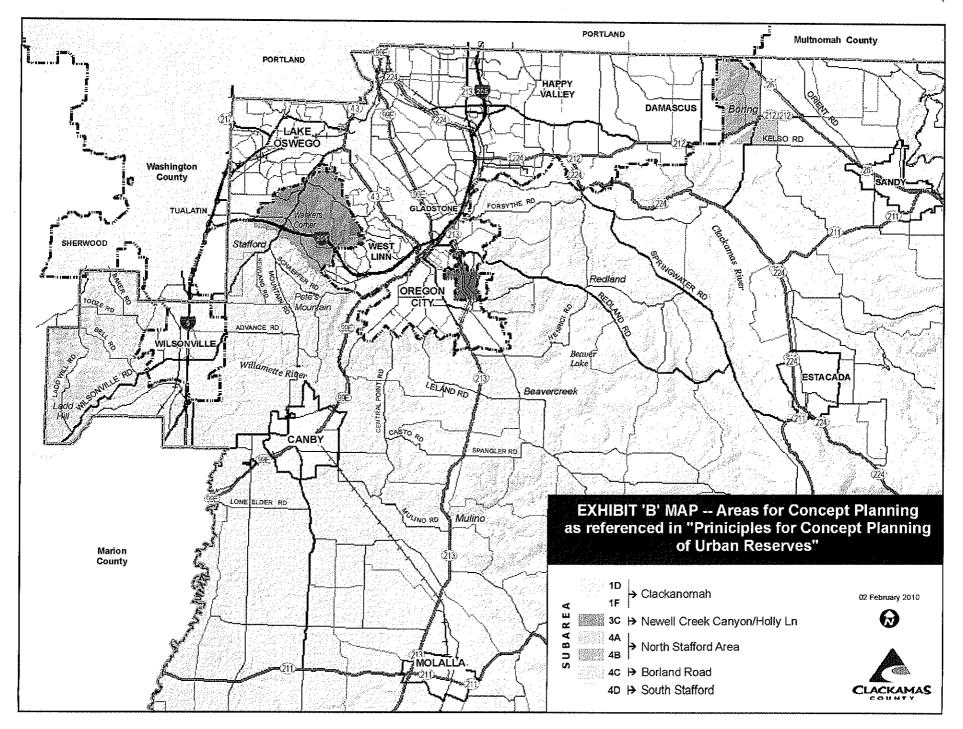
Page 1 - February 25, 2010

7. Concept planning shall recognize environmental and topographic constraints and habitat areas, such as the buttes in the Clackanomah area, Newell Creek Canyon in Urban Reserve Area 3C and the riparian areas along creeks in the North Stafford Area, recognizing that these areas include important natural features, and sensitive areas that may not be appropriate for urban development. Concept planning will reduce housing and employment capacity expectations accordingly

. '

8. Concept planning for the portion of the Clackanomah area along Highway 26 will recognize the need to provide and protect a view corridor considering, among other things, landscaping, signage and building orientation. Metro and Clackamas County also recognize the need to work with the City of Sandy to revise the existing intergovernmental agreement among the parties.

Page 2 - February 25, 2010



BEFORE THE BOARD OF COUNTY COMMISSIONERS OF CLACKAMAS COUNTY, STATE OF OREGON

In the Matter of Approving an Intergovernmental Agreement to Consider Designating Urban and Rural Reserves in the Clackamas County Comprehensive Plan

Resolution No. 2010-17, Page 1 of 2

This matter having come before the Clackamas County Board at its regularly scheduled Business Meeting on February 25, 2010, and

It appearing to the Board that pursuant to ORS 195.141 and 190.003 to 190.110, Metro and Clackamas County are authorized to enter into an Intergovernmental Agreement (IGA) to identify urban and rural reserves and to establish a coordinated process designating reserves in the Metro regional framework plan and Clackamas County Comprehensive Plan; and

It appearing to the Board that Clackamas County implemented a coordinated public involvement plan consistent with state law to develop and analyze reserve study areas including public open houses, citizen organization meetings, coordinating committee meetings and other stakeholder meetings; and

It appearing to the Board that the Clackamas County Reserves Policy Advisory Committee was convened and made recommendations to the Board for designation of urban and rural reserves in Clackamas County; and

It appearing that the Clackamas County Planning Commission held a public hearing on August 10, 2009 to receive public testimony regarding the designation of Urban and Rural reserves in Clackamas County \and forwarded a recommendation to the Board; and

It appearing that the Clackamas County Board of County Commissioners conducted a public hearing on September 8, 2009 to consider further public input on the urban and rural reserves map; and

It appearing that pursuant to OAR 660-027-0030(3) an intergovernmental agreement ("Reserves IGA") is a preliminary, non-appealable decision that is required prior to designating urban and rural reserves in the Clackamas County Comprehensive Plan; and

It appearing to the Board that, while there are minor disagreements with our partner governments on specific land designations in other counties, the overall land need, and overall reserves designations strike the correct balance under state law; and

It appearing that Exhibit B to the Reserves IGA addresses important planning principles to be applied to specific Urban Reserve areas when they are planned for inclusion in the Urban Growth Boundary; and

It appearing that the Reserves IGA attached hereto includes all of the necessary elements required by state law;

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF CLACKAMAS COUNTY, STATE OF OREGON

In the Matter of Approving an Intergovernmental Agreement to Consider Designating Urban and Rural Reserves in the Clackamas County Comprehensive Plan

2010-17 Resolution No. _____ Page 2 of 2

NOW, THEREFORE, BE IT RESOLVED that:

- 1. The Reserves IGA is approved, and the Chair is authorized to sign and forward the Reserves IGA to Metro.
- 2. Clackamas County is committed to working as an equal partner with Metro, Multhomah County and Washington County to maintain and enhance the livability and prosperity of the region through the implementation of the Reserves IGA.

ADOPTED this 25th day of February, 2010.

BOARD OF COUNTY COMMISSIONERS

Recordina lecretarv

Intergovernmental Agreement Between Metro and Multnomah County To Adopt Urban and Rural Reserves

This Agreement is entered into by and between Metro and Multnomah County pursuant to ORS 195.141 and 190.003 to 190.110 for the purpose of agreeing on the elements of an ordinance to be adopted by Metro designating Urban Reserves and of an ordinance to be adopted by Multnomah County designating Rural Reserves, all in Multnomah County.

PREFACE

This agreement will lead to the designation of Urban Reserves and Rural Reserves. Designation of the Urban and Rural Reserves by this agreement will help accomplish the purpose of the 2007 Oregon Legislature in enacting Senate Bill 1011, now codified in ORS 195.137 to 195.145 ("the statute"):

Facilitate long-term planning for urbanization in the region that best achieves

- Livable communities;
- Viability and vitality of the agricultural and forest industries; and
- Protection of the important natural landscape features that define the region.

RECITALS

WHEREAS, Metro and Multnomah, Washington and Clackamas Counties ("the four governments") have declared their mutual interest in long-term planning for the three-county area in which they exercise land use planning authority to achieve the purpose set forth in the statute; and

WHEREAS, the Oregon Legislature enacted the statute in 2007, at the request of the four governments and many other local governments and organizations in the region and state agencies, to establish a new method to accomplish the goals of the four governments through long-term planning; and

WHEREAS, the statute authorizes the four local governments to designate Urban Reserves and Rural Reserves to accomplish the purposes of the statute, which are consistent with the goals of the four governments; and

WHEREAS, the Land Conservation and Development Commission ("LCDC") adopted rules to implement the statute on January 25, 2008, as directed by the statute; and

WHEREAS, the statute and rules require the four governments to work together in their joint effort to designate reserves and to enter into formal agreements among them to designate reserves in a coordinated and concurrent process prior to adoption of ordinances adopting reserves; and

WHEREAS, the statute and the rules set forth certain factors to be considered in the designation of reserves, and elements to be included in ordinances adopting reserves; and

WHEREAS, the four governments have followed the procedures and considered the factors set forth in the statute and the rule; and

WHEREAS, the four governments have completed an extensive and coordinated public involvement effort; and

WHEREAS, the four governments have coordinated their efforts with cities, special districts, school districts and state agencies in the identification of appropriate Urban and Rural Reserves;

NOW, THEREFORE, Metro and Multnomah County agree as follows:

AGREEMENT

- A. Metro agrees to consider the following policies and Urban Reserve designations at a public hearing and to incorporate them in the Regional Framework Plan, or to incorporate them as revised pursuant to subsections 3 and 4 of section C of this agreement:
- 1. A policy that designates as Urban Reserves those areas shown as proposed Urban Reserves on Exhibit A, attached to this agreement, or on any amendment to Exhibit A pursuant to section C of this agreement.
- 2. A policy that determines that the Urban Reserves designated by the Regional Framework Plan pursuant to this agreement are intended to provide capacity for population and employment between 2010 and 2060, a total of 50 years from the date of adoption of the ordinance designating the reserves.
- 3. A policy that gives highest priority to Urban Reserves for future addition to the urban growth boundary (UGB).
- 4. A map depicting the Urban Reserves adopted by Metro and the Rural Reserves adopted by Multnomah County following this agreement.
- 5. A policy that Metro will not add Rural Reserves designated by ordinance following this agreement to the regional UGB for 50 years.
- 6. A policy that Metro will not designate Rural Reserves as Urban Reserves for 50 years.
- 7. A policy that Metro will require a "concept plan", the required elements of which will be specified in the Urban Growth Management Functional Plan in consultation with the county, for an area of Urban Reserves under consideration for addition to the UGB to be completed prior to the addition. Concept plans shall include elements on finance, provision of infrastructure, natural resource protection, governance, the planning principles set forth in Exhibit B and other subjects critical to the creation of great

communities. Concept plans will provide that areas added to the UGB will be governed and planned by cities prior to urbanization.

- 8. A policy that Metro will review the designations of Urban and Rural Reserves, in coordination with Clackamas, Multnomah and Washington Counties, 20 years after the adoption of reserves by the local governments pursuant to this agreement, unless the four governments agree to review the reserves sooner.
- B. Multnomah County agrees to consider the following policies and Rural Reserve designations at a public hearing and to incorporate them in its Comprehensive Plan, or to incorporate them as revised pursuant to subsections 3 and 4 of section C of this agreement:
- 1. A policy that designates as Rural Reserves the areas shown as proposed Rural Reserves on Exhibit A, attached to this agreement, or on any amendment to Exhibit A pursuant to section C of this agreement.
- 2. A map depicting the Rural Reserves designated by the Comprehensive Plan and the Urban Reserves adopted by Metro following this agreement.
- 3. A policy that Multnomah County will not include Rural Reserves designated pursuant to this agreement in the UGB of any city in the county for 50 years from the date of adoption of the ordinance designating the reserves.
- 4. A policy that Multnomah County will not re-designate Rural Reserves as Urban Reserves in the county for 50 years from the date of adoption of the ordinance designating the reserves.
- 5. A policy that commits Multnomah County, together with an appropriate city, to participation in development of a concept plan for an area of Urban Reserves under consideration for addition to the UGB.
- 6. A policy that the county will review the designations of Urban and Rural Reserves, in coordination with Metro and Clackamas and Washington Counties, 20 years after the adoption of reserves by the four governments pursuant to this agreement, unless the four governments agree to review the reserves sooner.
- C. Multnomah County and Metro agree to follow this process for adoption of the ordinances that will carry out this agreement:
- 1. Each government will hold at least one public hearing on its draft ordinance prior to its adoption.
- 2. Metro and the county will hold their final hearings and adopt their ordinances no later than June 8, 2010.
- 3. If testimony at a hearing persuades Metro or Multnomah County that it should revise its ordinance in a way that would make it inconsistent with this agreement, then it shall

continue the hearing and propose an amendment to the agreement to the other party and to Clackamas and Washington Counties.

- 4. If Multnomah County or Metro proposes an amendment to the agreement, the party proposing the agreement will convene the four governments to consider the amendment. Any objections or concerns raised by a government that is not party to this IGA shall be considered carefully and the four governments shall take reasonable, good faith steps to reach consensus on the amendment. After this consultation, Multnomah County and Metro may agree to an amendment.
- 5. Metro and Multnomah County will adopt a common set of findings, conclusions and reasons that explain their designations of Urban Reserves and Rural Reserves as part of their ordinances adopting the reserves. Metro and the county will incorporate maps into their respective plans that show both the Urban and Rural Reserves in Exhibit A to this agreement, with the county showing only the reserves in the county.
- 6. Metro and Multnomah County will establish, in coordination with Clackamas and Washington Counties, a process for making minor revisions to boundaries between Urban Reserves and undesignated land that can be made at the time of concept planning, and a process for making minor additions to Rural Reserves, with notice to, but without convoking all four reserves partners.
- 7. Within 45 days after adoption of the last ordinance adopting reserves of the four governments, Multnomah County and Metro will submit their ordinances and supporting documents to LCDC in the manner of periodic review.
- D. This agreement terminates on December 31, 2060.

MULTNOMAH COUNTY

Ted Wheeler Chair, Multnomah County Board of Commissioners

Dated: 03/04/2010

Reviewed:

Sandia Duffy

METRO

David Bragdon.

Metro Council President

Dated: March 2010 Одебренный Costal Approved as to form: METHO CoBer Merpo COUNCIL 4

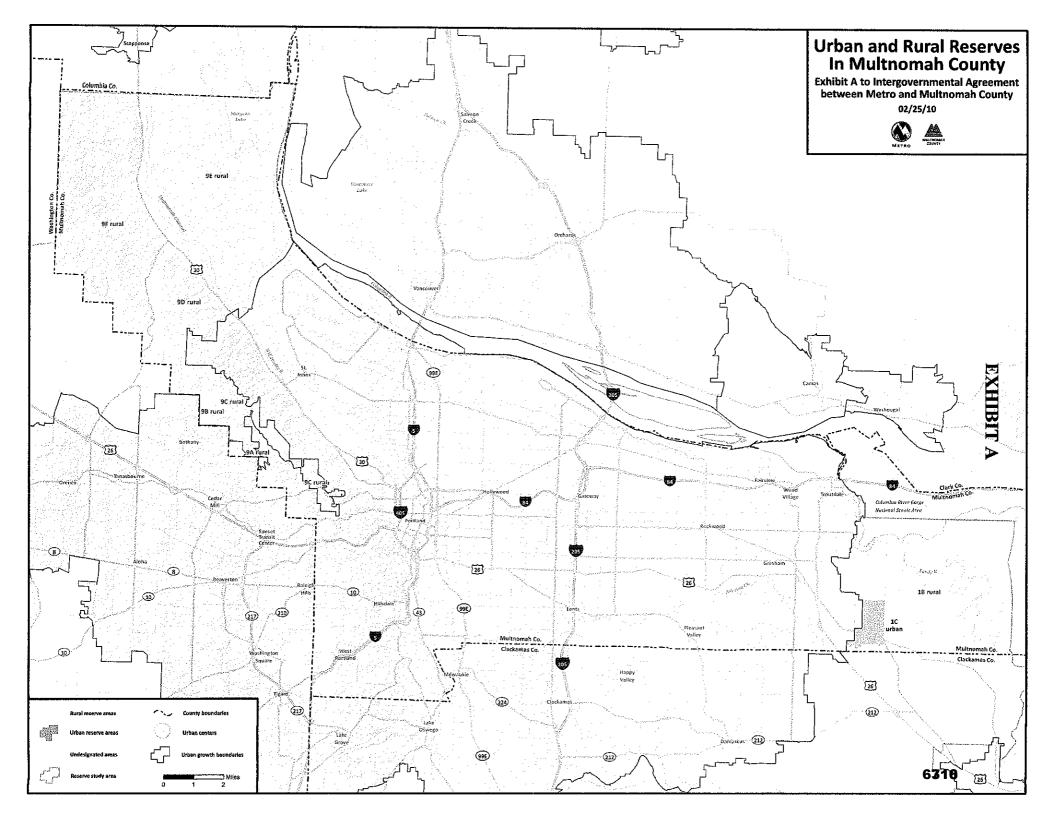


EXHIBIT B

Exhibit B to Agreement between Metro and Multnomah County

PRINCIPLES FOR CONCEPT PLANNING OF URBAN RESERVES

- 1. Concept planning for specific, enumerated Urban Reserves on the Urban and Rural Reserves map may occur separately and at different times.
- 2. A concept plan for any Urban Reserve area must be approved by the county, the city or cities who will govern the area, and by Metro.
- 3. The City of Gresham shall be invited to participate in concept planning of Urban Reserve in the area south of Lusted Road and west of SE 302nd, identified as Area 1C (Clackanomah) on the regional reserve map.
- 4. Concept plans shall provide that any area added to the UGB shall be governed by an existing city, or by a new city.
- 5. Concept planning for Urban Reserve areas that are suitable for industrial and other employment uses such as portions of Clackanomah will recognize the opportunity to provide jobs in this part of the region.
- 6. Concept planning for Urban Reserve areas that are suitable for a mix of urban uses such as Area 1C will recognize the opportunity to provide employment and mixed- use centers with housing at higher densities and employment at higher floor-to-area ratios, and will include designs for a walkable, transit-supportive development pattern.
- 7. Concept planning shall recognize environmental and topographic constraints and habitat areas and will reduce housing and employment capacity expectations accordingly.

BCC 10-0139

Intergovernmental Agreement Between Metro and Washington County To Adopt Urban and Rural Reserves

This Agreement is entered into by and between Metro and Washington County pursuant to ORS 195.141 and 190.003 to 190.110 for the purpose of agreeing on the elements of an ordinance to be adopted by Metro designating Urban Reserves and of an ordinance to be adopted by Washington County designating Rural Reserves, all in Washington County.

PREFACE

This agreement will lead to the designation of Urban Reserves and Rural Reserves. Designation of the Urban and Rural Reserves by this agreement will help accomplish the purpose of the 2007 Oregon Legislature in enacting Senate Bill 1011, now codified in ORS 195.137 to 195.145 ("the statute"):

Facilitate long-term planning for urbanization in the region that best achieves

- Livable communities;
- Viability and vitality of the agricultural and forest industries; and
- Protection of the important natural landscape features that define the region.

RECITALS

WHEREAS, Metro and Multnomah, Washington and Clackamas Counties ("the four governments") have declared their mutual interest in long-term planning for the three-county area in which they exercise land use planning authority to achieve the purpose set forth in the statute; and

WHEREAS, the Oregon Legislature enacted the statute in 2007, at the request of the four governments and many other local governments and organizations in the region and state agencies, to establish a new method to accomplish the goals of the four governments through long-term planning; and

WHEREAS, the statute authorizes the four local governments to designate Urban Reserves and Rural Reserves to accomplish the purposes of the statute, which are consistent with the goals of the four governments; and

WHEREAS, the Land Conservation and Development Commission ("LCDC") adopted rules to implement the statute on January 25, 2008, as directed by the statute; and

WHEREAS, the statute and rules require the four governments to work together in their joint effort to designate reserves and to enter into formal agreements among them to designate reserves in a coordinated and concurrent process prior to adoption of ordinances adopting reserves; and

WHEREAS, the statute and the rules set forth certain factors to be considered in the designation of reserves, and elements to be included in ordinances adopting reserves; and

WHEREAS, the four governments have followed the procedures and considered the factors set forth in the statute and the rule; and

WHEREAS, the four governments have completed an extensive and coordinated public involvement effort; and

WHEREAS, the four governments have coordinated their efforts with cities, special districts, school districts and state agencies in the identification of appropriate Urban and Rural Reserves;

NOW, THEREFORE, Metro and Washington County agree as follows:

AGREEMENT

- A. Metro agrees to consider the following policies and Urban Reserve designations at a public hearing and to incorporate them in the Regional Framework Plan, or to incorporate them as revised pursuant to subsections 3 and 4 of section C of this agreement:
- 1. A policy that designates as Urban Reserves those areas shown as proposed Urban Reserves on Exhibit A, attached to this agreement, or on any amendment to Exhibit A pursuant to section C of this agreement.
- 2. A policy that determines that the Urban Reserves designated by the Regional Framework Plan pursuant to this agreement are intended to provide capacity for population and employment between 2010 and 2060, a total of 50 years from the date of adoption of the ordinance designating the reserves.
- 3. A policy that gives highest priority to Urban Reserves for future addition to the urban growth boundary (UGB).
- 4. A map depicting the Urban Reserves adopted by Metro and the Rural Reserves adopted by Washington County following this agreement.
- 5. A policy that Metro will not add Rural Reserves designated by ordinance following this agreement to the regional UGB for 50 years.
- 6. A policy that Metro will not designate "Rural Reserves" as Urban Reserves for 50 years.
- 7. A policy that Metro will require a "concept plan", the required elements of which will be specified in the Urban Growth Management Functional Plan in consultation with the county, for an area of Urban Reserves under consideration for addition to the UGB to be completed prior to the addition. Concept plans shall include elements on finance,

provision of infrastructure, natural resource protection, governance, the planning principles set forth in Exhibit B and other subjects critical to the creation of great communities. Concept plans will provide that areas added to the UGB will be governed and planned by cities prior to urbanization.

- 8. A policy that Metro will review the designations of Urban and Rural Reserves, in coordination with Clackamas, Multnomah and Washington Counties, 20 years after the adoption of reserves by the four governments pursuant to this agreement, unless the four governments agree to review the reserves sooner.
- B. Washington County agrees to consider the following policies and Rural Reserve designations at a public hearing and to incorporate them in its Comprehensive Plan, or to incorporate them as revised pursuant to subsections 3 and 4 of section C of this agreement:
- 1. A policy that designates as Rural Reserves the areas shown as proposed Rural Reserves on Exhibit A, attached to this agreement, or on any amendment to Exhibit A pursuant to section C of this agreement.
- 2. A map depicting the Rural Reserves designated by the Comprehensive Plan and the Urban Reserves adopted by Metro following this agreement.
- 3. A policy that Washington County will not include Rural Reserves designated pursuant to this agreement in the UGB of any city in the county for 50 years from the date of adoption of the ordinance designating the reserves.
- 4. A policy that the county will not re-designate Rural Reserves as Urban Reserves for a city in the county for 50 years from the date of adoption of the ordinance designating the reserves.
- 5. A policy that commits the county, together with an appropriate city or cities, to participation in development of a concept plan for an area of Urban Reserves under consideration for addition to the UGB.
- 6. A policy that the county will review the designations of Urban and Rural Reserves, in coordination with Metro and Clackamas and Multnomah Counties, 20 years after the adoption of reserves by the four governments pursuant to this agreement, unless the four governments agree to review the reserves sooner.

- C. Washington County and Metro agree to follow this process for adoption of the ordinances that will carry out this agreement:
- 1. Each government will hold at least one public hearing on its draft ordinance prior to its adoption.
- 2. Metro and the county will hold their final hearings and adopt their ordinances no later than June 8, 2010.
- 3. If testimony at a hearing persuades Metro or the county that it should revise its ordinance in a way that would make it inconsistent with this agreement, then it shall continue the hearing and propose an amendment to the agreement to the other party and to Clackamas and Multnomah Counties.
- 4. If Washington County or Metro proposes an amendment to the agreement, the party proposing the agreement will convene the four governments to consider the amendment. Any objections or concerns raised by a government that is not party to this IGA shall be considered carefully and the four governments shall take reasonable, good faith steps to reach consensus on the amendment. After this consultation, Washington County and Metro may agree to an amendment.
- 5. Metro and Washington County will adopt a common set of findings, conclusions and reasons that explain their designations of Urban Reserves and Rural Reserves as part of their ordinances adopting the reserves. Metro and the county will incorporate maps into their respective plans that show both the Urban and Rural Reserves in Exhibit A to this agreement, with the county showing only the reserves in the county.
- 6. Metro and Washington County will establish, in coordination with Clackamas and Multnomah Counties, a process for making minor revisions to boundaries between Urban Reserves and undesignated land that can be made at the time of concept planning, and a process for making minor additions to Rural Reserves, with notice to, but without convoking all four reserves partners.
- ////

||||

||||

////

- 7. Within 45 days after adoption of the last ordinance adopting reserves of the four governments, Washington County and Metro will submit their ordinances and supporting documents to LCDC in the manner of periodic review.
- D. This agreement terminates on December 31, 2060.

WASHINGTON COUNTY

Tom Busi

Chair, Washington County

Board of Commissioners

Tom Brian

METRO

David Bragdon, Metro Council President

23/10 Dated: \angle

Dated: 2 March 2010

Approved as to form:

Approved as to form:

APPROVED WASHINGTON COUNTY BOARD OF COMMISSIONERS ORDER # Rolo-70 DATE B¥ CLERK OF THE BOARD



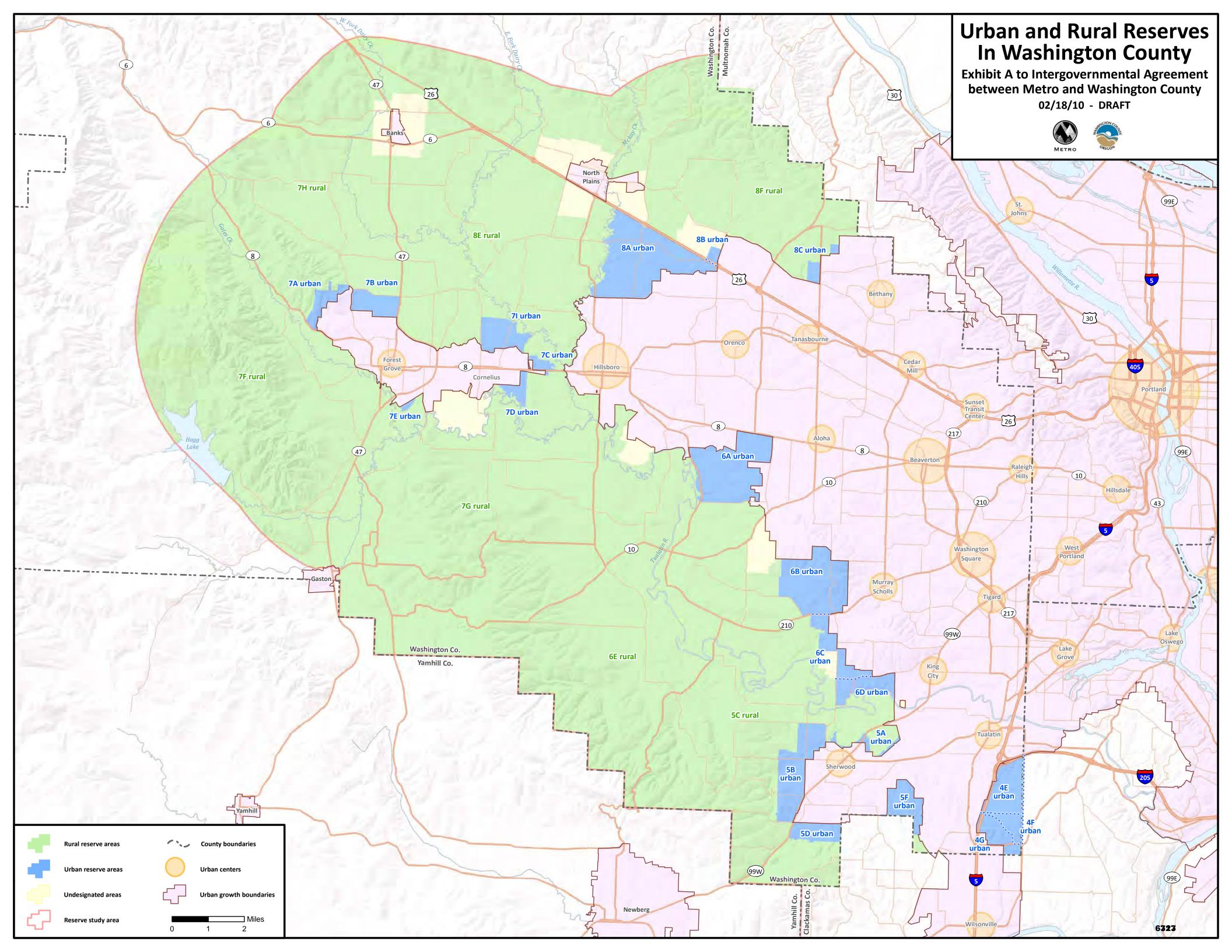


Exhibit B to Agreement between Metro and Washington County

PRINCIPLES FOR CONCEPT PLANNING OF URBAN RESERVES

- 1. Urban Reserve Area 6B is approximately 1,776 acres, of which approximately 892 acres are buildable and approximately 839 acres are constrained lands. Existing roads account for an additional 45 acres of non-buildable land. Constrained lands consist of Metro's and Washington County's Goal 5 inventories, slopes over 25%, floodplains, parks, and a city-owned parcel (approximately 10 acres) adjacent to SW Kemmer Road that contains a water tank. In order to account for the above constraints, concept planning should be undertaken as a whole in order to offer appropriate protection and enhancement to the public lands and natural features that are located throughout the area. Residential density targets will be an important consideration in future planning for the area and may need to be adjusted in order to protect and enhance the integrity of existing Title 13 and Goal 5 lands.
- 2. Undesignated lands surrounding the City of Banks and the City of North Plains provide the opportunity in the future for Washington County and each respective city to undertake Urban Reserve planning under OAR 660-021. It is the County's expectation that such planning will result in application of Urban Reserve and Rural Reserve designations in appropriate locations and quantities.

1



WASHINGTON COUNTY OREGON

February 25, 2010

David Bragdon, President, and Metro Councilors Metro Regional Center 600 NE Grand Avenue Portland, OR 97232

Dear President Bragdon and Metro Councilors:

On July 7, 2009, the Board of Commissioners adopted Resolution and Order No. 09-63 and accompanying Transmittal Letter. Those documents set forth several important principles to guide urbanization as lands are eventually considered for inclusion within the urban growth boundary, including the County's authority to regulate cherry-stem annexations, the role of cities in planning and governance, and of special districts in service provision.

On February 23, 2010, this Board reached another important milestone by unanimously adopting the attached Intergovernmental Agreement and accompanying urban and rural reserve maps as provided for in SB 1011. Those documents are transmitted with this letter.

We want to acknowledge the hard work, collaboration and perseverance of the Metro Council, our regional elected partners, and respective staffs that have made this milestone possible. Our work has been informed and improved through the input of countless stakeholders and interested citizens.

The County will continue to work collaboratively with Metro and our other partners to implement these milestones in our respective Comprehensive and Framework plans, urban growth boundary decisions, concept planning, and other steps to meet the needs of the residents of Washington County and the region.

Sincerely,

Tom Brign

Tom Brian Chairman

1 IN THE BOARD OF COUNTY COMMISSIONERS 2 FOR WASHINGTON COUNTY, OREGON 3 In the Matter of Approving an **RESOLUTION AND ORDER** Intergovernmental Agreement to Consider No. RO 10-22) Designating Urban and Rural Reserves in 4) the Washington County Comprehensive) 5 Plan 6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

This matter having come before the Washington County Board at its regularly scheduled meeting on February 23, 2010, and

It appearing to the Board that pursuant to ORS 195.141 and 190.003 to 190.110, Metro and Washington County are authorized to enter into an intergovernmental agreement to identify urban and rural reserves and to establish a contemporary and coordinated process designating reserves in the Metro regional framework plan and Washington County Comprehensive Plan; and

It appearing to the Board that Washington County implemented a coordinated public involvement plan consistent with state law to develop and analyze reserve study areas including public open houses, citizen organization meetings, coordinating committee meetings and other stakeholder meetings; and

It appearing to the Board that a Reserves Steering Committee was convened including members of the affected counties and cities as well as other stakeholders for purposes of developing a recommendation on both urban and rural reserves; and

It appearing to the Board that the Core 4, comprised of a member from Metro and each of the three counties, Multnomah, Washington and Clackamas County, unanimously agreed on the a map for urban and rural reserves; and

It appearing that Washington County conducted two public hearings on December 8 and 15 Page 1 - RESOLUTION AND ORDER ()

WASHINGTON COUNTY COUNSEL 155 N. First Ave, Suite 340 ~ MS #24 Hillsbord, OR 97124 Phone (503) 846-8747 - Fax (503) 846-8636

6**320**

1	of 2009 to solicit public input on the urban and rural reserves map consistent with the coordinated
2	public involvement plan; and
3	It appearing that pursuant to OAR 660-027-0030(3) an intergovernmental agreement
4	("Reserves IGA") is a preliminary decision that is required prior to designating urban and rural
5	reserves in the Washington County Comprehensive Plan;
6	It appearing that the Reserves IGA attached hereto includes all of the necessary elements
7	required by state law; now, therefore, it is
8	RESOLVED AND ORDERED that the Intergovernmental Agreement Between Metro and
9	Washington County to Adopt Urban and Rural Reserves attached hereto is hereby approved.
10	IT IS FURTHER RESOLVED AND ORDERED that said IGA shall be signed and
11	effective upon approval of the respective Intergovernmental Agreements Between Metro and
12	Multnomah and Clackamas County to Adopt Urban and Rural Reserves provided the respective
13	reserve areas in said IGAs are consistent with the recommendations of the Core-4 as determined by
14	Chair Brian.
15	
16	
17	
18	
19	
20	
21	
I	

)

1	IT IS FURTHER RESOLVED AND ORDERD that in the event the reserve areas are							
2	determined to be inconsistent with the recommendations of the Core-4, this Resolution and the							
3	attached IGA shall not be signed and the Board of Commissioners may reconsider this matter at the							
4	next regularly scheduled meeting of the Board.							
5								
6	DATED this 23^{RO} day of February, 2010.							
7								
8								
9	BOARD OF COUNTY COMMISSIONERS FOR WASHINGTON COUNTY, OREGON							
10	BRIAN SCHOUTEN							
11	STRADER CHAIR							
12	DUYCK Z _ Marientarkin							
13	Recording Secretary							
14								
15								
16								
17								
18								
19								
20								
21								
22								

WASHINGTON COUNTY COUNSEL 155 N. First Ave, Suite 340 ~ MS #24 Hillsbord, OR 97124 Phone (503) 846-8747 - Fax (503) 846-8636

)

BEFORE THE METRO COUNCIL

)

FOR THE PURPOSE OF ADOPTING URBAN RESERVES AND CONFORMING AMENDMENTS TO THE REGIONAL FRAMEWORK PLAN AND THE URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN) Ordinance No. 10-1238

) Introduced by Chief Operating Officer

) Michael Jordan with the Concurrence of

) Council President David Bragdon

WHEREAS, Metro and Multnomah, Washington and Clackamas Counties ("the four governments") have declared their mutual interest in long-term planning for three-county area for which they share land use planning authority in order to ensure the development of great communities within the urban growth boundary surrounded by prosperous farms, ranches, woodlots, forests, and natural resources and landscapes; and

WHEREAS, the 2007 Oregon Legislature enacted Senate Bill 1011, codified at ORS 195.137 to 195.145 ("the statute"), at the request of the four governments and many other local governments and organizations in the region and state agencies, to establish a new method to accomplish the goals of the four governments through long-term planning; and

WHEREAS, the statute authorizes the four local governments to designate Urban Reserves and Rural Reserves to accomplish the purposes of the statute, which are consistent with the goals of the four governments; and

WHEREAS, the Land Conservation and Development Commission ("LCDC") adopted rules to implement the statute on January 25, 2008, as directed by the statute; and

WHEREAS, the statute and rules require the four governments to work together in their joint effort to designate reserves and to enter into formal agreements among them to designate reserves in a coordinated and concurrent process prior to adoption of ordinances adopting reserves; and

WHEREAS, the statute and the rules set forth certain factors to be considered in the designation of reserves, and elements to be included in ordinances adopting reserves; and

WHEREAS, the Metro Council has entered into an intergovernmental agreement with each of the Boards of Commissioners of Clackamas, Multnomah and Washington Counties to designate certain lands in each of the counties as Urban Reserves and other lands as Rural Reserves; and

WHEREAS, Metro conducted workshops and hearings across the region and sought the advice of the Metro Policy Advisory Committee ("MPAC") prior to entering into intergovernmental agreements with the three counties; and

"WHEREAS, MPAC recommended adoption by the Metro Council of Regional Framework Plan policies and functional plan amendments to implement urban and rural reserves, but not the proposed map of reserves, at its meeting on May 12, 2010; and" WHEREAS, Metro held a public hearing on the Urban Reserves and Rural Reserves recommended in the intergovernmental agreements on May 20, 2010; now, therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

- 1. The areas shown as "Urban Reserves" on Map Exhibit A, attached and incorporated into this ordinance, are hereby designated Urban Reserves under ORS 195.141 and OAR 660 Division 27.
- 2. The areas shown as "Rural Reserves" on Exhibit A are the Rural Reserves adopted by Clackamas, Multnomah and Washington Counties and are hereby made subject to the policies added to the Regional Framework Plan by Exhibit B of this ordinance.
- 3. The Regional Framework Plan is hereby amended, as indicated in Exhibit B, attached and incorporated into this ordinance, to adopt policies to implement Urban Reserves and Rural Reserves pursuant to the intergovernmental agreements between Metro and Clackamas, Multnomah and Washington Counties, respectively, and ORS 195.141 to 195.143.
- 4. Title 5 (Neighbor Cities and Rural Reserves) of the Urban Growth Management Functional Plan (UGMFP) is hereby repealed as indicated in Exhibit C, attached to this ordinance.
- 5. Title 11 (Planning for New Urban Areas) of the UGMFP is hereby amended, as indicated in Exhibit D, attached and incorporated into this ordinance, to implement provisions of the intergovernmental agreements between Metro and Clackamas, Multnomah and Washington Counties and ORS 195.141 to 195.143.
- 6. The Findings of Fact and Conclusions of Law in Exhibit E, attached and incorporated into this ordinance, explain how the actions taken by the Council in this ordinance comply with the Regional Framework Plan and state law.

ADOPTED by the Metro Council this 3rd day of June, 2010.

David Bragdon, Council President

Attest:

Approved as to form:

, Recording Secretary

Daniel B. Cooper, Metro Attorney

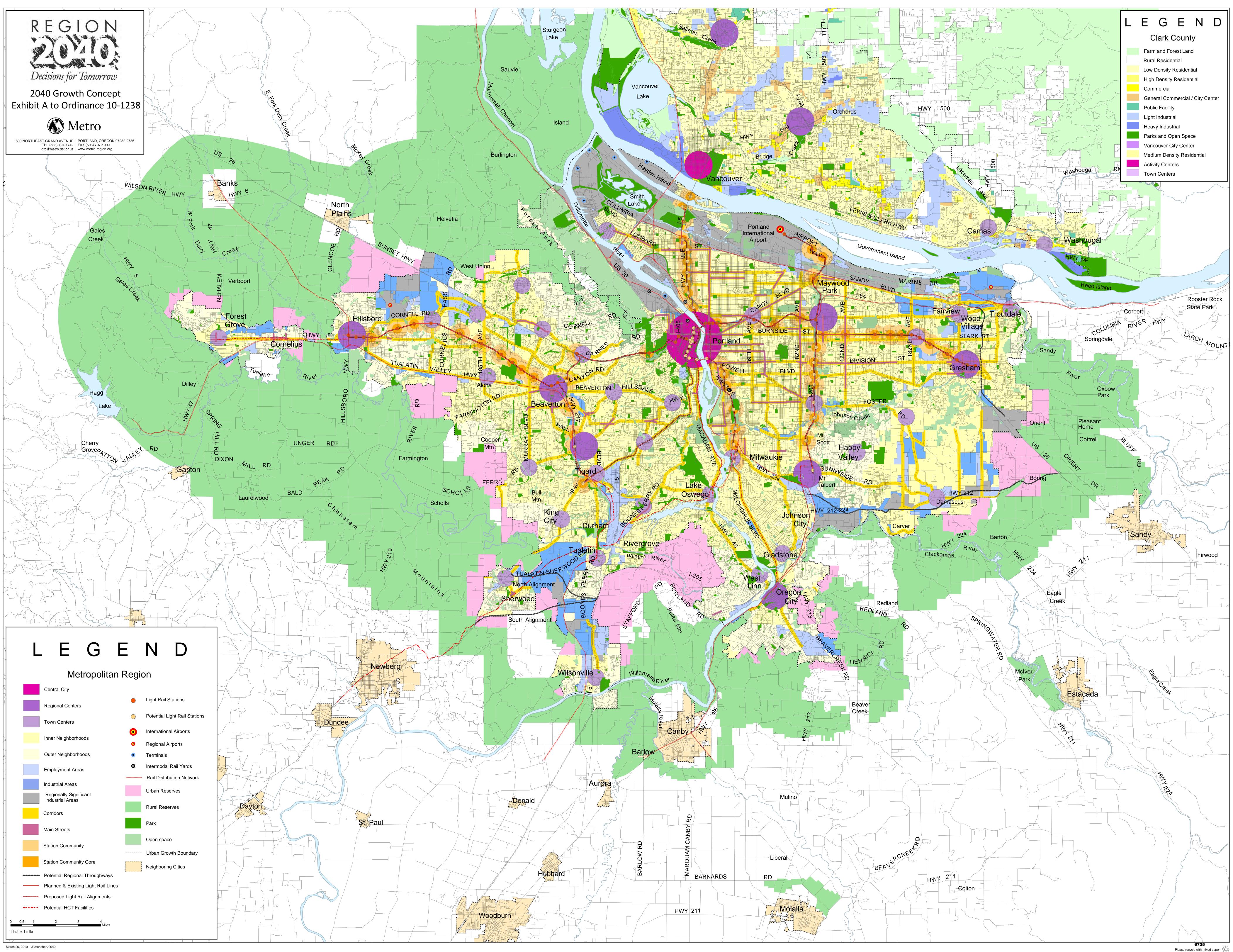


Exhibit B to Ordinance No. 10-1238

REGIONAL FRAMEWORK PLAN

Policy 1.7 Urban and Rural Reserves

It is the policy of the Metro Council to:

- 1.7.1 Establish a system of urban reserves, sufficient to accommodate long-term growth, that identifies land outside the UGB suitable for urbanization in a manner consistent with this Regional Framework Plan.
- 1.7.2 Collaborate with Multnomah, Clackamas and Washington Counties and Neighbor Cities to establish a system of rural reserves to protect agricultural land, forest land and natural landscape features that help define appropriate natural boundaries to urbanization, and to keep a separation from Neighbor Cities to protect their identities and aspirations.
- 1.7.3 Designate as urban reserves, with a supply of land to accommodate population and employment growth to the year 2060, those lands identified as urban reserves on the Urban and Rural Reserves Map in Title 14 of the Urban Growth Management Functional Plan.
- 1.7.4 Protect those lands designated as rural reserves on the Urban and Rural Reserves Map in Title 14 of the Urban Growth Management Functional Plan from addition to the UGB and from redesignation as urban reserves at least until the year 2060.
- 1.7.5 In conjunction with the appropriate county, cities and service districts, develop concept plans for urban reserves prior to their addition to the UGB. Provide technical, financial and other support to the local governments in order to:
 - a. Help achieve livable communities.
 - b. Identify the city or cities that will likely annex the area after it is added to the UGB.
 - c. Identify the city or cities or the service districts that will likely provide services to the area after it is added to the UGB.
 - d. Determine the general urban land uses and prospective components of the regional system of parks, natural areas, open spaces, fish and wildlife habitats, trails and greenways.
- 1.7.6 Twenty years after the initial designation of the reserves, in conjunction with Clackamas, Multnomah and Washington Counties, review the designated urban and rural reserves for effectiveness, sufficiency and appropriateness.

Policy 1.9 Urban Growth Boundary

It is the policy of the Metro Council to:

- 1.9.1 Establish and maintain an urban growth boundary to limit urbanization of rural land and facilitate the development of a compact urban form.
- 1.9.2 Consider expansion of the UGB only after having taken all reasonable measures to use land within the UGB efficiently.
- 1.9.3 Expand the UGB, when necessary, from land designated Urban Reserves unless they cannot reasonably accommodate the demonstrated need to expand.
- 1.9.4 Not to expand the UGB onto lands designated Rural Reserves at least until the year 2060.
- 1.9.5 Consult appropriate Neighbor Cities prior to addition of land to the UGB in their vicinity.
- 1.9.6 Add land to the UGB only after concept planning for the land has been completed by the responsible local governments in collaboration with Metro unless participants cannot agree on the plan and addition of the land is necessary to comply with ORS 197.299.
- 1.9.7 Provide the following procedures for expansion of the UGB:
 - a. A process for minor revisions
 - b. A complete and comprehensive process associated with the analysis of the capacity of the UGB required periodically of Metro by state planning laws
 - c. A process available for expansion to accommodate non-residential needs between the state-required capacity analyses
 - d. An accelerated process for addition of land to accommodate an immediate need for industrial capacity.
- 1.9.8 Use natural or built features, whenever practical, to ensure a clear transition from rural to urban land use.
- 1.9.9 Ensure that expansion of the UGB enhances the roles of Centers, Corridors and Main Streets.
- 1.9.10 Determine whether the types, mix and wages of existing and potential jobs within subareas justifies an expansion in a particular area.
- 1.9.11 Conduct an inventory of significant fish and wildlife habitat that would be affected by addition of land, and consider the effects of urbanization of the land on the habitat and measures to reduce adverse effects, prior to a decision on the proposed addition.
- 1.9.12 Use the choice of land to include within the UGB as an opportunity to seek agreement with landowners to devote a portion of residential capacity to needed workforce housing as determined by the Urban Growth Report adopted as part of the UGB expansion process.
- 1.9.13 Prepare a report on the effect of the proposed amendment on existing residential neighborhoods prior to approving any amendment or amendments of the urban growth boundary in excess of 100 acres and send the report to all households within one mile of the proposed UGB amendment area and to all cities and counties within the district. The report shall address:

- a. Traffic patterns and any resulting increase in traffic congestion, commute times and air quality.
- b. Whether parks and open space protection in the area to be added will benefit existing residents of the district as well as future residents of the added territory.
- c. The cost impacts on existing residents of providing needed public services and public infrastructure to the area to be added.

Policy 1.11 Neighbor Cities

It is the policy of the Metro Council to:

- 1.11.1 Coordinate concept planning of Urban Reserves with Neighbor Cities Sandy, Canby, Estacada, Barlow, North Plains, Banks and Vancouver to minimize the generation of new automobile trips between Neighbor Cities and the Metro UGB by seeking appropriate ratios of dwelling units and jobs within the Metro UGB and in Neighbor Cities.
- 1.11.2 Pursue agreements with Neighbor Cities, Clackamas and Washington Counties and the Oregon Department of Transportation to establish "green corridors" along state highways that link Neighbor Cities with cities inside the Metro UGB in order to maintain a rural separation between cities, to protect the civic identities of Neighbor Cities, and to protect the capacity of those highways to move people and freight between the cities.
- 1.11.3 Coordinate with Vancouver, Clark County and the Southwest Washington Transportation Council through the Bi-State Coordinating Committee and other appropriate channels on population and employment forecasting; transportation; economic development; emergency management; park, trail and natural area planning; and other growth management issues.

Policy 1.12 Protection of Agriculture and Forest Resource Lands

[Repealed]

Exhibit C to Ordinance No. 10-1238

TITLE 5: NEIGHBOR CITIES is repealed.

3.07.510 Intent

The intent of this title is to clearly define Metro policy with regard to areas outside the Metro Urban Growth Boundary. NO PORTION OF THIS TITLE CAN REQUIRE ANY ACTIONS BY NEIGHBORING CITIES. Metro, if neighboring cities jointly agree, will adopt or sign rural reserve agreements for those areas designated rural reserve in the Metro 2040 Growth Concept with Multnomah, Clackamas, and Washington County, and Neighbor City Agreements with Sandy, Canby, and North Plains. Metro would welcome discussion about agreements with other cities if they request such agreements.

In addition, counties and cities within the Metro boundary are hereby required to amend their comprehensive plans and implementing ordinances within twenty-four months to reflect the rural reserves and green corridors policies described in the Metro 2040 Growth Concept.

3.07.520 Rural Reserves and Green Corridors

Metro shall attempt to designate and protect common rural reserves between Metro's Urban Growth Boundary and designated urban reserve areas and each neighbor city's urban growth boundary and designated urban reserves, and designate and protect common locations for green corridors along transportation corridors connecting the Metro region and each neighboring city. For areas within the Metro boundary, counties are hereby required to amend their comprehensive plans and implementing ordinances to identify and protect the rural reserves and green corridors described in the adopted 2040 Growth Concept and shown on the adopted 2040 Growth Concept Map. These rural lands shall maintain the rural character of the landscape and our agricultural economy. New rural commercial or industrial development shall be restricted to the extent allowed by law. Zoning shall be for resource protection on farm and forestry land, and very low-density residential (no greater

average density than one unit for five acres) for exception land.

For areas outside the Metro boundary, Metro shall encourage intergovernmental agreements with the cities of Sandy, Canby and North Plains.

3.07.530 Invitations for Intergovernmental Agreements

Metro shall invite the cities and counties outside the Metro boundary and named in Section 3.07.510 of this title to sign an Intergovernmental Agreement, similar to the draft agreements attached hereto¹.

3.07.540 Metro Intent with Regard to Green Corridors

Metro shall attempt to negotiate a Green Corridor Intergovernmental Agreement with Oregon Department of Transportation (ODOT) and the three counties (Clackamas, Multnomah and Washington) to designate and protect areas along transportation corridors connecting Metro and neighboring cities.

¹ On file in the Metro Council office.

Exhibit D to Ordinance No. 10-1238

TITLE 11: PLANNING FOR NEW URBAN AREAS

3.07.1105 Purpose and Intent

The Regional Framework Plan calls for long-range planning to ensure that areas brought into the UGB are urbanized efficiently and become or contribute to mixed-use, walkable, transitfriendly communities. It is the purpose of Title 11 to guide such long-range planning for urban reserves and areas added to the UGB. It is also the purpose of Title 11 to provide interim protection for areas added to the UGB until city or county amendments to land use regulations to allow urbanization become applicable to the areas.

3.07.1110 Planning for Areas Designated Urban Reserve

- A. The county responsible for land use planning for an urban reserve and any city likely to provide governance or an urban service for the area, shall, in conjunction with Metro and appropriate service districts, develop a concept plan for the urban reserve prior to its addition to the UGB pursuant to Metro Code 3.01.015 and 3.01.020. The date for completion of a concept plan and the area of urban reserves to be planned will be jointly determined by Metro and the county and city or cities.
- B. A concept plan shall achieve, or contribute to the achievement of, the following outcomes:
 - 1. If the plan proposes a mix of residential and employment uses:
 - A mix and intensity of uses that will make efficient use of the public systems and facilities described in subsection C;
 - b. A development pattern that supports pedestrian and bicycle travel to retail, professional and civic services;
 - c. opportunities for a range of needed housing
 types;
 - d. Sufficient employment opportunities to support a healthy economy, including, for proposed

employment areas, lands with characteristics, such as proximity to transportation facilities, needed by employers;

- e. Well-connected systems of streets, bikeways, parks and other public open spaces, natural areas, recreation trails and public transit;
- f. Protection of natural ecological systems and important natural landscape features;
- g. Avoidance or minimization of adverse effects on farm and forest practices and important natural landscape features on nearby rural lands; or
- 2. If the plan involves fewer than 100 acres or proposes to accommodate only residential or employment needs, depending on the need to be accommodated:
 - a. Opportunities for a range of needed housing types;
 - b. Sufficient employment opportunities to support a healthy economy, including, for proposed employment areas, lands with characteristics, such as proximity to transportation facilities, needed by employers;
 - c. Well-connected systems of streets, bikeways, pedestrian ways, parks, natural areas, recreation trails;
 - d. Protection of natural ecological systems and important natural landscape features;
 - e. Avoidance or minimization of adverse effects on farm and forest practices and important natural landscape features on nearby rural lands.
- C. A concept plan shall:
 - Show the general locations of any residential, commercial, industrial, institutional and public uses proposed for the area with sufficient detail to allow estimates of the cost of the public systems and facilities described in paragraph 2;

- 2. For proposed sewer, water and storm-water systems and transportation facilities, provide the following:
 - The general locations of proposed sewer, water and storm-water systems;
 - b. The mode, function and general location of any proposed state transportation facilities, arterial facilities, regional transit facilities and freight intermodal facilities;
 - c. The proposed connections of these systems and facilities, if any, to existing systems;
 - d. Preliminary estimates of the costs of the systems and facilities in sufficient detail to determine feasibility and allow cost comparisons with other areas;
 - e. Proposed methods to finance the systems and facilities; and
 - f. Consideration for protection of the capacity, function and safe operation of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.
- 3. If the area subject to the concept plan calls for designation of land for industrial use, include an assessment of opportunities to create and protect parcels 50 acres or larger and to cluster uses that benefit from proximity to one another;
- 4. Show water quality resource areas, flood management areas and habitat conservation areas that will be subject to performance standards under Titles 3 and 13 of the Urban Growth Management Functional Plan;
- 5. Be coordinated with the comprehensive plans and land use regulations that apply to nearby lands already within the UGB;
- 6. Include an agreement between or among the county and the city or cities and service districts that preliminarily identifies which city, cities or districts will likely be the providers of urban

services, as defined at ORS 195.065(4), when the area is urbanized;

- 7. Include an agreement between or among the county and the city or cities that preliminarily identifies the local government responsible for comprehensive planning of the area, and the city or cities that will have authority to annex the area, or portions of it, following addition to the UGB;
- 8. Provide that an area added to the UGB must be annexed to a city prior to, or simultaneously with, application of city land use regulations to the area intended to comply with subsection C of section 3.07.1120; and
- 9. Be coordinated with schools districts.
- D. Concept plans shall guide, but not bind:
 - The designation of 2040 Growth Concept design types by the Metro Council;
 - 2. Conditions in the Metro ordinance that adds the area to the UGB; or
 - 3. Amendments to city or county comprehensive plans or land use regulations following addition of the area to the UGB.
- E. If the local governments responsible for completion of a concept plan under this section are unable to reach agreement on a concept plan by the date set under subsection A, then the Metro Council may nonetheless add the area to the UGB if necessary to fulfill its responsibility under ORS 197.299 to ensure the UGB has sufficient capacity to accommodate forecasted growth.

3.07.1120 Planning for Areas Added to the UGB

- A. The county or city responsible for comprehensive planning of an area, as specified by the intergovernmental agreement adopted pursuant to 3.07.1110C(7)or the ordinance that added the area to the UGB, shall adopt comprehensive plan provisions and land use regulations for the area to address the requirements of subsection C by the date specified by the ordinance or by Metro Code 3.01.040(b)(4).
- B. If the concept plan developed for the area pursuant to Section 3.07.1110 assigns planning responsibility to more than one city or county, the responsible local governments shall provide for concurrent consideration and adoption of proposed comprehensive plan provisions unless the ordinance adding the area to the UGB provides otherwise.
- C. Comprehensive plan provisions for the area shall include:
 - Specific plan designation boundaries derived from and generally consistent with the boundaries of design type designations assigned by the Metro Council in the ordinance adding the area to the UGB;
 - Provision for annexation to a city and to any necessary service districts prior to, or simultaneously with, application of city land use regulations intended to comply with this subsection;
 - Provisions that ensure zoned capacity for the number and types of housing units, if any, specified by the Metro Council pursuant to Metro Code 3.01.040(b)(2);
 - 4. Provision for affordable housing consistent with Title 7 of the Urban Growth Management Functional Plan if the comprehensive plan authorizes housing in any part of the area;
 - 5. Provision for the amount of land and improvements needed, if any, for public school facilities sufficient to serve the area added to the UGB in coordination with affected school districts. This requirement includes consideration of any school facility plan prepared in accordance with ORS 195.110;
 - 6. A conceptual street plan that identifies internal street connections and connections to adjacent urban

areas to improve local access and improve the integrity of the regional street system. For areas that allow residential or mixed-use development, the plan shall meet the standards for street connections in the Regional Transportation Functional Plan; and

- 7. Provision for the financing of local and state public facilities and services.
- A strategy for protection of the capacity and function of state highway interchanges, including existing and planned interchanges and planned improvements to interchanges.
- D. The county or city responsible for comprehensive planning of an area shall submit a determination of the residential capacity of any area zoned to allow dwelling units, using the method in Section 3.07.120,to Metro within 30 days after adoption of new land use regulations for the area.

3.07.1130 Interim Protection of Areas Added to the UGB

Until land use regulations that comply with section 3.07.1120 become applicable to the area, the city or county responsible for planning the area added to the UGB shall not adopt or approve:

- A. A land use regulation or zoning map amendment that allows higher residential density in the area than allowed by regulations in effect at the time of addition of the area to the UGB;
- B. A land use regulation or zoning map amendment that allows commercial or industrial uses not allowed under regulations in effect at the time of addition of the area to the UGB;
- C. A land division or partition that would result in creation of a lot or parcel less than 20 acres in size, except for public facilities and services as defined in Metro Code section 3.01.010, or for a new public school;
- D. In an area designated by the Metro Council in the ordinance adding the area to the UGB as Regionally Significant Industrial Area:
 - 1. A commercial use that is not accessory to industrial uses in the area; and

2. A school, a church, a park or any other institutional or community service use intended to serve people who do not work or reside in the area.

3.07.1140 Applicability

Section 3.07.1110 becomes applicable on March 31, 2011.

From: Robin McArthur <Robin.McArthur@oregonmetro.gov> Date: June 11, 2010 10:20:50 AM PDT To: "susan anderson (susananderson@ci.portland.or.us)" <susananderson@ci.portland.or.us> Cc: Malu Wilkinson <Malu.Wilkinson@oregonmetro.gov>, John Williams <John.Williams@oregonmetro.gov>, Ted Leybold <Ted.Leybold@oregonmetro.gov>, Ted Leybold <Ted.Leybold@oregonmetro.gov>, Christina Deffebach <Christina.Deffebach@oregonmetro.gov>, "Zehnder, Joe" <Joe.Zehnder@portlandoregon.gov>, "Dotterrer, Steve (Planning)" <Steve.Dotterrer@portlandoregon.gov>, "bob.clay@portlandoregon.gov" <bob.clay@portlandoregon.gov>, "eric.engstrom@portlandoregon.gov" Subject: FW: MTAC Capacity Ordinance Memo

Thanks Susan. As you know, we've been working closely with your staff for the past several month so that we can include the most current Portland information available in the region's capacity ordinance. Your comprehensive summary will be quite useful. Thank you, Robin

From: Anderson, Susan [mailto:Susan.Anderson@portlandoregon.gov]
Sent: Thursday, June 10, 2010 3:36 PM
To: Robin McArthur
Cc: Adams, Sam; Fritz, Amanda; Zehnder, Joe; Engstrom, Eric (Planning); Dotterrer, Steve (Planning); Clay, Bob
Subject: MTAC Capacity Ordinance Memo

June 10, 2010

Robin McArthur, Director of Planning and Development Planning and Development Services METRO 600 NE Grand Avenue Portland, OR 97232

Subject: Response to MTAC Capacity Ordinance Memo

Dear Robin,

I am writing to respond to your request for the City of Portland residential land utilization and redevelopment trends. Your request came through MTAC in the form of a Memo from Assistant Regional Planner, Brian Harper, dated March 3, 2010.

Attached please find summary data, analysis and observations of Portland's residential redevelopment trends, residential permit capture rates, zoned capacity and redevelopment incentives. Taken together they provide a snapshot of our residential redevelopment trends and our track record with direct and indirect public incentives. While there are many nuances to housing trends, our data and experience show the Portland Region has undergone remarkable changes to urban housing consumer preferences. The factors leading to long term changes to the Portland Metropolitan Region's urban housing landscape are at work locally. The City's experience also mirrors the housing forecasts of recent national housing studies.

I understand this information, and other details we have previously provided, will help inform Metro's 2010 Capacity Ordinance. This will help form a decision-making basis for this cycle of the Urban Growth Boundary expansion decision that the Metro Council expects to make by the end of 2010.

You should use this information as an update and supplement to the Local Aspirations Report we prepared in March 2009. You will recall that at that time we had not yet completed a Portland Plan Background Report titled Household Demand and Supply Projections, which addresses these issues. BPS staff continues to refine background reports and trends that will help inform the Portland Plan work through 2011. We will be happy to updates as they are available.

I hope you find this information useful in the Metro Council's deliberations. I look forward to working with you to help complete this important work.

Please let me know if you have any questions.

Best regards,

Susan Anderson, Director

Cc: Mayor Sam Adams Commissioner Amanda Fritz Joe Zehnder, Chief Planner Eric Engstrom, Principal Planner Steve Dotterrer, Principal Planner Bob Clay, Supervising Planner

Portland's Residential Permit Activity, Land Utilization Trends and Redevelopment Incentives

In 1992 the Portland City Council set a goal to capture at least 20% of the region's new housing units. The goal was to accomplish several objectives, including maximizing the use of community investments such as transit, parks, and neighborhood improvements; and promoting a compact urban form to give more households more options and access to their transportation and daily service needs.

The goal included opportunites to further reinforce linking land use with transportation investments by focusing housing in mixed-use centers and corridors and in redevelopment "opportunity sites." By focusing housing opportunities in high-transit dense locations, transit ridership could be enhanced. This proximity would also lower housing-transportation cost burdens to promote affordable living.

The goal could also provide more housing opportunities to a variety of household types while providing reinvestment and stronger consumer markets for neighborhood businesses.

Housing Capture Rate

Portland's regional housing capture rate though the 1960's through the 1980's was estimated at 3-5% annually. Rapidly growing suburban communities absorbed much of the region's new housing due to low land costs, free parking and relatively low energy and fuel costs. This was an era when federal entitlement funds for programs for freeways, roads and water and sewer treatment facitlites were more readily awarded.

Since 1994 the City has met or exceeded the 20% goal each year. In the past 15 years the City has averaged over 35% of the region's new housing units, and the capture rate has increased even more in recent years.

In the past 10 years, Portland's share of the region's new housing averaged 38%; in the past five years, 42%; and the last three year period of 2006-08, 45%. With the prolonged and severe national economic recession, the City capture rate has grown even higher. In 2008, the City reached a 69% regional share, and 57% in 2009. (See Tables 1 and 2 below). Not surpisingly, about two-thirds of this new housing is located in Region 2040 centers and corridors.

Permits for New Housing Units						
Year	Permitted Units in City	Permitted Units within	Residential Capture			
	of Portland	UGB	Rate			
1995	2,420	12,329	20%			
1996	3,025	7,827	39%			
1997	3,535	11,388	31%			
1998	3,690	11,738	31%			
1999	2,486	7,500	33%			
2000	2,477	4,746	52%			
2001	2,843	7,243	39%			
2002	2,234	9,164	24%			
2003	2,284	7,175	32%			
2004	3,022	5,395	56%			
2005	3,268	10,726	30%			
2006	2,101	6,218	34%			
2007	2,314	6,156	38%			
2008	3,314	4,777	69%			
2009	1,041	1,828*	57%			

Table 1: City of Portland Permits for New Housing Units: 1995-2009

Residential Capture Rate for 3-County UGB Area within Clackamas, Multnomah and Washington Counties

Source: City of Portland Permits Data, Metro Information from Construction Monitor, SEA 1997-98

Residential Capture Rate (over various time periods)				
Fifteen Year Residential Capture Rate (1995- 2009)*	35%			
Twelve Year Residential Capture Rate (1997- 2008)	36%			
Ten Year Residential Capture Rate (1999- 2008)	38%			
Five Year Residential Capture Rate (2004-2008)	42%			
Three Year Residential Capture Rate (2006-2008)	45%			

Table 2: Residential Capture Rate Over Various Time Periods

* The permitted units in the UGB for 2009 are not available at the present time and so a historic UGB capture rate of 61.8% that has been used in the Draft 2009-2030 Urban Growth report has been applied to the 3 County Permits total for 2009 (published by US Census Bureau) to compute UGB Permits total for 2009 and also to calculate Portland's capture rate for 2009. These estimates will be replaced by the actual numbers for 2009 when they become available.

This trend in Portland's capture rate is due to numerous factors including targeted policy investments, program incentives, rising energy costs, changing demographic trends and global economic conditions that favor urban housing preferences by housing consumers. Portland expects to maintain a large share of the region's housing growth for several reasons:

- Demographics and Energy Costs: Long term demographic trends and energy costs in metropolitan areas like Portland are driving preferences toward urban housing forms and locations. These trends are documented by housing market economists in studies at ULI, Brookings, the University of Utah, EPA and others, and may be even more pronounced in Portland.
- 2. Zoned Capacity: The City has a large resevoir of zoned housing capacity to accommodate at least 141,000 housing units through 2035 without changing current zoning (See Household Demand an Supply Projections: Portland Plan Background Report, Fall 2009 key findings page 40, comparing Portland's capacity under Metroscope and Portland's Development Capacity Model). Portland's current housing capacity is viewed as very conservative for two reasons: 1. because real estate trends show significant housing production realized on commercially zoned property and 2. because investments in transportation and major public works projects are expected to spur further redevelopment over the next 20 years.
- 3. Track Record of Reinvestment: As additional community investments and public works projects are completed over the next 20 years, more redevelopment capacity can be expected. The City has a strong track record of planning areas for mixed-use zoning to match transit investments. The City also has a reputation of using development agreements, Capital Improvements Programs and Public Facility Plans to make infrastructure investments in many Region 2040 centers and station communites. These public investments help reduce private sector risk and serve as incentives to leverage the urban housing market.
- 4. Comprehensive Redevelopment Tools: The city's proven track record is in large part a combination of regulatory measures and direct public intervention using redevelopment tools; tools that provide investments and incentives that work to foster private housing

investments in centers and corridors. These include Urban Renewal-Tax Increment Financing, Limited Tax Abatement for Transit-Oriented Development/Housing, Community Development Funds for non-profit housing providers, CIP/PFP project investments, Development Agreements, SDC's, and LID's that help fund improvements such as the extension of new Streetcar alignments, etc.).

 Redevelopment – Land Capacity and Utilization Trends: Portland's permit trends show most residential development occurs through redevelopment instead of vacant lot infill. To better understand this dynamic, the City recently examined residential permit data for several mixed-use corridors/centers.

For example, from 2004 to 2009, a total of 423 new dwellings developed within the Belmont, Hollywood, and Interstate Avenue corridors/centers. This development occurred on 62 separate sites, with only seven of those sites being vacant prior to development. In terms of individual dwelling units, only 19 of the 423 units, or about 5%, were developed on vacant sites, which tended to be smaller and in lower-intensity zones. In most cases, single family homes were replaced with new 4- or 6-plexes, or single-story commercial buildings, and surface parking lots were replaced by multistory mixed-use development.

The permit trends also show the highest number of residential units and the highest percentage of used zoning capacity occur on the more "mature" mixed-use/corridors and centers. For example, on SE Belmont and Morrison, Portland's multi-dwelling zones show unit production well above Metro's production estimates. On Belmont, sites zoned R2.5-R1 redeveloped at an average of 85% of estimated capacity, with several at 120-140% of estimated capacity.

By mature corridors, we mean the mainstreets and corridors closer in to the central city, areas that are older and already have higher densities. These areas have more of the amenities and facilities that make for attractive 20-minute neighborhoods than the outer areas. They also tend to have the advantage of closer proximity to transportation investments and amenities in the core as well as to workforce and jobs opportunities in the central city. Outer areas may have parcels that are larger and/or developed to a lower percentage of their allowed capacity. From the data we find the inner areas with the higher amenity levels are more likely to see developments closer to their maximum density. This reinforces the importance of providing the public and private amenities to promote development of an area.

6. Urban Renewal Area Capacity: A finance and economics consulting firm is currently leading a study and assessment of future URA boundary changes. A report and results are expected to be completed by Summer 2010. Results to date find there is potential to expand urban renewal capacity extending much of the length of the westside of downtown URAs as well as in the Interstate Avenue URA. These expansions would provide urban renewal powers and tax increment financing incentives to new locations while further encouraging mixed-use development. The report findings should confirm that it is likely that URA capacity to help incent redevelopment of at least similar levels can be expected into the foreseeable future.

The URA state law limitation of 15% on geographic and assessed values has held steady between 13-14% for many years. Accordingly, the assumptions used in the 2009 Urban Growth Report remain valid. URA boundaries are changing every few years to account for URA bonds that are retired as well as in response to changing economic conditions. For example, the Airport Way URA closure will free-up additional land and assessed value capacity.

Large Site Industrial Areas

While demand for industrial land in Portland spans all site sizes, industrial brokers have noted that most demand is for three to 10 acre sites. The average site size in Portland's 15,500 acres of

industrial districts is 4.3 acres, and over 2,000 sites are smaller than one acre. Also, predominant demand for smaller industrial sites in Portland is likely to continue being the norm, as the remaining Greenfield sites in the Columbia Corridor are built out. Job density is also higher in Portland's small-site industrial districts, averaging, for example, 37 jobs per acre in the Central Eastside/Brooklyn industrial zones compared to 9 jobs per acre in industrial districts Citywide.

Still, some segments of the region's large-site industrial demand are best suited to Portland's unique industrial attributes that cannot be offered in UGB expansion areas. Freight terminals are the primary example. About 80% of Portland's developed industrial land is in the harbor and airport districts, the State's largest concentration of freight infrastructure and terminals (marine, rail, pipeline, airport and trucking).

The draft Portland Economic Opportunities Analysis (Hovee, 2009) estimated 600 acres of regional demand for marine terminal, rail yard and airfield expansion by 2035, primarily on large sites. Entrix (2009) also estimated 400 acres of marine terminal demand in Portland by 2040 on generally 50-plus acre sites, which will inform West Hayden Island planning. The harbor and airport districts are also well suited for large-site distribution centers and manufacturers that need multimodal freight access and a large workforce. For example, Trammel Crow is developing the 113-acre Lombard site near T-6 for distribution centers. Additionally, large sites offer strategic opportunities to anchor emerging industries such as clean technology, which is identified as a target industry and a focal opportunity in Portland's *2009 Economic Development Strategy*.

A variety of efforts are currently underway in Portland that will help meet demand for large industrial sites. For example, brownfield industrial redevelopment efforts include Harbor ReDI and the Willamette Industrial Urban Renewal Area, which focus on the concentration of industrial brownfields along Portland Harbor.

BPS has also applied to Metro for a CET grant to conduct a Citywide brownfield redevelopment assessment, which would consider options to approach full redevelopment of Portland's brownfields and expand the brownfield toolkit. Additionally, the City of Portland is coordinating with the Port of Portland to consider freight terminal expansion opportunities, including the Airport Futures master plan and a planning process to consider annexation and zoning of West Hayden Island. These efforts to overcome industrial land development barriers could expand following Portland Plan, which has identified a 600-acre industrial land shortfall in the harbor and airport districts to meet mid-range demand to 2035.

Portland's Multifamily Transit-Oriented Tax Exemption Programs

Portland's New Multiple Unit Housing (NMUH) and the New Transit Supportive Residential or Mixed-use Development (TOD) programs support transit-oriented development by encouraging new high-density housing and mixed-use construction in areas where Metro and the City have planned to accommodate the greatest bulk of new population growth (2040 Growth Concept). The NMUH program is mapped for the Central City and urban renewal areas. The TOD program is mapped for centers, MAX light rail station areas and some mainstreets with frequent transit service outside the Central City. The tax exemption is on the improvement value of the property and lasts for 10 years. There were about 3,600 housing units in about 40 projects in the two programs in Tax Year 2008-2009. See Tables 3, 4 and 5 below for details.

Program Background

The City adopted the New Multiple-Unit Housing program (NMUH) in 1975 to provide an incentive for the construction of new multifamily housing in the City's core. This area had lost about half of its housing units between 1950 and 1970. Since adoption, the NMUH program has assisted the construction of about 5,000 housing units. The majority of these units were rentals, and a significant number were rent-restricted in mixed-income projects.

The TOD program was adopted in 1996 and has assisted the construction of over 1,000 units, mostly in the Gateway Regional Center and in MAX light rail station areas to the east. While the majority of these units are rentals, there were a significant number of condominium units built (about 185 units) as moderate and middle income households.

TOD Characteristics

The direction provided by the Metro 2040 Growth Concept is to allow the greatest number of multifamily housing opportunities in areas well served by transit such as the MAX light rail station areas, regional and town centers and mainstreets with frequent transit service. Table 3 lists TOD features of the units in NMUH and TOD projects including:

- The number in units within one-quarter mile (walking distance) of MAX, the streetcar and all frequent transit service.
- The number of units in projects with mixed residential and commercial use. A recent national study has shown that the presence of mixed-use in a transit-oriented area is associated with decreased automobile use and increased use of other travel modes such as transit, biking and walking.
- The number of projects in the TOD program that have densities of at least 80 percent of maximum.
- o TOD projects that receive assistance from Metro to address development challenges.

Program	Housing Units in Multifamily Projects						
	Within 1/4 mile of MAX	Within 1/4 mile of Streetcar	Within all frequent service transit	In Mixed- use Develop- ment	At least 80% of Maximum Density	Receiving Assistance from Metro TOD Program	
NMUH	1,545	1,394	2,596	1,887	NA	178	
TOD	802	0	965	505	207	343	
Total	2,347	1,394	3,561	2,392	207	521	

Table 3: Multifamily Programs by Transit-Oriented Development Characteristics (2008-2009)

Source: 2008-2009 Annual Report Residential Tax Exemption Programs

Table 4: Housing Units Built With the New Multiple Unit Housing (NMUH) Tax Exemption

Year Built	Property Name	Property Address	Total Owner Units	Total Exempt Units	Area / District	Expira- tions
	Condiminium Projects with NMUH Exemption					
1999	ARBOR VISTA CONDOMINIUMS	2024 SW HOWARD STREET	27	6	GH	2009
2000	COOPER STREET BUNGALOWS	8024-8038 SE Cooper St.	12	12	Lents	2011
2001	CORNERSTONE CONDOS	1134 SW JEFFERSON	42	24	DT	2011
2001	CASCADIAN CONDOMINIUMS	531 NE HOLLADAY ST	59	16	LLOYD	2012
2001	OLD TOWN LOFTS	411 NW FLANDERS	60	21	RD	2012
2001	STREETCAR LOFTS	1030 NW 12TH AVE	134	6	RD	2012
		Total Condiminium		85		
	Rental Projects with NMUH Exemption					
1997	MLK-Wygant Apts.	4606 NE MLK BLVD	38	38	000	2027
1998	WEBB PLAZA	1401-1423 SW ALDER ST	39	all	GH	2009

		Total with Pearl Family Housing	2596			
	PEARL FAMILY HOUSING	NW 13TH AND QUIMBY	136	all	RD	
		Totals for 08-09	2511			
2005	THE SITKA	1230 NW 12TH	210	all	RD	2016
2005	THE LOUISA (Brewery Block 5)	1202 NW DAVIS	242	all	RD	2016
2004	BURLINGTON TOWER	900 NW LOVEJOY	163	all	RD	2015
2004	STATION PLACE	1020 NW 9TH AVE	176	all	RD	2015
2004	HOYT STREET APTS	925 NW HOYT	175	all	RD	2015
2004	THE MERRICK	1231 NE M L KING BLVD	178	all	LLOYD	2015
2003	PACIFIC TOWER	333 NW 4TH AVENUE	156	all	RD	2014
2003	MUSEUM PLACE SOUTH	1010 SW JEFFERSON	140	all	DT	2014
2003	UNION STATION YARDS, PHASE S	707-729 NW NAITO	56	all	RD	2013
2002	UNION STATION YARDS, PHASE B	815-945 NW NAITO PARKWAY	321	all	RD	2013
2001	CORNERSTONE (Apts.)	1134 SW JEFFERSON	6	all	DT	2011
2000	KEARNEY PLAZA (Block 4 LLC)	1102 NW LOVEJOY	131	all	RD	2011
1999	FIFTH AVENUE PLACE	302-314 NW 5TH AVE	70	all	RD	2029
1999	FIFTH AVENUE COURT APT	221 NW 5TH AVE	96	all	RD	2010
1999	CORNERSTONE (LLOYD)	1425 NE 7TH AVE	116	all	LLOYD	2010
1999	VILLAGE AT LOVEJOY FOUNTAIN	245 SW LINCOLN ST	198	all	DT	2009

Table 5: Housing Units Built with the TOD Tax Exemption

		Units with exemp	Urban Renewal Area	Expiration
Condos	Address	-tions		Date
Gateway Condos	10345 NE Clackamas	18	Gateway	06/30/2009
Center Commons	5827-5934 NE Hoyt	6	None	06/30/2012
Gateway Arbors	737 NE 99th Ave	17	Gateway	06/30/2012
Gateway Arbors II	9817-9837 NE Irving	25	Gateway	06/30/2015
Gateway Towers	400 NE 100th	45	Gateway	06/30/2017
Ash Creek Condos	SE 119 th and Ash St.	8	None	06/30/2018
		119		
Apartments				
Hazelwood Apartments	11933 NE Davis St.	120	None	06/30/2011
Brentwood/				
Slauson	100 SE 160th Ave.	51	None	06/30/2009
Russellville 1	10320 SE Pine	126	Gateway	06/30/2010
Center Village				
Apartments	5819 NE Glisan St	57	None	06/30/2011
Collins Circle	1704 SW/ Joffaraan St	104	None	06/20/2011
Apartments	1704 SW Jefferson St 2034 WI/ NE 40th Ave	124 51	None None	06/30/2011
Bookmark Apartments		36		06/30/2012
Raven Apartments	340 SE 148TH Ave		None	06/30/2014
Burnside Station	10610 E Burnside St	25	Gateway	06/30/2015
Gateway Plaza	9920-9950 NE Glisan St	48	Gateway	06/30/2015
Russellville 2	10420 E Burnside St	154	Gateway	06/30/2015
Ventura Apartments	12210 E Burnside	54	None	06/30/2016
		846		
	Total Units with Tax Exemption	965		
Tax Exemptions Not Yet Active				
Shaver Green	NE Shaver and MLK Jr. Blvd	85	Interstate Corridor	Approved in 2008 (Built)
The Albert	NE Beech and N Willams Avenue	72	Interstate Corridor	Approved in 2009 (Not built)

2035 REGIONAL TRANSPORTATION PLAN

APPENDIX 5.2

MOTOR VEHICLE TRIP GENERATION RATE ADJUSTMENTS RESEARCH AND FINDINGS (PHASE 1)

1.0 INTRODUCTION

With infrastructure costs increasing beyond budgets and climate change forcing more sustainable, smart growth actions, it is integral to understand how the built environment (e.g., both land use and transportation) influences travel behavior (number of trips, trip length, mode choice), and whether different policies and programs reduce trip-related impacts and associated costs to the transportation infrastructure system. Current ITE rates represent travel behavior for single lots and uses, primarily measured in low-density suburban areas. Despite years of independent research that indicates a more compact urban form with access to transit and a greater mix of uses generates fewer and shorter vehicle trips, local governments primarily use current ITE trip generation rates to evaluate transportation impacts, determine parking ratios, calculate transportation system development charges (SDCs), and make key planning and infrastructure decisions. Under the Oregon Transportation Planning Rule, section -0060, and Oregon Highway Plan, Policy 1.F.6, local governments are required to demonstrate that plan amendments and zoning changes cause no further degradation to state-owned facilities or mitigate the degradation anticipated from the proposed amendment. Thus, it is integral to understand how the built environment influences travel behavior, and calculate trip rates that reflect the entire activity spectrum of different development typologies.

This alternative approach is extremely important in determining the impact of different development types on the transportation system to: 1) avoid over-planning the infrastructure system for the surrounding land uses; 2) suggest strategies and investment priorities to encourage more compact, mixed-use areas with more transportation choices and 3) avoid creating regulatory and/or financial barriers to compact form envisioned by local, regional and statewide plans (i.e. uniform TSDCs can result in lower impact development paying the same rates, and thus subsidizing development with higher impact costs to the transportation system).

The first phase of the research centers on research conducted over the last ten years into trip generation rates in mixed-use, pedestrian-friendly and transit supportive development. Collective research on trip generation rates shows areas with compact urban form, access to transit and a greater mix of uses generates shorter vehicle trips and a 20-50% reduction in vehicular trips, confirming ITE trip generation rates tend to overestimate automobile trips for compact, mixed-use development patterns. Recent data collection in areas with these development characteristics within the Portland region showed an average reduction of 40 percent between the ITE vehicle trip rates and observed trips.

These consistent findings and local data provide the reasonable nexus for allowing local governments in the region to apply a 30 percent motor vehicle trip reduction credit when conducting a traffic impact analysis on plan amendments that will result in mixed-use, pedestrian-

friendly and transit supportive development located in 2040 centers, main streets, station communities and corridors served by high-quality transit. The 30 percent trip reduction credit is allowed pursuant to Section 3.08.510B of the Regional Transportation Functional Plan (RTFP), contingent on approval of Title 6 of the Urban Growth Management Functional Plan in December 2010.

The second phase of this research will focus on evaluating more data points for the full set of 2040 land uses and development characteristics to establish additional statistical correlations for this region. Metro has applied for an Oregon Transportation Research and Education Consortium (OTREC) grant to complete the second phase of this work by October 2011. Other trip generation and reduction research by the Transportation Research Board (TRB), Institute of Transportation Engineers' (ITE) and other researchers will also support this effort.

This document is organized into the following sections:

- 1.1 Background and Problem Statement
- 1.2 Relevant Trip Generation and Reduction Research
- 1.3 Investment Toolkit: System Development Charges Report
- 1.4 Summary and Recommendations for Future Research

1.1 BACKGROUND AND PROBLEM STATEMENT

During land use review and development permitting processes, public agencies commonly require estimates of vehicle travel impacts associated with proposed land use projects, assessments of their potential contribution to traffic congestion, and identification of appropriate mitigation strategies. These strategies often include mitigation fees such as system development charges and traffic impact fees, private developer contributions, and specific facility improvements to address traffic impacts.

The Institute of Transportation Engineers' (ITE) *Trip Generation* Manual has been the definitive guide and continues to be the primary source for estimating vehicle traffic impacts associated with proposed land use projects. In preparing traffic and transportation impact analyses, planners and engineers often rely on the ITE published trip generation rates for different types of land uses (e.g., institutional, residential, commercial, industrial).

The *ITE Trip Generation* manual states that the trip generation data is an estimate and may not be truly representative of the trip generation characteristics of a particular land use. This is largely due to the fact that ITE data typically reflects single-use, isolated suburban development usually lacking a mix of transit-supportive uses, availability and proximity of transit service, and the existence of pedestrian and bicycle facilities.

As a result, the use of ITE trip generation rates for proposed mixed-use urban infill development projects served by transit and having good bicycle and pedestrian access could significantly over estimate vehicular traffic impacts. A growing body of research supports this over-estimation and the current *ITE Trip Generation* manual rates are not sufficient to guide the assessment of impacts

of these types of proposed infill development projects. ITE advises traffic engineers to adjust average trip generation rates for areas with good public transportation however there is no standardized tool for making these adjustments, and most local jurisdictions do not have the capacity to conduct their own data collection. The research is also showing lower trip generation rates for other land use characteristics, such as compact and mixed-use development, independent of access to good public transportation. The ITE manual is currently undergoing review and is expected to include trip generation rates for mixed-use and transit-oriented development in its update.

It is the policy of the Portland metropolitan region to encourage compact, mixed-use development in 2040 centers and corridors served by high-quality transit and well-connected multi-modal streets designed to support walking and bicycling. The application of overestimated/exaggerated/inaccurate/higher than actual trip generation rates when assessing the impact of land use changes and specific infill development proposals may have unintended consequences that will limit the region's ability to achieve the 2040 Growth Concept vision.

Infill development is defined as new development and redevelopment projects located on vacant or underutilized land within existing developed areas. Trip generation rates that more accurately reflect travel patterns of transit-oriented and mixed-use development would account for the benefits of reduced vehicle travel demand in these areas and could be applied in the following types of transportation analyses:

- Calculating transportation system development charges, private developer fees and other traffic impact fees.
- Determining whether a "significant effect" occurs from proposed plan amendments or land use changes, as required under Oregon's Transportation Planning Rule (TPR) (Section 0060).
- Demonstrating that a proposed high-capacity transit (HCT) corridor meets the 2035 RTP System Expansion Policy (SEP) framework targets.
- Setting appropriate parking ratios.
- Identifying investment needs and priorities to maximize existing infrastructure.

Quantifying motor vehicle trip reduction credits is necessary because the ITE *Trip Generation* manual developed vehicle travel rates using data from suburban areas with little or no transit service, poor pedestrian access, single-use development patterns and low densities – all conditions that facilitate greater automobile use. Recent research has indicated that behavioral response to contextual factors such as density, diversity in land use, pedestrian-friendly and street grid design, connectivity, and regional accessibility influence travelers' trip-making decisions and should be accounted for when evaluating the potential impacts of new mixed-use development proposals. ¹

The purpose of this research is to demonstrate that the 30% trip reduction included in the RTFP represents the conservative side of trip adjustment findings for mixed-use, pedestrian-

¹ Ewing, R. and R. Cervero, 2001, *Transportation Research Record: Journal of the Transportation Research Board*, *No. 1780*, pp. 87-113

friendly and transit supportive development. Phase 2 will identify alternative methods for determining trip generation rates that more accurately reflect the motor vehicle traffic impacts associated with mixed-use, pedestrian-friendly and transit supportive development. The results of Phase 2 may result in increasing adjustments to trip reductions after additional local data is collected.

1.2 LITERATURE REVIEW OF TRIP GENERATION/REDUCTION RESEARCH

A substantial body of research is devoted to understanding the impact of various land use, design, and demand management strategies on travel behavior. Much of the research conducted analyzes variables that affect travel behavior in the form of vehicle miles traveled (VMT), auto ownership, trip length, and shifts in mode share. This research over the last few decades has shown that compact, mixed-use areas have lower levels of automobile use per capita, greater use of alternative modes, and tend to generate shorter trips.

This literature review focuses specifically on research into the effects of the built environment that demonstrate that transit-oriented pedestrian friendly mixed-use development has lower vehicle trip generation rates than calculated using the standard ITE rate. This section reviews the major studies and research quantifying the trip reduction effects of various land use and programmatic strategies that will be implemented through the Urban Growth Management Functional Plan (UGMFP) and Regional Transportation Functional Plan (RTFP). The research is organized into the following strategy and policy areas:

- "D" Factors—Density, Diversity, Design, Destinations, Distance to Rail
- Transit and Transit-oriented Development
- Transportation Demand Management and Parking Management
- Socioeconomic Status

Effects of the "D" Factors—Density, Diversity, Design, Destinations, Distance to Rail

Many studies are organized by different travel purposes (e.g. commute, non-commute, homebased, etc.), analytical methodologies (simulations, aggregate and disaggregate studies), and types of independent variable used. However, the results of these different studies are aggregated to develop typical elasticities of various explanatory variables. Perhaps the most widely cited study of this type was conducted by Ewing and Cervero in *Travel and the Built Environment* (2001). After compiling data from roughly 50 studies on travel impacts and the built environment, the authors developed travel demand elasticities influenced by variables describing the built environment such as neighborhood form, land use patterns, transportation network, and urban design.

These relationships were further aggregated creating typical elasticities for vehicle trips and VMT with respect to the "4D" indicators of the built environment: Density, Diversity, Design, and Destination Accessibility. Cervero and Kockelman (1997) originally developed a 3D approach minus the 4th "D" – Destination Accessibility. However, a Destination variable (also referred to as Regional Accessibility) was introduced as a way to generate a more accurate representation of trip

APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment Page 4 Research and Findings generation in conventional suburban development patterns. Because travel behavior is influenced differently by density, mix of uses and design in more suburban locations as compared to more urbanized locations, the destination factor accounts for the benefits of regional clustering and locating development along strategic transportation corridors. The "typical" elasticities shown in Table 1 can be used in the absence of a localized study as a way to estimate default trip reductions as the built environment changes.

		Vehicle Miles Traveled (VMT)
Density	Household/population density	04
	Job density	00
Diversity (Mix)	Land use mix	09
	Jobs-housing balance	02
Design	Intersection/street density	12
	% 4-way intersections	12
Destination	Job accessibility by auto	20
Accessibility	Job accessibility by transit	05
	Distance to downtown	22
Distance to Transit	Distance to nearest transit stop	05

Table 1 - Typical Elasticities for the 4Ds

Source: Ewing and Cervero (2001). Travel and the Built Environment—A Meta-Analysis

These elasticities are useful in travel forecasting and in sketch planning and are intended to be additive. Thus, the impact of the built environment on travel using each "D" variable cumulatively could contribute to a significant decrease in vehicle miles traveled. Trip generation at the non-residential end is also influenced by density, but to a much lesser degree (Cervero, 1989, cited in Kuzmyak et. al, 2003). There are also far fewer studies investigating this relationship, and there is no comparable dataset to that of residential density. Three of the most important variables identified in the literature² are used to calculate the quality of the bicycle and pedestrian environment. They are as follows:

- Intersection density, which measures street connectivity. A well-connected grid (high intersection density) provides better opportunities for pedestrian travel than cul-de-sacs and "loops and lollipops" (low intersection density).
- Sidewalk completeness
- Bike network completeness

In the same way, the 1000 Friends of Oregon study (1993) produced for the Portland region's LUTRAQ effort found that factors which enhance the pedestrian environment, significantly influence mode choice. Pedestrian zones with high pedestrian environment factors (e.g. factors that are synonymous with good urban design), tended to observe more transit, pedestrian and walk trips and fewer vehicle trips.

APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment Research and Findings

² See, for example, Dill (2003); Parsons Brinkerhoff (1993); Kuzmyak et al. (2003); Ewing & Cervero (2001); and Ewing (1999).

The "D" factor approach is gaining increased confidence as a reliable estimator for trip reduction. For example, in the Urban Land Institute's *Growing Cooler* report (2008), the significant effects of compact development on travel behavior were shown to reduce vehicle miles traveled by 20 to 40 percent. The Report's findings summarize nearly 100 studies that looked at the issue from varying angles, but all show that residents of compact, mixed-use, transit-served communities drive less:

- Research that compares overall travel patterns among regions and neighborhoods of varying compactness and auto orientation;
- Studies that follow the travel behavior of individual households in various settings; and
- Models that simulate and compare the effects on travel of different future development scenarios at the regional and project levels³.

Similar research from Reid Ewing used data from six large, diverse US metropolitan regions to develop a new methodology for more accurately predicting the traffic impacts of mixed-use developments. The regions selected were Atlanta, Boston, Houston, Portland, Sacramento and Seattle. On average, the research found that a total of 29 percent of the total trip ends generated by mixed-use developments put no strain on the external street network, generate very few vehicle miles traveled, and should be deducted from ITE trip rates for stand-alone developments⁴. In the Portland region, the Reid Ewing research showed a decrease in VMT of X and trip length of Y.

Irrespective of the type of research approach used, the findings remain the same: mixed-use, pedestrian-friendly and transit supportive development reduces the number of trips and the miles that residents drive.

Effects of Transit & Transit Oriented Development

Transit-supportive environments play a significant role in mode choice and trip generation as well. Nelson\Nygaard developed a Transit-Orientation Index (1997) that determined relative orientation towards transit and potential ridership per acre for the Portland Metro region. The independent variables used in a regression analysis to determine potential ridership included employment per acre, retail employment per acre and housing per acre. In the end, these variables explained 81 percent of the variance in ridership per acre.

More recently, TCRP Report 128 looked at the effects of transit-oriented development on trip generation among other independent variables (Cervero and Arrington, 2008). This study builds upon previous comprehensive studies that linked rates of transit use, and reduced vehicular trips, with working and living near transit stops (Lund, Cervero and Wilson, 2004). The study found that observed vehicle trips in four metropolitan areas (Washington, D.C., Philadelphia/New Jersey, San Francisco, and Portland) were far below the average ITE trip generation rates for each land use. Furthermore, the 17 TODs studied averaged 47 percent fewer vehicle trips than ITE Trip Generation estimates, demonstrating that the conventional method of estimating trip impacts greatly overestimates trip generation rates for transit-supportive environments.

APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment Research and Findings

³ Urban Land Institute, Growing Cooler: The Evidence on Urban Development and Climate Change. p. 11.

⁴ Ewing, Reid et al., *Traffic Generated by Mixed-Use Developments – A Six-Region Study Using Consistent Built Environmental Measures.*

The Institute of Traffic Engineers (ITE) Manual currently states that TOD-style housing generates an average of 6.67 trips per unit per day. The TCRP research took detailed counts of 17 independent TOD-style housing developments in four U.S. cities, which showed a trip count of 3.55 trips per unit per day, a decrease of 47 percent. The Portland Metro Region was represented in the study with five local TOD developments projects with 90 to 711 units each. **The results of those five locations showed an average difference of 40 percent between the ITE vehicle trip rates and observed trips.** The results from the Portland locations can be seen in the Table 2.

TOD SITE	OBSERVED	ITE	TOD RATE	PERCENT	
	TRIP RATE	TRIP RATE	AS A PERCENT OF ITE RATE	DIFFERENCE	
Center Commons	4.79	6.72	71.30%	-28.70%	
(City of Portland)					
Collins Circle	0.88	6.72	13.08%	-86.92%	
(City of Portland)					
Gresham Central	5.91	6.72	87.95%	-12.05%	
(City of Gresham)					
Merrick Apts.	2.01	6.72	29.84%	-70.16%	
(City of Portland)					
Quatama Crossing	6.34	6.72	94.38%	-5.62%	
(Beaverton)					
Average	3.99	6.72	59.31%	-40.69%	

Table 2 - Portland Metro	Region Transit-S	upportive Infill	Developments
	region riunsie s	uppor tive mini	Developments

Source: TCRP Study (2010)

Table 3 shows basic characteristics about each of the TOD sites in the Portland Metropolitan region.

TOD Site	Housing Type	# of Stories	# of Units	# of On- Site Parking Spaces	# of Driveways	Nearest Rail Station	Shortest Walking Distance from Project to Nearest Station (feet)
Center Commons	Apartments	4	288	150	2	60 th Ave. MAX	450
Collins	Apartments	6	124	93	1	Goose	525

Page 7

TOD Site	Housing Type	# of Stories	# of Units	# of On- Site Parking Spaces	# of Driveways	Nearest Rail Station	Shortest Walking Distance from Project to Nearest Station (feet)
Circle						Hollow MAX	
Gresham Central	Apartments	3	90	135	2	Gresham Central MAX	620
Merrick	Apartments	6	185	218	1	Convention Center MAX	700
Quatama Crossing	Apartments	3	711		3	Quatama MAX	2000

Source: TCRP Study (2010)

Metro's current TOD program focuses its efforts in areas with High Capacity Transit accessibility and/or Frequent Bus Service, two types of transit that occur almost exclusively in Metro-designated 2040 Centers and Corridors. TOD style development has been embraced by local jurisdictions in their own 2040 Centers and Corridors, indicating that local governments intend to implement this type of development as they implement the 2040 Growth Concept in their local plans.

The policy value of transit-oriented development projects in centers and corridors is well understood. With an expanding inventory of TOD projects around the country, there is growing evidence about the value of compact, transit-oriented housing and its impact on trip generation in centers and corridors. The TCRP research clearly shows that TOD projects produce fewer automobile trips than more "traditional" lower-density, single use development patterns – on average 40 percent less.

Effects of TDM and Parking Management

Transportation demand management (TDM) refers to the trip reduction potential of strategies that manage or influence how residents and employees use the transportation system. The following subsections summarize the research behind the trip reduction savings attributed to various TDM strategies.

Parking Management

TDM programs have been shown to reduce employee vehicle trips by up to 38 percent, with the largest reductions achieved through parking pricing⁵. Donald Shoup expands upon cash out programs finding that single occupancy vehicle trips declined by 17 percent and other modes increased significantly (carpooling by 64 percent, transit by 50 percent, and walking/biking by 33

⁵ Shoup & Willson (1980); Comsis (1993); Valk & Wasch (1998); Pratt (2000).

APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment Research and Findings

percent) after a parking cash-out program was introduced at various urban and suburban worksites with varying levels of transit service⁶. Another study of City of Pleasanton (CA) employees saw a doubling of participation between 1993 and 2004 and an annualized reduction of 20,625 commuter vehicle trips⁷.

Parking supply is another key indicator of trip generation. Research shows that there is an indirect link between reduced minimum parking requirements and a decline in vehicle trips. Setting minimum parking requirements and not imposing parking maximums often results in lower parking prices, as the supply of parking exceeds demand, which in turn increases vehicle ownership and the propensity to use a vehicle for work trips.

Studies reveal that the elasticity of vehicle ownership with respect to price is typically -0.4 to -1.0, hence a 10 percent increase in total vehicle costs reduces vehicle ownership 4 –10 percent⁸. Average income households spend an average of \$3,800 annually per vehicle⁹. Assuming that residential parking spaces have an annualized cost of \$800 per year, parking costs add 21 percent to vehicle costs for an average income household. Assuming a vehicle price elasticity of – 0.7 (Table 4), minimum parking requirements that exceed the actual demand for parking increase vehicle ownership about 15 percent. The resulting increase in vehicle ownership produces more vehicle trips. Conversely, decreasing both minimum and maximum parking requirements and eliminating minimum parking requirements would result in a proportionate reduction in residential vehicle trips¹⁰.

Annual (Monthly) Fee	-0.4 Elasticity	-0.7 Elasticity	-1.0 Elasticity
\$300 (\$25)	4%	6%	8%
\$600 (\$50)	8%	11%	15%
\$900 (\$75)	11%	17%	23%
\$1,200 (\$100)	15%	23%	30%
\$1,500 (\$125)	19%	28%	38%

Table 4 - Vehicle Ownership Reductions from Residential Parking Pricing

Source: Nelson\Nygaard (2010), Santa Monica LUCE Trip Reduction Impacts Analysis

Subsidized Transit Passes

Free transit pass programs have been shown to increase transit ridership by 50-79 percent (City of Boulder, undated; Caltrans, 2002), and reduce vehicle trips by 19 percent (Shoup, 1999). Likewise, Todd Litman of the Victoria Transport Policy Institute confirms the trip reduction benefits of transit subsidies by workplace setting. Figure X below depicts the potential trip impacts of a transit pass program.

⁶ Donald C. Shoup, *Evaluating the Effects of Cashing Out Employer-Paid Parking: Eight Case Studies*, <u>http://www.arb.ca.gov/research/apr/past/93-308a.pdf</u>.

⁷ U.S. Environmental Protection Agency (2005), *Parking Cash Out: Implementing Commuter Benefits as One of the Nation's Best Workplaces for Commuters*, <u>http://www.bestworkplaces.org/pdf/ParkingCashout_07.pdf</u>

⁸ Victoria Transport Policy Institute (2009), Transportation Elasticities, <u>http://www.vtpi.org/tdm/tdm11.htm</u> ⁹ Bureau of Labor Statistics (2003), Consumer Expenditure Survey, 2002, <u>www.bls.gov</u>.

¹⁰ From Nelson\Nygaard (2010) Santa Monica LUCE Trip Reduction Impacts Analysis. APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment

	Daily Transit Subsidy			V
Worksite Setting	\$0.75	\$1.49	\$2.98	\$5.96
Low density suburb, rideshare oriented	0.1%	0.2%	0.6%	1.9%
Low density suburb, mode neutral	1.5%	3.3%	7.9%	21.7%
Low density suburb, transit oriented	2.0%	4.2%	9.9%	23.2%
Activity center, rideshare oriented	1.1%	2.4%	5.8%	16.5%
Activity center, mode neutral	3.4%	7.3%	16.4%	38.7%
Activity center, transit oriented	5.2%	10.9%	23.5%	49.7%
Regional CBD/Corridor, rideshare oriented	2.2%	4.7%	10.9%	28.3%
Regional CBD/Corridor, mode neutral	6.2%	12.9%	26.9%	54.3%
Regional CBD/Corridor, transit oriented	9.1%	18.1%	35.5%	64.0%

Table 5 - Vehicle Trip Reduction by Workplace Setting and Daily Transit Subsidy

Source: Victoria Transport Policy Institute (2008), Transportation Elasticities, http://www.vtpi.org/elasticities.pdf

Carpooling and Rideshare

Research indicates that ridesharing programs typically attract 5-15 percent of commute trips if they offer only information and encouragement, and 10-30 percent if they also offer financial incentives such as parking cash out or vanpool subsidies. Rideshare programs that include incentives such as HOV priority and parking cash-out often reduce affected commute trips by 10-30 percent¹¹. If implemented without such incentives travel impacts are usually smaller. A study conducted by Reid Ewing concluded that ridesharing programs can reduce daily vehicle commute trips to specific worksites by 5-15 percent, and up to 20 percent or more if implemented with parking pricing¹².

Carsharing

Trip reduction benefits documentation for carsharing is gaining momentum. According to TCRP Report 108, each car-sharing vehicle takes nearly 15 private cars off the road – a net reduction of almost 14 vehicles¹³. A UC Berkeley study of San Francisco's City CarShare found that members drive nearly 50 percent less after joining. The research also indicates nearly three-quarters of the vehicle trips made by members were for running errands, visiting friends and other social activities, meaning that only roughly one-quarter of trips were for commuting to work.

Alternative Work Schedules

Compressed work weeks and telecommuting are TDM strategies that eliminate vehicle trips by decreasing the number of work days while maintaining the level of work hours (i.e. working four 10-hour days per week) and shifting the worksite to an employee's home, respectively. Research by Apogee (1994) demonstrated that compressed work weeks can reduce VMT by up to 0.6 percent and vehicle trips by up to 0.5 percent in a region. However, two other studies showed that compressed work weeks may provide more modest reductions in total vehicle travel, in part because participants make additional trips during their non-work days.¹⁴Compressed work

¹¹ Philip Winters and Daniel Rudge (1995), Commute Alternatives Educational Outreach, <u>www.cutr.eng.usf.edu</u>.

¹² Reid Ewing (1993), TDM, Growth Management, and the Other Four Out of Five Trips.

¹³ Transportation Research Board (2005), *Car-Sharing: Where and How it Succeeds*, Transit Cooperative Research Program Report 108. <u>http://onlinepubs.trb.org/Onlinepubs/tcrp/tcrp_rpt_108.pdf</u> ¹⁴ See Ho and Stewart (1992) and Giuliano (1995).

APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment Research and Findings

weeks may also encourage some employees to move further from worksites or to drive rather than rideshare.

The most important TDM strategies include parking and financial incentives for alternative modes of transportation, using these can result in a trip reduction of up to 19%, independent of other land use characteristics.

Effects of Socioeconomic Status

The likely effects of demographic factors on trip generation are largely ignored in many studies. A trip generation analysis must resolve how much trip reduction can be attributed to policies and strategies compared to socioeconomic indicators like income. Research indicates that socioeconomic factors such as household income, household size and auto ownership have an even greater effect on trip generation than the 4Ds¹⁵.

The affordable/senior housing mitigation strategy assumes that those living in subsidized units are more likely to commute to work or make non-commute trips using alternative modes of transportation. This is based on research verifying that low-income families and senior citizens tend to own fewer vehicles and drive less. In one San Francisco Bay Area study, households earning under \$25,000 per year make 5.5 vehicle trips per day, compared to a regional average of 7.6. High income households (earning more than \$75,000 per year) make an average of 10.5 trips¹⁶. **Further work will need to explore existing research efforts into documenting the socioeconomic effects on trip generation rates in Phase 2**.

1.3 COMMUNITY INVESTMENT TOOLKIT: SYSTEM DEVELOPMENT CHARGES REPORT

Galardi Consulting, LLC was authorized by Metro in January 2007 to perform a review of system development charge (SDC)¹⁷ approaches used by jurisdictions throughout North America that promote real cost recovery of infrastructure and sustainable development patterns and to evaluate the applicability of these approaches to jurisdictions in the Metro area¹⁸. The findings and recommendations of the study are summarized in the report: *Promoting Vibrant Communities through SDCs*, published in July 2007 (the "Study").

The Study covered all SDCs collected in Oregon, including TSDCs. TSDC methodologies were found to be calculated almost exclusively through the use of ITE trip generation rates and from TSP project lists, which base their project needs on anticipated demand as quantified in the ITE trip generation rates. As established, ITE trip generation rates are generated from and thus, only reflect low density, single use auto-dominated development types. With a more diverse urban landscape, and a focus on compact, mixed-use urban form as envisioned by the 2040 Growth Concept, one of

¹⁸ For purposes of this study, 'real' cost recovery is intended to reflect both full cost recovery (costs related to both the array of facility and cost types needed to provide capacity for growth generally and specifically related to implementing the 2040 Growth Concept are included), as well as recognition of potential cost variations among developments, with respect to specific development characteristics like density, location, and configuration.

¹⁵ See Kockelman (1995) and Ewing and Cervero (2001)

¹⁶ See Russo (2001); Holtzclaw et al. al. (2002)

¹⁷ System development charges and "impact fees" are used interchangeably in this memorandum.

the true cost and cost recovery questions of the Study was whether or not these development types had different trip generation rates than those established in ITE and thus, variable SDC fees. To answer this question, the Study analyzed whether SDC fee systems have been implemented as a result of finding different development types had different trip generation rates and thus, variable rates of demands and costs to the system. As summarized in the full Study, industry information suggests that development characteristics may generally impact system demands for transportation as follows:

Transportation: Service units are trips and vehicle miles traveled (VMT), so cost of service is influenced by household and building type and size, as well as location, density and configuration. Development type and size are potential indicators of motor vehicle trip generation rates. Density has a strong influence on mode choice to destinations and distance to destinations. Location, to the extent that it relates to proximity to public transit may also be significant factor related to system impact, as is development configuration; when living-working-shopping-services are all nearby, fewer car trips are needed and the distance traveled is reduced.

The development characteristics found to impact transportation system demands in the Study mirror those outlined above (in Section 1.2): Density, Diversity, Design, Destinations, Distance to Rail, local transit service, and transit-oriented development patterns. Based on the findings, the Study recommended variable SDC fees in order to reflect the different trip generation rates and associated system costs of different development patterns. The Study also recommended local travel demand data and modeling beyond the use of ITE rates in order to support efficient system planning and establish a variable SDC methodology.

National and regional data sources from the Study related to transportation system impacts for 'smart growth' development (compact mixed-use, transit-oriented infill development)are provided below.

1.4.1 Consideration of Smart Growth Principles

The Oregon Department of Transportation (ODOT) TSP guidelines discuss evaluation of land use alternatives as a means of addressing future system capacity needs. A detailed discussion of the TSP Step: *Develop & Evaluate System Alternatives that Eliminate Deficiencies and Meet Needs*, specifically addresses how land use characteristics may impact transportation system needs, through reduced automobile trip generation, shorter trips, and mode choice:

At the community level, land use planning should focus on both residential and employment centers and their impact on trip generation, length and mode choice. Density, location and size of residential and employment centers influence these measures of transportation performance. In addition, the balance between jobs and housing may impact travel. At the smaller neighborhood or project level, the diversity of land uses within walking or bicycling distance and the design of the built environment may influence mode choice and trip length. In this context, mode choice refers to the ability and willingness of travelers to make trips using non-motorized modes, thus reducing the number of trips on local streets and arterials. [ODOT, TSP Guidelines, pgs 36-37]. In recent years, considerable research has been conducted to isolate the effects of 'smart growth factors' on transportation demand. Specifically, the research effort focused on factors directly attributable to the physical characteristics of development projects: density, diversity, design, and destinations ("the 4Ds"). The research has documented the potential effects of incorporating smart growth factors in vehicle trip forecasts, and has developed adjustment factors that can be applied directly to vehicle trips or vehicle miles traveled. The following sections discuss how transportation planning models and standard trip generation rates may be modified to incorporate smart growth factors.

1.4.1.1 Trip Generation Surveys

Trip generation rates for individual land use types are typically derived from on-site surveys. The Institute of Transportation Engineers (ITE) Trip Generation report is the most comprehensive compilation of such data, although agencies may substitute locally-generated data where available. The ITE data were collected by counting vehicles entering and leaving a particular development site. Most were collected in suburban areas that had separate parking facilities for the particular development. As such, the data do not fully represent trip generation at more urban forms of development or smart growth practices.

Some SDC programs (e.g. City of Olympia, Washington) have utilized trip generation adjustments to account for more urbanized development patterns. These adjustments include lower vehicle trip generation rates based upon activity center travel surveys (primary source: NCHRP Report 323, 'Travel Characteristics at Large-Scale Suburban Activity Centers, 1988), reduced trip lengths based on regional household travel surveys and travel model output, and higher 'pass-by' trip rates to account for the potential of mixed use sites. **These adjustments have produced reductions in SDC rates in the range of 20 to 50 percent (see case studies at the end of this section).**

More recent adjustments to ITE trip rates for smart growth practices have been documented through research related to air quality management.¹⁹ A national air quality model URBEMIS has been used to estimate trip reduction credits for development projects based on their location and other physical characteristics.

Many SDC demand schedules rely on two variables to estimate vehicle trips (VT) for each development: ITE trip generation rate per unit (assigned by land use) and number of units attributable to the development (generally, 1,000 square feet of floor area or other measure). The limitation of this approach is that there is no recognition of other variables, like density and location that may impact VT generation, and therefore, transportation system impact. The purpose of the URBEMIS mitigation component is to provide a tool for adjusting ITE trip rates to recognize such variables, for use in charging impact fees, among other purposes

The URBEMIS model is available to the public for free and may be accessed at <u>www.urbemis.com</u>. A paper by Nelson\Nygaard Consulting Associates: *Crediting Low-Traffic Developments Adjusting Site-Level Vehicle Trip Generation Using URBEMIS* (August 2005), provides formulas that may be used to adjust ITE rates for individual developments based on a variety of physical and demand

¹⁹ Nelson\Nygaard Consulting Associates, *Crediting Low-Traffic Developments Adjusting Site-Level Vehicle Trip Generation Using URBEMIS*, August 2005. APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment Page 13

APPENDIX 5.2 | Phase 1 Motor Vehicle Trip Generation Rates Adjustment Research and Findings

management measures. The adjustments consider how the characteristics of a specific development differ from the characteristics inherent in the ITE trip rates ("default" values). For example, in considering net residential density, **a residential development with 16 units per acre (compared to the default value of 3 units per acre) would have a trip rate reduction of 28 percent.**

Table 6 summarizes the potential trip reduction credits provided by URBEMIS.

Table 6 - Summary of URBEMIS Trip Reduction Credits

Measure	Residential (1)	Non-Residential
Net Residential Density	Up to 55%	N/A
Mix of Uses (Diversity)	Up to 9%	Up to 9%
Local-Serving Retail	2%	2%
Transit Service	Up to 15%	Up to 15%
Pedestrian/Bicycle Friendliness	Up to 9%	Up to 9%
Physical Measures subtotal	Up to 90%	Up to 35%
Demand Management Subtotal	Up to 7.75%	Up to 31.65%

Source: Nelson\Nygaard Consulting Associates

(1) For residential uses, the percentage reductions shown apply to the ITE average trip generation rate for single-family detached housing. For other residential land use types, some level of these measures is implicit in ITE average trip generation rates, and the percentage reduction will be lower.

While URBEMIS provides a tool for potentially adjusting standard trip rates for smart growth factors, the authors caution: "It must be stressed that the trip reductions recommended here are subject to considerable uncertainty. They should be interpreted as the mid-point of a range, rather than as a single, precise value. Travel behavior is complex and difficult to predict, and the approach described here will need to be refined in future years, as more data become available."

Another source of data for adjusting ITE trip rates is: *Getting There from Here – Measuring the Benefits of Compact Development on Vehicle Miles and Climate Change* (Jerry Walters, Fehr & Peers). This paper presents empirical data on the effects of density, diversity, walkability, regional accessibility and distance from transit on vehicle miles. The paper indicates that:

Research is also currently underway by several transportation planning organizations on the degree to which individual smart growth characteristics reduce vehicle trip generation of individual development projects. Preliminary results from several of these studies indicate that trip generation may be lower than the suburban trip generation rates published by the Institute of Transportation Engineers (ITE), commonly used in traffic impact analysis.

For example, trip rates for mixed-use developments analyzed were 35 percent below ITE trip rates. Similarly, trip rates for transit-oriented development were 30-60 percent below the ITE rates. This research was prepared by ITE in partnership with the Environmental Protection Agency and is undergoing review by the ITE membership.

1.4.2 Case Studies

The following section highlights case studies that were included as part of the SDC study from cities across the country. The case studies highlight cities that have developed variable SDC methodologies or implemented SDC credits based on findings that development characteristics reduced transportation system demands through lower trip generation rates. These studies involved the analyses of local data collection, trip generation studies and adjusted travel demand models. The new SDC methodologies in these cities reflect reduced associated system costs for compact mixed-use, transit-oriented infill development, particularly in downtown areas and town centers. The variable fee for these areas was reduced by 23 – 50 percent. This was a direct result of data findings showing a trip generation reduction for these areas as compared to ITE rates and low-density, auto-dominated suburban areas.

1.4.2.1 City of Olympia

The City of Olympia has reduced the transportation impact fees for downtown commercial uses to reflect the fact that the downtown is compact and alternative modes of transportation are accessible. Consequently, the theory is that each business has less of an impact on the transportation system.

Reduced fees for the downtown area reflect the following demand characteristics:

- Reduced trip lengths based on an analysis of data from the regional planning agency's household travel survey and travel model, and the ITE Trip Generation Manual.
- Lower percent of new trips (or more "pass-by" trips) for certain land uses (walk-in bank and supermarket) based on ITE data and other national studies.
- Reduced trip lengths for both home based work trips and total trips, based on data from the regional transportation model that showed reduced average trip lengths to/from the Olympia Central Business District (CBD).

Table 7 summarizes the recommended trip rate adjustments for these downtown land uses.

Land Use (ITE Category)	ITE Average Trip Rate (PM peak Hour)	50% of Standard Deviation (SD)	Modified Trip Rate (Average- 50% SD)
Walk-in Bank (911)	33.15	14.67 **	18.48
Supermarket (850)	11.51	2.38	9.13
Fast Food (without Drive-	26.15	5.26	20.90

Land Use (ITE Category)	ITE Average Trip Rate (PM peak Hour)	50% of Standard Deviation (SD)	Modified Trip Rate (Average- 50% SD)
Through Window) (883)			
Convenience Market (Open 15-16 Hours) (852)	34.57	8.81	25.77

** Based upon Drive-in Bank Standard Deviation (ITE Land Use 912) that is equal to 88 percent of the average rate. Calculation: 0.88*33.15= 29.34 estimated SD; 50 percent of SD=14.67

Table 8 summarizes trip length data (daily vehicle trips) for total trips and for 'Home Based Work Trips'. The total trip data are useful for looking at a range of typical trips made within the city, while the work trip data can be associated closely with office land use types.

Scenario	Trips to/from Olympia CBD	Average City Trips	Olympia CBD Trip Lengths compared with Average City Trips
Total Trips	2.3 mi	3.7 mi	-39%
Home Based Work Trips	2.7 mi	3.0 mi	-12%

Table 8 - Average Trip Length Comparison

Source: TRPC Model

The fact that downtown trip lengths are shorter than average within the city implies that a typical trip generated in downtown would have fewer impacts on the city's street system. Stated another way, downtown development creates proportionally less need for new road improvements than a land use situated elsewhere in the city.

1.4.2.2 City of Atlanta, Georgia

The City of Atlanta recognizes the reduced impact on roads because of the close proximity to rail transit. The City reduces impact fees 50 percent for developments within 1,000 feet of a rail station.

1.4.2.3 City of Tucson, Arizona

The City of Tucson adopted an impact fee methodology for roads that uses both location and dwelling unit size in assessing impact fees. The City's work found that the central city core had a reduced tendency to use private motor vehicles, shorter trip lengths and generating 77 percent of the vehicular travel demand compared to other city residents. Table 9 shows the trip variations by location.

	Central Core	Rest of City	Ratio
Percent Driving Private Motor Vehicles to Work	78.8%	90.8%	0.87
Travel Time, Non-Public Transportation	19.1%	21.6%	0.88

	Central Core	Rest of City	Ratio
(minutes)			
Reduction in Road Impact for Residential in Central Core			0.77

Source: Promoting Vibrant Communities through SDCs – Appendix D

The City's work also found that the average number of vehicle trips generated per day is almost directly proportional to the number of people living in the dwelling unit which is strongly related to the size of the dwelling unit. The results based on dwelling unit size are shown in Table 9.

Midpoint **Peak Hour Trips** Road Fee Housing Type/Size Category Less than 500 sq. ft. 375 0.48 \$2,186 500 – 749 sq. ft. 625 0.60 \$2,743 750 – 999 sq. ft. 875 0.69 \$3,198 1000 – 1249 sq. ft. 1125 0.76 \$3,462 1250 – 1499 sq. ft. 1375 0.83 \$3,829 1500 – 1999 sq. ft. 1750 0.91 \$4,196 2000 - 2999 sq. ft. 2500 0.95 \$4,386 3000 - 3999 sq. ft. 3500 0.99 \$4,562 4500 1.03 4,000 sg. ft. or more \$4,738

Table 9 - Residential Road Impact Fees by Size Category

1.6 SUMMARY AND RECOMMENDATIONS FOR FUTURE RESEARCH

The numerous studies covered by this literature review did vary in purpose, design, location, and terminology, but came to the same conclusions regarding the land use characteristics and policy strategies that reduce trip generation rates: density, good urban design, mix of uses, destinations, TDM and parking management strategies, access to transit, and transit-oriented development. The collective research shows areas with these attributes generate shorter vehicle trips and a 20-60% reduction in vehicular trips depending on the extent to which these characteristics exist. Thus, 2040 centers, main streets, station communities and corridors, which are defined by and planned for compact urban form, access to transit and a greater mix of uses will likely experience similar reduced trip generation rates.

Trip reduction rates of 28% were uncovered for increased residential density alone at densities recommended for town centers in the Regional Framework Plan and planned for and exceeded in the regions 2040 centers and corridors. Mixed-use, pedestrian-friendly, transit supportive development, required, planned for and existing in the region's 2040 centers and corridors, experienced on average a 35% reduction in trip generation rates. Coupled with transit-oriented development and access to high-capacity transit, this rate reduction increased as high as 60%.

Recent data collection in TOD areas with a mix of these development characteristics within the Portland region showed an average reduction of 40 percent between the ITE vehicle trip rates and observed trips.

Identifying more accurate traffic generation numbers to assess the traffic impacts of proposed mixed-use development and tying those to the performance of TOD has important implications on the design and long-term performance of 2040 Centers, Main Streets, Station Communities and Corridors:

- Local officials and neighborhoods may be more supportive of increases in residential densities near transit.
- Private developers of mixed-use projects are legitimately concerned about the costs and other impacts that can result from over-estimation, which can serve as a disincentive to implementing these kinds of development proposals in a community. Paying lower fees can be passed on to consumers through lower housing costs, which can help the region's effort to provide more affordable housing options.
- Accurate trip generation data will promote efficient and cost-effective use of existing infrastructure and services (including parking) and may streamline approval of mixed-use development proposals that could be delayed due to lack of funding for required mitigation improvements. This in term may cause housing and job growth to occur in less transit-accessible areas or even outside the urban growth boundary.
- Less parking, good pedestrian access to transit and high quality transit service will help increase transit ridership.
- Lower provision of this infrastructure (i.e. parking), and growth where we want it, will create an efficiency of land use and decrease impacts to the environment (GHGs)

Using ITE trip generation rates that over-estimate system impacts in compact, mixed-use areas will have significant and widespread negative impacts on the region's landscape and ability to achieve the 2040 vision. Over-estimating trip generation rates in these types of centers and corridors will cause over-planning the system for these surrounding land uses and will support strategies, funding systems and investment priorities that undermine and prevent the development of compact, mixed-use areas with more transportation choices. This directly conflicts with regional policies in the 2040 Growth Concept, as well as state and local policies, that call for development of mixed-use centers and corridors to support jobs and freight reliability, a compact urban form, and leveraging transportation investments such as high capacity transit.

Given these implications, it is extremely important to use the best trip generation data available. Consistent findings over the last ten years and recent local data collection in the region provide the reasonable nexus for allowing local governments in the region to apply a 30 percent motor vehicle trip reduction credit when conducting a traffic impact analysis on plan amendments that will result in mixed-use development designed to support walking, bicycling and transit that are located in 2040 centers, main streets, station communities and corridors served by high-quality transit. The 30 percent trip reduction credit is allowed pursuant to Section 3.08.510B of the Regional Transportation Functional Plan (RTFP), contingent on approval of Title 6 of the Urban Growth Management Functional Plan in December 2010.

Next Steps – Phase 2 OTREC research

The research conducted under this phase of the project would account for how the built environment influences travel behavior (number of trips, trip length, mode choice), for a range of land development typologies and levels of activity in the Metro region. Thus, the goal of this work will be to develop multiple new vehicle trip generation rates or other measures (e.g. ITE adjustments) that more accurately reflect the full spectrum or scale of development types and corresponding travel behavior. It will also provide data to modify the 30% adjustment factor as needed, which currently represents the conservative side of trip adjustment findings for transitoriented centers and corridors. The research will:

- Document local trip generation rates and how they differ from current ITE rates through local case studies and other tools
- Support the findings of the SDC Study, which identified the challenge to implementing SDCs that reflect real cost recovery due to a lack of local travel demand data to support a variable SDC methodology.
- Make suggestions on how to better align local and regional infrastructure investments, funding systems, and growth management efforts
- Inform local and regional policies and investment priorities, including high capacity transit plan implementation
- Inform policy changes needed to achieve mode share targets, greenhouse gas emissions reduction targets and other outcomes the region is trying to achieve
- Be applicable to current and future communities
- Be transferable to other communities, locally and nationally

Outputs and outcomes anticipated include:

- Data guide for local jurisdictions: a statistical breakdown of the relationship between transportation behavior and specific land use patterns and characteristics
- Formula tying development typologies and land use characteristics to proportional rates based on the impact of each development typology, which will determine the different fee tiers of TSDCs in a local jurisdiction.
- Documentation of the effect on a local city's TSP and TSDCs through a case study of the project's research findings.
- Recommendations for additional research needed, including informing the next regional household travel behavior survey conducted by Metro and potential modifications to how we design and analyze future surveys.
- Recommendations for application of these rates within the Metro region and needed land use and transportation policy changes.
- Support from the transportation, land use, and engineering communities.

			1 - 0	*Note early start time
	Mee	ting:	Metro Policy Advisory Committee (MPAC)	
Date: Wednesday, June 23, 2010		Wednesday, June 23, 2010		
	Time	e:	4:30 to 7 p.m.*	
	Place	e:	Council Chambers	
4:30 PM	1.		CALL TO ORDER	Shane Bemis, Chair
4:32 PM	2.		SELF INTRODUCTIONS & COMMUNICATIONS	Shane Bemis, Chair
4:35 PM	3.		<u>CITIZEN COMMUNICATIONS ON NON-AGENDA ITE</u>	<u>MS</u>
4:40 PM	4.	#	Consideration of the MPAC Minutes for June 9, 2010	
4:45 PM	5.		COUNCIL UPDATE	
	6.		INFORMATION / DISCUSSION ITEMS	
4:50 PM	6.1	*	Community Investment Strategy: 2010 Capacity Ordinance	<i>Community Investment Speakers:</i> Robin McArthur
			• Update on additional residential capacity inside the Urban Growth Boundary beyond what is accounted for in the 2009 Urban Growth Report	
			 Impact of local and regional investments Updated assumptions and implications for the six desired outcomes 	Ted Reid
			• Illustrating impact of local and regional actio on the ground	ns Brian Harper
6:20 PM	6.2	*	2040 Growth Concept Map, Center Designation Chang Requests and Process – <u>DISCUSSION</u>	e Christina Deffebach Representatives from the Cities of Happy Valley, Cornelius and Hillsboro
6:50 PM	7.		MPAC MEMBER COMMUNICATION	
7 PM	8.		ADJOURN	Shane Bemis, Chair
	 * Material available electronically. ** Materials will be distributed electronically prior to the meeting. # Material provided at meeting. All material will be available at the meeting. 			

For agenda and schedule information, call Kelsey Newell at 503-797-1916, e-mail: <u>kelsey.newell@oregonmetro.gov</u>. To check on closure or cancellations during inclement weather please call 503-797-1700x.

MPAC Worksheet

Agenda Item Title (include ordinance or resolution number and title if applicable): Community Investment Strategy: 2010 Capacity Ordinance Presenter: Metro staff: Robin, McArthur, Malu Wilkinson, Brian Harper, Ted Reid, Jerry Johnson (Johnson-Reid LLC) Contact for this worksheet/presentation: Malu Wilkinson Council Liaison Sponsor: Carl Hosticka

Purpose of this item (check no more than 2):

Information X Update _____ Discussion X Action ____

MPAC Target Meeting Date: _____6/23/10____

Amount of time needed for:Presentation45 minutesDiscussion60 minutes

Purpose/Objective (what do you expect to accomplish by having the item on *this meeting's* agenda):

(e.g. to discuss policy issues identified to date and provide direction to staff on these issues) To provide MPAC members with an update on progress made identifying additional residential capacity inside the UGB, above and beyond what is accounted for in the 2009 Urban Growth Report (UGR).

Action Requested/Outcome (What action do you want MPAC to take at *this meeting*? State the *policy* questions that need to be answered.)

Local and regional choices influence where the region falls within the range of both demand and supply. This preliminary analysis of additional residential capacity that can be met inside the current UGB is based on local and regional actions. Policy questions to consider include:

- The 2009 UGR concluded that there is sufficient zoned residential capacity inside the current UGB but current levels of investments and policies will not be sufficient to support the market's ability to use the zoned capacity. Local and regional actions and investments put in place since the 2009 UGR will support the market's ability to use an increment of additional residential capacity but not enough to fully meet the middle or upper part of the forecast demand. What are the risks of accommodating 20-year forecast growth at the low end of the range?
- Local and regional actions and investments that can be used to document the region's ability to meet the 20-year forecast growth must be put in place by the end of 2010. Are there any additional local actions or investments that Metro should take into account?

Background and context:

Oregon land use laws require that Metro maintain capacity inside the urban growth boundary (UGB) to accommodate estimated housing needs for the next twenty years (for the purposes of this analysis, to the year 2030). Metro fulfills a similar role in determining whether or not there is adequate capacity for employment.

The Metro Council, with unanimous direction from MPAC, accepted the 2009 UGR by resolution on December 10, 2009. Throughout 2010, Metro is working to document local and regional policies and investments that support accommodating the 20-year forecast growth. By December 2010, the Metro Council will submit plans to accommodate at least 50 percent of any 20-year capacity need to LCDC, either through new policies or investments or urban growth boundary expansions into urban reserves. If, by December 2011, any additional 20-year capacity need remains, the Metro Council will consider additional urban growth boundary expansions into urban reserves.

What has changed since MPAC last considered this issue/item?

Metro staff have completed a preliminary analysis of how much additional residential capacity can be accommodated inside the current UGB.

What packet material do you plan to include? (must be provided 8-days prior to the actual meeting for distribution)

What is the schedule for future consideration of item (include MTAC, TPAC, JPACT and Council as appropriate):

MPAC and MTAC will discuss large-lot industrial employment capacity and an analysis of potential UGB expansion areas prior to the COO recommendation on how to accommodate the next 20-years of forecast growth and a community investment strategy that will be released in August. MPAC will provide the Metro Council with recommendations on the Capacity Ordinance in November 2010.

MPAC Worksheet

Agenda Item Title : 2040 Growth Concept Map, Center designation change requests and process

Presenter: Chris Deffebach and representatives from Happy Valley, Cornelius and Hillsboro

Contact for this worksheet/presentation: Chris Deffebach

Council Liaison Sponsor:

Purpose of this item (check no more than 2):

Information__x__Update____Discussion_x__Action____

MPAC Target Meeting Date: ____June 23_____

Amount of time needed for: Presentation __10___ Discussion __20___

Purpose/Objective (what do you expect to accomplish by having the item on *this meeting's* agenda): In the fall, MAPC will be asked to make recommendations to Council on changes to Center designations on the 2040 Growth Concept Map. This presentation will provide background information to MPAC on the requested Center changes, the process for making these changes and the implications of the changes. The discussion will inform the staff recommendation on the changes, which will be included in the Chief Operation Officer's recommendation for Making the Greatest Place later this summer.

Action Requested/Outcome (What action do you want MPAC to take at *this meeting*? State the *policy* questions that need to be answered.)

Identify initial comments on the consistency of the proposed changes with Metro policies and identify questions or areas for further consideration as staff prepare their recommendation.

Background and context:

The regional 2040 growth concept has guided development in the region for the last fifteen years in centers, corridors, employment and industrial areas. During that time, Metro Council has acted on only two requests to change the designations for Centers.

Now, Metro has received three proposed changes to the 2040 Growth concept map, from Happy Valley, Cornelius and Hillsboro. As part of their roles and responsibilities, MPAC is required to make recommendations to Council on these changes to this map.

What has changed since MPAC last considered this issue/item?

MPAC reviewed the adopted policies that inform the Council action on requests to change the 2040 Growth Concept Map in 2008. Since then, Council has received specific requests for changes in three locations.

What packet material do you plan to include?

Memo to MPAC for inclusion in the packet. Additional materials may be provided by the local jurisdictions at the meeting.

What is the schedule for future consideration of item

MPAC will review the staff recommendations in the fall, 2010 and be asked to make recommendations to Council as part of their recommendations on the capacity ordinance. MTAC will be asked to advise MPAC on this recommendation in the fall. Council will consider this item and MPAC's recommendations as part of the capacity ordinance in December 2010.

Metro | Memo

Date: June 16, 2010

To: MPAC

From: Chris Deffebach, Land Use Planning Manager

Subject: 2040 Growth Concept Map, Center Designation Change Request and Process

The regional 2040 Growth Concept has guided development in the region for the last fifteen years in centers, corridors, employment and industrial areas. During that time, Metro Council has acted on only two requests to change the designations for centers.

Now, Metro has received three proposed changes to the 2040 Growth Concept Map from Happy Valley, Cornelius and Hillsboro. Staff will be including recommendations on these requests later this summer and will be asking MPAC for a recommendation to Metro Council in the fall.

The presentation at the June 23rd MPAC meeting will provide information on the proposed changes, the significance of these changes and the process for making these changes. Staff seeks initial comments from MPAC on the consistency of the proposed changes with Metro policies and would like to identify questions or areas for further consideration as staff prepares their recommendation. Representatives from the cities are invited to add more information about their proposals and answer questions. MTAC discussed the proposals at their meeting on June 16th.

The requests for changes:

Happy Valley: Happy Valley's request is to relocate their existing center from King Road to the site of the commercial and residential area at Sunnyside Road and SE 172nd Avenue, called coincidentally, Happy Valley Town Center. Fifteen years ago when the 2040 Growth Concept was developed, Happy Valley was a much smaller city and at the time envisioned the King Road area – home of city offices, fire and police stations – as their center. Since then, the City has grown to the east, and, coupled with the planned growth in Damascus, the proposed center at 172nd/Sunnyside, fits with their redevelopment plans. In support of the center designation, Happy Valley is pursuing funding to up zone parts of their town center included in the older Rock Creek Master Plan and explore parking management and other strategies to support development and a sense of place in the area. Since this is a relocation of an existing center and not an additional center, it implies a shift in target area for resources and not additional resources.

Cornelius: Cornelius has requested to change the designation in their downtown area from a Main Street to a Town Center. The Cornelius Main Street area is one of a few historic downtown districts that do not have a center designation. Unlike other main streets, which target half-block deep areas, plans for the Cornelius Main Street encompass a multi-block district, similar to town center boundaries in other locations. After reviewing their current conditions, zoning and plans for growth, Cornelius is proposing to

2040 Growth Concept Map, Center Designation Change Request and Process

June 16, 2010 Page 2

expand the Main Street district and request a Town Center designation on the 2040 Growth Concept Map for this area. The area functions as the center of the community, has a major medical clinic, many businesses and urban center amenities that generate activity and is poised for additional redevelopment. This designation would increase the number of Town Centers in the region from 30 to 31.

Hillsboro: Hillsboro has requested to change the Tanasbourne Town Center designation to a Regional Center designation and include the adjacent AmberGlen area in the boundary. Since the 2040 Growth Concept was adopted, the Tanasbourne area has grown into a destination commercial area surrounded by new residential development. It is adjacent to Amberglen, one of the largest redevelopment sites in the region. Hillsboro envisions the Regional Center designation to be more in line with the regional destination that the new center will become. Plans for the new center include higher density commercial and residential development and an extension of light rail, consistent with regional policy to connect regional centers with light rail. The designation would increase the number of regional centers in the region to eight from seven, and increase the number of centers in Washington County to four from three.

Significance of the changes:

The centers designations guide local and regional investments, which, in turn, are critical to the success of achieving the vibrant places communities envision. Supporting and aligning regional policy with evolved market conditions and local aspirations will increase the potential to increase capacity and realize zoned capacity that can help meet the region's 20 year growth needs. Since the centers designations direct investments, it is important that the locations are targeted.

The process and criteria to consider in making a change to a center:

In taking action on the centers change requests, Metro Council needs to demonstrate consistency with adopted plans and policies. These adopted policies are summarized in the attachment and include, for example, the intent for Regional Centers to serve hundreds of thousands of people while Town Centers serve tens of thousands of people.

<u>Next steps</u>

Staff recommendations regarding the requests for center designation changes will be included this summer as part of the Chief Operating Officer's recommendation on the capacity ordinance. At that time, the recommendations will also include some housekeeping changes to the 2040 Growth Concept map to reflect, for example, the light rail lines that are now constructed and others that are now included in the Regional Transportation Plan. After the recommendations come out, MPAC will have time in the fall to develop comments/recommendations Metro Council, with input from MTAC.

In the future, as more local jurisdictions update their comprehensive plans and refine their aspirations and implementation plans, additional requests for changes may come forward. The Metro Council can respond to these requests next year or later, as other requests come forward.

Attachment

Metro | People places. Open spaces.

2040 Growth Concept Map Changing Center Designations: Guidance for local jurisdiction requests 4/12/2010

1. Background

- Describe what your jurisdiction wants to change (i.e., regional center to town center or location).
- Describe why your jurisdiction is requesting this change, including how the change fits into your comprehensive plans and aspirations for the center.
- In your own words, describe how this new center will perform and how it will be different from what exists today.

2. <u>Consistency with Existing Metro Regional Framework Policies</u>

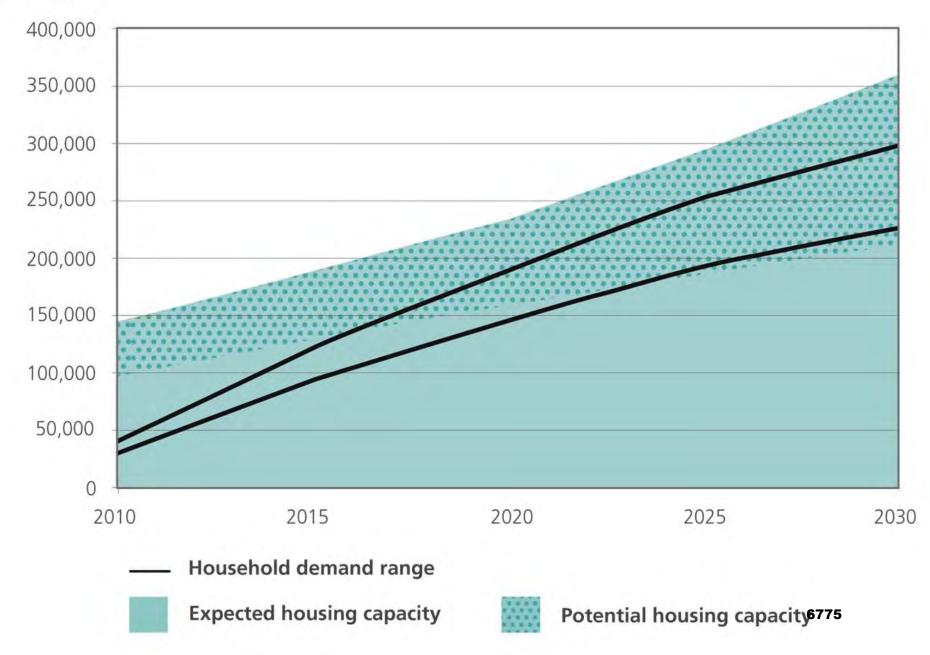
- Describe how the proposed change will meet the expectations of a center as derived from Regional Framework Plan Policies. Please include the extent the proposed center meets these expectations today as well as how it will meet expectations with your additional investments and actions.
- For a Regional Center, these expectations include:
 - The center is accessible to hundreds of thousands of people.
 - The area is zoned for a mix of housing types to provide housing choices.
 - The city has adopted a strategy of actions and investments to enhance the proposed center.
 - The area is served by high-capacity transit (HCT) or is proposed for HCT in the 2035 Regional Transportation Plan (RTP) and meets or is planned to meet the transit system design standards proposed in the RTP.
 - The area is zoned to allow the number of residents and employees needed to support HCT.
 - The city has, or has adopted a plan for, a multi-modal street system that meets or will meet connectivity standards in the Regional Transportation Plan.
 - The city has adopted a strategy that calls for actions and investments to meet the non-SOV modal targets in the RTP.
 - The city has a parking management program consistent with that proposed in the RTP.
- For a Town Center, these expectations include:
 - The proposed center is accessible to tens of thousands of people.
 - The area is zoned for a mix of uses that makes, or will make the center walkable.
 - The city has adopted a strategy of actions and investments to enhance the proposed center.
 - The area is served by public transit.
 - The city has, or has adopted a plan for, a multi-modal street system that meets or will meet connectivity standards in the Regional Transportation Plan

April 12, 2010 Page 1

3. Additional Considerations

- How would a center change detract from or support other nearby centers to serve as the center of urban life and market area for a regional center or town center?
- If there are multiple regional and town centers located within your jurisdiction, describe how you will prioritize and focus development efforts among them.
- Recognizing that zoning alone will not achieve the kind of vibrant and active centers envisioned by the 2040 Growth Concept, describe your jurisdiction's plans for promoting development through partnerships, incentives, investments and other actions.
- What kind of market analysis has your jurisdiction completed that indicates that the planned development you have planned will support the level of activity you envision for your center.

Housing units



ASSESSMENT OF EFFICIENCY MEASURES FOR 2010 CAPACITY ORDINANCE

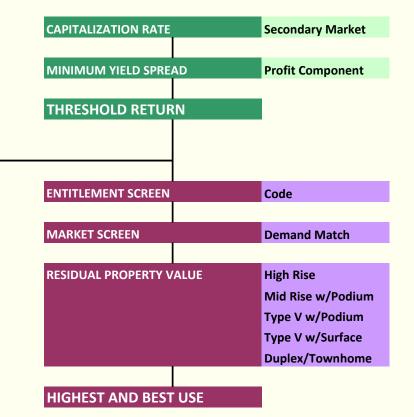
Jerry Johnson Principal Johnson Reid, LLC



PRODUCTION FUNCTION MODEL

- THE FORM OF NEW DEVELOPMENT WILL BE DRIVEN BY A PRODUCTION MODEL
 - How Will Development Community interact with market signals?
 - "Demand" and "Realized Demand"
 - Better approach, but breaking new ground
- VIABILITY IS NOW PRIMARILY THE LIMITING FUNCTION ON INCREASING DENSITY. ZONING IS LARGELY NO LONGER THE PROBLEM.





6778

SOURCE: Johnson Reid

PRODUCTION MODEL APPROACH

ACHIEVABLE PRICING Location Amenities

> HIGHEST AND BEST USE Product Program Residual Land Value

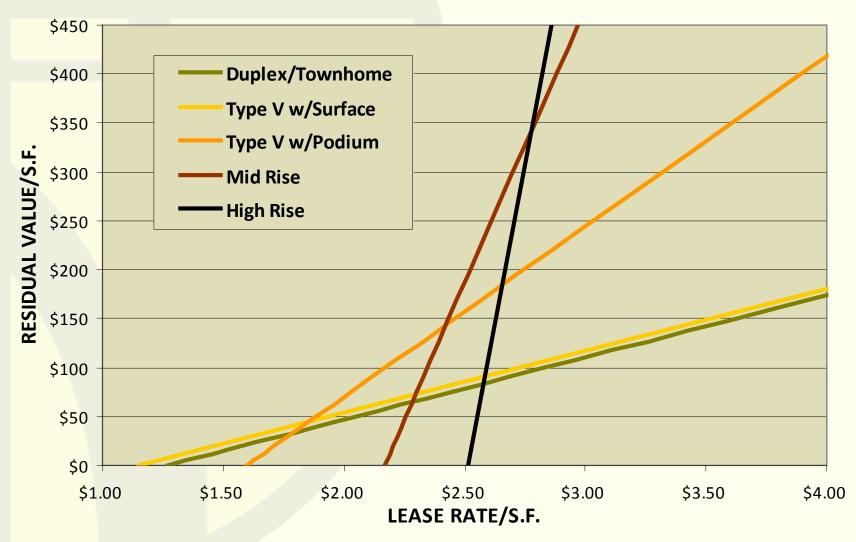
COST TO DEVELOP Format Parking Fees/Off Site

FINANCING Cost of Funds Necessary Returns

ENTITLEMENTS

Zoning

RESIDENTIAL FORM STEP FUNCTION





DEVELOPMENT TYPES

- HIGH RISE
- MID-RISE

- TYPE V PODIUM
- TYPE V SURFACE
- DUPLEX/TOWNHOUSE







ACHIEVABLE PRICING	AMENITIES
	HC TRANSIT
	PUBLIC REALM
COST TO DEVELOP	SDC WAIVERS
	LAND WRITE-DOWNS
	PARKING MANAGEMENT
	VERTICAL HOUSING TAX CREDITS
	LENDING TERMS
THRESHOLD RETURN	LENDING TERMS
	MASTER LEASES
	PUBLIC INVESTMENTS

HIGHEST AND BEST USE

SOURCE: Johnson Reid

HEDONIC MODELING

 Statistical Modeling to Assess Marginal Impact of a Range of Amenities

 Looking for Measurable and Significant Impact on Achievable Residential Pricing

 Results will be incorporated into final model

SUMMARY

- CAN ASSESS ANTICIPATED IMPACT OF INVESTMENTS AND/OR MARKET SHIFTS OVER TIME
- DISTRICT AND SMALLER AREA SPECIFIC
 - Output can be customized by district and planning area
- WILL BE CONSOLIDATED INTO DISTRICT
 IMPACTS
- ESTABLISHES COMMON LANGUAGE

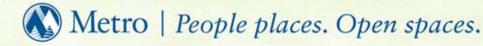


2010 Capacity Ordinance preliminary assessment of possible outcomes





Ted Reid, Metro Land Use Planning June 23, 2010



6785

Overview of scenario assumptions

2009 UGR scenario	2010 Capacity Ordinance scenario (preliminary)		
2009 forecast (adopted)	2009 forecast (adopted)		
Current zoning	Current zoning		
Financially-constrained RTP	State RTP (adopted)		
Existing residential incentive programs	Add new incentive programs to be adopted in 2010		
Future UGB expansions follow state agricultural soil hierarchy	Future UGB expansions into urban reserves		

Additional transit projects assumed (compared to 2009 UGR scenario)

- CRC light rail
- SW Corridor high-capacity transit
- WES service improvements
- I-205 bus rapid transit from Clackamas to Tualatin
- Division / Powell bus rapid transit
- Broadway / Weidler streetcar
- NE Martin Luther King streetcar
- NW 19th / NW 20th streetcar

Additional throughway projects assumed (compared to 2009 UGR scenario)

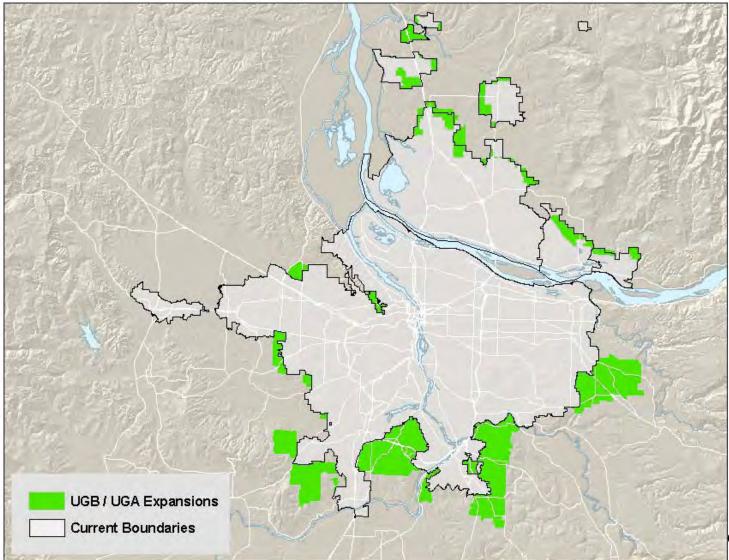
- I-5 Columbia River Crossing
- Operational improvements on I-5
- Additional interchange improvements:
 - OR 217
 - US 26
 - I-5
 - I-205
 - **—** I-84

RTP community-building projects

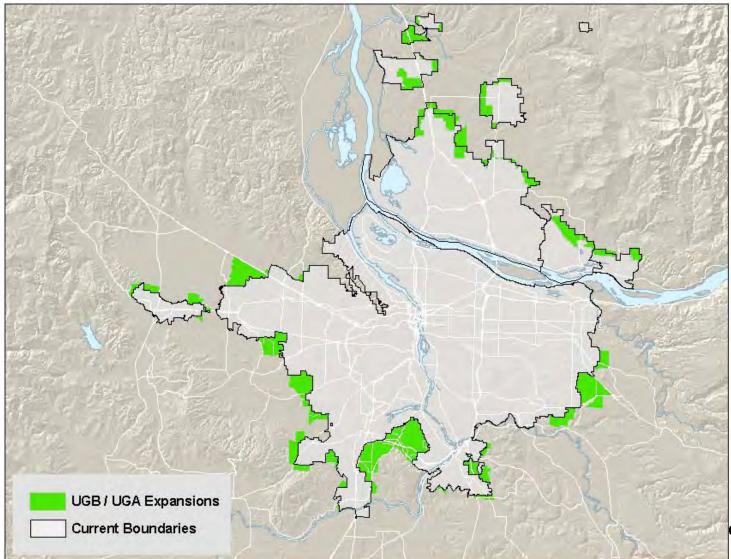




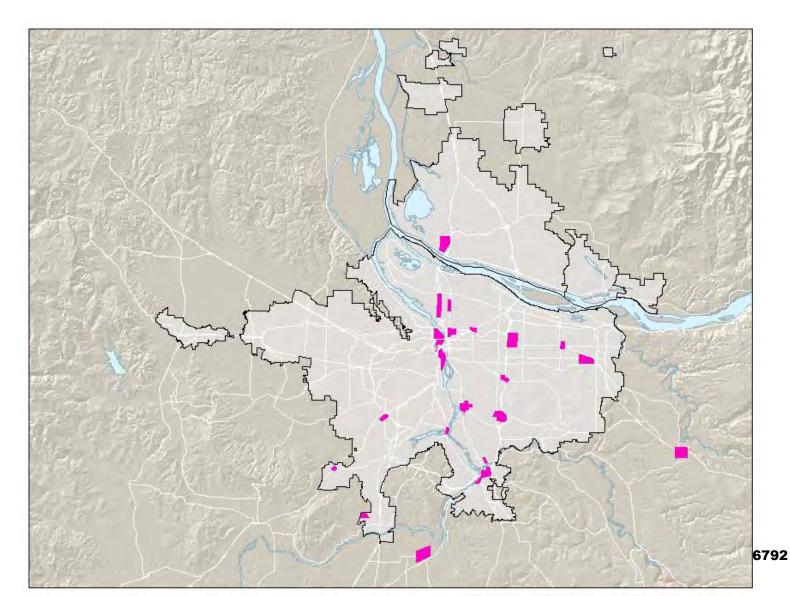
Assumed prospective UGB expansions through 2040 (2009 UGR scenarios)



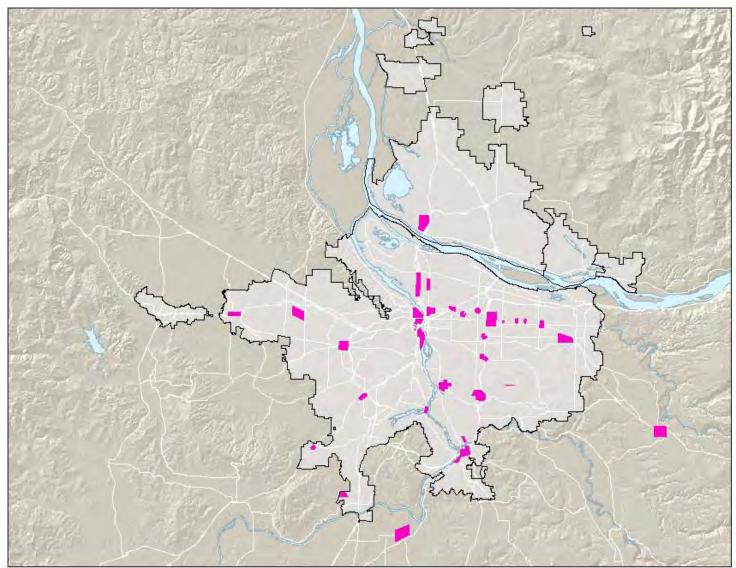
Assumed prospective UGB expansions through 2040 (2010 Capacity Ordinance scenario)



Assumed residential incentive programs (2009 UGR scenario)



Assumed residential incentive programs (2010 Capacity Ordinance scenario)



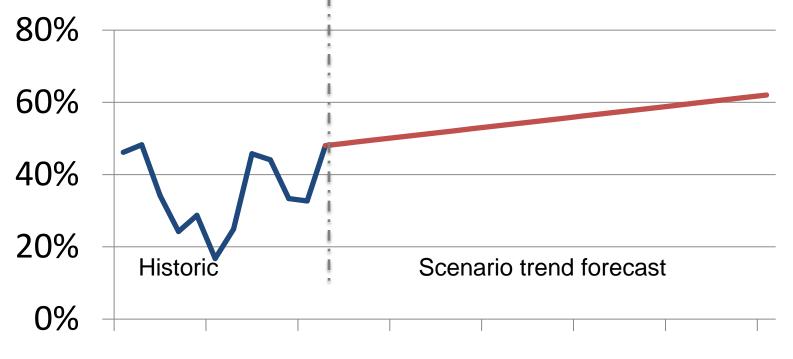
6793

Desired outcome 1: People live and work in vibrant communities ...

- Households shift towards:
 - Smaller residences
 - Larger share of multifamily (particularly condos)
- Results are consistent with trends identified by researchers (Nelson, Leinberger) and builders
- State RTP investments improve pedestrian environments

Desired outcome 1: People live and work in vibrant communities ...

Multifamily share of new units



1995 2000 2005 2010 2015 2020 2025 2030

Desired outcome 1: People live and work in vibrant communities ...

- Higher rate of redevelopment
- Greater share of growth in centers and corridors
- High utilization of single-family capacity in assumed prospective UGB expansions into urban reserves
- But, multifamily development lags in assumed prospective UGB expansion areas

Desired outcome 2: Current and future residents benefit from the region's sustained economic competitiveness and prosperity

- Improved jobs / housing balance in Clark County
- Greater share of region's jobs go to centers and corridors

Desired outcome 3: People have safe and reliable transportation choices that enhance their quality of life

 Average household saves money on transportation costs Desired outcome 4: The region is a leader in minimizing contributions to global warming

- Average household has a slightly shorter commute (but more commuters)
- Less growth in residential-source carbon emissions (heating, lighting, cooling)

Desired outcome 5: Current and future generations enjoy clean air, clean water and healthy ecosystems

Urban and rural reserves set a course for a smaller urban footprint

Desired outcome 6: The benefits and burdens of growth and change are distributed equitably

- More transportation options in close-in locations help to reduce household costs
- But, renters competing for high-demand locations see escalating housing costs

Concluding thoughts

- Better results, but room for improvement
 - Housing affordability for renters
 - Carbon emissions

 Need to ensure that community investments are focused

Illustrating Local Actions

Illustration Process



The process starts by creating a library of building types that are financially feasible at the local level.

Create Prototype Buildings

Why start with buildings?

- Defensible foundation to build on:
- Rents and Sales Prices
- Construction Costs

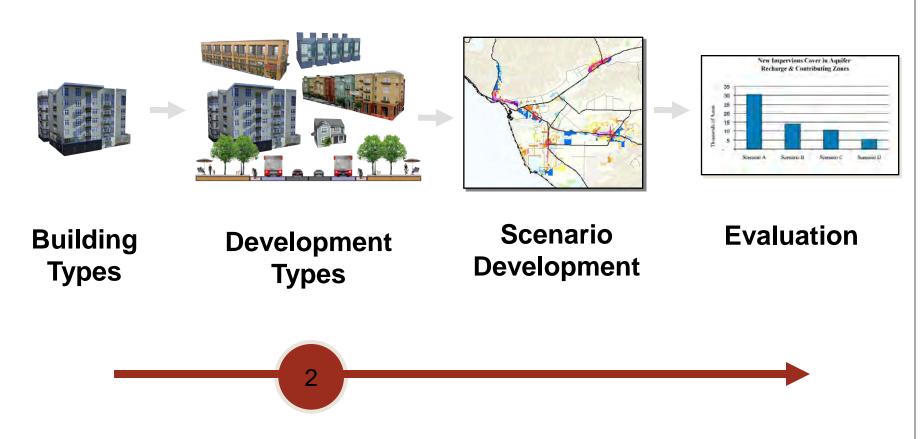
Helps demonstrate:

Density and Design

	La de Tribella Service de la Service de la S		the del	ROI	
Procession Fields Procession Processio]
A A second secon		North Control of State		A LAND A LAND	
and the second s	to Cre				
	Range Buildi				
	A LAND				

6805

Illustration Process



Define the mix of buildings, streets and amenities that make up the places of our Region.

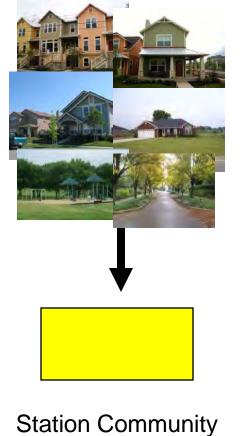
Development Type Mix

A Mix of Prototypical Buildings, Streets and Amenities Create a "Place"



Center

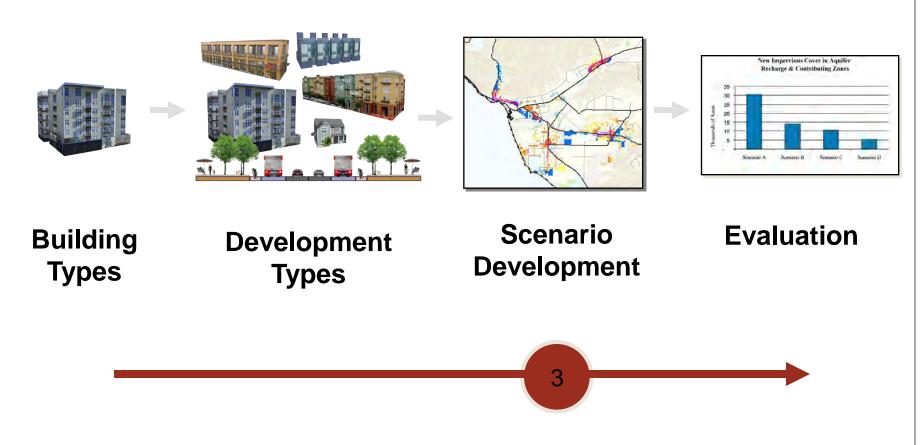




Town Center

6807

Illustration Process



Use the Scenario Painter to design several possible future land use scenarios to test the implications of different decisions or policies. 6808

Design Scenarios by Painting Development Types onto the Landscape

lopment Types Scenario Indicators				
Symbol	Development Type			
	ERASE			
	Urban Core Res High Mix			
	Urban Core Res Low Mix			
	Urban Core Emp High Mix			
	Urban Core Emp Low Mix			
	City Res High Mix			
	City Res Low Mix			
	City Emp High Mix			
	City Emp Low Mix			
	Town Res High Mix			
	Town Res Low Mix			
	Town Emp High Mix			
	Town Emp Low Mix			
	Neighborhood Res High Mix			
	Neighborhood Res No Mix			
	Neighborhood Emp High Mix			
	Neighborhood Office Low Mi			
	Neighborhood Retail Low Mix			
	Neighborhood Industrial Low Mix			
	Suburban Dan High Mix			

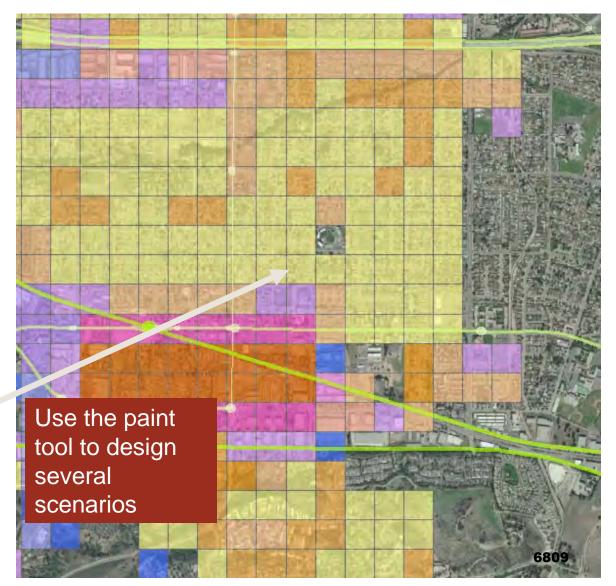


Illustration Process



Building Types

Development Types

Scenario Development

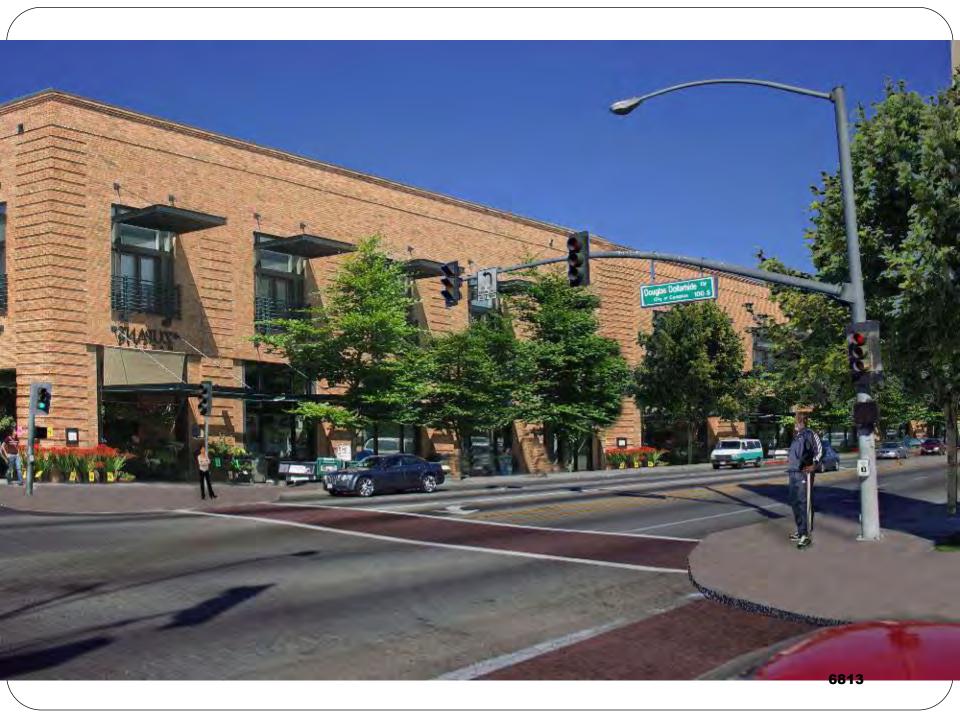
Evaluation

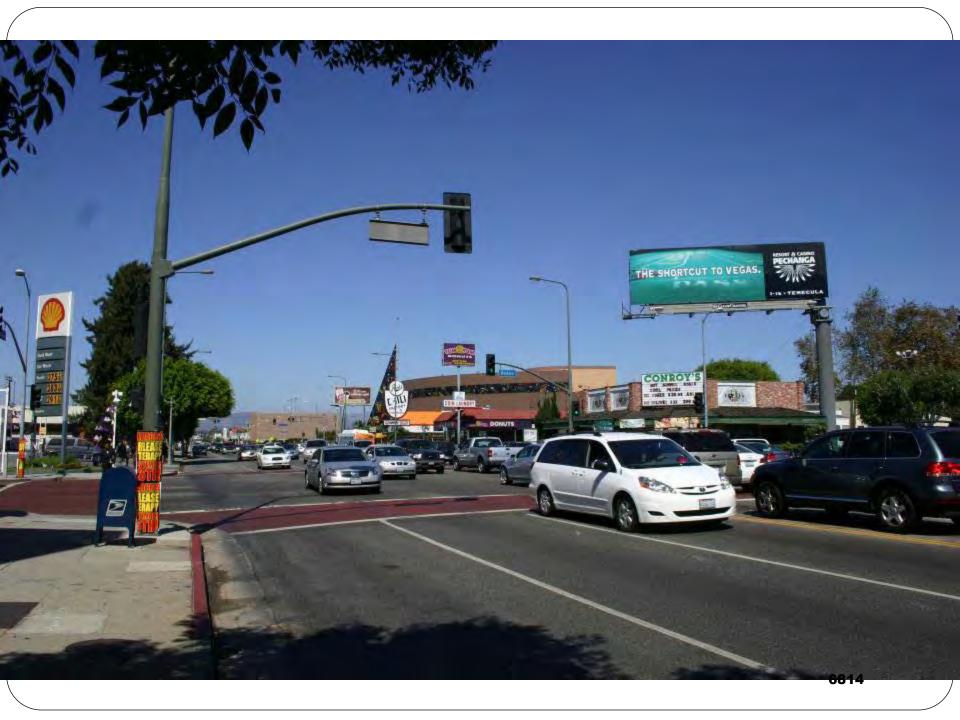
4

Compare and monitor the impact of land use decisions in real-time.

















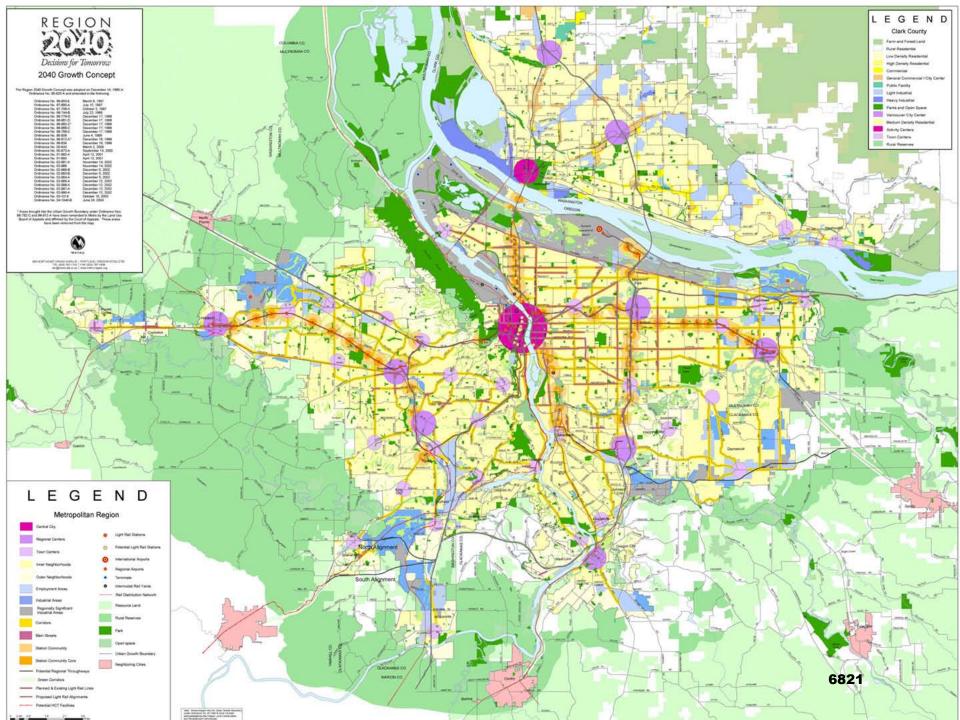


2040 Growth Concept Map: Center designation change requests and process

MPAC Chris Deffebach June 23, 2010



6820



Existing Policy Guidance

Regional Center

- Accessible to hundreds of thousands of people
- Zoned for mix of housing types
- Served /will be served by HCT and zoned to support HCT
- Meets multimodal and connectivity standards
- Actions and investments to meet non-SOV modal targets adopted

Town Center

- Accessible to tens of thousands of people
- Zoned for mix of uses, walkable
- Actions/strategies to enhance center adopted
- Served by public transit
- Meets multimodal and connectivity standards

Success: Additional considerations

- Detract/support nearby centers?
- Plan to prioritize and focus development efforts among multiple centers
- Partnerships, incentives, investments or other plans for promoting development
- Analysis to support planned development will match envisioned activity levels



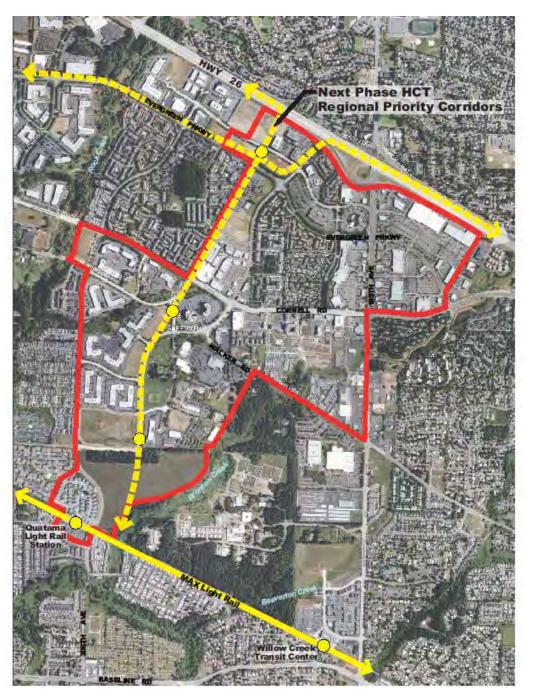
Proposed Regional Center changes

Hillsboro - Change Town Center to Regional Center designation AmberGlen/Tanasbourne

Address policy guidance

- Accessible to hundreds of thousands of people
- Zoned for mix of housing types
- Served /will be served by HCT and zoned to support HCT
- Meets multimodal and connectivity standards
- Actions and investments to meet non-SOV modal targets adopted

Address additional considerations for success



City of Hillsboro Proposed AmberGlen/Tanasbourne Regional Center Boundary

Proposed Town Center changes;

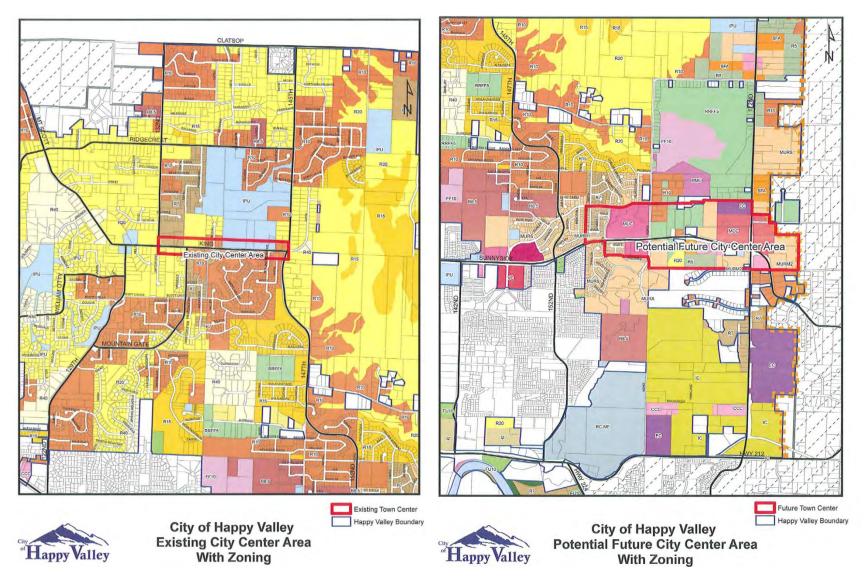
- Happy Valley Town Center relocation
- Cornelius Change to Town Center from Main Street

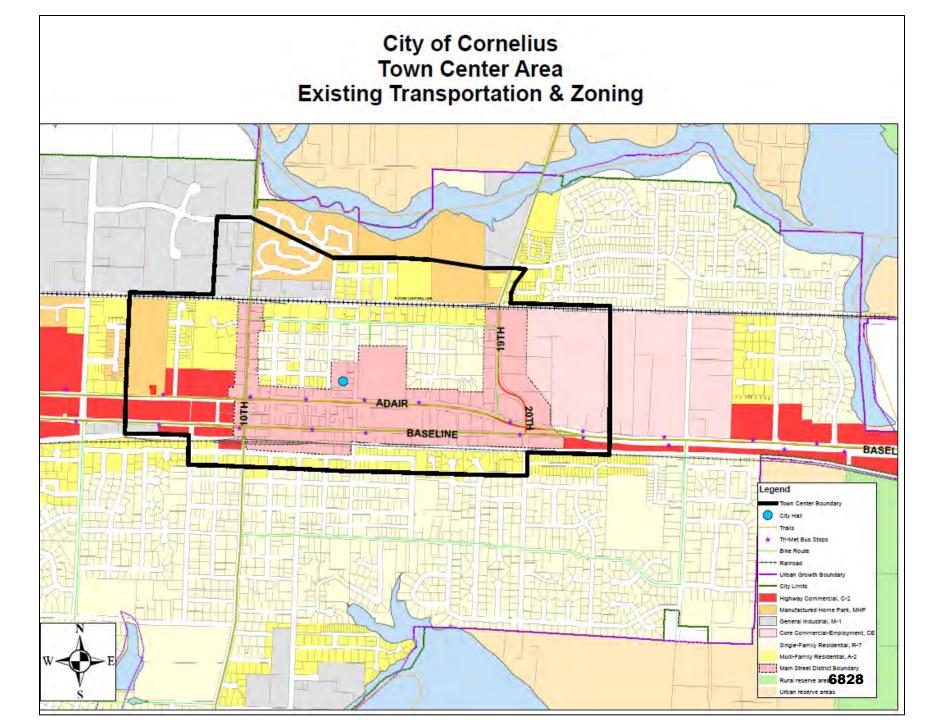
Address Town Center policy guidance

- Accessible to tens of thousands of people
- Zoned for mix of uses, walkable
- Actions/strategies to enhance center adopted
- Served by public transit
- Meets multimodal and connectivity standards

Address additional considerations for success

City of Happy Valley Town Center proposal





Next steps

- Tonight Initial comments on proposals and consistency with existing policy
- Late summer staff includes recommendations in COO Community Investment Strategy, including housekeeping changes to map
- Fall MPAC develops recommendations for Metro Council
- December Metro Council considers requests as part of Capacity Ordinance

Tanasbourne I AmberGlen A Vibrant, Transit-Supported, Regional-Scale Center







Proposed re-designation/reconfiguration of the Tanasbourne Town Center as the TANASBOURNE/AMBERGLEN REGIONAL CENTER



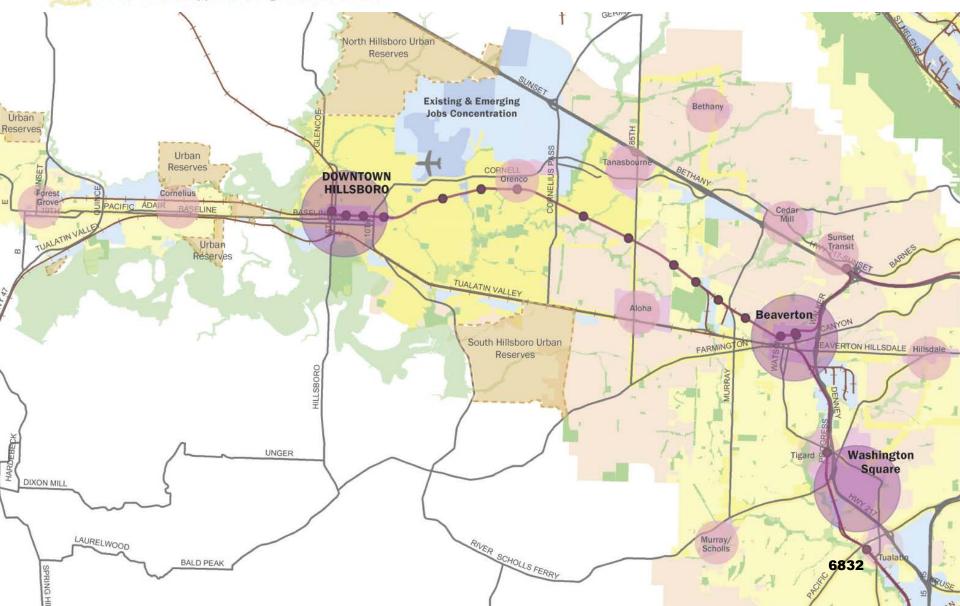
THE ASPIRATION... Approximately 30,000 people will live in this 687acre urban district, and 23,000 people will work here.





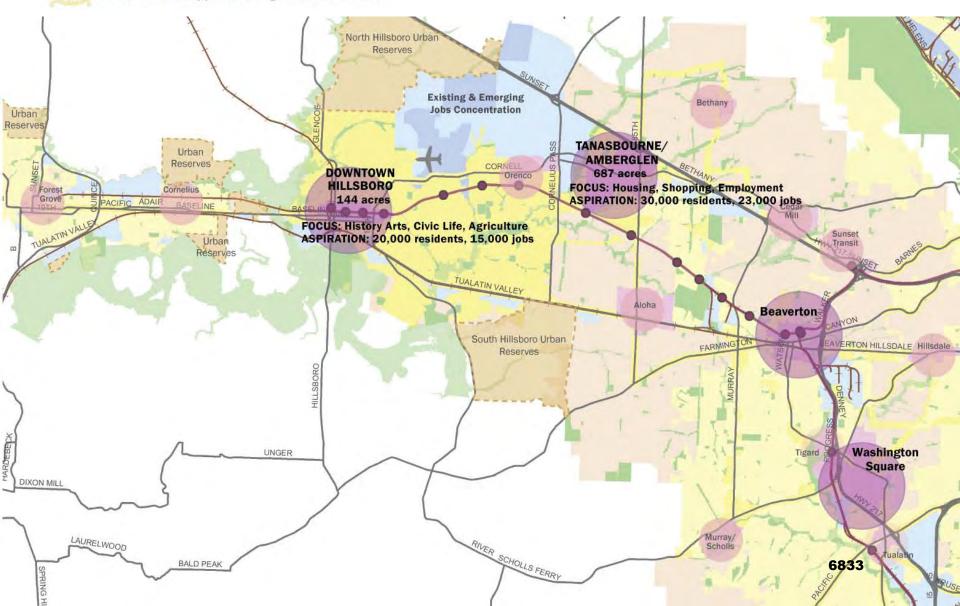
Proposed: Western Metro Region 2040 Centers Tanasbourne | AmberGlen

A Vibrant, Transit-Supported, Regional-Scale Center



Proposed: Western Metro Region 2040 Centers Tanasbourne | AmberGlen

A Vibrant, Transit-Supported, Regional-Scale Center



TANASBOURNE | AMBERGLEN



Tanasbourne/AmberGlen Planning Areas Aerial Photo, 2005

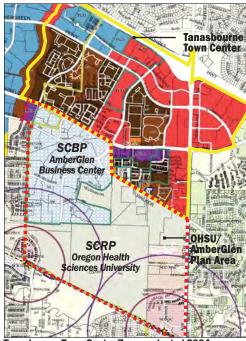
Early 1980's

Standard Insurance TheStandard' creates "Tanasbourne"

Standard Insurance begins development of 850 acres, the initial phase of the masterplan for "Tanasbourne." It was to become one of the region's largest, horizontal mixed-use developments



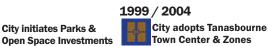
Birtcher Development & Investments and State Farm Insurance, in a development agreement with Amberjack, break ground on the AmberGlen Business Center. The master plan identifies a multi-tenant, 26 building, 1.25 million square-foot research and development facility on 217 acres adjacent to OHSU



Tanasbourne Town Center Zones, adopted 2004 Station Community Campus Area Zones (OHSU/ AmberGlen area), adopted 1996

City adopts Station Community Plans and Campus Zones for OHSU/AmberGlen

Zoning supports existing "campus" uses and is intended to foster transit-oriented. pedestrian-sensitive, and auto-accomodating development. AmberGlen Business Center is designation: Station Community Business Park (SCBP). Oregon Health Sciences University designation: Station Community Research Park (SCRP)



Rock Creek Trail construction begins City of Hillsboro adopts Tanasbourne the City's ongoing investment in parks Town Center Plan (1999) and and open spaces. With additional funds designates Mixed Use Commercial from Metro, 1.5 miles of paved nature zones (2004) to direct new trail connects residential, commer- cial mixed-use growth in support of and industrial neighborhoods.

1998

1998

MAX Westside

Light Rail Opens

opened in September, 1998

Metro 2040 Growth Concept goals and allocations for housing and jobs.



Amendments, 2010 2006

City initiates AmberGlen Concept Planning Process

The City of Hillsboro initiated the OHSU/AmberGlen Concept Plan in 2006 to achieve higher levels of density close to major employers: provide high quality amenities & a pedestrian oriented. urban environment; support regional transportation infrastructure: and to transform all of Tanasbourne to a major regional activity center. The concept planning process was a collaborative effort between property owners, Tanasbourne area stakeholders and City, County, Metro and State officials. Although the concept plan was broadly endorsed by City Council and Planning Commission, it was not adopted.



Proposed redesignation and reconfiguration of the Tanasbourne Town Center as the Tanasbourne/ **AmberGlen Regional Center, 2010**

City adopts Resolution endorsing Tanasbourne/AmberGlen Regional Center

2006 2007 2008

In February 2010, the City of Hillsboro adopted a resolution endorsing Metro 2040 redesignation and reconfiguration of the Tanasbourne Town Center as the Tanasbourne/ AmberGlen Regional Center. Development capacity for the 687-acre area is estimated at over 30,000 residents and 23,000 jobs. 2010

City adopts AmberGlen Community Plan as an amendment to the Comprehensive Plan and Map

Adoption of the AmberGlen Community Plan in January 2010 established the policy framework required to amend land use regulations for higher intensities and densities, and to implement the vision established by the Concept Plan. The Community Plan provides a comprehensive guide for land use decisions necessary for transforming the area into a vibrant regional center close to major employers, the dynamic Tanasbourne Town Center, and regional transportation including Highway 26 and the Westside Light Rail. The complete, urban community is envisioned to be a regional landmark and a model of urban sustainability.

2005

2010

1980 - 1995



1995 Metro adopts 2040 Growth Concept

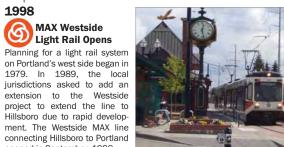
1996

1996

1998

The Metro 2040 Growth Concept was adopted in the Region 2040 planning and public involvement process in December 1995. The Growth Concept defines the form of regional growth and development for the Portland metropolitan region. The concept is intended to provide long-term management of the region.

1997



1999 | 2000 | 2001 | 2002 | 2003 | 2004



Metro adopts Regional High-Capacity Transit System Plan

2010

2009

On July 9, 2009 the Metro Council adopted the High Capacity Transit System Plan. The Plan identifies 16 potential high capacity transit corridors in four regional priority tiers, framework for future system expansion prioritization and proposed amendments to the Regional Transportation Plan. The 30-year Plan will guide investments in light rail commuter rail, bus rapid transit and rapid streetcar in the Portland metropolitan region





TRIMET

VISION



Area Planning Timeline

Create a vibrant, regional activity center enlivened with highquality pedestrian and environmental amenities, taking advantage of the region's light rail system.



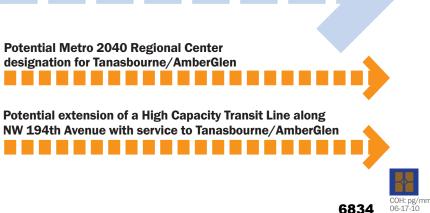
STEPS

2010 Tanasbourne I AmberGlen Regional-Center Designation

2010 Establish stakeholder Memorandums of Understanding

- 2010/11 Adopt zoning, design and sustainability standards & incentives
- 2010/11 Establish public funding mechanisms and potential urban renewal district
 - 2011/12 Initiate Multijurisdictional Interchange Refinement Plan
 - 2011/12 Develop activity center catalyst project

2011/12 Tanasbourne Plan Area Update



TANASBOURNE | AMBERGLEN

FOCUS I Housing, Shopping and Employment



STATE OF THE CENTER:

Tanasbourne has evolved into a regional-scale, housing, retail and employment center close to regional and transportation employers facilities



State of the Centers Report

	anasbourne Town Center	Regio Center A
Net Area	469	419
People/net acre	24	8
Dwelling Units/net acre	e 8	3
ULI businesses April 2010 Update, City of Hillsbor	97*	84



Estimated Development Capacity

Proposed Tanasbourne/ AmberGlen Regional Center		
ed		

THE ASPIRATION:

Create a vibrant, regional activity center enlivened with high-quality pedestrian and environmental amenities, taking advantage of the region's light rail system

Tanasbourne/AmberGlen is an ideal location for more intensive mixed-use development close to major employers, Tanasbourne retail centers, and regional transportation facilities including the Westside Light Rail line and Highway 26.

GUIDING PRINCIPLES

- **Urban/Green.** Mixed-use development sites are organized around a signature central park, natural corridors, habitat areas and developed open spaces. This urban green framework provides recreation amenities, enhances ecological functions, and fosters a strong connection to nature in the heart of an urban neighborhood.
- Connectivity. Existing streets are incorporated into an urban grid to support walking, bicycling, and transit use while accomodating vehicles. In the envisioned urban mixed-use environment, a high proportion of trips people make are naturally by foot because home, work, shopping, recreation and transit can be conveniently made by bike or on foot.
- Third Places. Places where people naturally gather are provided in parks, plazas and along streets at sidewalk-oriented, neighborhood-serving businesses.
- Market Flexibility. A phased implementation approach supports and leverages existing development until the time that redevelopment becomes economically viable.

- **Regional Landmark.** High-density residential and mixed-use development organized around a dramatic central park with access to shopping, transit and nature creates a landmark identity for a regional-scale district.
- Model Development. The district will be a showcase for transforming suburban development, and for creating a compelling alternative for people seeking an urban lifestyle based on sustainable development practices.
- Economic Vitality. Planned proximities to urban amenity businesses, open space and employment ensure that the price premiums required for high-density urban development forms are achievable.
- **Create Catalyst at Outset.** Implementation targets strategic public investments to leverage widespread and sustained private investment with the Community Activity Center and Central Park serving as initial development catalysts.



Approximately 30,000 people will live in this regional center, and 23,000 people will work









NEXT STEPS

2010 Tanasbourne | AmberGlen Regional-Center Designation

- 2010 Establish stakeholder Memorandums of Understanding
 - 2010/11 Adopt zoning, design and sustainability standards & incentives
 - 2010/11 Establish public funding mechanisms and potential urban renewal district
 - 2011/12 Initiate Multi-Jurisdictional Interchange Refinement Plan
 - 2011/12 Develop activity center catalyst project
 - 2011/12 Tanasbourne Plan Area Update

2009 2010

2035



Potential Metro 2040 Regional Center designation for Tanasbourne/AmberGlen



Potential extension of a High Capacity Transit Line along NW 194th Avenue with service to Tanasbourne/AmberGlen



Tanasbourne I AmberGlen

A Vibrant, Transit-Supported, Regional-Scale Center

City of Cornelius Meets Town Center Expectations

Accessible to Tens of Thousands of People

Currently, the City of Cornelius is approximately two square miles (1,160 acres) in size. The Town Center is 280 acres in the 'center of town' accessible on foot to the 11,000 residents and 350 businesses of Cornelius.

Baseline and Adair Streets (State Highway 8) in Cornelius are the main east/west arterial and main street through the Town Center. This arterial averages approximately 40,000 vehicle trips a day between the 10th Avenue/Cornelius-Schefflin and 20th Avenue/Susbauer north/south county arterials.

A 'Retail Analysis & Business Development Program' was completed in 2003 with a grant from the Oregon Economic & Community Development Department. This analysis determined that within a five-mile business market radius of Cornelius' center there is a customer base of approximately 79,000 people.

Johnson Reid conducted An Economic Analysis and Long-term Urban Land Use Needs Assessment in 2009 which confirmed that market demand for economic and residential growth in Cornelius was above the regional average rate and that the business market reach was many tens of thousands of people.

Description of Center Density and Amenities

There are approximately 110 businesses and 2335 residents located within the 280 acre Town Center boundary. The following public and private investments generate activity in the center of Cornelius:

- City Hall, Fire & Police Facilities, Public Library, Post Office, Public School and two Public Parks,
- ✓ Central Cultural, the largest Hispanic community center in the region, and Virginia Garcia Medical Clinic serving County farm workers and the poor,
- ✓ Nine churches and over 55 publicly subsidized housing units are within the Town Center boundaries,
- ✓ Chamber of Commerce and Visitors' Center
- ✓ Private business amenities (Metro term) include Grande Foods, the largest Hispanic food market in Oregon, 3 banks, 3 medical offices, 5 small grocery markets, 2 bakeries, 2 taverns, 2 sports bars, 3 video stores, 4 clothing stores, 5 coffee shops, 4 delis, 5 fast food, multiplex cinema, 3 full service restaurants, two fitness gyms, 3 cell phone outlets, 6 hair salons, an internet café, multiplex cinema, print shop, decorations, dry cleaner, florist businesses, and music, book and wine sales in Fred Meyer and Grande Plaza.

 Multi-modal transportation includes a state highway main street with almost 40,000 vehicles per day, one of the busiest public bus lines in the region, bike lanes, sidewalks and shared parking and bike racks,

Mixed Use Zoning that Encourages Walking and Biking

Current zoning allows an average density of 26 residents per acre and 46 jobs per commercial acre. In total, there is capacity for an estimated 45 people (employees + residents) per acre within the Town Center area.

Almost all of the Center area is currently zoned for a mix of uses and includes specific districts that provide for unique mixes of use. The Town Center includes the following designations and zoning districts, listed from the center out:

- 1. Main Street Retail, MSR Intensive Commercial Use, with incentives for upper story housing
- 2. Main Street Civic, MSC Primary Civic/Institutional Uses
- 3. Main Street Mixed Use, MSM Primary Mixed Uses (Commercial/Multi-Family Residential)
- 4. Main Street General Employment, MSG- Primary Mixed Uses (Commercial/Industrial)
- 5. Multi-Family, A-2; Single-Family, R-7- (incrementally being up-zoned)
- 6. Highway Commercial, C-2 Primary Commercial Use
- 7. General Industrial, M-1 Primary Industrial Use

Current pedestrian pathway use and improvements show Town Center level activity and connection. Example evidence of this is the score of over 80 "Very Walkable" on Google's America's Walk Score site.

Strategy of Actions and Investments to Enhance the Center.

- 1. \$22 m. Funding of Main Street Public Infrastructure Improvements from County, State, Federal Grants to encourage private development - 2000–10
- 2. Main Street Plan Revision and Design Overlay for Higher Densities and Pedestrian-Oriented Development - 2001
- 3. 35 Economic Development Strategies and Reinvigorated Chamber of Commerce – 2002
- 4. OECDD funded Retail & Business Market Analysis 2003
- 5. OECDD funded Community Center & Library Facilities Plan 2004
- 6. Transportation Systems Plan & Capital Improvement Program, including Bike & Pedestrian Pathways and Light Rail Transit - 2005
- 7. City Street Light Fee, Construction Excise Tax, and Gas Tax adopted to pay for pedestrian friendly street improvements and match grants 2006-2009

- 8. Construction of pedestrian-oriented frontage improvements, with the help of property owner ROW donations, including 8-10 ft. sidewalks with benches and bike-rakes, crosswalks, bump-outs, street lights, on-street parking and signals - 2007-2010
- 9. Establishment of Economic Development Commission and Enterprise Zone for incentive based development
- 10. City Construction Excise Tax Incentive for Higher Density Development and Expansion of Pedestrian-friendly Design in Town Center
- 11. Urban Reserves and UGB expansion for economic development within 10 blocks of the Town Center Pending 2010

Public Transit Service

Tri-Met Bus Route # 57 is one of the busiest in the region, with weekday ridership at 1220 passengers in 2003 along Adair and Baseline; Cornelius' significant transit dependent population and county-wide service centers for Hispanics make the bus stops in this Town Center the busiest on the line.

The underused rail line that crosses east/west the north half of the Town Center is owned by the Oregon Department of Transportation. Its east terminus is at the Hatfield Station in Hillsboro, the current last stop of Westside MAX. Future extension of the MAX Light-Rail line through Cornelius to Pacific University will be along this existing right-of-way.

Multi-modal Street System Plan that meets Regional Transportation Plan Connectivity Standards

Cornelius adopted a Transportation System Plan in 2005 as part of its State Periodic Review Work Program. This plan is in compliance with Metro's Regional Transportation Plan and promotes a system of multi-modal transportation improvements for pedestrians, bicycles, public transit, motor vehicles and system management.

In 2009, Cornelius adopted a new Parks Master Plan that includes incentives, guidance and coordination of trails and paths for pedestrian use.

Additional Considerations

How would a center change detract from or support other nearby centers to serve as the center of urban life and market area?

The Cornelius Town Center does not detract from the City of Forest Grove's Town Center or the City of Hillsboro's Regional Center. Forest Grove's Town Center is supported by its downtown business core, Pacific University and the Highway 47 corridor (north/south). Hillsboro's Regional Center is supported by the Washington County and Hillsboro government center, the light rail corridor and its employment core.

The Cornelius Town Center serves as the urban focal point for its residents, businesses and a wider market drawn to its unique cultural flavor, services, resources, pace and sounds of life. Our base for support does not conflict with or detract from our neighbors existing centers. The Cornelius Center promises to add to the diversity of sustainable urban living in this region.

Are there multiple regional and town centers located within your jurisdiction, and how will you focus development efforts among them?

This is the City of Cornelius' one and only Urban Center. Designation of this Town Center is recognition that the area of Cornelius' Main Street District actually operates at the level of a Town Center now and is growing in density and market and social influence day by day.

Recognizing that zoning alone will not achieve the kind of vibrant and active centers envisioned by the 2040 Growth Concept, describe your jurisdiction's plans for promoting development through partnerships, incentives, investments and other actions.

Cornelius supports anchors of activity in each of the four directions that will frame and attract people to its Town Center. A new greener version of a Walmart supercenter just west of the Town Center joins the existing Fred Meyer supercenter just east of the Town Center. A large new industrial site is planned just north of the Center along Council Creek and a large sub-regional park is envisioned to the south along the Tualatin River next to a proposed high school. Partnerships in place to promote Cornelius Town Center development include:

- 1. Cornelius & Forest Grove Enterprise Zone
- 2. Active partnerships with private business organizations, including the Chamber of Commerce and Westside Economic Alliance
- 3. Business Oregon (OECDD) is partnering with Cornelius to develop a shovelready industrial site for international marketing
- 4. Comite' de Cornelius: Una Vision para una Comunidad Accesible
- 5. Cornelius, Forest Grove, Pacific University, P & W Railroad and Hillsboro Light rail extension committee
- 6. Council Creek Regional Trail Coordinating Committee (Cornelius, Forest Grove, Banks, Hillsboro, Washington County)

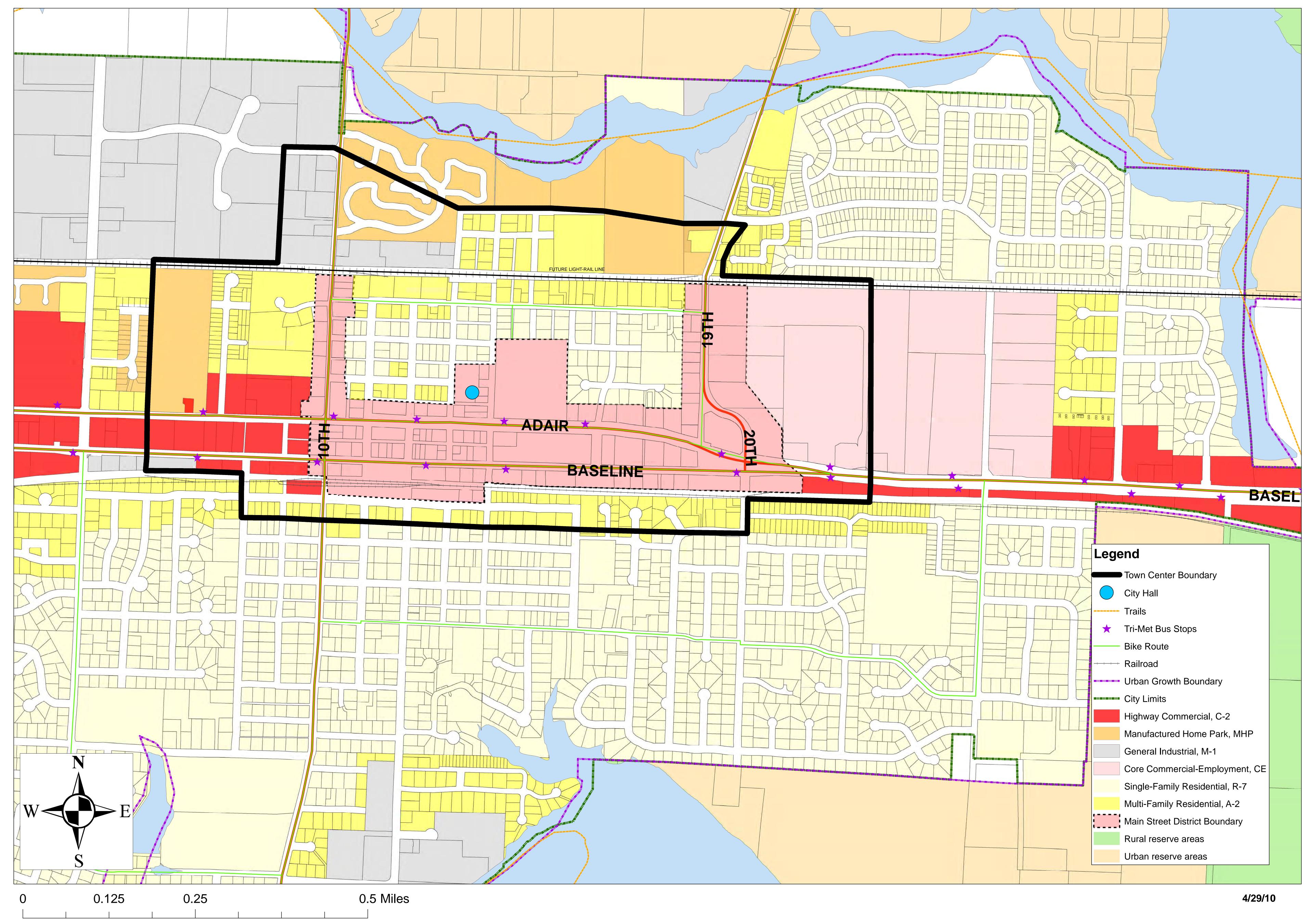
- 7. CWS IGA sanitary sewer and storm water management partnership to plan and manage future growth and capacity for service
- Federal MTIP and Stimulus Funding with Local Match to construct pedestrian-oriented frontage improvements for 10 blocks of Baseline & Adair Streets that include 8-10 wide sidewalks, crosswalk bump-outs, street lights, street trees & furniture and on-street parking
- 9. Partnership with private property owners who donated right-of-way to assist with construction of public improvements
- 10. Active Economic Development, Parks, Planning, and Public Works Advisory Commission that promote sustainable urban development
- 11. Partners for Sustainable Washington County Community (PSWCC)
- 12. Constructive relationships with not-for-profit organizations, schools, business associations, neighborhood organizations, and other organizations, e.g., 3 partnership events hosted in our Town Center in a month: El Dia de Los Ninos (3,000 kids), a First Source Agreement with Wal-Mart, a Forum on Climate Change Impacts on the Lower Willamette Sub-basin

What kind of market analysis has your jurisdiction completed that indicates that development you plan will support the level of activity you envision for your center?

We submit that the center of Cornelius acts and has acted as a Town Center for some time. In 2002, an OECDD funded Retail Analysis & Business Development Program showed significant and growing demand within a 5 mile radius / 70,000 people market area. In 2009, a Johnson Reid Economic Analysis & Long Term Urban Land Needs Assessment confirmed significant unmet and future demand for business activity and development.

What the professional analyses do not show is a sudden market demand for 4-8 floor densities, but rather a gradual market intensity in centers that follows public incentives, private investment, increased values, public transit and overall improvement of a community's health, attractiveness and demand.

RM 5/10/10



City of Cornelius Town Center Area **Existing Transportation & Zoning**

RESOLUTION No. 36805 As Amended

Direct the Bureau of Planning and Sustainability to develop a legislative proposal for annexation of West Hayden Island to the City with the intent to protect at least 500 acres as open space, and identify no more than 300 acres for future deep water marine terminal development (Resolution)

- WHEREAS, West Hayden Island (WHI) is located on the south shore of the Columbia River approximately nine miles north of downtown Portland and includes approximately 814 acres of land (measured landward of the ordinary high water mark, 15' NGVD) abutting approximately 240 acres of shallow water habitat; and
- WHEREAS, WHI is located within Multnomah County outside of the City boundary and is zoned by Multnomah County as Multiple Use Forest 19 with a Significant Environmental Concern overlay zone; and
- WHEREAS, most of WHI, above the ordinary high water line, is owned by the Port of Portland and is bisected by several utility corridor rights of way; and
- WHEREAS, WHI contains approximately 165 acres of existing development, including a sewer treatment outfall facility, BPA, PPL, and PGE utility corridors, a Port of Portland dredge material placement site, and several Division of State Lands leases for barge and log staging; and
- WHEREAS, WHI was brought into the Metro Urban Growth Boundary in 1983 to "satisfy a long term regional need for water-dependent, deep water marine terminal and industrial facilities." (Metro Ordinance No. 83-151); and
- WHEREAS, WHI was designated by Metro in 2004 as a Regionally Significant Industrial Area, an area "with site characteristics that are relatively rare in the region that render them especially suitable for industrial use" (Metro Ordinance 04-104B; MC 3.07.130); and
- WHEREAS, Metro has completed a draft Urban Growth Report: 2009-2030 Employment and Residential, January 2010 that assumes approximately 380 acres on WHI is available for large lot future industrial development; and
- WHEREAS, the City has completed a draft Economic Opportunities Analysis that indicates by 2035, the expected demand for industrial land in the City will exceed the supply by approximately 600 acres for the mid-range employment forecast; and
- WHEREAS, in 2005, Metro adopted the "Nature in the Neighborhoods" program as a regional approach to meeting the requirements of Statewide Land Use Goal 5; and
- WHEREAS, because WHI had both high riparian habitat values (Class I Riparian Habitat) and high development value, Metro designated WHI as a moderate Habitat

Page 1 of 7

Conservation Area and required that the City develop a District Plan for WHI in cooperation with the owner, the Port of Portland, to establish site-specific habitat conservation measures that protect natural resources and mitigate the environmental impacts of industrial development (Metro Code § 307.1330.B.4.b); and

WHEREAS, anticipating eventual annexation of WHI, since 1996 the City of Portland has provided planning and zoning services to West Hayden Island through an Intergovernmental Agreement with Multnomah County (Ordinance No. 170585); and

- WHEREAS, the City and the Port of Portland entered into an agreement (IGA) on May 29, 2009, to prepare a long-term vision for West Hayden Island, which included establishment of a Community Working Group (CWG) (Ordinances No. 182856 and No. 183884); and
- WHEREAS, the Mayor charged the CWG "to advise City Council on how marine industrial, habitat, and recreational uses might be reconciled on WHI; and, if the CWG determines that a mix of uses is possible on WHI, to recommend a preferred concept plan" (CWG Charter); and
- WHEREAS, the Bureau of Planning and Sustainability and Bureau of Environmental Services have worked with a consultant (ENTRIX, Inc.) to prepare several Foundation Studies, and supporting technical memorandums, outlining relevant economic and environmental factors for the Council's consideration; and
- WHEREAS, the Economic Foundation Studies found that water-dependent industries are linked to other industries in the harbor and elsewhere throughout the metro region; and
- WHEREAS, the Economic Foundation Studies found that cargo and manufacturing activities dependent on waterborne transportation contribute significantly to the metro region's economy; and
- WHEREAS, the Economic Foundation Studies found that marine-related economic activity generates approximately 20,000 direct, indirect, and induced jobs and \$1.4 billion in income, while economic activity in the overall harbor area may support approximately 100,000 direct, indirect, and induced jobs and \$3.5 billion in regional income annually; and
- WHEREAS, the Economic Foundation Studies found that the most recent and conservative forecasts estimate marine cargo growth rates varying from 0.2 percent to 3.7 percent annually (2007-2040); and
- WHEREAS, the Economic Foundation Studies found that ship size is increasing for most cargo types, resulting in larger desired berth lengths and deeper river depth; and

Page 2 of 7

- WHEREAS, the Economic Foundation Studies found that the trend towards larger trains for grain and international/national dry bulk cargoes means that larger sites (100+ acres) are expected to be necessary for future competitiveness and many of Portland's existing marine facilities do not have these characteristics; and
- WHEREAS, the Economic Foundation Studies found that to capture economic growth opportunities in marine-industrial cargo, Portland will need to have large parcels for marine industrial growth; and
- WHEREAS, the Economic Foundation Studies found that without larger development-ready sites, it is expected that Portland would lose opportunities to expand marine-related economic activity and would forfeit a portion of the associated jobs and income; and
- WHEREAS, preliminary estimates indicate that a 300 acre deep water marine terminal on WHI would create over 1,000 jobs in the region (including on-terminal jobs, as well as related and induced jobs that directly serve the terminal), generating over and generate up to \$20 million in additional tax revenue for the state; and
- WHEREAS, WHI is uniquely located close to many significant transportation facilities, including a deep water 43-foot federally maintained navigation channel at the confluence of the Willamette and Columbia Rivers, rail lines, and Interstate 5; and
- WHEREAS, the Economic Foundation Studies found that the economic value of WHI is increased by proximity to other deep water marine terminal infrastructure in the Portland/Vancouver Harbor; and
- WHEREAS, the Environmental Foundation Studies found that WHI provides high quality habitat for a diversity of wildlife, in a unique location at the Columbia River/Willamette River confluence; and
- WHEREAS, the Environmental Foundation Studies found that the value of the habitat on WHI is increased by its size, diversity of habitats, proximity to other natural areas, and location at the confluence of the Willamette and Columbia Rivers; and
- WHEREAS, the Environmental Foundation Studies found that WHI includes mature cottonwood ash stands, wetlands, grasslands, and 5.8 miles of critical habitat shoreline for threatened and endangered salmonid species; and
- WHEREAS, the Environmental Foundation Studies found that in larger rivers such as the Columbia, that serve as migratory corridors for salmon, the continuity of habitats and presence of shallow water along the shoreline is very important; and
- WHEREAS, the Environmental Foundation Studies found that WHI is a large undeveloped tract amidst a fragmented urban landscape that provides nesting and stopover opportunities for migratory birds using the Pacific Flyway; and

Page 3 of 7

- WHEREAS, the Environmental Foundation Studies found that habitat patch size, habitat diversity, and disturbance from human activity are the key limiting factors for wildlife; and
- WHEREAS, the Environmental Foundation Studies found that, given its size and unique location, WHI environmental resources cannot readily be replaced through mitigation; and
- WHEREAS, the Environmental Foundation Studies found that, in general, the quality of habitat on WHI is due to the large size of the natural area, the diversity of vegetation, and the connectivity to water; and
- WHEREAS, the Environmental Foundation Studies found that total ecosystem service benefits of WHI under current conditions are estimated to be valued (conservatively) from \$613,000 to \$4.7 million annually, with the majority of that value attributed to shallow water habitat; and
- WHEREAS, the Environmental Foundation Studies found that there is opportunity on WHI for ecosystem services gains through restoration activities such as increasing off channel habitat connections, revegetation of forest and grassland areas, and increasing or enhancing wetlands; and
- WHEREAS, the Hayden Island Community Plan found deficiencies in recreation for area residents, and portions of WHI are well suited to provide nature-based recreation and stewardship activities for Hayden Island residents and the larger Portland community; and
- WHEREAS, the CWG issued its Report to the City Council dated July 29, 2010; and
- WHEREAS, the CWG Report indicates that the CWG was unable to reach a consensus (requiring 75% approval under the CWG's procedures) on a recommendation to the City Council; and
- WHEREAS, eight of the CWG members agreed that it was possible to reconcile a mix of meaningful Port development and habitat values, six members voted that it was not possible, one member abstained, and one member was not present; and
- WHEREAS, the CWG Report outlined points of agreement, and articulated a set of evaluation principles to guide further planning; and
- WHEREAS, the City and the Port agreed in the IGA that "the City Council, through resolution in July 2010, will direct staff on whether to continue planning for a mix of land uses on West Hayden Island" (IGA, Sect. 1).

NOW, THEREFORE, BE IT RESOLVED:

1. The City Council directs the Bureau of Planning and Sustainability, in coordination with

Page 4 of 7

other City agencies, to take the next steps toward addressing the future of West Hayden Island, including the following:

- a. Develop a legislative proposal for annexation of WHI to the City, and bring that draft proposal to the Council for consideration by December 2011;
- b. The legislative proposal should include Comprehensive Plan and zoning designations, and Plan District regulations;
- c. The proposal should include documentation of compliance with state Goal 5 and Metro Title 13, including an ESEE Analysis, and a process to determine appropriate mitigation requirements for future development impacts to significant natural resources;
- d. The proposal should include an analysis of the infrastructure needs and a cost/benefit analysis to the public associated with those needs after annexation, and an analysis of the financial tools available to facilitate infrastructure development;
- e. The proposal should include a thorough analysis/explanation of existing marine industrial land supply, marine industrial needs in the future and the feasibility of consolidation and/or expansion of existing sites to meet those needs.
- f. Develop alternatives for how natural resource lands could be managed over the long term, including proposals for long term land ownership, and strategies to pay for land management activities;
- g. Include the industrial lands immediately east of WHI in the study area, to determine how the future use of those lands will relate to the use of WHI;
- h. Develop an access plan to serve the existing development, a 300-acre deep water marine terminal site, and anticipated nature-based recreation and habitat management areas;
- i. Supplement the recently completed Foundation Studies with an update of the cargo forecasts, additional analysis of the expected cost/benefits to the City, analysis of operational efficiencies that allow more compact deep water marine terminal facilities, and an evaluation of opportunities for increased coordination with the Port of Vancouver;
- j. Develop a public involvement plan to keep the public, regional partners, and residents of Hayden Island informed and meaningfully involved. Mayor Adams will evaluate the continued role, structure, and membership of the CWG, by September 1, 2010; and
- k. If necessary, bring amendments to the City/Port IGA, consistent with this resolution, to Council by September 15, 2010.

Page 5 of 7

BE IT FURTHER RESOLVED, The City Council intends that the following parameters should guide development of the legislative proposal:

- a. The evaluation principles developed by the CWG should serve as core values to inform the proposal;
- b. The primary feature of the proposal should be permanent protection and enhancement of at least 500 acres as open space, to be managed primarily for the benefit of the regional ecosystem;
- c. The proposal should also include zoning no more than 300 acres of land in an industrial designation for future deep water marine terminal development. The deep water marine terminal footprint should be located, to the extent feasible, over the existing dredge disposal site area. All development associated with Port Marine Terminal Facilities including but not limited to the terminal area, docks, railroad tracks, access roads, bridges and multi-use utility corridors must be included within the 300 acre footprint. The terminal should be east of the north/south PPL/PGE powerline easement, north of the east/west PGE powerline easement, and west of the City of Portland's sewer outfall corridor;
- d. The existing utility corridors, which occupy approximately 55 acres, should remain and continue to serve multiple purposes. To the extent compatible with the existing utilities, these areas should be considered for open space use, and be managed for natural resource benefits, and may contain multiple use access roads, trailheads, and maintenance roads;
- e. Any docks should be designed to avoid shallow water impacts. The proposal should not include a vertical sea wall or similar structure. The proposal will include a report on ESA, CWA, EPA (Strategic Plan—Columbia River Watershed) and the State's Estuary Partnership Management Plan along with FEMA requirements and how they may or may not be met.

The proposal should include allowances for operationally viable rail access, sufficient to serve a7,500 to 10,000-foot-long unit train;

f.

g.

- Nature based recreational uses should be evaluated in more detail. Any significant recreational structures or development footprints should be located primarily at the eastern edge of the site, and should minimize impacts on the highest value habitat areas. Within the 500 acres of open space, low impact recreational facilities may be considered as a means to direct and manage human access in ways that support habitat objectives. Options for placing more active recreational facilities east of the railroad bridge should be considered;
- h. Traffic impacts should be examined in light of the most up-to-date Columbia Crossing design options. Access plans should be designed to avoid and minimize any adverse impacts on East Hayden Island residents. The need for a dedicated

Page 6 of 7

West Hayden Island access bridge should be investigated as to public cost/benefits and, if needed and determined to be feasible, integrated into planning for the Columbia Crossing project;

- i. The Plan District should incorporate and build on information from the Local Impacts report prepared by the Bureau of Planning and Sustainability. The plan should consider air quality impacts (dust and emissions), noise, light and traffic impacts; and
- j. The Plan District proposal should include a framework for consideration of mitigation actions associated with future development of less than 300 acres, developed in coordination with federal and state agencies.
- k. The proposal should include analysis of options for restoration and long-term care of the proposed natural areas, including models for financing both. This analysis includes but is not limited to, ownership of the natural area, remediation and mitigation opportunities, and the creation of an endowment for operations and maintenance of the land.
- BE IT FURTHER RESOLVED, this resolution sets forth the City Council's preliminary intentions and interim directions to the Bureau of Planning and Sustainability, based on the information available at this time, and nothing in this resolution constitutes a final decision concerning any land use planning action with respect to West Hayden Island. The City Council intends that any land use planning actions for West Hayden Island will be adopted in the future as required by the statewide planning goals, state law, the City's comprehensive plan, and the City's zoning code and may include the adoption of an annexation ordinance, zoning designations and a Plan District.

Adopted by the Council: JUL 29 2010

Mayor Sam Adams Prepared by: Eric Engstrom Date Prepared: July 22, 2010

LaV	onne Griffin-Va	lade
	tor of the City of Po	
Ву	Juran	Taran

Deputy

Page 7 of 7

1101 -

36805

Agenda No. RESOLUTION NO. Title

As Amended

Direct the Bureau of Planning and Sustainability to develop a legislative proposal for annexation of West Hayden Island to the City with the intent to protect at least 500 acres as open space, and identify no more than 300 acres for future marine terminal development. (Resolution)

INTRODUCED BY Commissioner/Auditor: Adams	CLERK USE: DATE FILEDJUL 2 3 2010
COMMISSIONER APPROVAL Mayor—Finance and Administration Adams	LaVonne Griffin-Valade Auditor of the City of Portland
Position 1/Utilities - Fritz Position 2/Works - Fish Position 3/Affairs - Saltzman	By:
Position 4/Safety - Leonard BUREAU APPROVAL	ACTION TAKEN:
Bureau: Planning & Sustainability Bureau Head: Susan Anderson SALMA AMALGA	
Prepared by: Eric Engstrom Date Prepared:July 21, 2010 Financial Impact Statement	
Completed Amends Budget	
Portland Policy Document If "Yes" requires City Policy paragraph stated in document. Yes No	
Council Meeting Date July 29, 2010	
City Attorney Approval	

TIME CERTAIN Start time: 6:00p.m.

Total amount of time needed: <u>3 hrs</u> (for presentation, testimony and discussion)

AGENDA

2092

CONSENT

FOUR-FIFTHS AGENDA	COMMISSIONERS VOTED AS FOLLOWS:		
· ·		YEAS	NAYŞ
1. Fritz	1. Fritz		
2. Físh	2. Fish		
3. Saltzman	3. Saltzman	$\overline{\mathbf{A}}$	
4. Leonard	4. Leonard	- Alline and a second	
Adams	Adams	\checkmark	

Commissioner Saltzman's amendment

1101	Direct the Bureau of Planning and Sustainability to develop a legislative proposal for annexation of West Hayden Island to the City with the intent to protect at least 500 acres as open space and identify no more than 300 acres for future marine terminal development (Resolution introduced by Mayor Adams)	
	Motion to accept amendments submitted by Commissioners Fritz and Fish: Moved by Commissioner Fish and seconded by Commissioner Fritz. (Y-4)	36805 AS AMENDED
	Motion to insert the word "deep water" before the words "marine terminal" throughout the resolution: Moved by Commissioner Saltzman and seconded by Mayor Adams. (Y-4)	
	(Y-4)	

Commissioner Fritz

Amendment to Resolution Agenda Item 1101;

July 29th, 2010 Time Certain 6:00 P.M. Hearing

Changes shown in Strikeout for Deletion/ Bold underline for Addition Comments describing the reason for the change are in the margin to the right.

NOTE: All other sections of original Resolution remain the same.

Title of Original Ordinance:

Directing the Bureau of Planning and Sustainability to develop a legislative proposal for annexation of West Hayden Island to the City with the intent to protect at least 500 acres as open space and identify no more than 300 acres for future marine terminal development (Resolution introduced by Mayor Adams)

WHEREAS, the Economic Foundation Studies found that even with considerable redevelopment and reconfiguration of existing sites in Portland Harbor, Portland will need to look to WHI to ensure large site availability for significant growth opportunities; and

NOW, THEREFORE, BE IT RESOLVED:

- 1. The City Council directs the Bureau of Planning and Sustainability, in coordination with other City agencies, to take the next steps toward addressing the future of West Hayden Island, including the following:
 - a. Develop a legislative proposal for annexation of WHI to the City, and bring that draft proposal to the Council for consideration by December 2011;
 - b. The legislative proposal should include Comprehensive Plan and zoning designations, and Plan District regulations;
 - c. The proposal should include documentation of compliance with state Goal 5 and Metro Title 13, including an ESEE Analysis, and a process to determine appropriate mitigation requirements for future development impacts to significant natural resources;
 - d. The proposal should include an analysis of the infrastructure <u>needs and a</u> costs/<u>benefit analysis to the public</u> associated with <u>those needs after</u> annexation, and an analysis of the financial tools available to facilitate infrastructure development;
 - e. The proposal should include a thorough analysis/explanation of existing marine industrial land supply, marine industrial needs in the future and the feasibility of consolidation and/or expansion of existing sites to meet those needs.
 - f. Develop alterative for how natural resource lands could be managed over the long term, including proposals for long term land ownership, and strategies to pay for land management activities;

Comment [t1]: On e of 42 findings located on page 3 of 7 of the original Ordinance. The new section c. below indicates that further analysis is needed before arriving at this conclusion.

Comment [t2]: Costs will be weighed against benefits as if annexation has occurred.

Comment [13]: While there has been some analysis in this regard additional work needs to be done to verify overall need in the City land base.

- g. Include the industrial lands immediately east of WHI in the study area, to determine how the future use of those lands will relate to the use of WHI:
- h. Develop an access plan to serve the existing development, a 300-acre marine terminal site, and anticipated nature-based recreation and habitat management areas;
- i. Supplement the recently completed Foundation Studies with an update of the cargo forecasts, additional analysis of the expected <u>cost/</u>benefits to the City, analysis of operational efficiencies that allow more compact marine terminal facilities, and an evaluation of opportunities for increased coordination with the Port of Vancouver;
- j. Develop a public involvement plan to keep the public, regional partners, and residents of Hayden Island informed and meaningfully involved. Mayor Adams will evaluate the continued role, structure, and membership of the CWG, by September 1,2010; and
- k. If necessary, bring amendments to the City/Port IGA, consistent with this resolution, to Council by September 15, 2010.

BE IT FURTHER RESOLVED, The City Council intends that the following parameters should guide development of the legislative proposal:

- a. The evaluation principles developed by the CWG should serve as core values to inform the proposal;
- b. The primary feature of the proposal should be permanent protection and enhancement of at least 500 acres as open space, to be managed primarily for the benefit of the regional ecosystem;
- c. The proposal should also include zoning no more than 300 acres of land in an industrial designation for future marine terminal development. The marine terminal footprint should be located, to the extent feasible, over the existing dredge disposal site <u>area</u>. footprint. All development associated with Port Marine Terminal Facilities including but not limited to the terminal area, docks, railroad tracks, access roads, bridges and multi-use utility corridors must be included within the <u>300 acre footprint</u>. The terminal should be east of the north/south PPL/PGE powerline easement, north of the east/west PGE powerline easement, and west of the City of Portland's sewer outfall corridor;

Comment [t4]: This statement effectively locks the development to a 300 acres maximum.

d. The existing utility corridors, which occupy approximately 55 acres, should remain and continue to serve multiple purposes. To the extent compatible with the existing utilities, these areas may **should** be considered for open space use, may and be

Comment [15]: Utilize a directive rather than permissive verbiage

managed for natural resource benefits, and may contain multiple use access roads, trailheads, and maintenance roads;

- e. Any docks should be designed to avoid (if possible), and (where avoidance is not possible) minimize shallow water impacts. The proposal should not include a vertical sea wall or similar structure. The proposal will include a report on ESA, CWA, EPA (Strategic Plan – Columbia River Watershed) and the State's Estuary Partnership Management Plan along with and FEMA requirements and how they may or may not be met.
- f. The proposal should include allowances for operationally viable rail access, sufficient to serve a 7, 500 to 10,000-foot-long unit train;
- g. Nature based recreational uses should be evaluated in more detail. Any significant recreational structures or development footprints should be located primarily at the eastern edge of the site, <u>and should</u> to minimize impacts on the highest value habitat areas. Within the 500 acres of open space, low impacts recreational facilities should <u>may</u> be considered as a means to direct and manage human access in ways that support habitat objectives. Options for placing more active recreational facilities east of the railroad bridge should be considered;
- h. Traffic impacts should be examined in light of the most up-to-date Columbia Crossing design options. Access plans should be designed to avoid and minimize any adverse impacts on East Hayden Island residents. The need for a dedicated West Hayden Island access bridge should be investigated <u>as to public cost/benefits</u> and, <u>if</u> <u>needed and determined to be</u> feasible, integrated into planning for the Columbia Crossing project;
- i. The Plan District should incorporate and build on information from the Local impacts report prepared by the Bureau of Planning and Sustainability. The plan should consider air quality impacts (dust and emissions), noise, light and traffic impacts; and
- j. The Plan District proposal should include a framework for consideration of mitigation actions associated with future development <u>of less than 300 acres</u>, developed in coordination with federal and state agencies.

BE IT FURTHER RESOLVED, this resolution sets forth the City Council's preliminary intentions and interim directions to the Bureau of Planning and Sustainability, based on the information available at this time, and nothing in this resolution constitutes a final decision concerning any land use planning action with respect to West Hayden Island. The City Council intends that any land use planning actions for West Hayden Island will be adopted in the future as required by the statewide planning goals, state law, the City's comprehensive plan, and the City's zoning code and may include the adoption of an annexation ordinance, zoning designations and a plan District.

Comment [t6]: This is intended to investigate the probable outcomes given existing regulatory requirements.

Comment [17]: Intended to tighten up language regarding costs/benefits how feasible this would be in the context of CRC

Comment [18]: Intended to clarify that mitigation may be needed for the designated "developing" portion of the island.

Amendment: Commissioner Fish

k. The proposal should include analysis of options for restoration and long-term care of the proposed natural areas, including models for financing both. This analysis includes, but is not limited to, ownership of the natural area, remediation and mitigation opportunities, and the creation of an endowment for operations and maintenance of the land.























COMMUNITY INVESTMENT STRATEGY

Building a sustainable, prosperous and equitable region

Recommendations from Metro's Chief Operating Officer

August 10, 2010



600 NE Grand Ave. Portland, OR 97232-2736 503-797-1700 503-797-1804 TDD 503-797-1797 fax

Metro | Making a great place

Last September, I issued a call to action for our region and today I am pleased to report the Metro Council and partners around the region have accomplished much of what we set out to do. Through a series of highly collaborative land use and transportation decisions described on page 7, we set a new course that will lead the way for our region to create innovative public-private partnerships to build the kinds of communities we want.

These important decisions prove our region knows how to work together to find pragmatic solutions to the challenges we face. We've protected almost 267,000 acres of rural lands from urban development, worked together to bring new green industry to the region, and agreed on visionary new investments to make the most of our transportation system. From creating family-wage jobs to building the world's greatest system of parks, trails and natural areas, the people, governments and organizations of our region increasingly seek to shatter institutional barriers with collaborative solutions.

Which brings me to today. It is investment – by both the public and private sectors – that converts a great plan into vibrant, safe and prosperous communities. The investments we've made together in everything from light rail lines and natural areas to new housing and industry built our economy and quality of life.

Unfortunately, making investments in critical public structures is more difficult than ever in an era of limited resources, growing environmental and economic challenges, and voter distrust of government. However, the results of doing nothing are not pretty – we'll spend more time in traffic, breathe more pollution, lose more farmland, and lose our competitive edge to other regions. We also will fail to pass along the civic legacy our parents and grandparents left for us.

That's why I'm recommending today that together we implement a **Community Investment Strategy** to fulfill the vision of the 2040 Growth Concept and realize the aspirations of communities throughout the region.

This strategy will:

- invest in safe, livable communities
- promote economic development and good jobs
- protect our natural areas
- reduce inefficiency, foster innovation and demand accountability.

To succeed we'll need to target our investments carefully, work collaboratively like never before, engage the public in new ways, and hold ourselves accountable for everything we do. Now more than ever, government must pave the way for innovation that will support private investments and bolster our middle class.

Because each of us bears responsibility for helping make our region a great place, I invite you to share your opinion about the ideas offered here and add your own ideas to the discussion. It is my hope that these proposals will spark a region-wide conversation that will help the Metro Council and public officials make the best long-term decisions for the future of our people and the communities they live in.

We look forward to hearing from you.

Muchael forder

The state has faced tough times before, but this crisis is a game changer ... the choices that lie ahead affect not only the state budget, but the kind of place Oregon will become.

The Oregonian, July 25, 2010





THE IMPERATIVE TO ACT

Making a great place

We love living in the Portland metropolitan area for so many reasons – our boundless innovative spirit, our distinctive communities, our passion for the outdoors and our easy connection to the rural and natural beauty that surrounds us.

This didn't just happen. We planned for it. And we made important choices and smart investments to bring our plans to life. More than a decade ago, by adopting the 2040 Growth Concept we set a course for this region to grow as a constellation of compact, vibrant communities that use land efficiently, maintain firm connections to the natural environment and promote strong local and regional economies.

And it worked. We've kept farms close to cities and nature close to home. Our practice of planning ahead, protecting farms and forests and investing in light rail, bike routes, trails and natural areas has become the model for growing regions across the country. It is no coincidence that we're home to companies as varied as Solar World, Intel, Oregon Iron Works, Bob's Red Mill, Nike and Keen who all recognize a good place for employees when they see it. And unlike so many areas of the country, we continue to entice young educated innovators seeking opportunities to create something fresh and new. We've grown famous for our collective creative spirit and a culture that supports new ideas.



The 2040 Growth Concept is the region's blueprint for the future, guiding growth and development based on a shared vision to create vibrant communities while protecting what we love about this place. The Metro Council will consider an updated 2040 Growth Concept map along with these recommendations. The new map includes the urban and rural reserves adopted in June 2010 and refinements requested by Happy Valley, Cornelius and Hillsboro. To view the proposed map, visit www.oregonmetro.gov/investment.

New challenges

However, implementation hasn't been easy, and having a great plan hasn't solved all of our problems. The challenges before us could widen the gap between the aspirations we have set for ourselves and the means we have to achieve them.

Consider:

We are failing to maintain the public structures that support our quality of life. The pipes, pavement, schools and parks our parents and grandparents built in the last century are in serious need of repair, but public investment in these and other tangible assets that make our communities livable has been declining nationally for decades. The flow of federal dollars that built so much of our region's public infrastructure has dwindled to a trickle or dried up completely, and state and local revenue sources are failing to keep pace with rising costs.

Neglecting our past investments harms our economy, safety and property values. Declining funding means that investments we have made in

our existing communities are deteriorating. Potholes, aging schools, dilapidated buildings, crumbling sewers and contaminated industrial sites waste public and private dollars, weaken neighborhoods, undermine our economy and degrade our environment and quality of life. We pay now in reduced livability, and we pay later in increased repair and rebuilding costs.

Public needs vary greatly across the region. Residential neighborhoods require sidewalks, parks and modern school facilities. In our industrial areas, freight access and cleanup of contaminated sites are among the most critical needs. Investment priorities in downtowns and commercial areas include street redesign, structured parking and transit improvements. This broad array of investment types underscores the need for varied and flexible sources of funding.

Federal investments in infrastructure

Represented as a percentage of the gross domestic product

3%

U.S. infrastructure spending from the 1950s to the 1970s

2%

U.S. infrastructure spending since the 1970s

9%

Infrastructure spending today in China

Public structures

People tend not to think about one critical ingredient to our traditional economic success. Sometimes referred to as "public structures," these are

systems or physical structures that we all own and that are created for the public good. Examples of public structures include roads and bridges, schools and community colleges, water and sewer systems, and police and fire services.

Maintaining and investing in public structures is one of the critical ways to promote our prosperity, and experts even say they are one of the biggest differences between us and Third World countries.



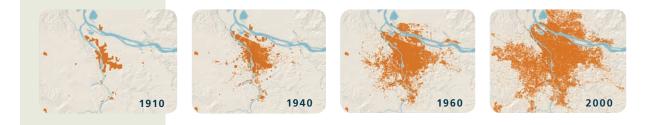
Cost-burdened households

throughout the region could more than double from 95,500 in 2005 to a projected 195,000 by 2030. **Fragmented governance and lack of coordination frustrate the rational delivery of public investments and services.** While the complex and interconnected issues we face as a region call for a 21st century model of government, many of our governance structures were created in the 19th century. The existing patchwork quilt of local governments and service districts does not always reflect natural community boundaries, or result in efficient public investment and service delivery.

The benefits and burdens of growth are not shared equitably among our citizens. Forecasts show the number of "cost burdened" households – renters spending more than 50 percent of their income on housing and transportation – could double during the next 20 years. Meanwhile, several recent studies reveal that communities of color are disproportionately experiencing childhood poverty, lack of educational access, low home ownership, lack of access to parks and nature and poor health. Such trends are not in keeping with our region's strongly shared values of diversity and equity.

In addition to declining infrastructure funding, megatrends like a growing, aging and increasingly diverse populace, economic globalization and climate change pose challenges of an entirely new scale.





We arrive at this crossroads at an inopportune moment. An emerging consensus among elected leaders about the need for decisive action to support the region's goals exists uneasily alongside popular attitudes about government that are as caustic as they have been in living memory. And the troubling currents of public opinion pale in comparison to the stark prospects of budget deficits and fiscal austerity as far as the eye can see.

But doing nothing is not an option; the challenges we face are tangible and unavoidable. If we lose our nerve, we will fail to realize the promise of our region as a place that can lead the way to a prosperous, sustainable and equitable future.

But doing nothing is not an option – the challenges we face are tangible and unavoidable.

The cost of doing nothing

In 2008, Metro evaluated how different investment choices would affect the region's future. The forecasts are a warning that we need to change course to address the big challenges ahead including demographic change, deteriorating infrastructure and decreasing resources. What we found was that staying the course in the face of the challenges ahead could lead by 2035 to:

More rural land used for development More than 11,000 acres of rural farms, forests and natural areas could be converted to urban uses.

Increased living costs Residents of the region could be paying almost 50 percent of their income on housing and transportation.

Loss of natural areas Opportunities to conserve a connected system of natural areas and recreation opportunities for people to enjoy with their families will be lost. A growing population will make existing natural areas more crowded.

More pollution Greenhouse gas emissions from vehicles traveling in our region could increase by 49 percent.¹

More congestion Our roadways could be 106 percent more congested during the evening commute.¹

Cost to business The cost of delay for moving freight on our roadways during the peak shipping period could increase by 582 percent.¹

¹ These data based on the 2035 Regional Transportation Plan federal priorities investment scenario



THE WAY FORWARD

Guided by our values

In 2008 regional leaders agreed on six desired outcomes for our communities and region. By embracing measurable outcomes, leaders shifted from talking about abstract concepts like "compact urban form" to focusing on things that really matter in our everyday lives. I'm recommending that the Metro Council adopt these desired outcomes into our plan to ensure our decisions are guided by a clear focus.

Desired regional outcomes Attributes of great communities

The six desired outcomes for the region endorsed by Metro Policy Advisory Committee and approved by Metro Council

Vibrant communities People live and work in vibrant communities where they can choose to walk for pleasure and to meet their everyday needs.

Economic prosperity Current and future residents benefit from the region's sustained economic competitiveness and prosperity.

Safe and reliable transportation People have safe and reliable transportation choices that enhance their quality of life.

Leadership on climate change The region is a leader in minimizing contributions to global warming.

Clean air and water Current and future generations enjoy clean air, clean water, and healthy ecosystems.

Equity The benefits and burdens of growth and change are distributed equitably.



Setting the stage

Recently, our ability to move beyond business as usual led to three landmark decisions:

- Urban Growth Report In December 2009, the Metro Council adopted an urban growth report that evaluated the capacity of the urban growth boundary to accommodate projected population and job growth. While complying with the requirements of state law, the report embodies a new approach to ensure we make the most of our communities as the region grows instead of arguing about abstract forecasts.
- **Regional Transportation Plan** In June of this year, Metro and its partners adopted an outcome-based Regional Transportation Plan prioritizing investments in existing roads, bridges, bike paths, sidewalks and transit to make it cleaner, faster, safer and easier to travel in our region for the next 25 years.
- Urban and rural reserves Also in June, elected leaders from Clackamas, Multnomah and Washington counties and Metro protected more than a quarter-million acres of rural farms, forests and natural areas from urban sprawl for the next half-century and identified the best lands for new homes and jobs to support great communities in the future.

These actions recognize a central imperative of our times, which is to do more with less. By emphasizing efficient use of our existing land, resources and dollars, we are living up to the public's expectation that we make the most of what we have. But we need to do more.

Willingness to act Tackling problems head-on

- Since 1985, the region built more than 52 miles of light rail lines that make it cleaner, faster, easier and cheaper to get around.
- Just two years ago, in the face of an economic calamity that threatened to plunge the nation into a full-fledged depression, voters invested more than \$500 million for capital improvements at valued community institutions such as Portland Community College, the Oregon Zoo, and the Tualatin Hills Parks and Recreation District.
- Voters twice approved bond measures totalling \$363 million to safeguard water quality, protect fish and wildlife habitat and ensure access to nature for future generations by purchasing natural areas over 10,000 acres so far.
- During the last year, thousands of people demonstrated their civic commitment to being part of the solution by sharing their views and getting involved in the region's major land use and transportation decisions.



Urban and rural reserves

50 years

Metro and Clackamas, Multnomah and Washington counties worked together to identify the best places for future growth in the region and the most important lands to protect from development for the next half century.

266,954 acres

Farms, forests and natural areas set aside as rural reserves

28,615 acres

Land best suited for future urban development designated as urban reserves

COMMUNITY INVESTMENT STRATEGY

A collaborative approach

To protect our quality of life, pave the way to innovation, create new jobs and protect farms, forests and natural areas, I recommend the region implement a Community Investment Strategy to fulfill the vision of the 2040 Growth Concept and realize the aspirations of communities throughout our region.

This effort will involve innovative policies and a new, more collaborative approach to regional decision-making, where regional and local government officials work more closely with the private sector, citizen-based organizations and the public to achieve mutually agreed-upon outcomes.

With this mindset, we can link previously separated efforts on jobs, parks, housing, equity, transportation, climate, growth management and more into a coordinated strategy allowing us to focus and prioritize our investments. Aligning these efforts makes sense not only as a

Community Investment Strategy: An integrated set of policies and investments designed to achieve the six desired regional outcomes.



way to develop investment priorities. In the real world, different categories of investment reinforce each other, adding up to more than the sum of their parts to create complete living communities.

As we collectively develop this Community Investment Strategy, we must endeavor to answer three critical – but very difficult – questions:

- What investments do we need to make? Which investments will make our communities more livable, prosperous, equitable and sustainable? What kinds of projects, in what places, will spur further investments or actions and attract the greatest market response?
- How will we pay for priority investments? What are the most appropriate existing and potential financial mechanisms to employ? What creative approaches can we use to lower costs and leverage better outcomes?
- Who will decide? What process will be used to prioritize and coordinate investments needed to achieve our shared vision?

How we get there

To rise to the enormous challenge these three seemingly simple questions pose, the region's leaders should draw from the lessons of our past accomplishments. In implementing a comprehensive strategy, several characteristics will be critical for its ultimate success:

Collaboration Above all, we will continue to pursue the approach exemplified in recent regional decisions by fostering partnership and alignment between different levels of government and between the public and private sectors.



Efficiency We will identify the most cost-effective and land-efficient ways of supporting the creation of great communities. By managing demand for public services, streamlining bureaucratic processes, eliminating duplication of services, and planning to achieve multiple benefits from single projects, we will make the most of our existing and future public investments.

Focus We will carefully target the use of our financial resources and policy tools, making investment decisions that achieve the best economic, environmental and social return on public resources. While ensuring regional equity over time, we will focus resources on specific priority investments to generate maximum local and regional benefits.

Integration Our strategy will coordinate investments at every level of government, from federal to local, in support of the region's desired outcomes, and it will ensure that investments in various types of public structures reinforce and build upon each other to create complete communities.

Innovation We will seek fresh approaches to accomplishing our objectives in order to improve performance and save public and private dollars. This includes not just using innovative technologies, but also pursuing creative ways to break down institutional barriers and collaborate across jurisdictional boundaries.

Inclusion We will develop governance structures and decision-making processes that embrace the full range of voices that make up our region and address the needs of all members of our communities.

Laying a foundation for innovation

New products, new ideas and new industries drive a healthy economy. This region has a track record of economic wins built on private/public collaboration. Entrepreneurs innovate; government paves the way.

- Tax incentives encourage businesses to locate in particular places, creating jobs for local residents (e.g. SolarWorld, Intel and Solexant).
- Environmental protection spurs competition among companies to find better ways of doing things (e.g. hybrid cars, renewable energy and double-hulled barges).
- Public agencies are responsible for the basic necessities that enable businesses to operate and thrive: roads, water supply, electricity, sewers. When those systems work well, they are invisible yet crucial components of everyday life and a successful economy.

Working together

Many of my recommendations are addressed to the Metro Council and the Metropolitan Policy Advisory Committee. These policy recommendations

are aimed at focusing the funds we do have in places where they will do the most good. Metro should also continue to provide regional leadership in research, development and promotion of implementation tools, best practices, and financing strategies to assist local governments and the private sector.

Only by acting together with focus and determination will we succeed.

However, the Community Investment Strategy will require countless public and private actions and investments, large and small, in neighborhoods, downtowns, industrial areas and natural areas all across the region. Local government will always be on the front lines of implementation. The state also has a clear role to play and should take a leadership role in supporting the aspirations of our region's communities.

Lastly, home and office developers, banks, architects, and many other business leaders provide the vast majority of investment, and take on the financial risk, of building most of the homes, offices and industrial buildings that drive and support our economy.

That's why my recommendations are also addressed to local governments, to our state government and to the private sector. Only by acting together with focus and determination will we succeed.



Sparking private investment

Historic Downtown Gresham is evolving into an economic, historic, civic and cultural center through targeted public and private investment. Recent zoning code updates, created to address design and density issues, help spur private investment. Both Metro and the City of Gresham have made public investments in the

downtown area including the Performing Arts Plaza, The Crossings, 3rd Central, The Beranger and Central Point.

As the result of a 50-50 investment match from the City of Gresham and Metro in a ground floor retail space of the 3rd Central mixed-use development, a new natural foods store was able to occupy one of three retail-office spaces available. The continued investment of public dollars will help build market demand in downtown Gresham over the next 5 to 10 years.

I have divided my recommendations into four sections for clarity, but they will only work effectively when combined into a coordinated strategy to:

Invest in safe, livable communities The region should make the most of what we have with policy and investment actions that maintain and improve our existing communities and protect our urban growth boundary. We have limited dollars to invest and these resources should be used strategically to leverage past investments so we can build and maintain the thriving communities our growing population desires.

Promote economic development and good jobs The region should develop and maintain an inventory of shovel-ready industrial land and target investments to create jobs and attract new employers. This will require greater coordination of local, regional and state policy and investment actions to address readiness, including improving access, extending infrastructure, cleaning up polluted sites, and assembling land into larger lots.

Protect our natural areas Our region, long a leader in protecting our natural environment, should continue to prioritize maintenance, restoration, and expansion of our parks, trails and natural areas. At the same time, as a region, we must now begin to understand the implications of climate change and incorporate actions to reduce greenhouse gas emissions into our policy and investment decisions.

Reduce inefficiency, foster innovation and demand accountability $\ensuremath{\mathbb{W}e}$

need to "walk our talk" by connecting our region's policy and investment actions directly to the outcomes we seek to achieve, measuring our performance, and holding ourselves accountable to achieving those outcomes. When we come up short, we need to learn from our mistakes, find innovative new solutions, break down jurisdictional boundaries and eliminate wasted effort and investments.

The case for investing in downtowns and main streets

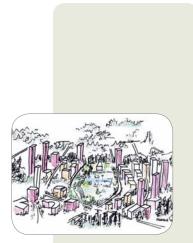
Recently, a distinguished, cross-sector group of experts on urban development and finance recommended methods to accelerate the development of downtowns and main streets during the next 10 to 20 years, including:

- establish stronger public-private collaboration
- develop diagnostic tools to focus public investment
- streamline and simplify public development processes
- create new mechanisms to finance urban infrastructure.









AmberGlen mixed-use development, Hillsboro

- transformation of suburban development
- creating intensive, mixed-use development
- achieving higher levels of density close to major employers
- providing high quality amenities and an urban, pedestrian environment
- supporting regional transportation infrastructure

Invest in safe, livable communities

Regional community investment actions

- Metro should retool regional policies and maps to support local aspirations and focus public investments in downtowns, on main streets and near transit to stimulate private investment. Specifically, Metro should:
 - Endorse the aspirations of Hillsboro, Happy Valley and Cornelius by approving the center designation changes they've requested, in partnership with a commitment from those communities to take complimentary policy and investment actions.
 - Make it easier to target investments and monitor performance in centers and corridors by adopting maps illustrating their boundaries.
 - Focus regional investments into places that have an adopted comprehensive action and investment plan designed to make the most of the area's potential.
- Metro should build on the work of the 2008 Regional Infrastructure Advisory Committee and convene regional leaders (public, private and non-profit) to identify critical investment gaps in public structures and services and to recommend how to fill those gaps, including ways to:
 - Make the most of existing development finance tools and identify new tools to support our communities.
 - Jump start private investment by focusing public investments and efforts on specific priority projects.

Collaborating across public agencies

College Station is a mixed-use student housing complex that grew out of an innovative partnership of Portland State University, Metro's Transit-Oriented Development Program, TriMet and a private development partner.

Public investments

- Construction of the adjacent MAX Green and Yellow lines
- Portland Streetcar extension less than a quarter mile away
- Gap financing provided by Metro
- Land provided by TriMet

Private investments

• \$80 million from developer American Campus Communities

Return on investments

- 16-story high rise with 120,000 square feet of residential space
- 982 beds for student housing
- 15,000 square feet of ground floor commercial space
- 1,337 bicycle parking spaces, no off-street parking



- Get the most out of our existing resources and eliminate waste by coordinating local, regional, state and federal investments, similar to what was accomplished in the recently-adopted Regional Transportation Plan.
- Metro should help communities and their elected officials examine whether current policies are pointed in the right direction by setting targets for housing and jobs in centers and corridors.
- Metro should define housing affordability as a combination of transportation and housing costs when making policy and investment decisions, supporting a broader view of housing affordability.
- Regional leaders should address equity issues head-on by working with community organizations to secure and implement a federal Sustainable Communities Initiative Planning Grant.
- Metro should adopt a plan with strategies to guide public investment in partnerships with the private sector and to ensure limited public resources generate maximum private investment and complement the region's investment in transit.
- Metro should target technical assistance to help local governments find innovative ways to realize their aspirations in downtowns and main streets.
- Metro should make urban growth boundary decisions that reinforce existing downtowns, main streets and employment areas, with the six desired outcomes in mind. The region should ask whether potential expansion areas have the right finance tools, governance support and market readiness in place to succeed when considering potential expansions.

Where do we draw the line?

Metro is responsible for ensuring there is enough land within the urban growth boundary to accommodate projected housing and job growth for the next 20 years. The current review is scheduled to be completed in December 2010. What we've found so far is there is enough land to accommodate the low end of our population forecast. Planning for more residents would mean expanding the UGB to include land for approximately 15,000 or more new dwelling units.

To provide the Metro Council with options, staff has analyzed a variety of possible UGB expansion areas with the six desired outcomes in mind. Depending on where in the range forecast the Metro Council plans, they may wish to consider a UGB expansion into one or more of the areas. Metro has asked local governments to submit any additional areas they wish to have considered for UGB expansion by Sept. 3. Any nominations and supporting information received will be part of our policy discussions this fall.



For detailed information about the proposed study areas, refer to the 2010 Growth Management Assessment and Appendix 8 on the Metro website.

www.oregonmetro. gov/investment







Based on the above, Metro should work proactively and collaboratively with local governments, special districts and citizens on concept planning of newly designated urban reserve areas. Concept plans will address governance, finance, land use, green infrastructure and natural resource issues to better inform future urban growth boundary decisions.

Local community investment actions

- Spark private investment in downtowns and main streets by taking actions to:
 - Identify targeted redevelopment areas and sites and partner with the private sector to seek development opportunities.
 - Stimulate investment by expanding the use of financial tools and incentives including improvement districts, differential system development charges, urban renewal and other tools, such as those described in Metro's Financial Incentive Toolkit.
 - Streamline development codes in targeted areas to facilitate development.
- Create attractive, sustainable and safe communities by updating building and design codes, as described in Metro's Innovative Design and Development Codes Toolkit and Integrating Habitats Design Showcase.
- Build and maintain sidewalks and bikeways that connect residents with schools, parks, transit, main streets and job centers, making travel safer, easier and faster.
- Build and maintain local parks, trails and natural areas to be responsive to residents' need for access to nature.

State community investment actions

- Reform outdated state policies, standards and regulations that impede the ability of local governments to achieve their aspirations. For example:
 - Recognize the importance of biking, walking and transit, and allow communities to develop to their full potential with an update of state mobility policies including the Transportation Planning Rule and Oregon Highway Plan.
 - Allow local communities most affected by state highways a greater role in managing them by developing and implementing a model for collaborative management or jurisdictional transfer of state-owned regional and district highways in our region.
 - Provide clear direction to encourage comparisons of the investments necessary to provide capacity inside and outside of the urban growth boundary. Urban growth boundary decisions should require a finding that urban services and municipal governance can be provided and development is likely to occur in UGB expansion areas.
 - Convene a conversation on the relationship among land use planning laws, fiscal tools (i.e., how we pay for services) and governance (how we deliver services through cities, counties and service districts), which often fail to work together to support our desired outcomes.

Provide local governments with a more robust set of development and redevelopment financing tools by removing existing statutory limitations on local revenue-raising authority.

Promote economic development and good jobs

Regional economic development actions

- Support the traded-sector economy by maintaining an adequate supply of large-lot industrial land by acting to:
 - elevate brownfield cleanup to a regional priority and target efforts on large lot industrial sites within the urban growth boundary
 - limit division of large industrial parcels
 - create a large-site inventory and a system to replenish this inventory when development occurs
 - strengthen protection of key traded-sector industrial sites by prohibiting new schools, places of assembly and parks and recreational facilities
 - with the conditions above, Metro should strategically add largesite industrial land to the urban growth boundary north of Hillsboro this year if land will supply lots larger than 50 acres.

Leveraging investments pays off in jobs

Troutdale Reynolds Industrial Park

Public investments

- Port of Portland purchased 700 acres of the site for \$17 million
- \$24 million from Oregon Department of Transportation for improvements at I-84 interchange
- \$11 million loan from state for public infrastructure
- \$100,000 grant from state for construction of Reynolds Trail, part of the 40-Mile Loop
- \$4 million in tax abatements through the Troutdale Enterprise Zone
- \$1 million for a five-year cleanup of lingering groundwater contamination
- \$14 million for local street improvements
- \$1 million in wetland mitigation

Private investments

 FedEx Ground purchased the site for about \$16.96 million to build a 425,000-squarefoot regional distribution center

Return on investments

- 700 jobs with up to 1,000 jobs at full build-out
- 350 acres redeveloped for industrial use, including the FedEx site





- Greenlight Greater Portland and the regional partners should collaborate with Clark County and Vancouver on a regional economic development action plan.
- Metro should convene regional leaders (public, private, non-profit) to define public actions that will spur job creation including steps to:
 - identify barriers to the development of employment and industrial areas
 - identify underutilized and new finance tools that support specific public investment needs like improved freight access to new and existing industrial areas
 - focus regional resources on locations with market potential to catalyze private investment in new job creation
 - coordinate local, regional, state and federal investments with local, state and federal actions to get the most out of our existing resources, as occurred with the Troutdale Reynolds Industrial Park (see page 15).
- Regional leaders should implement priority actions identified in the Regional Freight Plan to improve freight access in the region and accelerate our leadership in green development and clean technology by supporting implementation of the climate prosperity Greenprint developed by a collaborative public-private partnership.
- Make it easy for workers to get to jobs by ensuring that a range of transportation options – including transit, walking and biking – serve employment areas.

Local economic development actions



- Make the most of critical employment land by limiting lot division and prohibiting new schools, places of assembly and parks and recreational facilities in the most important industrial areas.
- Stimulate job growth by pursuing and expanding the use of existing finance tools, including improvement districts, urban renewal, and enterprise zones, to expand access to and readiness of employment and industrial areas.
- Adopt new approaches to industrial area design and operation of employment areas that will lead to more environmentally and economically sustainable infrastructure systems and the reuse of underutilized employment and industrial areas, as discussed in Metro's upcoming Community Investment Toolkit.

State economic development actions

- Create direct incentives for local governments to invest in job creation and economic development.
- Expand economic development finance tools available to local governments by removing existing statutory limitations on local revenue raising authority.

The Intertwine

The Intertwine is simultaneously a place, a coalition, a strategy and a way of life. It's the region's network of parks, trails and natural areas that provides opportunities for recreation, connection to nature, and active transportation like walking, running and biking. The name and identity for The Intertwine is the work of the



Intertwine Alliance, a collaboration of dozens of partners including private firms, nonprofit organizations and government agencies, including Metro. As the alliance continues to gain momentum, its partners are making increasingly durable investments in planning, protecting and promoting The Intertwine to users and supporters both inside and out of our region.

- Increase funding and use of transportation system management tools to support regional economic development opportunities.
- Increase the importance of economic activity, community building and equity as factors in allocating state transportation funding across the state.
- Test innovative transportation pricing strategies that reduce freight congestion and improve mobility on the region's freight network.

Protect our natural areas

Regional natural areas protection actions

- Build on collaborative regional efforts to promote and build the Intertwine and adequately maintain regional parks, trails and natural areas to protect the public's investment.
- Prioritize acquisition and restoration efforts through creation of a regional conservation strategy.

Climate Smart Communities

Climate change may be the defining challenge for the 21st century. National studies continue to show that a compact urban form coupled with expanded travel choices is key to reducing greenhouse gas



emissions. Land use and transportation policymakers must work together to provide leadership and commit to strategies that enhance this integration at the local, regional and state levels. These strategies are recommended by the 2035 Regional Transportation Plan and will be further examined though the region's Climate Smart Communities project.

- Continue the strategies laid out by the Blue Ribbon Task Force for Trails to organize leadership, demonstrate potential, reduce costs and develop a regional active transportation system.
- Implement enhanced approaches to information generation, scenario planning, decision-making, resource allocation, policy development and stakeholder involvement as it relates to climate change preparedness. Such adaptive strategies will allow the region to prepare for more extreme weather events, heat waves, droughts, and altered ecological systems resulting from rising global surface temperatures.
- Incorporate greenhouse gas emissions analysis and climate change preparedness assessments into all major policy and investment decisions.
- Continue the partnership approach to environmental protection embodied in Metro's Nature in Neighborhoods program.

Local natural areas protection actions

- Work collaboratively to ensure an efficient and equitable distribution of access to nature.
- Incorporate Intertwine signage and branding into local parks marketing efforts to the extent possible.
- Incorporate parks, open space and trails into area planning efforts including concept plans.

State natural areas protection actions

Coordinate spending so that an appropriate percentage of lottery funding is returned to the region.



Ensuring housing equity and opportunity

Spurred by an innovative multi-agency federal grant program called the Sustainable Communities Initiative, a unique consortium is coming together to develop a strategy that will ensure all residents of the region – especially members of lowincome communities and communities of color – enjoy the exceptional quality of life for which the Portland metropolitan

area is known. Using "opportunity maps" that show the location of low-cost and subsidized housing in relation to community assets and services, the strategy will address gaps by improving access to public transit, sidewalks, workforce training, schools, senior centers and health clinics, grocery stores and outdoor recreation.

Reduce inefficiency, foster innovation and demand accountability

Actions for the region and state and local governments

- Metro should incorporate the six desired regional outcomes into its policies and codes, ensuring that all policy and investment decisions are guided by this coordinated outcomes-based approach.
- Portland State University's Institute for Metropolitan Studies, Metro, and other partners should complete a comprehensive set of Greater Portland-Vancouver Indicators consistent with the six desired outcomes to be used to help guide regional decision-making and resource allocation across the triple-bottom line of people, place and prosperity. This effort should include:
 - performance measures and metrics to measure success or failure to meet established goals, targets or standards
 - a regional scorecard summarizing performance across indicator categories
 - a regional indicators business plan to ensure data collection, performance measurement and analysis
 - recommendations on how to make progress toward targets and ensure accountability in the allocation of scarce resources
 - development of appropriate measurement tools and analytical processes to ensure key indicators are accounted for in regional plans, programs, projects and processes.
- Metro should simplify compliance and reporting requirements for local governments and replace minimum zoned capacity requirements for cities and counties with a simpler "no net-loss" approach.
- Use the recent federal Housing and Urban Development grant opportunity as a pilot project to increase the capacity of communities of color and other under-represented groups to hold government accountable for equitable public investments by directly supporting their participation in decisionmaking.
- The Metropolitan Policy Advisory Committee should convene a regional conversation about streamlining and standardizing the current patchwork of regulations that make it complicated to do business in the region.
- Metro, local governments, TriMet, the State of Oregon and other partners should work together to improve transportation connections to and through downtowns, main streets and employment areas along the southwest metro (Portland to Sherwood) and east metro (Interstate 84 to U.S. Highway 26) corridors.
- Local governments should reduce waste and inefficiency by working collaboratively with their neighbors to resolve issues that cut across jurisdictional boundaries.









THE POWER OF PARTNERSHIP

Only a few years ago, every investment decision in the Portland metropolitan region brought out the long knives. Every discussion of how we use our land and how much land we use was fraught with conflict and mistrust. Governments sued each other and local squabbles spilled into the Oregon Legislature. The idea that Metro and the three counties of the region could come together to jointly identify where we will and will not grow during the next half-century would have seemed preposterous.

Yet we did just that. Today, in addition to the landmark decision to designate urban and rural reserves, we can boast a number of other major recent collaborative accomplishments. Collective action among diverse interests is rapidly becoming the rule rather than the exception and continues to gain momentum in areas such as the Intertwine and equity/affordable housing.

Coming together around shared values

It happened precisely because the combatants in our land use wars, including Metro, finally accepted the fact that no one could go it alone. In so doing, all parties relinquished a measure of decision-making authority in the interest of getting results.

In the case of urban and rural reserves, we hashed out a process that depended crucially on broad agreement, then marched arm in arm to Salem to memorialize that process in state law. Next we engaged in a robust – and sometimes painful – negotiation where no one got everything they wanted, but most parties got what they needed. The result is a template for the future that, while imperfect, reflects an astonishing breadth of vision unequalled anywhere in America.

The point is obvious: in an increasingly interdependent world, we can only succeed when we come together around our shared values.

As we work to advance an ambitious new strategy, Metro has a critical role to play. Indeed, convening the region around complex and comprehensive policy challenges is exactly what the people created Metro to do.

But the responsibility to develop and implement a strategy for investing in our communities is not Metro's alone. Creating a sustainable, prosperous and equitable future for our region is a collective enterprise in which we all have an equal stake, and one that will require vigorous engagement and sustained collaboration. If you are reading this, I know you care and I expect you to participate.

Together, we can fulfill the promise of our region.

NEXT STEPS

These recommendations are intended to inspire a public discussion about community investment and to kick off decision-making processes specifically about growth management choices related to the urban growth boundary. Some key dates for those decisions:

Aug. 10 to Sept. 27 Public comment period on COO recommendation

Sept. 13 to 22 Open houses held around the region

Early October Metropolitan Policy Advisory Committee and Metro Council review of public comment

Mid-October Metro Council makes decision on UGB study areas

November Public comment period and public hearings on UGB recommendation

December Final growth management decisions by the Metro Council

GET INVOLVED

We want to hear your ideas and suggestions about where and how to invest in our local communities and where and how we will accommodate growth in our region.

For details on comment opportunities, dates for events and hearings, more information, or to take an online survey, visit **www.oregonmetro.gov/ investment**

Comments may also be submitted by e-mail to 2040@oregonmetro.gov or mailed to:

Metro

600 NE Grand Avenue Portland, OR 97232 For more information, call Metro at 503-797-1735.

To download the complete recommendations, including a draft capacity ordinance and the 2010 Growth Management Assessment, visit **www.oregonmetro.gov/investment**

Metro | Making a great place

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

Metro representatives

Metro Council President – David Bragdon Metro Councilors Rod Park, District 1 Carlotta Collette, District 2 Carl Hosticka, District 3 Kathryn Harrington, District 4 Rex Burkholder, District 5 Robert Liberty, District 6

Auditor – Suzanne Flynn

www.oregonmetro.gov

Metro 600 NE Grand Ave. Portland, OR 97232-2736

503-797-1700



www.oregonmetro.gov

Making a Great Place:

2010 growth management assessment

August 2010

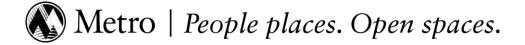


TABLE OF CONTENTS

Summary of Metro Chief Operating Officer recommendations	3
Summary of forecast and 2009 UGR findings	9
Population and employment range forecasts	9
2009 Urban Growth Report	11
Addressing residential growth	16
Efficiency measures	16
Illustrations of possible impacts of efficiency measures	29
Summary of additional residential capacity generated through efficiency measures	
Remaining gap after efficiency measures are accounted for	34
Potential residential capacity in urban reserves	35
Policy choices (residential)	
Comparison of different UGB expansion options	37
Considerations when determining where to plan in the range	
Recommendation on residential capacity	43
Addressing employment growth	48
, deal essentig employment growth	
Non-industrial employment	48
Non-industrial employment	48
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range	48 50
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment	48 50 50
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment General-industrial employment	48 50 50 50
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment General-industrial employment Recommendation on general-industrial employment	48 50 50 50 51
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment General-industrial employment Recommendation on general-industrial employment Large sites for traded-sector industrial uses.	48 50 50 50 51 52
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment General-industrial employment Recommendation on general-industrial employment Large sites for traded-sector industrial uses Local and regional efforts to provide additional large industrial sites inside the current UGB .	48 50 50 50 51 52 52
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment General-industrial employment Recommendation on general-industrial employment Large sites for traded-sector industrial uses Local and regional efforts to provide additional large industrial sites inside the current UGB . Potential short- term and long-term strategies for providing large sites	48 50 50 51 52 52 53
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment General-industrial employment Recommendation on general-industrial employment Large sites for traded-sector industrial uses Local and regional efforts to provide additional large industrial sites inside the current UGB . Potential short- term and long-term strategies for providing large sites Potential large-industrial-site capacity in urban reserves	48 50 50 51 52 52 53 55
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment General-industrial employment Recommendation on general-industrial employment Recommendation on general-industrial employment Large sites for traded-sector industrial uses Local and regional efforts to provide additional large industrial sites inside the current UGB . Potential short- term and long-term strategies for providing large sites Potential large-industrial-site capacity in urban reserves Considerations for determining where in the range to plan for large industrial sites	48 50 50 51 52 52 53 55 59
Non-industrial employment. Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment	48 50 50 51 52 52 53 55 59 61
Non-industrial employment Considerations when determining where to plan in the non-industrial employment range Recommendation on non-industrial employment General-industrial employment Recommendation on general-industrial employment Large sites for traded-sector industrial uses Local and regional efforts to provide additional large industrial sites inside the current UGB . Potential short- term and long-term strategies for providing large sites Potential large-industrial-site capacity in urban reserves Considerations for determining where in the range to plan for large industrial sites Proposed updates to the regional policies	48 50 50 51 52 52 52 53 55 59 61 61

Longer-term recommendations	. 68
Protect industrial lands	.68
Monitor development in UGB expansion areas	. 69
Monitor performance	.70
Advisory committee and public review process and timeline	.71

Attachments:

Appendix 1:	Possible outcomes of current policies	
Appendix 2:	How public investments stimulate private development	
Appendix 3:	What communities are doing to achieve their aspirations	
Appendix 4:	Illustrations of the possible impacts of public investments	
Appendix 5:	Focus on jobs: maintaining a competitive supply of large sites for industrial uses	
Appendix 6:	Requests from local jurisdictions to amend their regional design types	
Appendix 7:	Potential funding sources for infrastructure	
Appendix 8:	Preliminary analysis of potential UGB expansion areas	
Draft 2010 Capacity Ordinance and exhibits		

INTRODUCTION

Changing times require creative approaches

Traditionally, this region's growth management decisions have amounted to bitter arguments that focused exclusively on how much and where to expand the urban growth boundary (UGB), applying a high degree of precision to forecasts and determinations of needed acreages. The 2009 urban growth report (UGR) and the 2010 growth management decision strive to offer a different approach. This new approach attempts to shed light on how public and private partnerships can be formed to foster the kinds of communities that the region's residents desire. To that end, the staff recommendations in this report explicitly recognize potential financial and process constraints to development, both from a developer's perspective and from the public sector's perspective, and aims to suggest a more productive path.

There is still considerable work to be done to foster the types of communities that support a sustainable, prosperous and equitable region. This document describes a number of policy and regulatory updates that are intended to lay the groundwork. But new policies, regulations and UGB expansions alone will not be sufficient. It has become clear that the region must implement a community investment strategy in order to:

- invest in safe, livable communities
- promote economic development and good jobs
- protect our natural areas
- reduce inefficiency, foster innovation and demand accountability

Implementation of this strategy will require collaborative action across local, regional and state governments. This assessment focuses on regional actions.

Legal context of growth management decision

Oregon land use law requires that, every five years, Metro assess the region's capacity to accommodate the numbers of people anticipated to live or work inside the UGB over the next 20 years. To make this determination, Metro forecasts population and employment growth over a 20-year timeframe; conducts an inventory of vacant, buildable land inside the UGB; assesses the capacity of the current UGB to accommodate population and employment growth either on vacant land or through redevelopment and infill; determines whether additional capacity is needed, and documents the results of these analyses in the UGR. If the UGR indicates that the current UGB is unlikely to support the growth needs of the next 20 years with current policies, zoning and public investments, the Council must identify the actions that will increase the likelihood that development will occur more efficiently inside the existing UGB or expand the UGB.

Contents of this report

In December 2009, the Metro Council accepted the UGR and its population and employment forecasts as the basis for a growth management decision that the Council intends to make in December 2010. Collectively, the Capacity Ordinance and its exhibits are the proposed legislation that will be considered by the Metro Council in its December 2010 decision. This report and its appendices provide the foundation for the proposed Capacity Ordinance by summarizing the UGR's findings and describing the local and regional actions that have been taken or could be taken to fill the residential and large-industrial-site needs identified in the UGR.

Taking an outcomes-based approach to growth management decisions

On the advice of the Metro Policy Advisory Committee (MPAC), the Metro Council has adopted an approach to assessing growth management options that strives for six desired outcomes:

- People live and work in vibrant communities where they can choose to walk for pleasure and to meet their everyday needs.
- Current and future residents benefit from the region's sustained economic competitiveness and prosperity.
- People have safe and reliable transportation choices that enhance their quality of life.
- The region is a leader in minimizing contributions to global warming.
- Current and future generations enjoy clean air, clean water and healthy ecosystems.
- The benefits and burdens of growth and change are distributed equitably.

In addition to supporting policy recommendations, this document is intended to provide information about the possible long-term implications of implementing these recommendations. Scenario results that address the six desired outcomes can be found in Appendix 1.

SUMMARY OF METRO CHIEF OPERATING OFFICER RECOMMENDATIONS

The region should make the most efficient use possible of land already inside the UGB. This overarching recommendation is the region's best means of fostering the types of communities that people in the region have indicated that they desire. It is the surest way the region can position itself to provide more transportation choices, reduce carbon emissions, make careful use of scarce financial resources, preserve the quality of life that is valued so highly by residents and employers, and keep the costs of housing and transportation in check for current and future residents. Most of the increases in capacity necessary to fill any gap have already been accomplished by city councils and county commissions. Those local actions are very important and, to the degree possible, are recognized in this assessment and recommendation.

Implement a coordinated community investment strategy

Making investments is more difficult than ever in an era of limited resources, growing environmental and economic challenges, and voter distrust in government. However, the results of doing nothing are not acceptable. Metro's Chief Operating Officer recommends that the region implement a Community Investment Strategy aimed at fulfilling the vision of the 2040 Growth Concept and realizing aspiration of communities throughout the region. The Community Investment Strategy will move forward through countless public and private actions and investments, large and small, in neighborhoods, downtowns, industrial areas and natural areas all across the region. Consequently, this recommendation not only addressed to the Metro Council, but also local governments, the state government, and the private sector. Only by acting together with focus and determination will the strategy succeed.

As the region collectively develops a Community Investment Strategy, three critical questions must be answered:

- What investments do we need to make? Which investments will make our communities more livable, prosperous, equitable and sustainable? What kinds of projects, in what places, will spur further investments or actions and attract the greatest market response?
- **How will we pay for priority investments?** What are the most appropriate existing and potential financial mechanisms to employ? What creative approaches can we use to lower costs and leverage better outcomes?
- Who will decide? What process will be used to prioritize and coordinate investments needed to achieve our shared vision?

Summary of recommendations for providing residential capacity

The 2009 UGR identified a need for capacity for an additional 27,400 to 104,900 dwelling units. Out of that range of need, the efficiency actions described in this document are expected to provide capacity for 32,050 dwelling units.

When making the 2010 growth management decision, the Metro Council must decide where to plan in the range forecast of household demand. Policy makers should consider:

- The implications for communities in the larger seven-county region as well as the possible impacts on the region's transportation facilities if residential growth is displaced.
- The statistical likelihood that actual residential growth will be closer to the middle of the range forecast.
- The fact that the Metro Council will make another growth management decision in 2015, allowing for course corrections, if needed.
- How a UGB expansion may affect the depressed market for existing homes.

The Metro Council's growth management decision should reinforce existing downtowns, main streets and employment areas, consistent with the six desired outcomes. If the Council decides to plan for a point that is lower in the household range forecast, there is no need for a UGB expansion. However, the Council may wish to consider planning for more residents. In that event, a UGB expansion would be needed. To provide the Metro Council with options, staff has analyzed a variety of possible UGB expansion areas. Depending on where in the range forecast the Council plans, the Council may wish to consider a UGB expansion into one or more of the areas depicted in Figure 1.

If UGB expansions are part of the strategy, the region should ask whether potential expansion areas have the right finance tools, governance support and market readiness in place to succeed. Policy makers should consider:

- How to improve upon the outcomes of other UGB expansions of the past decade, where there has been little development and the development that has occurred has often consisted of larger, more expensive homes with relatively low densities.
- How might these UGB expansion options help the region to achieve its six desired outcomes?
- Will UGB expansions support regional and city efforts in centers and corridors?
- What conditions, if any, should be placed on residential UGB expansions?
- In the 20-year timeframe, are market conditions likely to support higher density development in UGB expansion areas?
- Are there adequate public resources to pay for the facilities and amenities necessary to achieve higher density development in UGB expansion areas?

- Are policy makers comfortable with the risks associated with planning for the lower end of the forecast demand range? Would a strategic UGB expansion reduce those potential risks?
- What effects would a no-UGB-expansion decision have on growth in neighboring communities outside of the Metro UGB, such as Vancouver, Newberg and Canby?

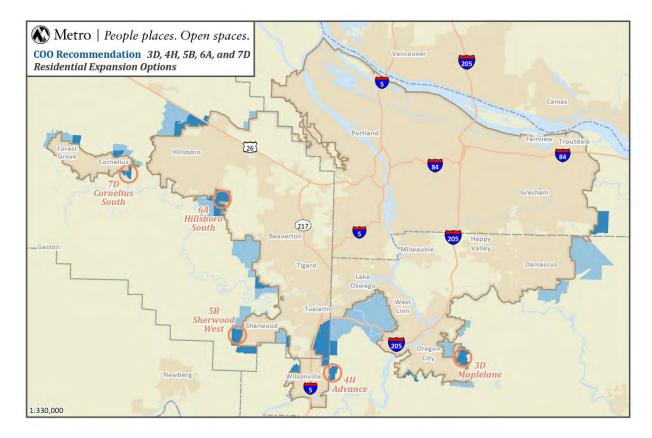


Figure 1: Metro Chief Operating Officer recommendation on options for residential UGB expansions

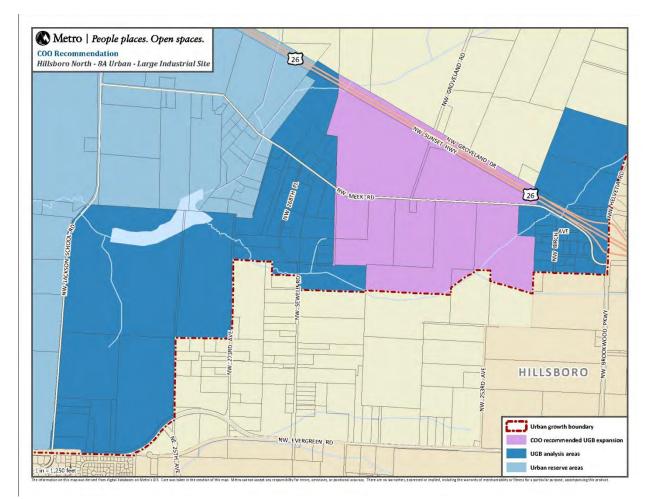
Summary of recommendations for providing large-industrial-site capacity

The 2009 UGR indicated that there is traded-sector-industrial demand for 200 to 1,500 additional acres on sites with 50 or more acres. Metro's Chief Operating Officer recommends that the region support the traded-sector economy by maintaining an adequate supply of large industrial sites with the following actions:

- Elevate brownfield cleanup to a regional priority and target efforts on large industrial sites within the UGB;
- Limit division of large industrial sites;
- Create a large-site inventory¹ and a system to replenish this inventory upon development; and
- Strengthen protection of key traded-sector industrial sites by prohibiting new schools, places of assembly and parks and recreational facilities.

With the above conditions assumed, Metro's Chief Operating Officer recommends that the Metro Council add 310 acres of industrial land to the urban growth boundary north of Hillsboro. This expansion should only be made if there is certainty that this land will supply lots over 50 acres. This recommended UGB expansion for industrial employment is depicted in Figure 2. If the Council wishes to plan for a higher point in the range of large-site industrial demand, there are additional urban reserves north of Hillsboro that are suitable.

¹ For the purposes of this inventory, large sites are defined as single or contiguous tax lots in common ownership, totaling at least 50 gross buildable acres that have been designated under Title 4 as Industrial or Regionally Significant Industrial Areas. The large-site inventory is described in more detail in Appendix 5.





In weighing large-site industrial growth management options, policy makers should consider several questions, including:

- Will the proposed UGB expansion help the region to achieve its six desired outcomes?
- What conditions, if any, should be placed on this proposed UGB expansion area? What conditions or tools would encourage landowners to assemble their tax lots, making the site more development ready?
- How many large sites are needed inside the UGB to ensure a competitive supply?

Summary of recommendations for additional strategies to support desired outcomes

Update Framework and Functional plans

The proposed changes to the Framework and Functional plans that are described in this document and included as exhibits to the draft Capacity Ordinance represent staff's best effort to codify the suggestions heard to date on how to better align regional policies with desired community outcomes. These proposals are intended to stimulate further discussion during the fall of 2010. Staff anticipates further revisions to these proposed plan updates before the Metro Council considers them in December 2010.

Update the 2040 Growth Concept map and Title 4 map

All plans need periodic updating. This report, Appendix 6 and draft Capacity Ordinance Exhibits F and O describe proposed changes to the 2040 Growth Concept map and Title 4 map (Industrial and Other Employment Areas). Metro's Chief Operating Officer recommends that the Metro Council adopt these changes to better reflect local plans and aspirations as well as the evolution of communities in the region.

SUMMARY OF FORECAST AND 2009 UGR FINDINGS

In December 2009, the Metro Council, on the advice of MPAC, accepted the UGR, which incorporated the 2009 – 2030 residential and employment forecasts, as the basis for the growth management decisions that are now being contemplated. This document describes the options that the Metro Council has for addressing the capacity needs identified in the 2009 UGR.

Population and employment range forecasts

The 20-year range forecasts inform the UGR. The use of a range forecast acknowledges uncertainty and allows for growth management decisions to focus on desired outcomes rather than a specific number. The forecasts are for the seven-county primary metropolitan statistical area (PMSA), which includes Clackamas, Multnomah, Washington, Yamhill, Columbia, Clark, and Skamania counties.

The 20-year forecasts indicate that, by the year 2030, there will be a total of 1,181,300 to 1,301,800 households and a total of 1,252,200 to 1,695,300 jobs in the larger seven-county area. There is a 90 percent chance that growth will occur within this range. Statistically, growth is more likely to occur closer to the middle of the range. The full demand range was assessed in the 2009 UGR to identify potential capacity needs.

In his September 2009 report, *Strategies for a Sustainable and Prosperous Region*, Metro's Chief Operating Officer, Michael Jordan, recommended that the Metro Council in 2010 focus not on the extreme ends of the population range forecast, but on the middle-third of that range. For consistency with the urban and rural reserves decisions, which were finalized by the Metro Council and the boards of commissioners of Clackamas, Multnomah and Washington counties in June 2010, this report also focuses on the middle-third of the forecast range.

The recent recession has raised some questions whether the 2009 forecast remains valid. The 2009 forecast was developed using IHS Global Insight data that was produced after the recession had begun. Additionally, the forecast range is sufficiently large to account for the depths of the recession that have been experienced over the last year. Actual population growth remains well within the forecast range as shown in Figure 3. This growth trend is expected to continue.

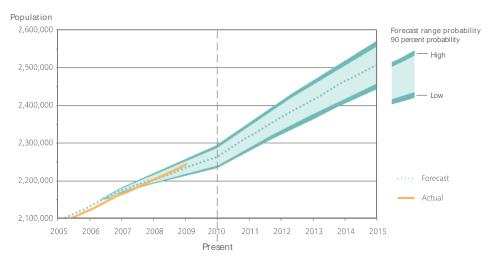
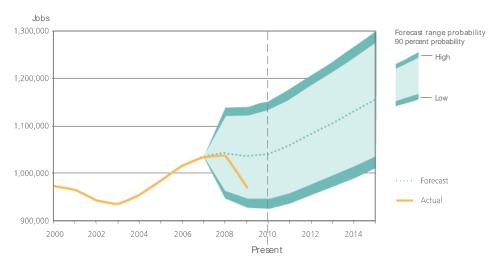


Figure 3: comparison of actual and forecast population growth (2009 Metro forecast for 7-county PMSA)

Though employment numbers in the region have suffered a dramatic recent downturn, they too remain within the 2009 forecast range, which included a short-term slowdown in employment. In the long term, employment is expected to return to trend and remain within the 2009 forecast range. Actual employment growth is compared with the forecast in Figure 4.

Figure 4: comparison of actual and forecast employment growth (2009 Metro forecast for 7-county PMSA)



Trend forecasts are not intended to predict the many ups and downs that will inevitably occur over the long term. The range forecast remains a reliable basis for growth management decisions to be made in 2010. For this reason, staff does not recommend revising the 2009 range forecast and UGR that the Metro Council accepted as the basis for upcoming growth management decisions. However, when deciding where in the range to plan, the Council may wish to consider the recession. This report provides additional information to inform that discussion.

2009 Urban Growth Report

In addition to the 20-year range forecasts, the UGR included an analysis of the share of the UGB's zoned capacity that is likely to be developed by the year 2030. The UGR's analysis assumed a continuation of current (2009) policies and investment trends. No changes to existing zoning were assumed despite the fact that such changes are likely over time as cities and counties refine their strategies to achieve their aspirations for growth and development. The UGR's assessment of the likelihood of development was based on historic data, scenario modeling, and the professional expertise of Metro staff, city and county staff, economic consultants and business representatives. This approach represented a shift from previous UGRs and sought to recognize market realities in its assessment. UGR results are portrayed for four different categories—residential, general industrial employment, general non-industrial employment, and large-lot industrial employment.

2009 UGR residential assessment

Local zoning codes define the maximum amount of development that is allowable in different locations. The UGR assumed no changes to local zoning designations and found that there is ample zoned capacity within the current UGB to accommodate the next 20 years of residential growth. But without additional investments in public infrastructure, other policy changes, or changes in market conditions, the market is not likely to make full use of zoned capacity. Even at the low end of the range forecast, a gap was identified in the UGB's capacity to accommodate the next 20 years of residential growth on vacant land or through redevelopment and infill (refill).

The 2009 UGR found that, depending on how much residential growth occurs, there is a need for additional capacity to accommodate 27,400 to 104,900 dwelling units. Since the completion of the 2009 UGR, new local and regional actions have been taken to address this capacity gap. Those actions are described in this document. Figure 5 depicts the 2009 UGR's assessment of residential capacity and demand for the years 2010 to 2030.

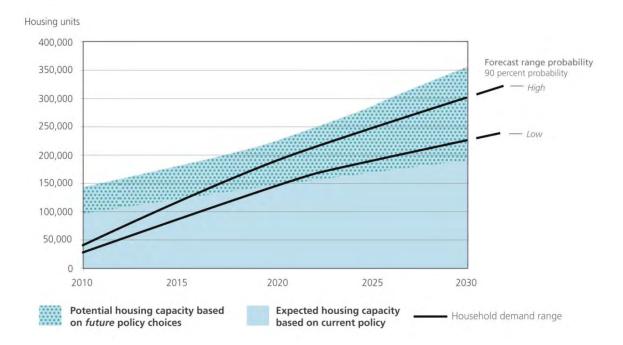


Figure 5: 2009 UGR assessment of residential capacity and demand from 2010 - 2030 (source: 2009 UGR)

The UGR also included an assessment of future cost-burdened households (renters that spend more than half of their after-tax household income on housing and transportation expenses). If the policy and investment trends assessed in the UGR continue, the number of cost-burdened households in the region may double by the year 2030. Under that scenario, between 51 to 69 percent of renter households inside the UGB would be cost-burdened. The UGR analysis also found that, as is the case today, there are likely to be concentrations of cost-burdened households in some communities and very few in others. Centers and corridors provide residents with the most affordable transportation options, but high market demand in those locations is likely to continue driving housing prices upwards.

2009 UGR general non-industrial employment assessment

The non-industrial employment section of the UGR assessed the current UGB's capacity to accommodate non-industrial (e.g. office, retail, institutional) job growth on vacant land or through refill. The analysis indicated there is sufficient zoned capacity to meet the non-industrial employment need that is forecast for the next 20 years, but there is a need to make investments or policy changes to support the high end of the demand range.

The 2009 UGR found that the UGB has adequate capacity for non-industrial employment except at the high end of the employment forecast range. There is no need for additional non-industrial capacity at the middle of the employment forecast range.

Figure 6 depicts the range of non-industrial demand and capacity.

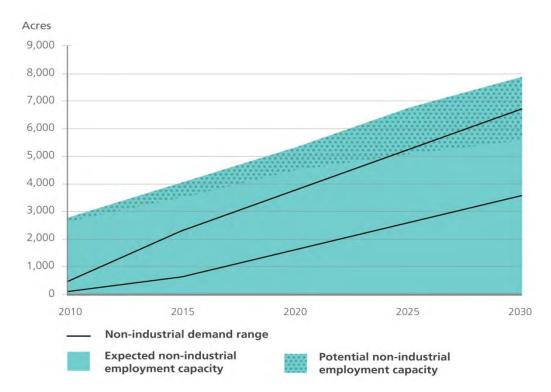


Figure 6: non-industrial employment capacity and demand from 2010 to 2030 (source: 2009 UGR)

UGR general industrial employment assessment

The general industrial² section of the UGR assessed the current UGB's capacity to accommodate industrial job growth on vacant land or through redevelopment and infill (refill). The assessment of industrial demand for large, vacant lots was handled separately.

The 2009 UGR found that there is adequate capacity inside the current UGB to accommodate the next 20 years of general industrial job growth even at the high end of the employment forecast range.

Figure 7 depicts the range of general industrial capacity and demand from 2010 to 2030.

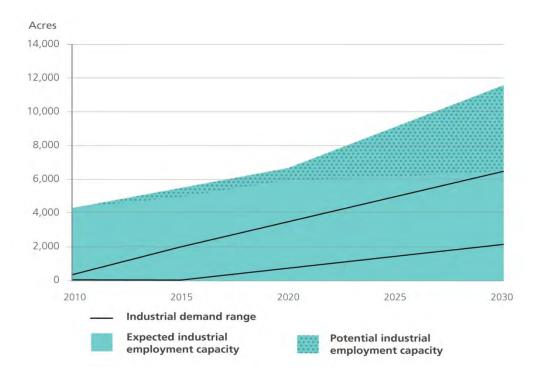


Figure 7: general industrial capacity and demand from 2010 to 2030 (source: 2009 UGR)

² The "general industrial employment" portion of the 2009 UGR looked at industrial land capacity in aggregate, without regard for the configuration or size of individual tax lots. Industrial employment that requires large sites was assessed separately in the 2009 UGR and is addressed separately in this report.

UGR large-lot-industrial employment assessment

The "large lot" portion of the 2009 UGR's analysis was completed in recognition of the fact that some firms in traded-sector industries require large vacant sites. Demand for large sites is likely to be the product of the decisions of individual firms rather than broader industry trends. The UGR's forecast-based assessment originally determined that, over the 20-year period, there is demand for 200 to 800 acres of additional large-lot capacity on sites with 50 or more buildable acres. This range is based on the amount of employment growth realized as well as whether assembly of adjacent lots is assumed.

As a matter of economic development policy, the Metro Council, on the advice of MPAC, has agreed to consider a wider range of potential large-lot demand than what was indicated by the forecast-based approach:

- Large-lot demand will be the result of the decisions of individual firms, so it is inherently difficult to forecast.
- Some cities in the region have identified large, traded-sector firms as the focus of their economic development plans.
- It may be preferable from a policy standpoint to have flexibility to accommodate traded-sector firms.
- The use of an employment forecast may be an inadequate means of estimating large-lot demand for freight, rail, and marine terminal uses.

With economic development considerations in mind, the Metro Council accepted the 2009 UGR, which indicated traded-sector industrial employment demand for 200 to 1,500 acres of additional capacity on sites with 50 or more buildable acres.

ADDRESSING RESIDENTIAL GROWTH

Efficiency measures

The 2009 UGR indicated that there is ample zoned capacity within the current UGB to accommodate the next 20 years of residential growth, but that different investments and policies are needed to make the most of that capacity. Depending on the amount of residential growth that is realized, the UGR identified a need for additional capacity for 27,400 to 104,900 dwelling units. This capacity gap is expressed in dwelling units because there are a variety of ways to accommodate households, each with its own implications for how the region and its communities function.

Because a residential capacity gap is identified in the UGR, Oregon Revised Statute 197.296 instructs Metro to expand the UGB and/or amend plans in ways that increase the likelihood of higher density development inside the existing UGB. These latter actions are referred to as "efficiency measures" in this document. The statute states that efficiency measures may include, but are not limited to:

- Increases in the permitted density on existing residential land
- Financial incentives for higher density housing
- Provisions permitting additional density beyond that generally allowed in the zoning district in exchange for amenities and features provided by the developer
- Removal or easing of approval standards or procedures
- Minimum density ranges
- Redevelopment and infill strategies
- Authorization of housing types not previously allowed by the plan or regulations
- Adoption of an average residential density standard
- Rezoning or re-designation of nonresidential land

Cities and citizens throughout the region have indicated their desire to make better use of the land inside the current UGB to enliven their downtowns and main streets. Many of these local efforts are ongoing or are in their formative stages. These include several cities in the region that are undertaking a periodic review of their comprehensive plans. These cities include Portland, Lake Oswego, Forest Grove, Troutdale, and Tigard. Several other cities in the region will be undertaking this periodic review in the near future (Happy Valley, Milwaukie, Sherwood, and Tualatin). The efficiency effects of these cities' updated plans will be accounted for in the 2014 urban growth report.

There are also a number of regional and local policies and plans that have recently been adopted that are expected to lead to more efficient use of land inside the UGB. State law directs Metro to assess how these adopted efficiency measures may influence future use of zoned capacity. Actions

that encourage more compact growth will reduce the need for UGB expansions. These adopted actions are described in this report and its appendices.

The 2009 UGR's calculation of residential need included three main measures of possible market responses to zoned capacity. To inform the 2010 growth management decision, these three measures have been reevaluated with newly-adopted actions in mind:

<u>Refill rate:</u>

The refill rate represents the share of new residences that are built through redevelopment or infill. Refill occurs on land that is not vacant. Refill rates may be tracked historically or forecasted. The 2009 UGR assumed that 33 percent of future residential growth through the year 2030 would occur through refill.

Vacant mixed-use and multi-family capacity:

The 2009 UGR applied an assumption that, by the year 2030, only 50 percent of the capacity on vacant multi-family land would be developed. This underutilization was assumed for a number of reasons including lagging market demand and inadequate public investments in some centers and corridors.

New urban area³ capacity:

The 2009 UGR assumed that only 50 percent of the capacity in new urban areas would be market feasible through the year 2030.

Sources relied on for assessing efficiency measures

There are a wide variety of public policies and investments that can influence long-term residential development. Because of this variety, there is no single analytic approach that can be applied across the board. In completing this analysis of the effects of newly-adopted residential efficiency measures, Metro relied on several methods, listed below, that are further described in the appendices.

MetroScope scenarios:

MetroScope, an integrated transportation and land use scenario model, is well-suited to assessing the regional effects of changes to policies and investments such as the adoption of the 2035 Regional Transportation Plan (RTP), local adoption of urban renewal programs, and the region's designation of urban and rural reserves. Among other outputs, MetroScope can provide an assessment of the redevelopment and infill rates (refill rates) that may be achieved in the future. The input assumptions for the draft scenario conducted to inform the 2010 Capacity Ordinance are intended to represent policies and investment strategies that are adopted or are expected to be adopted by the end of 2010. More detail regarding this MetroScope scenario's assumptions and results can be found in Appendix 1.

³ New urban areas are areas that were added to the UGB from 1998 to 2005.

Development form assessment tool:

Metro staff worked with Johnson Reid, LLC to develop an assessment tool to illustrate how public investments in amenities such as pedestrian improvements may increase the likelihood that the market will utilize multi-family and mixed-use residential capacity in urban centers and corridors. The assessment tool was used to illustrate these likely effects in several districts in the region, but to avoid double-counting with other information sources, its results are not explicitly included in overall calculations of capacity.

The assessment tool was designed to work like pro forma analyses used by developers which compare construction and land costs with achievable rents. These calculations indicate to a developer what the highest-and-best use of a property is, determining whether it is rational to build, for instance, a townhome or a high rise. Public actions or investments that reduce costs to a developer (for example, lower parking requirements) or that boost achievable rents can shift the highest-and-best use to a different development form.

The price premiums associated with a variety of public investments were determined through a literature review, statistical analysis of local property sales, and the professional expertise of Johnson Reid. Additional background on this work is available in Appendix 2.

<u>City and county staff knowledge:</u>

City and county planning staff are an important source of information about development trends in their jurisdictions. In several instances, Metro staff consulted with city and county staff for their professional knowledge of local conditions. These consultations helped to inform the assessment of potential development readiness of new urban areas as well as refill rates. City staffs were also important sources of information for identifying efficiency measures that have been recently adopted.

Summary of efficiency measures that were assessed

2035 Regional Transportation Plan

The 2009 UGR assessment assumed the transportation network described in the 2035 financiallyconstrained RTP. Since then, the 2035 RTP update was adopted in June 2010. The updated RTP includes additional transportation facilities and funding strategies and is expected to lead to more efficient use of residential capacity inside the existing UGB. The RTP project list is divided into two categories, "mobility projects" and "community-building projects."

Many of the projects listed below are in addition to the projects included in the financiallyconstrained RTP. Those additional projects are marked "*."

RTP mobility projects

Mobility projects in the 2035 RTP include facilities such as arterial roads, highways, and light rail. These facilities connect locations in the region to one another, allowing people to exercise greater choice on where to live and work. Mobility projects from the 2035 RTP have been incorporated into the assumed transportation network in the draft MetroScope scenario that informs the 2010 Capacity Ordinance. Notable mobility projects in the 2035 RTP are summarized as follows:

Notable transit mobility projects

- Columbia River Crossing light rail transit
- Milwaukie light rail completion
- Southwest corridor (Hwy. 99W) light rail development*
- Westside Express Service (WES) service improvements*
- I-205 bus rapid transit from Clackamas Town Center to Tualatin*
- On-street bus rapid transit on Southeast Division Street and Southeast Powell Boulevard*

Notable throughway mobility projects

- I-5 Columbia River Crossing (10 lanes with tolling)
- Sunrise Corridor development from I-205 to 172nd Ave.
- OR 217, US 26 & I-5/I-84 interchange improvements
- Operational improvements on I-205*
- Operational improvements on I-5*
- Additional interchange improvements on OR 217, US 26, I-5, I-205, and I-84*

Notable arterial mobility projects

- I-5/99W Connector Alternative 7 (three arterial improvements including Southern Arterial)*
- Sellwood Bridge reconstruction

RTP community-building projects

The community-building projects in the 2035 RTP are intended to foster the types of communities that the region's citizens have indicated they prefer. These community-building projects constitute over \$5.3 billion (year 2007 dollars) in public investments, with over \$3 billion of it going to centers, corridors, main streets, and station areas. There is a substantial body of academic research that has demonstrated that these types of public investments are associated with increased residential demand. Appendix 2 includes a literature review on this topic. For MetroScope modeling purposes, input assumptions that describe the relative desirability of different locations were conservatively adjusted to reflect the significant nature of these investments.⁴ Community-building projects in the 2035 RTP include facilities such as:

⁴ This input assumption, "neighborhood score," is typically based on a statistical assessment of historic singlefamily residence sales data and is usually held constant in scenarios. Neighborhood scores have been adjusted in the scenario that informs the 2010 Capacity Ordinance to recognize the magnitude of community-building investments that have been adopted. Appendix 2 contains a fuller explanation of the adjustments that were made. The work completed by Johnson Reid (see Appendix 4) corroborates the relationship between these types of investments and higher sales prices. A 2010 study by Metro (see Appendix 9) illustrates the types of design features found in neighborhoods with lower and higher neighborhood scores.

- New streetcar lines in Portland*
- Portland-to-Lake Oswego streetcar
- Pedestrian and bike improvements throughout the region*
- Streetscaping throughout the region*

New incentives

Since the Metro Council acceptance of the 2009 UGR, several cities have adopted or indicated their intent to adopt urban renewal or other financial tools.⁵ These financial tools typically fund public investments in urban amenities such as streetscape and pedestrian improvements that help to attract residential growth to these locations. By focusing demand in urban renewal areas, it becomes financially feasible for developers to build at higher densities, which makes more efficient use of existing capacity inside the UGB.

Beaverton urban renewal

In 2008, the City of Beaverton's voters approved a city charter amendment that makes urban renewal available as a tool for the city to use, subject to voter approval. A January 2010 urban renewal feasibility study conducted for the city recommends that an urban renewal program should focus on community amenities that will encourage private development. Although an urban renewal program is not yet adopted, it is expected that an urban renewal plan will be on the ballot in Beaverton in November 2010. Progress made by the city and citizen support indicate that urban renewal or a comparable investment mechanism will be in place during the 2010 to 2030 planning period that is the focus of the 2010 Capacity Ordinance. Consequently, urban renewal is assumed for Beaverton in the MetroScope scenario that informs this analysis.

Hillsboro urban renewal

In May 2010, the Hillsboro City Council approved the formation of a downtown urban renewal district. The city intends to invest in public amenities and storefront improvements that will foster a vibrant downtown district and will encourage private investment. The draft Capacity Ordinance scenario assumes that urban renewal is available in downtown Hillsboro.

Milwaukie urban renewal

The City of Milwaukie is currently writing an urban renewal plan for its downtown. The city intends to adopt the plan by the end of 2010. The draft Capacity Ordinance scenario assumes that urban renewal is available in downtown Milwaukie. This would complement the city's existing vertical housing tax abatement program, helping to focus growth in the downtown center.

Portland transit-oriented development tax abatement

The City of Portland currently has a Transit-Oriented Development Tax Abatement program in effect. The full extent of the program was not adequately reflected in the input assumptions for the

⁵ In recent months, the City of Tualatin has indicated its intent to not extend the life of its urban renewal program. That decision is also reflected in updated scenario assumptions.

scenario that informed the 2009 UGR (the program was only assumed in Hollywood Town Center). The draft Capacity Ordinance scenario assumptions reflect the full extent of the program.⁶

Public investments in AmberGlen

In January 2010, the City of Hillsboro adopted the AmberGlen Community Plan, which envisions a thriving mixed-use, transit-oriented community consisting of approximately 600 acres located at the southern edge of the Tanasbourne Town Center area, bounded by 185th Avenue on the east, Cornell and Walker roads on the north, 206th Avenue on the west, and the Westside light rail line on the south. The city intends to make substantial investments in high-quality pedestrian and environmental amenities such as parks and streetcar. These investments combined with the area's access to existing light rail are expected to spur medium-to-high-density development. The draft Capacity Ordinance scenario carries an assumption that these public investments will be made.

New local policies and investments:

Cities and counties in the region have taken a number of other actions that increase the likelihood that residential capacity inside the existing UGB will be used more efficiently. Appendix 3 includes an inventory of community-building investments in centers and corridors that are included in local capital improvement plans. Typical investments in this inventory include parks, plazas, pedestrian and bike improvements, and civic buildings. The inventory only includes community-building investments in centers and corridors, which total almost \$350 million. Because of the scope of the inventory of planned local capital improvements, not all projects have been explicitly or individually assessed for their potential effects on market use of zoned capacity. Instead, the inventory points to a more general conclusion that cities throughout the region are planning significant investments that will improve their communities and support more efficient use of zoned capacity in centers and corridors.

Appendix 3 describes a variety of other recently adopted local government actions that range from the adoption of vertical housing tax credit programs to community-building investments in public amenities.

Zoning and comprehensive plan updates

In recent months, Tigard and Hillsboro (for AmberGlen) have updated their zoning or comprehensive plans to focus growth in targeted locations. Both cities also intend to make substantial public investments to realize their community visions.

Urban and rural reserves

Though the designation of urban and rural reserves is not technically an efficiency measure, this agreement indicates the region's intent to grow in a more compact fashion than in the past. The draft MetroScope scenario that informs the 2010 Capacity Ordinance assumes that future UGB expansions will occur on urban reserves, which total 28,615 acres. This is in contrast to the scenarios that informed the 2009 UGR, developed before the designation of urban reserves, where substantially more land was assumed available for prospective UGB expansions. The assumption

⁶ Locations where the program overlaps with urban renewal are not double-counted in the scenario. Only urban renewal is assumed in those locations.

that many fewer acres will be available for prospective UGB expansion contributes to the higher refill rate observed in the scenario that informs this analysis.

Likely effects of efficiency measures

As previously described, the 2009 UGR and this assessment of residential efficiency measures take into account several market factors, which account for the share of zoned capacity that is likely to be developable with current policies, and anticipated investment trends and economic conditions. The effects of recently-adopted efficiency measures on these market factors are described below.

<u>Refill rate:</u>

The refill rate is an important measure of how efficiently development is occurring. Based on policies in place at the time, the 2009 UGR included an assumption that the refill rate through the year 2030 would be 33 percent. What this means is that the 2009 UGR assumed that 33 percent of all new dwelling units in the UGB from 2010 to 2030 would occur through redevelopment or infill. Several sources of information were consulted to determine a likely refill rate that may result from newly adopted efficiency measures.

Figure 8 depicts the historic residential refill rate inside the Metro UGB from 1996-2006. As can be seen in the chart, the rate varies from year to year.

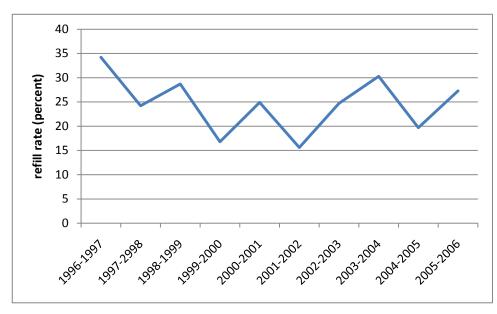


Figure 8: Historic residential refill rates inside the Metro UGB from 1996 to 2006 (source: Metro)

The MetroScope scenario that was conducted to inform this assessment indicates that newlyadopted policies and investments will result in more efficient market use of zoned residential capacity. In particular, this scenario indicates that 41 percent of new residential units developed through the year 2030 will occur through refill. This same MetroScope scenario also indicates that this rate moderates somewhat by the year 2040 (35 percent refill). This is likely because additional UGB expansion capacity is assumed to be available in the scenario's later years.

In recent years, researchers have pointed to some fundamental demographic shifts and changes in housing preferences that favor urban redevelopment and infill (Nelson, 2006) (Leinberger, 2008) (United States Environmental Protection Agency, 2010) (Leinberger, 2010). The City of Portland's experience with redevelopment indicates that a widely-written-about shift in residential preferences is well under way. This shift in preferences is leading to more redevelopment and infill in existing urban areas that offer a variety of community amenities within walking distance. To better understand this dynamic, City of Portland staff recently examined residential permit data for several mixed-use corridors and centers.⁷ For example, from 2004 to 2009, a total of 423 new dwellings developed within the Hollywood Town Center and Belmont and Interstate Avenue corridors. This development occurred on 62 separate sites, with only seven of those sites being vacant prior to development. In terms of individual dwelling units, only 19 of the 423 units, or about five percent, were developed on vacant sites, which tended to be smaller and in lower-intensity zones. In most cases, single-family homes were replaced with new four- or six-plex developments or single-story commercial buildings, and surface parking lots were replaced by multi-story mixed-use development.

The development form assessment tool, created with the assistance of Johnson Reid, LLC, indicates that planned public investments will influence developer's choices, leading to more efficient redevelopment. The assessment tool was only applied to five case study areas⁸ and is, therefore, intended to be illustrative and does not provide a comprehensive assessment of redevelopment potential in the existing UGB. However, the assessment tool, which considers development potential from a developer's perspective, indicates that planned public investments are likely to increase market utilization of zoned capacity in three out of the five case study areas. The redevelopment form assessment tool indicates that, in these three case study areas alone, an additional 1,000 to 5,200 dwelling units are likely to be market feasible because of planned public investments.

⁷ Source: June 10, 2010 memo from Susan Anderson (Portland Bureau of Planning and Sustainability) to Robin McArthur (Metro)

⁸ Areas tested include downtown Lake Oswego and Gresham, Lents, Foster Blvd., and Interstate Ave. The areas tested vary in size. In all cases, existing zoning was assumed.

Based on these sources of information, it is estimated that policies currently in place, including recently adopted efficiency measures, are likely to result in a refill rate of 38 percent through the year 2030. Refill rates are translated into dwelling unit capacity in Table 1.

	Refill Rate	Refill Capacity (dwelling units)	
2009 UGR	33%	86,600	
With efficiency measures	38%	99,700	
Difference	+5%	+13,100	

Table 1: Refill capacity with efficiency measures (assuming medium growth forecast through 2030)

Vacant multi-family capacity:

The 2009 UGR assumed that only 50 percent of the region's residential capacity on vacant lands zoned for multi-family housing would be market feasible through the year 2030. Because this is vacant land, it is a separate source of capacity from refill. Two sources of information are relied upon to determine how recently-adopted efficiency measures may affect the market viability of these types of residential capacity. These sources include a MetroScope scenario and the development form assessment tool created by Johnson Reid, LLC.

The updated MetroScope scenario that was conducted to inform this analysis indicates that newlyadopted strategies and investments are likely to lead to more efficient use of residential capacity in areas zoned for multi-family development. The new scenario indicates that 60 percent of the capacity in these zoning categories is likely to be developed through the year 2030. Because MetroScope is a regional model and because several major scenario assumptions were updated (for example, the transportation network now reflects the adopted 2035 Regional Transportation Plan and the scale and location of prospective UGB expansions reflect the adopted urban reserves), it is difficult to isolate specific reasons why a greater share of capacity on vacant land zoned multifamily gets developed under the updated scenario.

The development form assessment tool developed by Johnson Reid, LLC also indirectly informs this portion of the analysis. As previously described, the tool was used to assess the effects of newly-adopted strategies in several districts in the region. Though the assessment was focused on illustrating redevelopment potential (rather than development on vacant land), its general conclusions support MetroScope results pertaining to multi-family residential development on vacant land.

Based on these sources of information, it is expected that 60 percent of the zoned capacity on vacant land zoned for multi-family will be market feasible through the year 2030. As summarized in Table 2, this would amount to capacity for 3,700 additional dwelling units that is attributable to adopted efficiency measures.

	Percent market feasible through 2030	Dwelling units
2009 UGR	50%	18,400
With efficiency measures	60%	22,100
Difference	+10%	+3,700

Table 2: market feasibility of vacant land zoned multi-family with efficiency measures (through 2030)

<u>New urban area capacity⁹</u>

In the 2009 UGR, it was assumed, across the region, that 50 percent of planned residential capacity in new urban areas would not be developed by the year 2030. This discount was assumed based on the current status of planning and development as well as MetroScope scenario results. In 2010, various city and county staff were consulted to determine if the current planning status of new urban areas indicates that more of their residential capacity may be development-ready by 2030.

MetroScope scenarios were also used to test how the combination of newly-adopted strategies may increase development readiness in new urban areas. This new assessment indicates that a greater-than-50-percent share of the region's residential capacity in new urban areas is likely to be developed through the year 2030. Because MetroScope is a regional model and because several major scenario assumptions were updated (for example, the transportation network now reflects the adopted 2035 Regional Transportation Plan and the scale and location of prospective UGB expansions reflect the adopted urban reserves), it is difficult to isolate specific reasons why individual new urban areas perform better in the updated scenario. Updated 20-year-capacity estimates for new urban areas are summarized in Table 3 and are rounded to the nearest 50.

⁹ "New urban areas" refers to areas added to the Metro UGB from 1998 through 2005

Table 3: 20-year residential capacity estimates for new urban areas

		Dwel	ling units		
New urban area	Planned capacity	2009 UGR capacity assumption (50%)	2010 Capacity Ordinance assumption	Difference (additional capacity)	Reasoning
					MetroScope scenario indicates that 70 percent of capacity is market feasible
Beavercreek Rd	1,023	500	700	200	through 2030.
					MetroScope scenario indicates that 82 percent of capacity is market feasible
Bonny Slope	524	250	450	200	through 2030.
					MetroScope scenario indicates that 94 percent of capacity is market feasible
Brookman Rd	1,239	600	1,150	600	through 2030.
					UGR assumption was erroneous. December 2009 planning estimates for
					Alternative B are for approximately 2,450 units. MetroScope scenario indicates
					that 99 percent of capacity is market feasible through 2030. Because of
					incorporation issues, staff believes that 90 percent is a more reasonable
Bull Mountain	2,450	250	2,200	1,950	estimate.
					MetroScope scenario indicates that 92 percent of capacity is market feasible
Cooper Mountain	1,019	500	950	450	through 2030.
					Draft comprehensive plan indicates expectation of 12,500 units over the 20-
Damascus Boring	24,952	12,500	12,500	-	year timeframe. No basis for changing UGR assumption.
					MetroScope scenario indicates that 100 percent of capacity is market feasible
East Wilsonville	183	100	183	83	through 2030.
					Urban reserves decision added Peterkort property, whose owners have
					donated sewer easements to the County, which will reduce infrastructure
					costs for North Bethany. A MetroScope scenario indicates that 82 percent of
					capacity is market feasible through 2030. Washington County staff indicated
					that 50 percent of capacity is market feasible through 2030. This analysis splits
North Bethany	5,000	2,500	3,300	800	the difference and assumes 66 percent.
					MetroScope scenario indicates that 70 percent of capacity is market feasible
Park Place	1,091	550	800	250	through 2030.

		2009 UGR	2010		
		capacity	Capacity	Difference	
	Planned	assumption	Ordinance	(additional	
New urban area	capacity	(50%)	assumption	capacity)	Reasoning
					Per City of Gresham, 80 percent of capacity is market feasible through 2030
					(all necessary facilities included in adopted plans; SDC mechanisms ensure that
					revenues match costs). A MetroScope scenario indicates that 76 percent of
					capacity is market feasible through 2030. This analysis splits the difference and
Pleasant Valley	5,066	2,550	4,000	1,450	assumes 78 percent.
					MetroScope scenario indicates that 87 percent of capacity is market feasible
South End Rd	413	200	350	150	through 2030.
					Per City of Gresham, 70 percent is market feasible through 2030 (all facilities
					included in adopted plans; SDC mechanisms ensure that revenues match
					costs). Some residential development will be contingent upon industrial area
					developing. A MetroScope scenario indicates that 82 percent of capacity is
					market feasible through 2030. This analysis splits the difference and assumes
Springwater	1,456	750	1,100	350	76 percent.
					Per City of Hillsboro, 80 percent of capacity is market feasible through 2030
					(assuming S. Hillsboro is added to UGB in 20-year timeframe). A MetroScope
Study Area 69 and					scenario indicates that 84 percent of capacity is market feasible through 2030.
71	1,300	650	1,050	400	This analysis splits the difference and assumes 82 percent.
					Per City of Wilsonville (all facilities included in adopted plans). Wilsonville says
					100 percent of capacity is market feasible through 2030. A MetroScope
					scenario indicates that 75 percent is market feasible through 2030. This
Villebois Village	2,390	1,200	2,100	900	analysis splits the difference and assumes 88 percent.
					Per City of Hillsboro, 80 percent of capacity is market feasible through 2030. A
					MetroScope scenario indicates that 85 percent of capacity is market feasible
Witch Hazel	1,766	900	1,465	565	through 2030. This analysis splits the difference and assumes 83 percent.
TOTAL	48,000	24,000	32,550	+8,350	

Summary of plan and zoning changes since the 2009 UGR

Recently, many cities in the region have implemented new strategies to achieve their community visions. These efforts include Wood Village's code update to allow cottage housing and zoning updates in downtown Gresham. These and other recently-adopted planning efforts are described in Appendix 3. In particular, since the Metro Council's acceptance of the UGR in December 2009, there have been two notable planning efforts that have resulted in an increase in zoned residential capacity. Table 4 provides a summary of new zoned capacity.

		Zoned or planned capacity (dwelling units)			
City	Location of adopted plan or zone change	2009 UGR	2010 Capacity Ordinance	Additional capacity (difference)	
Hillsboro	AmberGlen	2,000	7,000	5,000	
Tigard ¹⁰	Downtown	1,000	2,900	1,900	
Total new zonec	+6,900				

Table 4: summary of notable changes in zoned or planned residential capacity since the 2009 UGR

Both cities intend to make substantial public investments to realize their community visions. In the case of Hillsboro, that intent is documented in the AmberGlen Community Plan adopted in January 2010 (City of Hillsboro, 2010). The City of Tigard has documented its intent to make significant community investments. These efforts are described in Appendix 3. Because of the highly-strategic and intentional nature of these investments, all of the newly-zoned capacity in these two locations is assumed developable in the 20-year timeframe.

¹⁰ In order to create the kind of community that its citizens envision, Tigard considered further increasing the zoned capacity of its downtown but has been prevented from doing so because of limitations imposed by the state Transportation Planning Rule.

Illustrations of possible impacts of efficiency measures

Public investments in amenities such as street cars and sidewalks can make a location more desirable to residents. With increased demand, developers can profitably build at higher densities than they would without the public investments. Using an approach developed by Johnson Reid, LLC and Fregonese and Associates, Metro staff examined how a variety of newly adopted public investments can increase the feasibility of higher-density residential development in urban centers and transportation corridors, helping to align development with community goals and plans. For illustrative purposes, the assessment tool was preliminarily applied to two areas, downtown Lake Oswego and a commercial area of the Lents neighborhood in Portland. A more complete discussion of the methods used can be found in Appendix 4.

The following figures illustrate how redevelopment may look in two local communities, based on the pro forma assessment.

Lake Oswego

Figure 9: Existing Conditions: 2nd Street, facing north towards B Avenue



Figure 10: Initial Public Improvements



Figure 11: Redevelopment Potential



City of Portland-Lents/Foster Corridor



Figure 12: Existing Conditions- Foster and 84th Avenue, facing west

Figure 13: Initial Public Improvements



Figure 14: redevelopment potential



Summary of additional residential capacity generated through efficiency measures

Table 5 summarizes the additional capacity generated through adopted efficiency measures.

 Table 5: summary of additional residential capacity resulting from adopted efficiency measures (through 2030)

Source of additional capacity	Additional capacity (dwelling units)
38% refill rate	13,100
New urban areas	8,350
Market feasibility of vacant land zoned mixed-use	3,700
(60%)	
New capacity in AmberGlen and Tigard	6,900
Total	+32,050

Remaining gap after efficiency measures are accounted for

The efficiency measures that have been described in this document are likely to produce, over the next 20 years, capacity for an additional 32,050 dwelling units beyond what was counted in the 2009 UGR. As depicted in Figure 15, this additional capacity exceeds the lower end of the range capacity gap identified in the 2009 UGR, but does not address the middle third of the range forecast. The adoption of additional efficiency measures is not expected to occur before the end of 2010 and therefore cannot be counted towards addressing the residential need identified in the 2009 UGR.

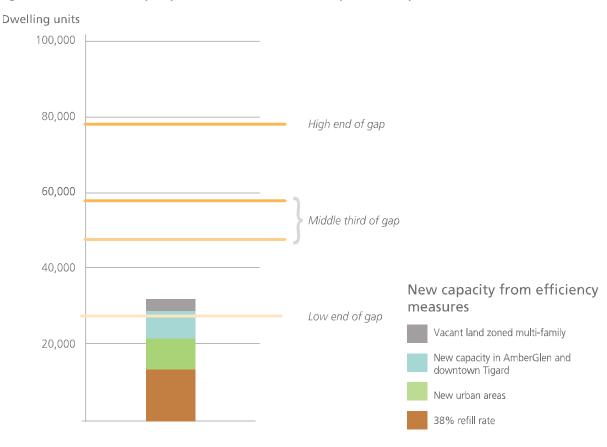


Figure 15: New residential capacity inside the current UGB from adopted efficiency measures¹¹

¹¹ Refill is a share of total growth. In figure 15, the high end of the gap (79,300 units) is different than what was identified in the 2009 UGR (104,900), which, for illustrative purposes, held constant the dwelling unit capacity generated through refill (rather than expressing it as a share of the high demand forecast). Using a 38 percent refill rate, figure 15 adjusts refill capacity according to the point on the forecast range that is used. This in turn affects the gap. When the Council makes its growth management decision, they will identify the point in the forecast for which they are planning. Refill capacity will be calculated as a share of that number.

Potential residential capacity in urban reserves

With the efficiency measures documented to date, sufficient residential capacity has been identified to accommodate demand on the lower end of the range. However, the Metro Council may wish to consider the likelihood that residential demand will end up at a different point on the range forecast. The Metro Council may also determine that strategic UGB expansions into urban reserves will produce better community and regional outcomes. To provide the Council with options, staff has analyzed urban reserves for possible inclusion in the UGB.

Purpose of urban reserves

In the past, when considering expansion of the UGB, Metro was required by state law to consider the agricultural quality of the soil above everything else. Protecting high-quality farm soils is important and this approach provided a way to decide where not to develop. But it did not provide a method for determining the ideal locations and conditions for developing vibrant urban communities. Nor did it address all of the factors that this region values in its rural lands. With the adoption of urban and rural reserves, the region has a formal method and set of factors for considering what makes a good site for a city. Areas that are currently outside the UGB and that are suitable for urbanization over the next fifty years have been designated as urban reserves. At the same time the designation of rural reserves provides protection for the region's most valuable and financially viable farms and commercial forests. This designation also protects significant natural features like wetlands, rivers and their floodplains and buttes from urban development. If the Metro Council chooses to expand the UGB, the expansion will take place in urban reserves.

Comparison of different UGB expansion options for providing additional residential capacity

The process of narrowing potential options for UGB expansion areas began several years ago with the Shape of the Region study. Throughout 2006, Metro, in partnership with Clackamas, Multnomah and Washington counties; the Oregon Department of Agriculture, and the Oregon Department of Land Conservation and Development, conducted a comprehensive study of the various factors that influence the shape of our region and contribute to the quality of life we enjoy. The study sought to identify how the agricultural economy, natural areas and urban communities all contribute value to this region.

There were three components to the Shape of the Region study:

- An assessment of the agricultural lands surrounding the Metro region and their long-term commercial viability, developed by the Oregon Department of Agriculture
- An inventory of the natural landscape features that define this region
- An analysis of factors that contribute to the development and enhancement of great urban communities

The Shape of the Region study informed the comprehensive and collaborative process that ultimately led to the designation of urban and rural reserves in June 2010. That decision designated 28,615 acres as urban reserves, lands outside the current UGB that will provide for: (a) future

expansion over a long-term period and (b) the cost-effective provision of public facilities and services within the area when the lands are included within the urban growth boundary.

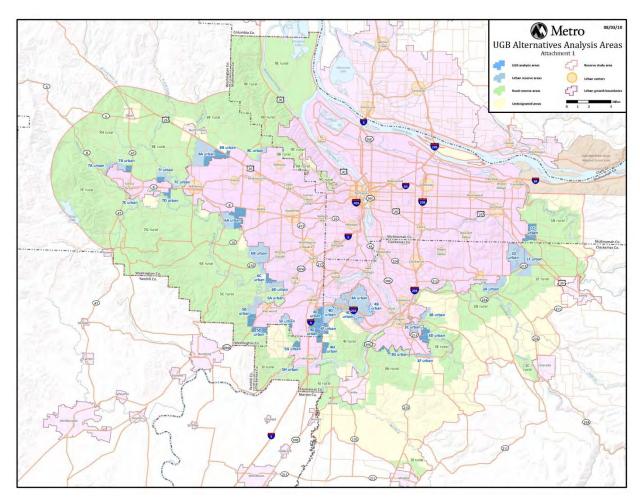
The studies and discussions that led to the designation of urban reserves provide a solid foundation for narrowing the options for possible UGB expansion areas for consideration in December 2010. With that base of knowledge, Metro staff worked with city and county staff during the spring of 2010 to identify 8,298 acres of urban reserves for further study as UGB candidate areas. Those study areas are identified in Figure 16.

In order to satisfy state law, Metro staff needed to study more acres than were identified as being of interest to cities in the region. To provide a comprehensive assessment these 8,298 acres were chosen because they represent a variety of locations around the region and have a variety of topographical characteristics. Additional information about this analysis can be found in Appendix 8.

During the summer of 2010, several cities identified additional lands that they wished to have evaluated as UGB candidates. In order to conduct the analysis necessary to release this recommendation, staff was not able to honor local requests that were received after June 2010. The Metro Council has directed Metro staff to accept additional requests from cities by September 3, 2010. While any additional proposals will not be included in the recommendation issued for public comment beginning August 10, they will be offered for public comment in September and considered by MPAC and the Metro Council before a final recommendation in October and subsequent public hearings in November. Submittals should include the following:

- A formal letter of support from the governing body of the jurisdiction;
- A map of the subject area; and
- An assessment of how the subject area is responsive to Metro's legislative UGB amendment criteria, contained in Metro Code 3.01.020(c) and (d).

Figure 16: UGB alternatives analysis area map



Policy choices (residential)

Comparison of different UGB expansion options

As previously noted, the efficiency measures assessed in this document are sufficient for addressing the low end of the range of need for new dwelling units identified in the 2009 UGR. The Metro Council may determine, however, that strategic UGB expansions into urban reserves will produce better community and regional outcomes.

Appendix 8 describes in detail how the UGB candidate areas are assessed according to the requirements found in Metro Code Section 3.01.020, which implements the UGB factors found in Statewide Planning Goal 14 (Urbanization) and listed as follows:

- Efficient accommodation of identified land needs
- Orderly and economic provision of public facilities and services
- Comparative environmental, energy, economic and social consequences

• Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

In addition to the requirements found in Statewide Planning Goal 14, Metro Code calls for the consideration of five additional factors when evaluating land for inclusion in the UGB. The approach to addressing these five factors is also described in Appendix 8.

- Equitable and efficient distribution of housing and employment opportunities throughout the region (this factor will be addressed with further analysis in the fall of 2010)
- Contribution to the purposes of Centers
- Protection of farmland that is most important for the continuation of commercial agriculture in the region (this factor)
- Avoidance of conflict with regionally significant fish and wildlife habitat (this factor is addressed in the assessment required by the state)
- Clear transition between urban and rural lands, using natural and built features to mark the transition (this factor is addressed in the assessment required by the state)

Considerations when determining where to plan in the range

The 2009 UGR identified a need for 27,400 to 104,900 additional dwelling units. There are several factors that should be considered that may make it relatively less risky to plan for the lower- to-middle portion of the residential range:

Short-term versus long-term risks

Planning for lower or higher points in the residential demand range could carry different benefits and risks depending on the timeframe.

- Oregon land use law requires that, every five years, Metro assess the region's capacity to accommodate the numbers of people anticipated to live inside the Metro urban growth boundary (UGB) over the next 20 years. Since this assessment occurs every five years, there is an ability to make course corrections.
- In the short-to-mid-term, there is a surplus of residential capacity in the region, both in the form of vacant land in past UGB expansion areas and in the region's centers and corridors. There are also numerous opportunities for redevelopment and infill.

"Next-generation projects will orient to infill, urbanizing suburbs, and transit-oriented development. Smaller housing units—close to mass transit, work, and 24-hour amenities gain favor over large houses on big lots at the suburban edge. People will continue to seek greater convenience and want to reduce energy expenses. Shorter commutes and smaller heating bills make up for higher infill real estate costs."

(Urban Land Institute / PricewaterhouseCoopers, 2010) • The regional and world economies are only beginning to show signs of recovery from the recent recession. Many economists and financiers concur that, in the short-term, little development will be occurring anywhere. This is probably particularly the case with master-planned communities and complicated town center developments (Urban Land Institute / PricewaterhouseCoopers, 2010). Development that does occur in the short-term is likely to be of a smaller scale.

There are, however, longer-term risks associated with planning for the lower end of the residential demand range. Most notably, a UGB expansion is just the first step in making land developable. Planning and infrastructure provision can take years, impacting the region's ability to produce housing quickly when it is ultimately needed. This development lag could lead to longer-term housing shortages inside the UGB. If population growth occurs at a faster rate, a certain amount of residential growth (primarily single-family residential) that would otherwise occur in the Metro UGB may be displaced to neighboring cities and to Clark County, Washington. Many of these displaced households would commute back to the Metro region for work, resulting in increased carbon emissions and transportation infrastructure costs.

History of development in past UGB expansions

The region's original UGB was put into place more than thirty years ago (1979) with the purposes of encouraging the efficient use of land, creating vibrant communities and protecting the region's agricultural and natural heritage. The original UGB contained 227,491 acres. Subsequent expansions have added approximately 28,000 acres to the UGB and make up about 11 percent of the land area of the current UGB. These expansions have been made with the aim of complementing development inside the UGB and minimizing impacts on farmland while providing additional residential and employment capacity.

Residential permit data for the ten-year period from 1998 through 2008¹¹ indicate that relatively little new development has occurred in these UGB expansion areas (approximately five percent of permitted units) when compared with the amount that has occurred inside the original UGB (approximately 95 percent of permitted units).

UGB expansions are intended to address 20-year needs for housing capacity and some amount of development lag is to be expected. However, our region's ability to develop UGB expansion areas appears hampered by a number of factors including city annexation issues, conflicting visions for urbanization, and a simple lack of funding to pay for infrastructure.

¹¹ Caveats: A limitation of this data is that not all permitted units were necessarily built. All permit data is from the *Construction Monitor* and is not from Metro's Regional Land Information System, limited efforts were made to remove duplicate records and correct unit values. Locations of building permits are derived by geocoding address information and include an inherent level of error. Permit and unit summaries include the entire 1998-2008 data set, not limited to the range of historic annexations.

The designation of urban reserves provides a new way of identifying lands suitable for urbanization. If UGB expansions are made as part of the 2010 growth management decision, it is hoped, but is an untested theory, that urban reserves have characteristics that will lend themselves to quicker and more efficient urbanization than has occurred in past UGB expansions.

Changing preferences

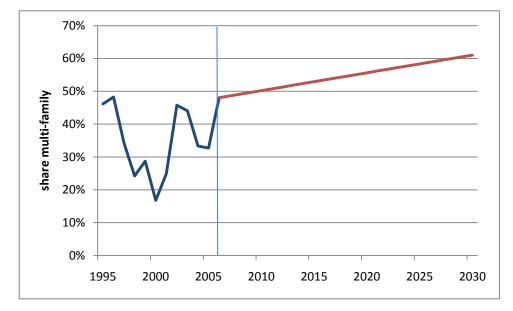
An increasingly wider share of American households wish to have more housing choices, including living in active urban settings and relying less on an automobile to get around (Leinberger, 2010) (Leinberger, 2008) (Nelson, 2006) (United States Environmental Protection Agency, 2010) (Urban Land Institute / PricewaterhouseCoopers, 2010). In 2009, the Institute for Portland Metropolitan Studies convened the Expert Advisory Group on Developing Centers and Corridors. In its report, the advisory group concluded that market trends indicate that compact mixed-use development will be the primary development prototype for the next several decades (The Expert Advisory Group on Developing Centers and Corridors, 2009). This is corroborated by numerous academic studies and MetroScope scenarios.

Looking forward, multifamily development is "...the only place with a hint of hope, because of demographic demand... Locations near transit corridors are prime." (Urban Land Institute / PricewaterhouseCoopers, 2010)



Figure 17: Orenco in Hillsboro (photo: Metro)

Figure 18 depicts the historic and forecast share of new dwelling units inside the Metro UGB that are multi-family.¹² It is expected that, through the year 2030, approximately 60 percent of demand for new dwelling units inside the Metro UGB will be for multi-family residences. Our region will need to find new ways to ensure that there are adequate multi-family housing options to satisfy future demand.





Practical effect of planning for the high end of the residential demand range

In determining where within the range to plan, the Council may want to consider the fact that using a higher point in the range would entail large UGB expansions or aggressive assumptions about the densities that can be achieved in UGB expansion areas. Making large UGB expansions may frustrate regional and community development goals and would be contrary to prevailing public sentiment (Davis, Hibbitts, and Midghall, Inc., 2009).

If it is to meet its goals of reducing carbon emissions, the region must accommodate a substantial amount of future growth as compact, mixed-use development in existing urban centers and corridors (The Expert Advisory Group on Developing Centers and Corridors, 2009) (MacLean & Kennedy, 2006). Large UGB expansions would detract from this effort.

It is also unclear whether UGB expansions will produce the variety of housing choices that may be desired or affordable for the region's future residents. Scenario analysis indicates that, with the levels of public investment that are currently contemplated, economic conditions may not support high densities in many potential UGB expansion areas in the 20-year timeframe.

¹² Forecast is from the MetroScope scenario that informs this analysis.

Table 6 compares the size, price, and type of residences constructed and sold after 1997 in the 1997 UGB with those in post-1997 UGB expansion areas. The median sales price of new homes in post-1997 UGB expansion areas is 140 percent that of new homes in the 1997 UGB. This can be explained by the larger median size of the homes and lots in post-1997 UGB expansion areas as well as the apparent lack of multi-family housing options. These expansion areas would not appear to offer adequate market rate choices that match the budgets of households with low to median incomes, particularly when higher transportation costs are considered.

Table 6: Comparison of sales of newly	y constructed residences in the 199	/ UGB and post-1997 UGB expansion areas

	1997 UGB	Post-1997 UGB expansion areas
Median sales price	\$262,000	\$367,500
Average square feet of residence	2,008	2,801
Average lot square feet	4,622	13,906 ¹³
Total residential tax lots (with sales data)	64,724	1,432
Total number of multi-family residences built and sold post 1997	17,073	0
Share of multi-family residential	26%	0%

Source: Regional Land Information System (RLIS) tax lot data

Analysis only includes tax lots zoned single-family, multi-family, mixed-use, and rural residential Only tax lots with a residence constructed and sold after 1997 are included

Limitations: analysis excludes tax lots that have no associated sales data

Finally, with the designation of a 50-year supply of urban reserves in 2010, the region indicated its desire to grow in a more compact fashion than it has in the past. This intent is expressed in the assumptions that helped to size urban reserves, such as an assumption that future UGB expansions would produce an average of 15 dwelling units per acre over the life of urban reserves. Large UGB expansions in 2010 would set the region on a course of using urban reserves at a faster rate than can be sustained and may compete with efforts to develop the region's centers and corridors.

¹³ The average lot size of new construction in recent UGB expansion areas is likely large because there are many such areas that have not yet been zoned at urban densities. Over time, urban zoning is anticipated to reduce this average lot size.

Recommendation on residential capacity

Since the adoption of the 2040 Growth Concept, cities throughout the region have taken actions that will help create the compact communities originally envisioned in the Growth Concept. As was the case with the 2009 UGR, this staff recommendation is informed by an analysis of likely market responses to public policies and investments. This report describes many of the actions taken at the local and regional level that are expected to encourage development at levels closer to what adopted plans describe. Those actions are "counted" in the Capacity Ordinance to the degree that they are likely to produce results over the 20-year time horizon.

The 2009 UGR identified a residential capacity need for an additional 27,400 to 104,900 dwelling units. Out of that range of need, the efficiency actions described in this document are expected to provide capacity for 32,050 dwelling units.

When making the 2010 growth management decision, the Metro Council must decide where to plan in the range forecast of household demand. If the Council decides to plan for a point that is lower in the household range forecast, there is no need for a UGB expansion. However, the Council may wish to consider planning for more residents.¹⁴ In that event, a UGB expansion would be needed.

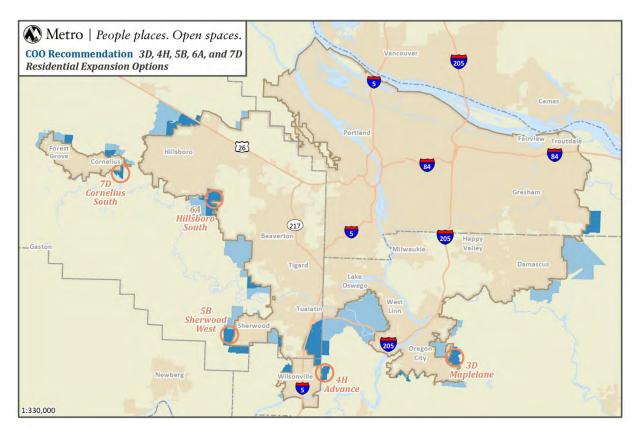
In regards to the question of where in the range to plan, policy makers should consider:

- The implications for communities in the larger seven-county region as well as the possible impacts on the region's transportation facilities if residential growth is displaced.
- The likelihood that actual residential growth will be closer to the middle of the range forecast.
- The fact that the Metro Council will make another growth management decision in 2015, allowing for course corrections, if needed.

To provide the Metro Council with UGB expansion options, staff has analyzed 8,298 acres of urban reserves. Staff's analysis confirms that these areas are all suitable for long-term urbanization. Out of those 8,298 acres, Metro staff analysis identified several possible UGB expansion options that are particularly worthy of consideration in the 2010 growth management decision. These locations all provide substantial areas of flat or relatively flat land that is unconstrained and can be developed at higher densities with minimal impacts to environmental resources (see Appendix 8 for further details on the analysis). If the Metro Council wishes to plan for a point closer to or in the middle-third of the range forecast, Metro's Chief Operating Officer recommends consideration of one or more of the UGB expansion options depicted in Figure 19.

¹⁴ In the middle third of the 20-year forecast range, there is a gap of 44,100 to 62,100 dwelling units

Figure 19: Metro Chief Operating Officer recommendation on options for residential UGB expansions



The amount of additional capacity that would be added from these expansions would depend on the areas that are included as well as the conditions, if any, that are placed on the expansion. Policy makers should make clear their expectations for any UGB expansion areas.

Each of these potential expansion areas comes with unique opportunities and challenges. Staff believes that additional effort is required to ensure that these potential UGB expansions do not have the same outcomes as UGB expansions of the last decade, where there has been little development and the development that has occurred has often consisted of larger, more expensive homes with relatively low densities. Common challenges include:

- Several of the cities that would be responsible for providing governance are still attempting to complete concept plans for previous UGB expansion areas;
- Many of the cities that would be responsible for providing governance have indicated that they currently are not interested in having a UGB expansion that would add territory to their city;
- Infrastructure funding remains a serious challenge for all jurisdictions;
- Topographical and environmental constraints in many candidate areas may preclude higherdensity, mixed-use development;

- Many candidate areas are broken into multiple ownerships that may make higher-density, mixed-use development difficult; and
- In the 20-year timeframe, it is unclear that higher-density development is market feasible in urban fringe locations.

Encouraging mixed-use and multi-family development in future UGB expansion areas will be necessary for producing housing that responds to anticipated changes in demographics and housing preferences. As was noted throughout the UGR's analysis, focused public investments are needed to encourage the development of mixed-use communities. This is the case in existing urban centers and corridors and is likely to be even more important in potential UGB expansion areas that currently lack the amenities and commercial cores necessary to support higher densities. Just as it is needed in existing communities, an investment strategy will be essential to realize the full potential of UGB expansion areas. This is illustrated by MetroScope scenario results that indicate that multi-family development is likely to lag in future UGB expansion areas with the levels of community investment that are likely with current funding sources.¹⁵

Opportunities and challenges for the UGB expansion options depicted in Figure 19 are described below.

South Hillsboro

The Metro Council may wish to consider expanding the UGB to include 1,063 acres in the South Hillsboro area. Among the urban reserves studied as UGB expansion candidate areas, the South Hillsboro area provides a unique opportunity to achieve different outcomes than can be achieved in most other potential UGB expansion areas.

Demonstrating a considerable amount of political will to build a community in the South Hillsboro Area, the City of Hillsboro has done extensive work to plan for this area. Consequently, this area appears more likely to develop in the short-term than other UGB expansion options. Under the existing South Hillsboro concept plan, this proposed UGB expansion would provide capacity for approximately 7,150 additional dwelling units.¹⁶ At the densities contemplated in the South Hillsboro concept plan, this UGB expansion combined with adopted efficiency measures would be sufficient to address the lower end of the range of residential need identified in the 2009 UGR, but would not add sufficient capacity to address the middle-third of the forecast demand range.

Additional qualities that recommend the South Hillsboro area include:

• Large, flat area with a few landowners that control the majority of the land and that are focused on developing their property

¹⁵ MetroScope scenarios indicate that only 17% of the assumed multi-family capacity in prospective UGB expansions may be developed by the year 2030.

¹⁶ The South Hillsboro concept plan assumes capacity for 8,451 dwelling units. The plan includes two areas (Areas 69 and 71) that were previously added to the UGB. Capacity in areas 69 and 71 are already accounted for in the 2009 UGR. Areas 69 and 71 contribute about 1,300 of the 8,451 dwelling units contemplated in the concept plan.

- Few environmental constraints that are located in such a way that development could occur without significant impact to the resources
- Proximity to Tualatin Valley Highway
- Adjacency to other recent UGB expansion areas, whose development would be facilitated by the development of the larger South Hillsboro area¹⁷

Because of these unique characteristics, it is important that the region not squander the opportunities that the South Hillsboro area provides. Building a community that makes use of this land's full potential will be critical for ensuring that remaining urban reserves last for their intended timeframe. The City of Hillsboro has already undertaken a planning effort for the area and has indicated its intent to develop the area at 12 dwelling units per net buildable acre. This would exceed the requirement for 10 units per net buildable acre found in Title 11 of the Urban Growth Management Functional Plan, but falls short of the 15 units per net buildable acre assumption that was used to size urban reserves. Constraints in other UGB candidate areas mean that the South Hillsboro area likely needs to achieve higher densities in order to help the region achieve the 15 units per net buildable acre average in future UGB expansion areas.

Developing at 12 units per acre will not come without challenges and building at higher densities will require even more regional collaboration. Infrastructure costs are a major concern, particularly the transportation costs associated with crossing an existing heavy rail line. Planning for additional density in this area is not likely to substantially increase infrastructure costs. Because these costs will be substantial regardless of planned densities, staff proposes that it makes sense to maximize public investments for the greatest return.

However, staff suggests that policy makers also consider whether it may be wise to consider postponing a UGB expansion into South Hillsboro until a later date when economic conditions are more favorable for higher density development. A UGB expansion now may allow parcelization and lower-density development to occur, making more ambitious efforts difficult in the long-term.

Another consideration that should be weighed by policy makers is whether a UGB expansion into South Hillsboro may compete with efforts to foster great communities in downtown Hillsboro and AmberGlen, both of which are already inside the UGB and need focused investments. As described in this report and its appendices, the City is petitioning the Metro Council to designate AmberGlen as a regional center. Focused public and private investments will be needed to make the proposed designation amount to more than a name change.

Cornelius South

The Cornelius South area consists of 210 gross acres. The City of Cornelius supports a UGB expansion in the Cornelius South area and its location close to downtown Cornelius may help support the proposed Town Center that the City is petitioning the Metro Council to designate. The

¹⁷ The South Hillsboro area is adjacent to Witch Hazel and Areas 69 and 71, which were added to the UGB in recent years.

Cornelius South area includes a site owned by the Hillsboro School District where it intends to eventually build a high school. A UGB expansion would in this area would allow that to occur.

However, adding residential land to the City of Cornelius will only exacerbate the current imbalance of jobs and housing that Cornelius staff and elected officials often cite. Furthermore, adding land for residential development does not appear likely to improve the fiscal health of the city. The city has requested that the Metro Council consider designating downtown Cornelius a Town Center on the 2040 Growth Concept Map. Adding a new urban area may compete for investments aimed at revitalizing downtown Cornelius. It may also compete with Cornelius' efforts to annex and plan the industrial land that was added to the UGB in 2005.

Advance area (Wilsonville)

The Advance area consists of 316 acres adjacent to the City of Wilsonville. The Advance area is near a previous UGB expansion area that remains undeveloped. Adding the Advance area may offer an opportunity to provide urban services to both areas in a more efficient manner. Alternatively, adding more land in this area may compete with efforts to complete the concept plan for the area added to the UGB in 2002. The Advance area includes an undeveloped site owned by the Wilsonville / West Linn School District where it intends to eventually build a school. A UGB expansion would in this area would allow that to occur.

The city is concentrating on redeveloping its center and has indicated that urban reserve areas adjacent to the city are for longer-term growth aspirations.

Maplelane area (Oregon City)

The Maplelane area consists of 573 acres adjacent to Oregon City. The city is concentrating on redeveloping its center and has indicated that urban reserve areas adjacent to the city are for longer-term growth aspirations. The Maplelane area is near a previous UGB expansion area that remains undeveloped and has not been annexed to the city. Adding the Maplelane area may offer an opportunity to provide urban services to both areas in a more efficient manner. However, adding more land in this area may compete with efforts to complete the concept plan for the area added to the UGB in 2002. Additionally, Oregon City has a requirement that annexations receive voter approval. Any UGB expansion that would add territory to Oregon City would be subject to an annexation vote. The recent history is that proposed annexations have been rejected by voters.

Sherwood West

The Sherwood West area consists of 496 acres adjacent to Sherwood. An additional new urban area in Sherwood may compete for attention with the city's update of its comprehensive plan, development of the Brookman Road expansion area and the planning necessary to prepare the City for future high-capacity transit along the Barbur Boulevard/Highway 99, connecting downtown Portland to Tigard and Sherwood as outlined in the Regional High-Capacity Transit System Plan. Recently, Sherwood has experienced very rapid residential growth but has not seen the same growth in non-residential development, resulting in a jobs-housing imbalance. Adding additional residential land to the city will only worsen the situation.

ADDRESSING EMPLOYMENT GROWTH

The 2009 UGR included analyses of three different types of employment capacity and demand:

- Non-industrial employment
- General-industrial employment
- Large-site industrial employment

The employment section of this document is organized around these categories.

Non-industrial employment

The 2009 UGR identified a potential capacity gap of zero to 1,168 acres for non-industrial employment. Non-industrial jobs are typically found in population-serving sectors such as education, health care, retail, and finance.

Considerations when determining where to plan in the non-industrial employment range

Because the 2009 UGR identified a range of possible capacity needs, this document provides attempts to frame additional factors for Metro Council consideration as it decides where within the range to plan.

Cyclical growth management decisions

Every five years, the Metro Council makes a new growth management decision. Because of the cyclical nature of these decisions, in the short term, there is a reduced risk of planning for the lower end of the range. If growth occurs at a faster rate than anticipated, corrective actions can be taken in the 2015 growth management decision. This reduced risk is reinforced by a number of other factors described below.

Non-industrial employment forecast

The 2009 UGR indicates that, even at the high end of the forecast range, there is adequate nonindustrial employment capacity inside the current UGB through the year 2025. At the middle of the forecast range, there is ample capacity inside the current UGB beyond the year 2030. There is a potential capacity gap of 104 acres at the high end of the middle-third of the forecast range.

Preferred locations for non-industrial employment

Non-industrial jobs are typically best-located close to where people live. Higher-density building formats are feasible and common for these types of employment uses. It is expected that many of the adopted efficiency measures assessed in the residential portion of this analysis will also increase the likelihood that zoned employment capacity will be used more efficiently. These efficiency measures are anticipated to sufficiently address any non-industrial employment capacity gap that may exist.

Office vacancy rates



Figure 20: Kruse Way (photo: Cathy Cheney, Portland Business Journal)

"The suburban markets will continue to struggle throughout the year in the face of significant vacancy. Competition for tenants is fierce and concession packages are generous, pushing effective rates down to levels not seen in many years in both the Washington Square/Kruse Way and Sunset Corridor submarkets." (Grubb and Ellis, 2010)

Vacant buildings are not counted as capacity in the UGR (aside from being potential sources of redevelopment capacity, depending on market conditions). Current office vacancy rates indicate that there is considerable existing building capacity to be absorbed before there is any need for additional raw land. This is particularly the case in the region's suburban submarkets. Table 7 summarizes vacancy rates by submarket. These rates are conservative since they do not report tenants seeking sublets to take over unwanted leases.

Submarket	Vacancy Rate
Portland central business district	10.7%
Clackamas / Sunnyside	13.6%
Columbia Corridor	25.2%
Eastside	7.6%
John's Landing / Barbur Blvd.	14.4%
Lloyd District	6.2%
Northwest	11.8%
Sunset Corridor	27.6%
SW / Beaverton / Sylvan	17.3%
Tualatin / Wilsonville	36.1%
Washington Sq. / Kruse Way	21.7%
Vancouver suburban	17.6%

Table 7: office vacancy rates by submarket, second quarter 2010 (Grubb & Ellis)

Recommendation on non-industrial employment

Based on the factors cited above and the fact that the 2009 found no capacity gap at the middle of the forecast demand range, it is recommended that the Metro Council not expand the UGB to provide additional non-industrial employment capacity.

General-industrial employment

The 2009 UGR found that even at the high end of the employment range forecast, there is adequate capacity inside the current UGB to accommodate the next 20 years of general industrial job growth.¹⁸

Recommendation on general-industrial employment

Because the 2009 UGR did not identify a capacity gap for general industrial employment, no actions to provide additional general-industrial capacity are recommended.

¹⁸ The "general industrial employment" portion of the 2009 UGR looked at industrial land capacity in aggregate, without regard for the configuration or size of individual tax lots. Industrial employment that requires large sites was assessed separately in the 2009 UGR and is addressed separately in this report.

Large sites for traded-sector industrial uses



Attracting and retaining traded-sector industrial companies is important to the region's economic prosperity. Traded-sector companies sell goods to buyers outside of the Metro region, bringing additional wealth into the region. The 2009 UGR identified demand for an additional 200 to 1,500 acres in sites with 50 or more buildable acres for traded-sector industrial uses.

Figure 21: SolarWorld site, Hillsboro

Factors that influence an industrial firm's location choices

The Portland metropolitan region competes with other regions around the country and world to attract new industrial firms. A variety of factors can influence an individual company's location choices. These factors may include:

- Availability of suitable sites
- Presence of research institutions
- Transportation accessibility, including freight connections
- Access to a skilled workforce
- Availability of specialized infrastructure and utilities
- Access to venture capital
- Quality of life
- Tax environment
- Public incentives
- Presence of an industry cluster
- Availability of workforce housing
- Proximity of suppliers
- Proximity of markets
- Personal preferences of company executives

Local and regional efforts to provide additional large industrial sites inside the current UGB

A variety of local efforts are under way to help make better long-term use of large sites already within the UGB and to make the region more attractive to large, traded-sector industrial companies. Some of these efforts are summarized below.

Employment toolkit

Recognizing that the regional vision is implemented at the local level, Metro has been working with its partners to identify new strategies for employment areas and documenting them in the third volume of Metro's Community Investment Toolkit, *Eco-efficient Employment*, that will be released in fall 2010. Metro's Community Investment Toolkit provides tools that support communities in their efforts to create thriving, vibrant places. This volume provides information on specific tools and best practices that governments can implement for designing employment areas in response to climate change and promoting job opportunities for the 21st century. The strategies described in the toolkit fall into three categories:

- **High Performance Infrastructure:** model approaches for building more environmentally and economically sustainable infrastructure systems that reduce resource waste and demand on our current systems.
- **21st Century design:** code changes and planning tools for designing employment areas that facilitate community, attract industry, and reduce the impacts of climate change.
- **Redevelopment:** strategies for redeveloping and reusing underutilized employment and industrial areas for future economic growth.

Brownfield cleanup

Around the region, a number of efforts are under way to clean up brownfields. These efforts will eventually make additional large sites available for new industrial uses, but more work is needed before these sites are available. The Portland Harbor is a uniquely situated multi-modal freight transportation hub with marine, airport, freeway and rail access and is home to several traded-sector industries. Despite strong demand for land in the harbor, there remain several important sites that require additional cleanup. Eighteen such sites have river frontage and range from six to nearly 60 acres, totaling just over 333 acres.

Potential short- term and long-term strategies for providing large sites

During the spring of 2010, Metro convened an MPAC employment subcommittee to discuss strategies for ensuring that the region maintains a competitive supply of large sites to attract traded-sector industrial firms. The recommendations that the subcommittee made to MPAC can be categorized as short-term and long-term strategies.

Potential short-term strategies

• Strengthen Title 4 of the Urban Growth Management Functional Plan (Industrial and Other Employment Areas) to protect against specific conflicting uses (parks, schools, places of assembly) in Regionally Significant Industrial Areas

- Create a large-site-replenishment system
- When making a growth management decision in 2010, consider factors such as the current trend in unemployment rates, the employment forecast, the need for site choices, and the region's history of developing large lots added to the UGB.

Potential long-term strategies

- Pursue new infrastructure funding strategies to make sites development-ready
- Elevate brownfield cleanup to a regional priority
- Require concept planning of urban reserves before UGB expansion
- Revamp Title 4 of the Urban Growth Management Functional Plan to recognize blurry boundaries between employment uses
- Explore the concept of large-lot industrial tax deferral

Potential large-industrial-site capacity in urban reserves

Though several cities around the region have long-term programs to provide additional large-site capacity,¹⁹ there currently is no firm basis for counting any of these actions towards the range of 200 to 1,500 acres identified in the 2009 UGR. Consequently, any additional capacity documented in the 2010 Capacity Ordinance will necessarily result from UGB expansions into urban reserves. Designated urban reserves contain many hundreds of farmland acres that are suitable for industrial purposes.

Urban reserves purpose

In the past, when expanding the boundary, Metro was required by state land use laws to consider the quality of the soil above everything else. Protecting high quality farm soils is important and that system provided a way to decide where not to develop. But it did not provide a method for determining the ideal locations and conditions for developing vibrant urban communities. With the adoption of urban and rural reserves, the region has a formal method for considering what makes a good site for a city. Areas that are currently outside the UGB and that are suitable for urbanization over the next fifty years have been designated as urban reserves. If the Metro Council chooses to expand the UGB, the expansion will take place in urban reserves.

Comparison of different UGB expansion options

The process of narrowing potential options for UGB expansion areas began several years ago with the Shape of the Region study. Throughout 2006, Metro, in partnership with Clackamas, Multnomah and Washington counties; the Oregon Department of Agriculture, and the Oregon Department of Land Conservation and Development, conducted a comprehensive study of the various factors that influence the shape of our region and contribute to the quality of life we enjoy. The study sought to

¹⁹ Cities in the region are working to provide eventual large sites through brownfield cleanup, tax lot assembly, or planning new urban areas.

identify how the agricultural economy, natural areas and urban communities all contribute value to this region.

There were three components to the Shape of the Region study:

- An assessment of the agricultural lands surrounding the Metro region and their long-term commercial viability, developed by the Oregon Department of Agriculture
- An inventory of the natural landscape features that define this region
- An analysis of factors that contribute to the development and enhancement of great urban communities

The Shape of the Region study informed the comprehensive and collaborative process that ultimately led to the designation of urban and rural reserves in June 2010. That decision designated 28,615 acres as urban reserves, lands outside the current UGB that will provide for: (a) future expansion over a long-term period and (b) the cost-effective provision of public facilities and services within the area when the lands are included within the urban growth boundary.

The studies and discussions that led to the designation of urban reserves provide a solid foundation for narrowing the options for possible UGB expansion areas for consideration in December 2010. With that base of knowledge, Metro staff worked with city and county staff during the spring of 2010 to identify 8,298 acres of urban reserves for further study as UGB candidate areas. Those study areas are identified in Figure 16. In order to satisfy state law, Metro staff needed to study more acres than were identified as being of interest to cities in the region. Additional information about this analysis can be found in Appendix 8.

During the summer of 2010, several cities identified additional lands that they wished to have evaluated as UGB candidates. In order to conduct the analysis necessary to release this recommendation, staff was not able to honor local requests that were received after June 2010. Metro's Chief Operating Officer has agreed to accept additional requests from cities by September 3, 2010. While any additional proposals will not be included in the recommendation issued for public comment beginning August 10, they will be considered by MPAC and the Metro Council before a final recommendation in October and subsequent public hearings in November. Submittals should include the following:

- A formal letter of support from the governing body of the jurisdiction;
- A map of the subject area; and
- An assessment of how the subject area is responsive to Metro's legislative UGB amendment criteria, contained in Metro Code 3.01.020(c) and (d).

The same factors that were used to assess UGB study areas for residential uses were used for large industrial site uses. A full report is available in Appendix 8.

Considerations for determining where in the range to plan for large industrial sites

Because the range of 200 to 1,500 acres is broad, this document is intended to provide additional information to assist the Metro Council in deciding where within the range to plan. Among the factors to consider are:

- Employment in small businesses
- Employment forecast
- Short-term vs. long-term risks
- Market choices of sites
- Current unemployment rates
- Current industrial building vacancy rates
- History of development on large lots brought into the UGB
- Key traded-sector uses will require cleanup of brownfield sites
- Protection of industrial areas
- Whether a large-site replenishment system will be adopted

Employment forecast

The UGR's original forecast-based assessment indicated that there was unmet demand for 200 to 800 acres in large-lot configurations. However, there are limitations to predicting future large-lot demand with an economic forecast-based approach. Large-lot demand will be the product of the decisions of a relatively small number of large companies along with the broader sector trends anticipated in the forecast. The region's recent history indicates that development of large lots for industrial uses is a relatively rare occurrence.

There are legitimate policy reasons to consider a wider range of demand for large lots, using the initial forecast-based approach for a sense of scale. Doing so gives policy makers the flexibility to weigh the risks and benefits of providing too much or too little large-lot capacity. With that reasoning and on the advice of the Metro Policy Advisory Committee, the range of 200 to 1,500 acres was accepted by the Metro Council.

Short-term vs. long-term risks

The 2010 growth management decision is intended to provide capacity for large-lot industrial employment through the year 2030. However, the Metro Council will again face this question in 2015, allowing for course corrections if necessary. To help foster a prosperous economy, it is important that the Council make a decision that positions the region for prosperity for the next five years, a time period over which the forecast indicates little positive job growth as the economy slowly recovers from the current recession. However, because planning, annexation and infrastructure provision take time, the Council should also consider this decision in light of the longer twenty-year timeframe.

Market choices of sites

Individual industry sectors and clusters have specific transportation network, infrastructure, and labor needs. Efforts to attract firms in these sectors could be more successful if there were a variety of sites from which to choose. When deciding where within the 200-to-1,500-acre range to plan, the Metro Council should consider whether future firms have adequate site choices.

Current unemployment rates

Though land availability is just one factor that affects local employment prospects, it can be an important factor for attracting large, traded-sector industrial employers. Opportunities to create new family-wage jobs should be cultivated, particularly given the Portland metropolitan area's higher-than-average unemployment rate. As of May 2010, the unemployment rate for the Portland region was 10.2 percent (not seasonally adjusted), compared to the United States average of 9.3 percent (United States Bureau of Labor Statistics, 2010). According to the 2009 regional employment forecast, jobs lost during the recession are not expected to be fully recovered until 2014 or 2015.

There are a variety of reasons why the Portland metropolitan area has a track record of higherthan-average unemployment. In part, the region's reliance on the manufacturing sector and, historically, extractive industries have left it susceptible to economic downturns. It is also widely acknowledged that another reason for the Portland area's high rate of unemployment is that the region continues to attract young, well-educated people who arrive despite not having job prospects. In the long-run, the region's youth-magnet status is expected to help the economy turn around (Grubb and Ellis, 2010). Likewise, the high-tech manufacturing sector is anticipated to be one of the first to generate jobs.

Current industrial building vacancy rates

The UGR does not inventory the region's supply of vacant industrial buildings.²⁰ This is a potential source of additional short-term capacity for some firms. However, many traded-sector firms, particularly those with substantial capital investments in equipment, may prefer to own buildings that are constructed to specification. Nevertheless, current rents and vacancy rates can be informative if taken in context. Rents for existing industrial buildings are at their lowest rates in 10 years,²¹ which may encourage more firms to locate in existing buildings, perhaps easing short-term competition for large, vacant parcels.

²⁰ The UGR inventories vacant land capacity and capacity that may be generated through infill and redevelopment. In the case of large lot capacity, the UGR assumes that vacant land was the only potential source of capacity.

As of the first quarter of 2010, the average industrial vacancy rate for the greater Portland market was 8.8 percent (Grubb and Ellis, 2010). Table 8 summarizes industrial vacancy rates by submarket.

Submarket	Total Vacant
217 Corridor / Beaverton	12.4%
Clark County	9.9%
Close-in SE	5.7%
Gresham / outer SE	10.8%
I-5 South Corridor	11.6%
Milwaukie / Clackamas	7.9%
NE / Columbia Corridor	8.9%
Northwest	10.6%
Rivergate	11.4%
Sunset Corridor	7.1%
Swan Island / Close-in NE	1.8%

Table 8: Industrial Vacancy Rates by submarket-- First Quarter 2010, Portland, OR (source: Grubb and Ellis)

History of development on large lots brought into the UGB since 2002

In 2002, 2004 and 2005, the Metro Council expanded the UGB to provide 20-year capacity for employment growth. These UGB decisions added to the UGB a total of 53 large lots (25 or more gross acres) with Title 4 designations (Industrial and Other Employment Areas). Of those 53



Figure 22: Genentech, Hillsboro (photo: Genentech)

large lots, one has developed, resulting in jobs (Genentech in Hillsboro). Genentech currently uses 15 of its 75 acres. These expansions were intended to meet 20-year demand, so it is premature to conclude that the lots are not needed. To date, barriers to development in UGB expansion areas have included city annexation difficulties, shortages of infrastructure funds, and economic

conditions. Meanwhile, there have been a number of recent instances of high-tech manufacturing firms choosing to locate in existing urban areas or existing buildings.²²

Key traded-sector uses will require cleanup of brownfield sites

The UGR did not include brownfields in its inventory of large lots. Some of these contaminated sites provide irreplaceable marine terminal access. Key traded-sector industries will require marine terminal access and cannot be accommodated through UGB expansions.²³ Clean-up will be essential in order to accommodate these priority sectors. New sources of funding are needed for cleanup. Federal and state legislative changes are needed to reduce future property owner



Figure 23: Arkema site, Portland (photo: Arkema Group)

liabilities. However, no new commitments to clean up brownfields have been adopted to support the development readiness of large sites in the region.

Protection of industrial areas

Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan seeks to provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas (RSIA), Industrial and Employment Areas. In recent years, the Metro Council and others have expressed concern that Title 4 does not preclude certain non-industrial uses. Metro's Chief Operating Officer recommends that the Metro Council consider adopting changes to Title 4 that would prohibit schools, places of assembly, and parks in RSIAs. These restrictions would apply to existing and future RSIA-designated lands, including any areas added to the UGB in 2010 and designated RSIA. These changes would help to protect the region's long-term supply of large industrial sites and would reduce the potential risk of planning towards the higher end of the 200-to-1,500-acre range.

Large-site replenishment mechanism

As described in the section of this document on proposed Framework and Functional Plan changes, Metro's Chief Operating Officer recommends the creation of a large-site replenishment system that ensures that the region maintains a competitive supply of large sites inside the UGB for tradedsector industrial uses. Having this type of system in place would reduce the risk of planning towards the lower end of the 200-to-1,500-acre range.

²² Recent examples include Solaicx in Portland, Sanyo in Salem, XsunX in Wood Village, Oregon Crystal Technologies and Solexant in Gresham, Uni-Chem in Eugene, and SolarWorld and Allvia in Hillsboro.

²³ The 2009 forecast did not determine what share of future employment would require marine terminal access. In some cases, marine terminal uses have relatively less-intensive employment, but play a critical role in the regional economy for freight movement.

Recommendation on large-site industrial capacity

The 2009 UGR indicated that there is traded-sector-industrial demand for 200 to 1,500 additional acres on sites with 50 or more acres. Metro's Chief Operating Officer recommends that the region support the traded-sector economy by maintaining an adequate supply of large industrial sites with the following actions:

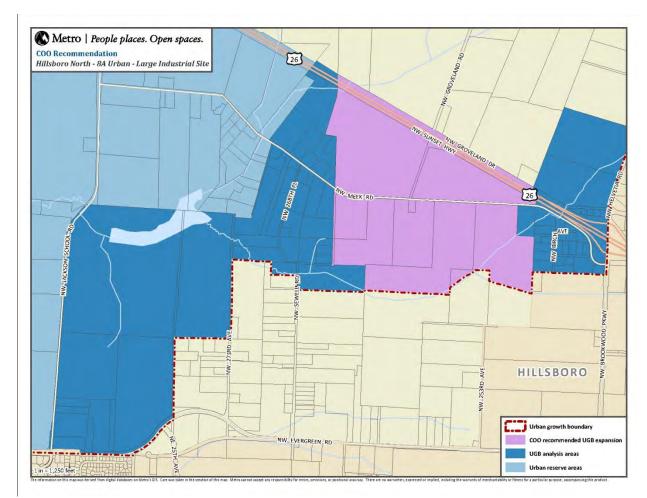
- Elevate brownfield cleanup to a regional priority and target efforts on large industrial sites within the Urban Growth Boundary;
- Limit division of large industrial sites;
- Create a large-site inventory²⁴ and a system to replenish this inventory upon development;
- Strengthen protection of key traded-sector industrial sites by prohibiting new schools, places of assembly and parks and recreational facilities; and

With the above conditions assumed, Metro's Chief Operating Officer recommends that the Metro Council strategically add 310 acres of industrial land to the urban growth boundary north of Hillsboro. This expansion should only be made if there is certainty that this land will supply lots over 50 acres. This recommended UGB expansion for industrial employment is depicted in Figure 24. Staff believes that this area lends itself to large-site industrial development for the following reasons:

- The site is flat, a requirement for the large industrial building format
- Infrastructure services could be extended from future development of the Evergreen area
- The site has access to Highway 26
- The site would complement an existing high-tech manufacturing cluster in the City of Hillsboro
- The City of Hillsboro has a track record of successfully delivering infrastructure services to UGB expansion areas
- The City of Hillsboro is actively engaged in efforts to recruit high-tech manufacturers

If the Council wishes to plan for a higher point in the range of large-site industrial demand, there are additional urban reserves north of Hillsboro that are suitable.

²⁴ For the purposes of this inventory, large sites are defined as single or contiguous tax lots in common ownership, totaling at least 50 gross buildable acres that have been designated under Title 4 as Industrial or Regionally Significant Industrial Areas. The large-site inventory is described in more detail in Appendix 5.





To ensure that the area is protected for industrial uses, Metro's Chief Operating Officer recommends that the Metro Council apply the Regionally Significant Industrial Area designation to this expansion area. Recommended changes to Title 4 (Industrial and Other Employment Areas) of the Urban Growth Management Functional Plan would prohibit several uses in Regionally Significant Industrial Areas. Prohibited uses would include new schools, places of assembly, recreation facilities and parks (with exceptions for habitat protection).

In weighing large-site industrial growth management options, policy makers should consider several questions, including:

- Will the proposed UGB expansion help the region to achieve its six desired outcomes?
- What conditions, if any, should be placed on this proposed UGB expansion area? What conditions or tools would encourage landowners to assemble their tax lots, making the site more development ready?

If the Metro Council expands the UGB as proposed, the region would have a supply of 18 large industrial sites inside the UGB.²⁵ To maintain this target number of large industrial sites inside the UGB, Metro staff recommends that the Council consider adopting the large-site replenishment system described in Appendix 5.

PROPOSED UPDATES TO THE REGIONAL POLICIES

The region has worked for the last 15 years to implement its long-range plan, the 2040 Growth Concept. The Regional Framework Plan and the Urban Growth Management Functional Plan have helped to guide those efforts. In some cases, however, it has become clear that these implementing plans need updating to reflect today's better understanding of how to support community and regional goals. Likewise, contemporary concerns such as global climate change may deserve greater recognition in regional plans.

Over the years, the Metro Council, MPAC, and the Metro Technical Advisory Committee (MTAC) have sought several updates to these plans. The proposed updates would help the region to realize its long-term vision and would support the 2010 growth management decision.

Proposed changes to the Regional Framework Plan

The Regional Framework Plan was originally adopted in 1997. The Framework Plan is a statement of the Metro Council's policies concerning land use, transportation and other planning matters that relate to the implementation of the 2040 Growth Concept.

In June 2010, the Metro Council adopted several changes to the Framework Plan as a part of the urban and rural reserves ordinance (Ordinance no. 10-1238A). Those changes to the Land Use chapter of the Framework Plan are:

- A new section that describes Metro Council policy on urban and rural reserves
- An updated section that sets Metro Council policy on the management of the urban growth boundary
- An updated section on neighbor cities in light of the urban and rural reserves decision
- A repeal of the section on protection of Agriculture and Forest Resource Lands in light of the designation of rural reserves

Based on Council and advisory committee discussion over the last few years, Metro staff proposes a number of additional updates to the policies set forth in the Land Use chapter of the Framework Plan. Staff believes that the proposed changes remain true to the original intent of the 2040 Growth Concept and more clearly articulate the Metro Council's policy positions.

²⁵ For the purposes of this inventory, large sites are defined as single or contiguous tax lots in common ownership, totaling at least 50 gross buildable acres that have been designated under Title 4 as Industrial or Regionally Significant Industrial Areas. The large-site inventory is described in more detail in Appendix 7.

The proposed changes to the Land Use chapter of the Framework Plan are summarized below. The full text of the proposed update to the Framework Plan is included as Exhibit A to the draft Capacity Ordinance. A redline version is also included to show proposed changes.

Use the defined six desired outcomes for a successful region to guide growth management decisions

In June 2008, the Metro Council, with the endorsement of MPAC, adopted Resolution no. 08-3940 which defined six desired outcomes for a successful region. Staff proposes incorporating the six desired outcomes into the Framework Plan to give them more official status as Metro Council policy. The six desired outcomes are:

- People live and work in vibrant communities where they can choose to walk for pleasure and to meet their everyday needs.
- Current and future residents benefit from the region's sustained economic competitiveness and prosperity.
- People have safe and reliable transportation choices that enhance their quality of life.
- The region is a leader in minimizing contributions to global warming.
- Current and future generations enjoy clean air, clean water and healthy ecosystems.
- The benefits and burdens of growth and change are distributed equitably.

These would replace the fundamentals currently found in the Framework Plan.

Measure performance to guide growth management decisions

The Metro Council has expressed its desire to take an outcomes-based approach to growth management. Reporting the region's historic and forecasted performance is an important element of implementing that type of decision-making model. Staff proposes that the Framework Plan should express the intent to provide performance information to help guide growth management decisions.

Prioritize public investments in Centers, Corridors, Station Communities, Main Streets, Employment and Industrial Areas

The region intends to focus population and employment growth in centers, corridors, station communities, main streets and employment areas, but has not yet expressly stated its intent to strategically invest scarce public dollars in these specific 2040 design types. Staff proposes making this policy intent explicit.

Encourage elimination of barriers to compact, mixed-use, pedestrian-friendly and transitsupportive development in centers, corridors, station communities, and main streets

Since the adoption of the 2040 Growth Concept, some of the barriers to compact development have become more apparent (such as some parking requirements). Staff proposes that the Framework Plan should be amended to expressly state that it is the policy of the Metro Council to encourage the elimination of such barriers in targeted 2040 design types. Staff also proposes that the Framework

Plan should underline the importance of creating the conditions for infill and redevelopment to occur in targeted 2040 design types.

Address housing affordability through a combination of actions, including investments in transportation facilities and transit services that make transportation more affordable,

which in turn make more household income available for housing and other needs An unintended side effect of improving communities is that they often become more expensive places to live, reducing housing options for lower-income or fixed-income households. Second to housing costs, many households spend a substantial portion of their income on transportation expenses. Metro staff proposes that it be the policy of the Metro Council to take a holistic approach to ensuring an affordable cost-of-living that acknowledges both housing and transportation costs. This would be an addition to existing housing affordability policies.

Provide affordable housing in UGB expansion areas

Planning for new urban areas offers a unique opportunity to ensure that development forwards community and regional goals. A commonly-held goal is that households of a variety of incomes have choices of where to live. Metro staff proposes that it should be the policy of the Metro Council to ensure that affordable housing is addressed in planning for new urban areas. Councilor Robert Liberty is convening a group of MPAC members to come up with new policy language.

Provide urban areas with access to parks, trails and natural areas

Currently, the Land Use chapter of the Framework Plan addresses access to parks, trails and natural areas in several sections. Staff proposes that an integrated system of parks, trails and natural areas is essential for fostering vibrant communities and that it should be a clearly stated Metro Council policy to provide urban areas with access to these amenities. The proposed change would add a section to the Land Use chapter that would specifically address this policy.

Strengthen employment in the region's traded-sector industries

Attracting and retaining traded-sector industrial firms is important to the region's economic prosperity. Traded-sector industrial firms sell products to consumers elsewhere in the country and world, bringing wealth into the Metro region. MPAC and its 2010 employment subcommittee proposed that the Metro Council should consider adopting a policy to maintain a supply of large sites for traded-sector industrial uses inside the UGB.

Staff's proposal for implementing such a system is described in concept in Appendix 5 and the proposed implementing legislation is found in Titles 4 and 14 of the Urban Growth Management Functional Plan (proposed revisions are described later in this document). With a large-industrial-site replenishment system, a target number of large vacant sites would be maintained inside the UGB. If construction begins on a large site, within a year the target inventory would be replenished either through tax lot assembly or brownfield cleanup. If a site is not made available through an efficiency measure, a fast-track UGB expansion would be made into urban reserves. In order to reflect changing economic conditions, the target number of sites would be reassessed every five years in a new UGR.

Proposed changes to the Urban Growth Management Functional Plan

The Urban Growth Management Functional Plan contains the detailed requirements that are intended to lead to implementation of the 2040 Growth Concept and the policies found in the Framework Plan. City and county comprehensive plans and implementing ordinances must be consistent with the Functional Plan. Experience has pointed to the potential need to revise portions of the Functional Plan to lead to more effective implementation of the 2040 Growth Concept. Some proposed changes are also necessary to make the Functional Plan conform with proposed changes to the Framework Plan.

As a reminder, the Metro Council has recently made several changes to the Functional Plan:

- On June 10, 2010, the Metro Council, as part of its consideration of the 2035 Regional Transportation Plan, repealed Title 2 (Regional Parking Policy) and included the topic in the revised Regional Transportation Functional Plan. (Ordinance no. 10-1241A)
- As part of its June 10, 2010 decision on urban and rural reserves, the Metro Council repealed Title 5 (Neighbor Cities and Rural Reserves) and amended Title 11 (Planning for New Urban Areas). (Ordinance no. 10-1238A)

Title 1 (Requirements for Housing and Employment Accommodation)

Currently, Title 1 specifies minimum zoned capacity for jobs and housing for each city and unincorporated area within the UGB. Many cities have now exceeded these requirements. Staff proposes that Title 1 should apply to housing capacity only and that Table 1, which specifies minimum zoned capacities for each city and each county's unincorporated areas, should be replaced with a no-net-loss policy. The proposed Title 1 and a redline version are included as Exhibit D to the draft Capacity Ordinance.

Title 4 (Industrial and Other Employment Areas)

Title 4 is intended to protect industrial areas and the public facilities that serve them from conflicting uses. Title 4 does not, however, prohibit several uses that have occurred that diminish the region's capacity for industrial employment. Staff proposes that Title 4 be amended to prohibit new schools, places of assembly, recreational facilities and parks (with exceptions for habitat protection) in Regionally Significant Industrial Areas. Staff also proposes amending Title 4 to implement the large-site replenishment concept, which is described in Appendix 5. Proposed revisions to Title 4 include limitations on the division of tax lots that comprise large sites. The proposed Title 4 and a redline version are included as Exhibit E to the draft Capacity Ordinance.

Title 6 (Central City, Regional Centers, Town Centers and Station Communities)

Many of the Corridors identified on the 2040 Growth Concept map have tremendous potential for revitalization. Currently, Title 6 seeks to encourage development in centers and station communities but is silent on corridors. Staff recommends the inclusion of corridors in Title 6 and revisions that include provisions that would link strategies for centers and corridors with a community investment strategy. Staff also recommends revisions to Title 6 that would provide local jurisdictions with a safe harbor for addressing the state Transportation Planning Rule as they

update plans for their communities. The proposed Title 6 is included as Exhibit H to the draft Capacity Ordinance. Proposed changes are minimal, so no redline version is provided.

To identify investment priorities and to provide local jurisdictions with a means to address Transportation Planning Rule requirements, staff proposes that the Metro Council adopt a revised Title 6 map, which would depict center boundaries and indicate instances where a city had officially adopted center boundaries.²⁶ Proposed revisions to Title 6 would make cities that have adopted official center boundaries eligible for regional investments.

In 2009, Metro released a State of the Centers Report that profiled the region's 37 town and regional centers, reporting the numbers of people, types of businesses, and activity levels (such as whether the centers are intended to be 18- or 24-hour communities) in each center. These descriptions generally resonated with city and county elected officials and staff, allowing them to envision how their communities might grow. Staff proposes that setting targets for activity levels in the Functional Plan for targeted 2040 design types (such as centers and corridors) would help communities and their elected officials to examine whether current policies are likely to produce desired community outcomes.

Title 8 (Compliance Procedures)

Title 8 outlines the requirements for local jurisdiction compliance with the provisions of the Functional Plan. Experience has demonstrated that the compliance process and annual compliance reporting place onerous burdens on cities, counties, and Metro. The Metro Council has indicated its desire to emphasize a more collaborative, outcomes-based approach to implementing the 2040 Growth Concept. Consequently, staff recommends revisions to Title 8, which would streamline the compliance process. The proposed Title 8 and a redline version are included as Exhibit I to the draft Capacity Ordinance.

Title 9 (Performance Measures)

Staff recommends repealing Title 9, which calls for a biennial report on performance and specifies several performance measures that should be included. Competing staffing priorities have resulted in sporadic completion of the performance report. Additionally, the Functional Plan is intended to articulate requirements for cities and counties, not for Metro. As written, Title 9 instructs Metro to track performance. The Functional Plan is, therefore, not the appropriate location for this type of requirement.

As part of an outcomes-based approach to growth management, performance measures (historic and forecasted) have been incorporated into the 2009 urban growth report and this report. These measures of performance include such factors as the share of the region's households and jobs in centers and corridors, the percentage of residential units built through redevelopment or infill (refill) and measures of affordability for residents. These measures will continue to be tracked to illustrate progress in meeting the region's six desired outcomes. Staff believes that this approach to performance reporting is more useful for informing policy decisions.

²⁶ The proposed Title 6 map is included as Exhibit H to the draft Capacity Ordinance

Other efforts are underway that will refine measures of performance and link the reporting directly to decision-making. These efforts include the analysis proposed in the Climate Prosperity initiative²⁷, the Climate Smart Communities program²⁸, and in the next Nature in Neighborhoods²⁹ reporting. Additionally, the "Greater Portland Vancouver Regional Indicators" project being led by the Portland Institute for Metropolitan Studies will provide periodic performance reporting on a variety of measures. Through the engagement of a diverse group of stakeholders, the Regional Indicators project will define desired outcomes, measures, and targets for a broad range of economic, environmental and equity factors. The Metro Council and Metro's policy advisory groups will be able to consider these results to inform policy decisions.

Title 10 (Functional Plan Definitions)

If the Metro Council decides to adopt some or all of the proposed changes to the Urban Growth Management Functional Plan and the Transportation Functional Plan, it will be necessary to revise definitions in Title 10. The proposed Title 10 is included as Exhibit K to the draft Capacity Ordinance. Given the purpose of Title 10, no redline version is provided.

Title 14 (Urban Growth Boundary and Urban Reserves)

Currently, urban growth boundary and urban reserves procedures are located in Metro Code Chapter 3.01. Staff proposes repealing Chapter 3.01 and moving its contents to a new Title 14 of the Urban Growth Management Functional Plan. This change will make it easier for local government staff and the public to find the requirements associated with the UGB and reserves. Title 14 would also implement the previously described large-site replenishment concept. The proposed Title 14 is included as Exhibit M to the draft Capacity Ordinance. Because this is a new title, no redline version is provided.

Proposed 2040 Growth Concept map changes

Center designations

Initially adopted in 1995, the 2040 Growth Concept presents a vision that guides development in the region. The 2040 Growth Concept Map illustrates this regional vision through the designation of centers, corridors, employment and industrial areas and other regional transportation, parks, trails and natural area features. Though local jurisdictions determine the boundaries of their centers and corridors, changes to the location or type of Center on the map require Metro Council action. In

²⁷ The Portland Metro Climate Prosperity Greenprint is the joint effort of public and private sector representatives from the Portland metropolitan area. It provides a roadmap to accelerate the region's leadership in green development and clean technology. It starts from the premise that the Portland metropolitan region can simultaneously strengthen its economy, reduce carbon emissions, and maintain a focused leadership position in the global green economy.

²⁸ Under legislation passed in 2009 (House Bill 2001), Metro, as the Metropolitan Planning Organization for the Portland metropolitan area, must plan for reductions in transportation-related carbon emissions. The State of Oregon will provide Metro with greenhouse gas reduction targets in 2011. Metro is actively engaged with local elected officials and advisory committees to begin the scope of work on developing scenarios for consideration in 2012.

²⁹ Nature in Neighborhoods is Title 13 of Metro's Urban Growth Management Functional Plan. The purpose of this title is to conserve, protect and restore a continuous ecologically viable streamside corridor system that is integrated with upland wildlife habitat and the surrounding urban landscape.

making their determination, Council must consider consistency between the changes and adopted center and corridor policies.

Three local jurisdictions, Happy Valley, Cornelius and Hillsboro, have requested changes to centers on the 2040 Growth Concept Map in order to better align their development aspirations with regional policies and investments. The Chief Operating Officer recommends that Metro Council approve these changes as illustrated in the revised 2040 Growth Concept Map as shown in Exhibit O. These requests are to:

- Relocate the existing Town Center in Happy Valley from King Road to Sunnyside and SE 172nd Avenue, about two miles to the east.
- Change the Main Street designation in downtown Cornelius to a Town Center designation.
- Expand the existing Tanasbourne Town Center to include the adjacent AmberGlen area and change the designation from a Town Center to Regional Center.

As described in more detail in Appendix 6, these changes are consistent with existing Metro policy. They are also consistent with newly proposed policies for centers that would link regional investments with local actions. In order to receive the benefits of regional investments, these centers will be expected to implement the mix and intensity of zoning, parking management, street and access improvements and other investments that support walkable areas, productive bus or high-capacity transit service and leverage successful private investments. In order to develop as successful, vibrant centers, the Chief Operating Officer advises that, if the Council approves these changes, the Council should be explicit in its expectations for local actions. Each center will require additional investments and actions, including:

- Additional development and intensity in Happy Valley Town Center necessary to support transit service, mixed-income housing, public spaces, and employment.
- Continued and more diverse public, private and non-profit partnerships to supplement the limited resources in Cornelius to help develop their downtown as a 2040 Town Center.
- New implementation strategies in Hillsboro's AmberGlen/Tanasbourne area to encourage the provision of mixed-income housing, densities necessary to support future high-capacity transit and to achieve non-single-occupant-vehicle targets, and bring the existing development up to the mixed-use and multi-modal transportation standards envisioned for a Regional Center.

The revised 2040 Growth Concept Map in Exhibit O also includes some changes to the depiction of the major highways and arterials, high capacity transit lines, parks, trails, and open space in order to reflect the new Regional Transportation Plan investments, changes to Vancouver and Clark County Plans and other updates. In addition to identifying the urban growth boundary location, the 2040 Map now depicts adopted urban and rural reserves.

Title 4 Map designations

The Title 4 Map depicts the locations that are subject to the provisions of Title 4 of the Urban Growth Management Functional Plan (Industrial and Other Employment Areas). Title 4 is intended to protect industrial areas and the public facilities that serve them from conflicting uses. Staff has received formal requests from Oregon City and Tigard to amend the Title 4 Map. Staff anticipates including a proposal for these amendments to the Title 4 map in the Capacity Ordinance that will be considered by the Metro Council in December 2010. Additional information regarding this proposal will be available in the fall of 2010.

LONGER-TERM RECOMMENDATIONS

In the course of the public discussion of the 2009 UGR and the 2010 Capacity Ordinance, there have been several recurring topics that deserve greater attention in coming years. No specific action is recommended on these issues in the context of the 2010 Capacity Ordinance, but staff recommends that they be considered as future work programs.

Protect industrial lands

Stakeholders have indicated the importance of maintaining a competitive supply of large sites to attract traded-sector industrial firms. Regulations are essential for protecting large industrial sites from conversion to non-industrial uses. However, there is a need to tailor land use regulations and other strategies to achieve a better balance of public and private sector benefits and burdens. MPAC has recommended further work on two possible options:

Balance public and private interests with a large-lot industrial tax deferral program

Oregon's farm use tax assessment program could serve as a model for tax assessment of large, vacant industrial sites. Under the farm use assessment system, lands kept in active farm use are assessed at a lower rate through use of a tax deferral. The MPAC employment subcommittee recommended Metro staff research the feasibility of an industrial tax deferral program. Such a system could offset the use restrictions placed on these sites as they await industrial development. The program would also seek to ensure that public infrastructure investments serve their intended purpose (to serve future industrial areas). Depending on the circumstances, market-rate back taxes could be collected on properties that get used or rezoned for non-industrial purposes.

MPAC also recommended further exploration of the applicability of this concept for large, vacant industrial sites. Because this type of program would require legislative changes, it is a longer-term recommendation.

Issues for further discussion regarding a large lot tax deferral system

- How much foregone tax revenue would such a system entail? Are there other funding mechanisms that could limit the fiscal impacts to cities if this program were instituted?
- What are the financial incentives and disincentives that would need to be created in order for the program to work? For example, what level of back taxes may need to be incurred to discourage conversion of industrial land to non-industrial uses?
- Is there a way to use this type of program as an incentive to encourage lot assembly?
- What legislative changes would be necessary and how likely is it that efforts to change the law would be successful?

<u>Focus Title 4 of the Urban Growth Management Functional Plan on protecting Regionally Significant</u> <u>Industrial Areas</u>

Title 4 of the Urban Growth Management Functional Plan seeks to provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas, Industrial and Employment Areas. In the longer-term (during 2011), MPAC recommended changes to Title 4 and the Title 4 map. These changes would implement the recommendations of the 2004 Greater Metropolitan Employment Lands Study (GMELS). Generally, the proposed changes are:

- Work with local governments in the region to identify key industrial sanctuaries with unique site characteristics or infrastructure facilities.
- Focus regulations on protecting the region's most important industrial areas and their associated public facilities (e.g. transportation facilities)
- Loosen regulations in other employment areas to allow for a wider range of uses that reflects the sometimes blurry lines between industrial and non-industrial uses

Monitor development in UGB expansion areas

UGB expansions into urban reserves will represent an attempt to improve on the outcomes of previous UGB expansions which, for a variety of reasons, have sometimes failed to develop. Typical obstacles to development have included:

- Infrastructure funding shortfalls
- Infrastructure funding timing issues (system development charges do not provide up-front funding)
- City annexation issues
- Concept plan disagreements
- Lack of development demand in some locations
- Topography

Though state law requires Metro to assess the likelihood that local and regional actions and investments will increase development inside the UGB, there is not a similar burden of proof that there are public resources to pay for infrastructure in UGB expansion areas. In light of this, staff recommends ongoing monitoring of development in UGB expansions. If, over the longer-term, UGB expansions into urban reserves fail to develop, staff recommends working with the legislature to create a requirement for a finding that urban services and municipal governance can be provided and development is likely to occur in UGB expansion areas in order to expand the boundary. State law requires Metro to assess the likelihood that local and regional actions and investments will increase development inside the UGB. The burden of proof should at least be in balance, allowing a

richer conversation about investing in existing communities or choosing to develop farm and forest land. Staff also recommends a policy discussion about the relationship among land use law, city government and municipal finance. The lack of connection among these topics makes implementation of good planning challenging.

Monitor performance

One aspect of implementing an outcomes-based approach to growth management is to have reliable performance information and targets. This report and the 2009 UGR attempt to provide performance information, including scenario results, to inform policy deliberations. There is, however, a need for ongoing work to further refine performance measures, data collection, and the process for how performance information gets used in policy decisions. Staff recommends that this work proceed on several fronts, including staff and Council engagement in the Climate Prosperity initiative, the Climate Smart Communities program, and the Regional Indicators project.

ADVISORY COMMITTEE AND PUBLIC REVIEW PROCESS AND TIMELINE

The recommendations described in this document are being released now to allow for further discussions to inform the growth management decision that the Metro Council intends to make in December 2010. A draft of the Capacity Ordinance that will be considered by the Metro Council in December 2010 is included as an attachment to this report. Discussions this fall represent a continuation of the last several years of dialogue on how the region can best position itself to foster communities that best embody the six desired outcomes. During the fall of 2010, a number of open houses will be held to allow for members of the public to comment on the proposed strategies. During the fall, proposed strategies will also be discussed on several occasions by MTAC and MPAC, including topics such as:

- Where in the residential forecast range should the Metro Council plan?
- The 2009 UGR identified unmet demand for 200-to-1,500 acres in large-site configurations for traded-sector industrial uses. Where within this range should the Metro Council plan?
- If UGB expansions are to be made, where should they occur?
- How might UGB expansions benefit existing communities?
- How would necessary public facilities be paid for in UGB expansion areas?
- What conditions should be attached to any UGB expansions?
- Are the proposed updates to the Regional Framework Plan and the Urban Growth Management Functional Plan likely to lead to improved regional and community outcomes?
- Should the Metro Council adopt proposed changes to the 2040 Growth Concept map, recognizing new center boundaries and new centers?
- How might the region collaborate to move forward with a community investment strategy?

Next steps

Fall 2010:	MPAC and MTAC discussions of growth management options; open houses to solicit public input
December 2010:	The Metro Council will submit plans to accommodate at least 50 percent of any 20-year capacity need (through local and regional actions inside the boundary or through expansions) to the Oregon Land Conservation and Development Commission. The Metro Council intends, however, to make a complete growth management decision in December 2010.
December 2011:	Final state deadline to accommodate identified 20-year capacity need through urban growth boundary expansions. The Metro Council intends, however, to make a complete growth management decision in December 2010.

Bibliography

City of Hillsboro. (2010). AmberGlen Community Plan. Hillsboro.

Davis, Hibbitts, and Midghall, Inc. (2009). *Public Attitudes about Quality of Life and Growth Management Issues*. Portland.

Grubb and Ellis. (2010). 2010 Forecast Report: Portland. Retrieved March 29, 2010, from Grubb and Ellis: http://www.grubb-ellis.com/forecast2010/ReportLoader.aspx

Grubb and Ellis. (2010). First Quarter 2010 Office Trends Report: Portland. Portland: Grubb and Ellis.

Grubb and Ellis. (2010). *Industrial Trends Report - First Quarter 2010 Portland, OR*. Retrieved May 7, 2010, from Grubb and Ellis: http://www.grubb-ellis.com/SitePages/GetFileFromDB.ashx?type=9&id=545

Leinberger, C. (2010, June). Here Comes the Neighborhood. The Atlantic Monthly .

Leinberger, C. (2008, March). The Next Slum. The Atlantic Monthly .

MacLean, N. J., & Kennedy, C. (2006). Comparing High and Low Residential Denisty: Life-Cycle Analysis of Energy Use and Greenhouse Gas Emissions. *Journal of Urban Planning and Development*, *132* (1), 10-21.

Nelson, A. C. (2006). Leadership in a New Era. *Journal of the American Planning Association*, 72 (4), 393-409.

The Expert Advisory Group on Developing Centers and Corridors. (2009). *Achieving Sustainable, Compact Development in the Portland Metropolitan Area: New Tools and Approaches for Developing Centers and Corridors.* Portland: The Institute for Portland Metropolitan Studies.

United States Bureau of Labor Statistics. (2010, May). Retrieved May 2010, from United States Bureau of Labor Statistics: http://www.bls.gov/web/laummtrk.htm

United States Environmental Protection Agency. (2010). *Residential Construction Trends in America's Metropolitan Areas.* Washington, D.C.: EPA.

Urban Land Institute / PricewaterhouseCoopers. (2010). *Emerging Trends in Real Estate 2010*. Washington, D.C.: Urban Land Institute.

www.oregonmetro.gov

Appendix 1:

Possible outcomes of current policies

August 2010

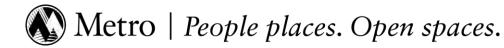


TABLE OF CONTENTS

Purpose	2
Scenario Results	3
Distribution of jobs in the 7-county area (year 2030)	3
Distribution of residences in the 7-county area (year 2030)	6
Residential refill rate (2005 to 2030)	9
Average one-way commute distance for households in the 7-county area (year 2030)1	0
Residential source greenhouse gas emissions (in billions of pounds per year by year 2030)1	1
Mix of housing types and ownership1	2
Future household incomes1	.4
Future mix of household types1	.5
Future housing and transportation affordability1	.7
scenario assumptions2	6
Demand:2	6
Supply:2	6
Other variables:	2

PURPOSE

This technical appendix is intended to provide documentation of the scenario that informs the draft 2010 Capacity Ordinance. This scenario was conducted to inform several aspects of the Capacity Ordinance analysis, including:

- Test the effectiveness of a variety of adopted efficiency measures
- Provide information about the possible outcomes of continuing current policy and investment trends

Scenarios tested

Throughout this document, two different scenarios are compared:

UGR scenario: refers to the medium growth scenario that informed the 2009 UGR.

Capacity Ordinance scenario: refers to the medium growth scenario that informs the 2010 Capacity Ordinance.

Disclaimer

This scenario is for research purposes only and to help inform policy discussions. To the degree possible, scenario assumptions reflect policies currently in place. To make the model function, however, some assumptions must be made about policy decisions that have not yet been rendered. This is the case, for instance, with assumed future UGB expansions. It is anticipated that many of model's assumptions will change as new local and regional policies are adopted. Different assumptions would produce different results.

About MetroScope

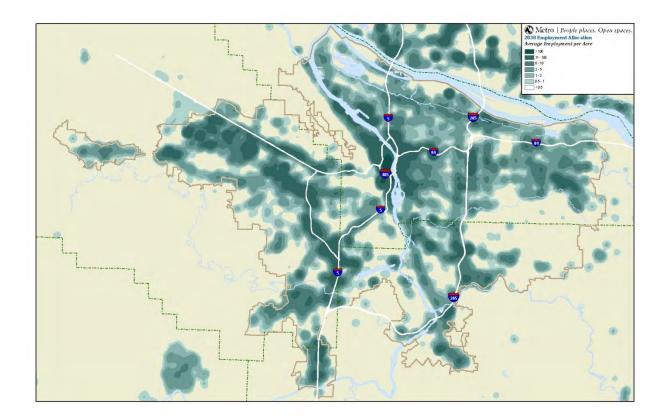
MetroScope is an integrated land use and transportation simulation model that operates on economic principles. The model's main purpose is to estimate where the region's employment and housing will locate in the future. The total number of households and jobs that the model attempts to locate is determined in a separate forecast (the middle of the 2009 range forecast is used for these scenarios). Along with the prediction of location choices, the model estimates outcomes such as housing price appreciation. These outcomes are, in part, the consequences of policy choices made both by Metro and local jurisdictions and larger macroeconomic factors that are part of the household and employment forecast. Regional and local policy choices include, for example, UGB expansions, investments in transportation facilities, and zoning designations. MetroScope provides a means of considering how the market might respond to those choices in the long term.

A MetroScope scenario seeks equilibrium, the price point(s) at which housing or employment demand matches supply. For example, if demand for housing in a particular census tract outstrips capacity, prices will increase until supply-and-demand equilibrium is reached.

SCENARIO RESULTS

Distribution of jobs in the 7-county area (year 2030)

One of the primary results that MetroScope scenarios can provide is the future distribution of jobs in the region. The map below shows the year 2030 job distribution results for the Capacity Ordinance scenario. Darker colors represent areas with more employees per acre.



SCENARIO RESULTS

Distribution of jobs in the 7-county area (year 2030)

Why does this measure matter?

Centers and corridors are the locations most likely to provide people with walkable access to everyday needs and transportation choices offering the potential to reduce transportation costs to the individual and to the employer. Employment areas¹ are designated as such to minimize conflicts with other uses.

The Capacity Ordinance scenario indicates future UGB expansions into urban reserves may attract more jobs than the expansions assumed in the UGR scenario.

Applies to desired outcomes

- ✓ Vibrant, walkable communities
- ✓ Economic competitiveness and prosperity
- \checkmark Transportation choices
- \checkmark Leadership on climate change
- ✓ Clean air and water, healthy ecosystems

¹ RSIA, Industrial, and Employment areas designated under Title 4 of the Urban Growth Management Functional Plan are included in "other areas" here. "Other areas" also includes neighborhoods. Jobs that locate in neighborhoods would be consistent with local zoning and are likely to be retail and service uses that serve the neighborhood.

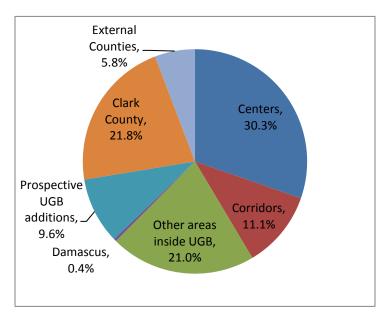
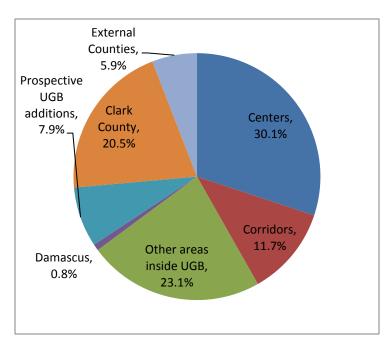


Figure 1: Capacity Ordinance scenario - distribution of new jobs (2005 - 2030)

Figure 2: UGR scenario - distribution of new jobs (2005-2030)

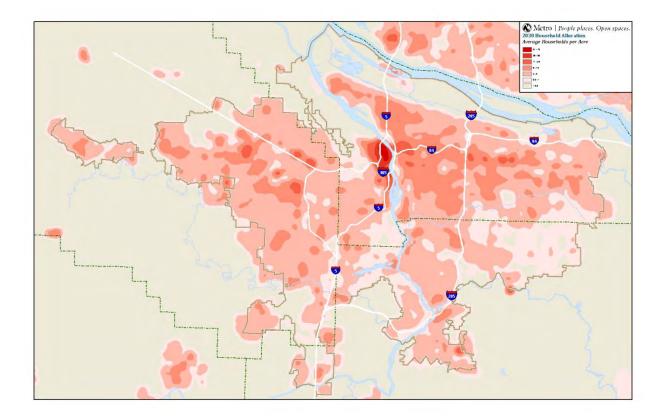


Notes:

- "External counties" refers to Yamhill, Columbia, and Skamania counties
- "Prospective UGB additions" refers to assumed future UGB expansion areas
- "Other areas inside the UGB" refers to all non-center and non-corridor areas inside the Metro UGB, including neighborhoods and Title 4 industrial and employment areas

Distribution of households in the 7-county area (year 2030)

One of the primary results that MetroScope scenarios can provide is the future distribution of households in the region. The map below shows the year 2030 household distribution results for the Capacity Ordinance scenario. Darker colors represent areas with more households per acre.



Distribution of households in the 7-county area (year 2030)

Why does this measure matter?

Centers and corridors are more likely to provide people with walkable access to everyday needs, access to jobs, and access to transportation choices. These characteristics reduce transportation costs to the individual and will be crucial to reducing greenhouse gas emissions.

Compared to the UGR scenario, the Capacity Ordinance scenario shows an increase in the share of new residences in centers and corridors – newlyadopted policies appear to help implement the 2040 Growth Concept.

Applies to desired outcomes

- ✓ Vibrant, walkable communities
- ✓ Economic competitiveness and prosperity
- ✓ Transportation choices
- ✓ Leadership on climate change
- ✓ Clean air and water, healthy ecosystems

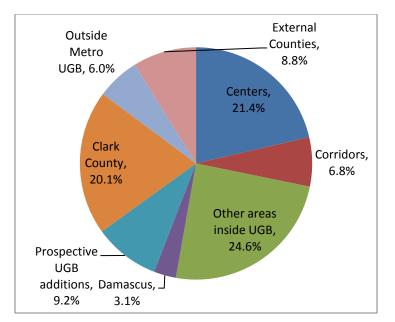
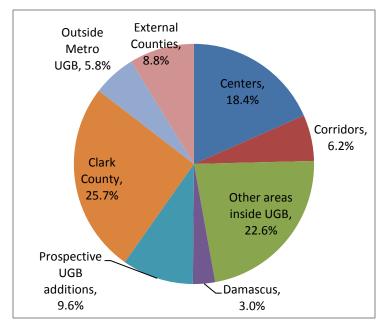


Figure 3: Capacity Ordinance scenario - distribution of new households (2005 - 2030)





Notes:

- "External counties" refers to Yamhill, Columbia, and Skamania counties
- "Prospective UGB additions" refers to assumed future UGB expansion areas
- "Other areas inside UGB" refers to all non-center and non-corridor areas inside the Metro UGB, including neighborhoods and Title 4 industrial and employment areas

Residential refill rate (2005 to 2030)

UGR scenario:

39 percent

Capacity Ordinance scenario: 41 percent

Applies to desired outcomes

- ✓ Vibrant, walkable communities
- ✓ Economic competitiveness and prosperity
- ✓ Transportation choices
- ✓ Leadership on climate change
- ✓ Clean air and water, healthy ecosystems
- ✓ Equity

Why does this measure matter?

The refill rate is the share of new residential development (percent of new dwelling units) that occurs through redevelopment or infill (in the case of these scenarios, the percent by the year 2030). Thus, refill rate is an important measure how efficiently land is used. Refill can be influenced through policy and investment actions. Higher refill rates are a good indication that policies and market conditions support the implementation of the 2040 Growth Concept with its emphasis on focusing growth in existing urban areas. Compared to the UGR scenario, the Capacity Ordinance scenario indicates a higher refill rate. The higher rate is likely caused by local and regional investments such as the 2035 State RTP that attract households to existing urban centers and corridors, as well as more modest future UGB expansions (scaled according to adopted urban reserves). By the year 2040, the refill rate moderates somewhat, most likely because additional UGB expansions are assumed available for development in later years.

Average one-way commute distance for households in the 7-county area (year 2030)

UGR scenario:	12.5 miles	
Capacity Ordinance scenario:	12.4 miles	Applies to desired outcomes
		✓ Vibrant, walkable communities
		 ✓ Economic competitiveness and prosperity
		✓ Transportation choices
		\checkmark Leadership on climate change
		 ✓ Clean air and water, healthy ecosystems

Why does this measure matter?

Commute miles are a useful indicator of overall travel behavior. Longer commutes tend to be an outcome of living in suburban or exurban locations.2 These same location choices also tend to produce long trips for meeting other needs, such as going to the grocery store. The scenarios indicate that there could be big differences in average commute distance, depending on where residents and employers locate.

Compared to the UGR scenario, the Capacity Ordinance scenario indicates a slightly shorter average commute distance for households in the seven-county region. Though modest from the perspective of an individual commuter, shorter commutes can have a cumulative impact in the seven-county region. Without improvements in fuel efficiency, additional reductions in travel will be necessary to reduce carbon emissions.

² MetroScope scenarios <u>do not</u> assume that all employment is in central Portland. Employment and residential distributions <u>throughout the region</u> are the primary outputs of the scenario that determine commute distances.

Residential source greenhouse gas emissions (in billions of pounds per year by year 2030)

UGR scenario:

32.02 billion lbs

Capacity Ordinance scenario: 31.77 billion lbs

Applies to desired outcomes

- ✓ Leadership on climate change
- ✓ Clean air and water, healthy ecosystems

Why does this measure matter?

Residential sources are responsible for a large portion of greenhouse gas emissions. In 2004, residential and commercial energy consumption accounted for 30 percent of all emissions in the state of Oregon (State of Oregon, 2008). In these scenarios, no technological improvements in energy efficiency are assumed. Greenhouse gas emissions are calculated based on historic residential energy consumption patterns for various housing types and sizes. Any reductions in residential-source greenhouse gas emissions in these scenarios would be the result of smaller residential square footages. Smaller square footages tend to accompany shifts to multi-family housing. In a study of greenhouse gas emissions in Toronto, Canada, Norman et al (2006) found that lower-density residences produced approximately 2 to 2.5 times more greenhouse gases than higher-density residences.

Though this analysis does not provide a comparison with historic residential emission rates, it is a safe assertion that with more households in the region by the year 2030, both scenarios would represent an increase in greenhouse gas emissions (all other things being equal). Along with shifts to smaller residences and compact development patterns, technological improvements in energy efficiency will be essential.

Mix of housing types and ownership

Why does this measure matter?

The region will see an increase in the total numbers of all housing types by the year 2030. However, the likely increase in multi-family residences (both owned and rented) is particularly noteworthy. The potential increase in multi-family units (180,000 more by 2030) is greater than the increase in single-family units (116,000 more by 2030). Researchers such as Dr. Arthur C. "Chris" Nelson, who has conducted pioneering research on urban settlement patterns, growth management and housing, have suggested that the focus of planning efforts should be apartment and condominium choices. Providing those choices will also be an important element of any strategy to increase transit ridership and reduce carbon emissions.

Applies to desired outcomes

- ✓ Vibrant, walkable communities
- ✓ Transportation choices
- ✓ Leadership on climate change

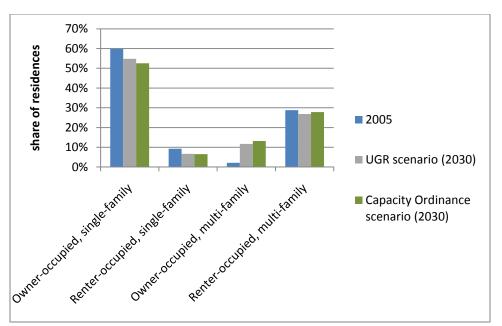


Figure 5: share of all residences inside Metro UGB by type and ownership

Expressed as a percent change from 2005 to 2030, the shift in housing production towards multi-family is noteworthy.

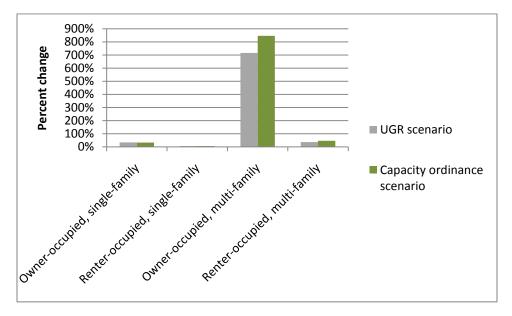


Figure 6: percent change in numbers of residences by type and ownership (inside Metro UGB, 2005 to 2030)

Future household incomes

Why does this measure matter?

Household incomes are expected to vary considerably from location to location. However, there are not major differences in average household incomes under the two scenarios. Table 1depicts average annual household incomes for the years 2005 and 2030 under two scenarios. The average household income for residents of renter-occupied multi-family units is forecasted to be about 60 percent of the average household's income in the Metro UGB.

Applies to desired outcomes

✓ Economic competitiveness and prosperity

✓ Equity

	2005	UGR scenario (2030)	Capacity Ordinance Scenario (2030)	
All households	\$52,300	\$55,700	\$56,100	
Renter-occupied, multi-family	\$35,400	\$33,800	\$33,900	

Table 1: Annual average household income (2005\$)³ in the year 2030 under two scenarios (households inside Metro UGB)

³ Does not account for possible future inflation

Future mix of household types

Why does this measure matter?

MetroScope scenarios model 400 types of households4, which vary by household size, income, householder age and whether children are present. To make analysis and presentation feasible, the 400 types have been simplified to eight household types.

These eight household types are ranked roughly commensurate with income (income generally increases from household type one to household type eight). Differences in household characteristics translate into different choices of housing types and locations and transportation modes, as well as level of cost burden.

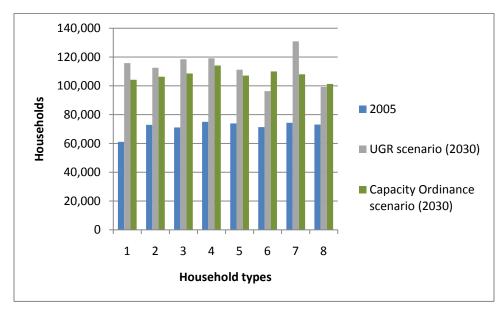
Applies to desired outcomes

- ✓ Vibrant, walkable communities
- ✓ Economic competitiveness and properity
- ✓ Equity

⁴ Household refers to the residents, not the residence

Household type	Characteristics
1	These are some of the lowest-income households. Among renters, these are exclusively single-person households—primarily the elderly. Owners have a more even age and household size distribution.
2	These households can be of any age, but their income is among the lowest. These households are primarily childless.
3	With a bit more income than household type two, these households are primarily in the 25 to 44 age bracket, mostly without children, although about a third of homeowners have children.
4	With a broad age distribution and approaching middle income, these households are usually childless, especially among renters.
5	These households are larger and wealthier. The majority of homeowners have children.
6	With more income than household type five. Almost half of these households are between 25 to 44 years of age. Although the majority do not have children, two- and three-person households are most common.
7	Mostly without children, these households include very high-income couples, especially among owners.
8	Most of the homeowners in this household type have children. They are high wage earners.

Figure 7: Number of households by type inside UGB



Future housing and transportation affordability

A definition of "cost-burdened"

Homeownership represents an economic choice that requires some level of equity investment (recent lending practices notwithstanding). Defining cost-burden for homeowners is somewhat more difficult than for renters since many homeowners regard their homes as not just a residence but as an investment. Homeowners often spend a substantial portion of their income on their home, but do not necessarily perceive these expenditures as a burden. This is particularly the case for affluent homeowners or older homeowners without current income. For these reasons, this analysis assumes that to be cost-burdened, a household must rent, not own.

Because this analysis includes housing and transportation costs, the standard rule that no more than 30 percent of one's income should be spent on housing needs adjustment. In 2007, many low-to-moderate-income households in the United States spent well over 50 percent of their income on housing and transportation⁵. In 2007, the national median percentage of income spent on these costs was 45 percent. In the absence of an accepted standard, this report proposes that **if a household rents its residence and spends 50 percent or more of its income on transportation and housing, it is considered cost-burdened.**

Definition:

For this analysis, a costburdened household rents and spends 50 percent or more of its income on housing and transportation.

Calculating housing and transportation affordability

In order to produce estimates of future housing and transportation expenditures for different household types in different locations, both historic and forecasted data are used:

<u>Historic data</u>: United States Bureau of Labor Statistics data on housing and transportation expenditures are augmented with other historic data on income levels, demographics, housing preferences and travel behavior.

<u>Forecast data:</u> MetroScope scenarios produce forecast data on household types (household size, income, age of householder), patterns of renting versus owning, and location choices.

Scenario results are analyzed and linked with the historic data. This analysis produces expenditure estimates for future households, depending on factors such as the household type, renting versus owning, and location.

Possible outcomes of continuing current policies and investment trends

As is the case today, in the year 2030, the amount that households spend on transportation and housing costs is likely to vary widely from community to community. Costs are likely to be lowest for those living

⁵ Source: United States Bureau of Labor Statistics

in smaller square footage condos or apartments, particularly in locations with access to multiple modes of transportation, including transit. Many of the region's urban centers and transportation corridors will be the most affordable places to live. However, because of high market demand in these locations, many lower-income households are likely to struggle to cover housing and transportation costs.

Future housing costs

Scenarios indicate that, with population growth and a continuation of current policies and investment trends, housing costs for households inside the Metro UGB will increase in the future. Table 3 depicts annual housing expenditures for all households and for households in renter-occupied, multi-family housing, which are often most susceptible to cost-burden. Because homeownership is often regarded as an investment, owners are often willing to spend a greater share of their income on housing.

Table 3: Average annual housing expenditures (2005\$) per household (households in Metro UGB)

	2005	UGR scenario (2030)	Capacity Ordinance scenario (2030)	
All households	\$19,200	\$27,200	\$29,300	
Renter-occupied	\$10,400	\$12,800	\$13,100	

Table 4: Average share of annual household income (2005\$) spent on housing (households in Metro UGB)

	2005	UGR scenario (2030)	Capacity Ordinance scenario (2030)	
All households	37%	49%	52%	
Renter-occupied	29%	38%	39%	

Future transportation costs

Scenarios indicate that, with a continuation of current policies and investment trends, transportation costs for households inside the Metro UGB will, on average, remain about the same in the future (see Table 5). As depicted in Table 6, residents of renter-occupied multi-family housing are forecast to spend a greater portion of their income on transportation than the average household in the Metro UGB.

Table 5: Average annual transportation expenditures (2005\$) per household (households in Metro UGB)

	2005	UGR scenario (2030)	Capacity Ordinance scenario (2030)	
All households	\$5,400	\$5,600	\$5,500	
Renter-occupied	\$3,800	\$3,900	\$3,900	

Table 6: Average share of annual household income (2005\$) spent on transportation (households in Metro UGB)

	2005	UGR scenario (2030)	Capacity Ordinance scenario (2030)
All households	10%	10%	10%
Renter-occupied, multi-family	11%	12%	12%

Future cost burden

With a continuation of current policy and investment direction, the number of cost-burdened households could double by the year 2030. In the year 2005, there were approximately 95,500 cost-burdened households inside the Metro UGB (about 17 percent of all households or about 45 percent of renter households in the region). By the year 2030, about 22 percent of all households and 67 percent of renter households in the UGB could be described as cost-burdened. Many of these households will be seniors on fixed incomes and the working class, some of which will have school-aged children. These results represent worsening conditions when compared to the results of the UGR scenario.

	Year 2005	UGR scenario (2030)	Capacity Ordinance scenario (2030)	
Total cost-burdened households	95,500	153,300	189,700	
Share of all households that are cost-burdened	17%	18%	22%	
Share of renter households that are cost-burdened	45%	54%	67%	

Increases in cost burden are, in part, the result of competition for residences in central locations. Increased demand in urban centers and corridors is a result of many factors, including population growth, adopted policies, and changing demographics. High market demand supports the development of multi-story buildings (where zoning allows), but this type of construction often requires more expensive materials and structured parking, leading to higher costs per square foot of residence. These increased costs per square foot are partially offset by having choices of smaller residences and multiple transportation options. While the increase in demand in centers and corridors is a primary goal of the 2040 Growth Concept, it is clear that additional strategies and investments are needed to ensure that these locations remain options for a variety of income levels. Possible causes of cost burden:

- Increased numbers of future cost-burdened households appear to be caused by escalating housing costs rather than rising transportation costs.
- Inadequate funding for infrastructure: this constrains housing supply, which in turn makes it unaffordable for some households.
- High market demand in urban centers and transportation corridors: this increases the value of land and the per-square-foot cost of housing. Multi-story development often requires more expensive construction materials and structured parking. Without public investments or choices of smaller residences, these higher costs get passed on to residents.
- Insufficient transportation cost savings: Transportation cost savings offset housing price increases, but are not enough to guarantee affordability.
- Market rate housing is out of reach at lower wage levels.

The distribution of cost-burden is uneven throughout the region. These scenarios indicate that with a continuation of current policies and investment trends, this uneven distribution will persist in the future. Locations that offer the most affordable housing and transportation are likely to have higher concentrations of cost-burdened households. These scenarios indicate that urban center and corridor locations that offer the most affordable housing and transportation options could be home to many cost-burdened households. The central city, centers, corridors, and centrally-located neighborhoods are areas that are likely to remain in high demand amongst higher income households as well.

Table 8 provides a summary of the possible distribution of cost-burdened households in the years 2005 and 2030. Areas that have lower numbers and percentages of cost-burdened households have not necessarily provided affordable housing options. In some cases, there are fewer cost-burdened households simply because there are limited affordable options from which to choose.

					Сара	city
			UGR so	enario	Ordin	ance
	20	05	(2030)		Scenario (2030)	
		Share of	Share of		Share of	
		renter		renter		renter
	Number of cost-	households that are	Number of cost-	households that are	Number of cost-	households that are
	burdened	cost-	burdened	cost-	burdened	cost-
	households	burdened	households	burdened	households	burdened
Portland central city	6,500	66%	13,900	78%	15,600	86%
Northeast Portland	7,400	51%	10,300	58%	12,900	75%
Gresham – Wood Village -	7 400	440/	40 500	420/	17 000	700/
Fairview - Troutdale	7,400	41%	10,500	43%	17,600	70%
East Portland	7,800	49%	11,300	49%	11,600	50%
Southeast Portland	16,200	55%	20,000	61%	23,100	71%
West Portland	11,700	57%	19,700	73%	22,800	87%
North Portland	4,000	53%	5,800	55%	6,300	60%
Lake Oswego	900	19%	2,500	52%	2,500	53%
Gladstone - Clackamas	2,100	45%	3,000	52%	3,400	63%
Milwaukie	2,700	44%	3,400	46%	3,300	46%
Happy Valley	1,600	31%	3,500	49%	3,500	48%
Damascus	200	45%	700	58%	900	71%
Oregon City	1,600	39%	6,200	68%	6,700	70%
West Linn	500	27%	900	40%	800	41%
Wilsonville	1,300	43%	2,200	59%	3,200	80%
North Hillsboro	2,100	22%	6,100	44%	8,700	59%
East Washington County	5,500	35%	8,000	35%	14,300	64%
South Beaverton	4,200	40%	5,200	45%	5,200	46%
Tigard - King City	3,300	37%	4,500	43%	7,800	72%
Tualatin	1,300	31%	1,700	37%	2,700	46%
Sherwood - Scholls	400	35%	1,000	57%	1,600	76%
SW Beaverton	1,900	24%	4,200	45%	5,100	54%
South Hillsboro	1,900	32%	4,000	53%	4,700	63%
Forest Grove - Cornelius	3,000	79%	4,500	86%	4,900	85%
TOTAL	95,500	45%	153,300	54%	189,700	67%

Table 8: Number and percent of cost-burdened households by subarea (2005 and 2030)

Figure 8 and Figure 9 depict the share of households that could be cost-burdened in the year 2030 (by subarea—rough approximations of city boundaries, portions of larger cities, or combinations of smaller cities). Though cost-burdened households are predicted to be distributed throughout the region, there are several concentrations including ones in the Portland central business district, southeast Portland, and west Portland, where housing and transportation options could be most affordable, and in outlying areas where housing prices may be lower, but transportation costs are higher.

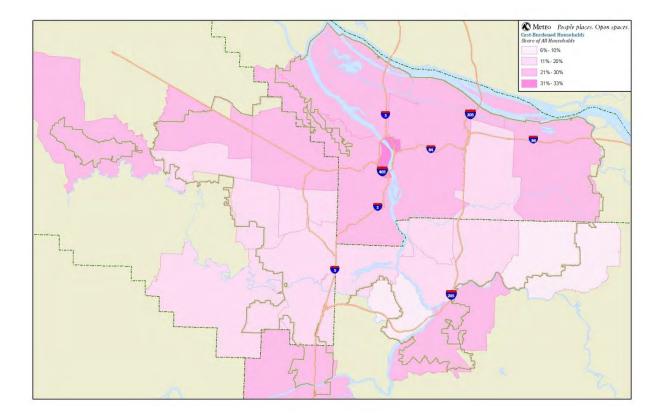


Figure 8: share of all households that are cost-burdened in 2030 (Capacity Ordinance scenario)

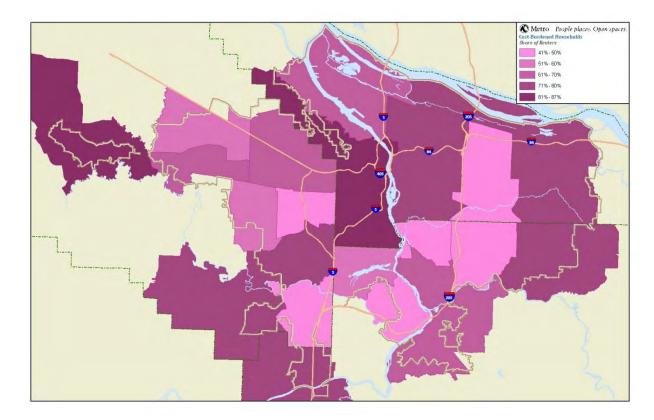


Figure 9: share of renter households that are cost-burdened in 2030 (Capacity Ordinance scenario)

Policy choices

Urban centers and corridors are likely to be some of the region's least costly communities in the future, but this does not mean that they are affordable for all. The Metro region's leaders are counting on housing in centers and corridors to remain affordable in order to manage growth in a way that protects existing single-family neighborhoods and addresses new challenges such as climate change. To do so, concerted efforts are needed.

- New infrastructure investments can make better use of existing land inside the UGB.
- Incentives for mixed-use, multi-family development can reduce housing costs even further in urban centers and corridors.
- Policies that encourage the construction of smaller residences can provide more housing choices.
- Transit investments in centers and corridors can reduce transportation costs for residents.
- Wages are an important component of affordability. Ensuring a healthy regional economy will be essential.
- Household utilities represent a significant portion of housing expenditures. Programs that allow households to reduce utility consumption or costs will be important.
- Publically-subsidized housing will remain essential.

Collaborative efforts are needed to preserve our region's livability and affordability. A failure to maintain affordable housing choices in the central city, centers, and corridors may put additional growth pressures on existing single-family neighborhoods and push more residents to less central locations where they could be more susceptible to increases in energy prices.

SCENARIO ASSUMPTIONS

The assumptions used for this and other MetroScope scenarios fall into three major categories. The details of these categories are explained further in this document.

- **Demand:** A forecast establishes the total number of new households and jobs in the 7-county region that are distributed in the scenario.
- **Supply:** Capacity assumptions in the Metro UGB, Clark County, neighbor cities, and rural areas are based on inventories of vacant and buildable land as well as existing zoning.
- **Other variables:** Other assumptions that affect scenario behavior include the transportation network, construction costs, residential incentives, and consumer preferences.

Demand:

Population and employment forecast assumptions

MetroScope scenarios assume fixed population and employment control totals. The assumed totals are from a range forecast for the year 2040 for the larger 7-county region that includes all of Washington, Clackamas, Multnomah, Columbia and Clark counties, most of Yamhill County, and a small portion of Marion County.

Given a set of policy and investment assumptions, MetroScope predicts a possible future distribution of new households and jobs in the 7-county region. As an equilibrium model, MetroScope will find a "home" for all forecasted households and jobs; the model will not identify a capacity gap (because the maximum zoned capacity for the 7-county area easily accommodates the growth forecast).

This scenario assumes the midpoint of the 2009 range forecast that was accepted by the Metro Council in December 2009. The midrange forecast indicates 1,381,000 households and 1,707,400 jobs in the 7-county region by the year 2040. Assuming different points on the range forecast would produce different scenario results.

Supply:

Metro UGB supply: zoning

Regional Land Information System (RLIS) data, maintained by Metro, provide zoning assumptions for scenarios. The three counties (Clackamas, Multnomah, and Washington) provide Metro with quarterly updates to the RLIS zoning data. Local zoning designations are translated into 44 generalized zoning classifications, each of which has an assumed maximum zoned capacity. RLIS zoning data used for this scenario are as of January 2010.

Metro UGB supply: vacant land

Vacant land is defined in two ways:

- 1. Tax lots with no improvement value or buildings.
- 2. Partially developed parcels with an undeveloped portion of at least one-half acre.

Using aerial photography, Metro conducts surveys of vacant land inside the UGB. This survey is conducted using the aerial photographs as well as building permit and tax assessor data. All parcels inside the UGB are examined to determine if they qualify as vacant.

The vacant land designation <u>does not</u> indicate whether or not the parcel is for sale, if there are plans to develop it, if there are constraints to its development (e.g. zoning or environmental constraints such as wetlands or steep slopes), or if there is a market demand for its development.

For consistency and to allow for comparison with the scenarios that informed the 2009 UGR, this MetroScope scenario assumes the 2007 vacant land survey.

Metro UGB supply: buildable land

Buildable land is identified by deducting environmentally constrained land from the vacant land inventory. This MetroScope scenario assumes the 2007 buildable lands survey.

Metro UGB supply: refill land

"Refill" refers to both redevelopment and infill development. Redevelopment occurs when a structure is removed and another is built in its place. Infill occurs when more units are constructed on an already-developed site. Since "vacant" land includes any tax lot or any part of a tax lot that has a vacant portion larger than ½ acre, infill only includes development on an existing developed lot or partially developed lot with a vacant portion smaller than ½ acre.

Refill development tends to occur when market conditions make it profitable to develop (or redevelop). Thus, refill capacity is based on the relationship between a tax lot's size, land value, and improvement value. Metro calculates refill capacity in consultation with local jurisdiction staff.

For scenario modeling purposes, tax lots that have a high enough ratio of land to improvement value and that are of sufficient size are counted as refill capacity. This determination varies by county and by zoning designation. Like zoned capacity, refill capacity will not necessarily get used in the model simply because it exists. MetroScope scenarios subject refill capacity to a simulated market test. Whether or not the capacity gets used in the scenario is a function of many factors including price, accessibility, and zoning.

Metro UGB supply: recent UGB expansion areas

In reality, lands are not immediately developable upon their inclusion in the UGB. In order for lands to be developable, planning must have been completed and infrastructure financing needs to be in place. To mimic that delay, this scenario assumes that lands that were previously added to the UGB are not immediately developable. By the end of the delay, it is assumed that infrastructure funding has become available through an unspecified mechanism. These timing assumptions are the same as those used for the 2009 urban growth report (UGR) scenarios and are based on advice received from county and city planning staff and the Metro Technical Advisory Committee.

Metro UGB expansion area (past expansions only)	Assumed date of availability for development
Happy Valley	2010
Damascus	2020
All other areas added to the Metro UGB since 1998 (other than Happy Valley and Damascus)	2015

Metro UGB supply: prospective UGB expansions

The scenarios that informed the 2009 UGR assumed a continuation of past policies and trends, including the trend of expanding the UGB according to state-mandated land hierarchies. The new scenario, conducted to inform the 2010 Capacity Ordinance assumes that future UGB expansions will be made in urban reserves. The size of adopted urban reserves makes less land available for assumed future UGB expansions than historic usage and less than was assumed in previous scenario work.

Figure 10 shows the sequence of prospective UGB expansions that are assumed for this scenario. The assumed timing of future UGB expansions was determined in consultation with city and county planning departments.

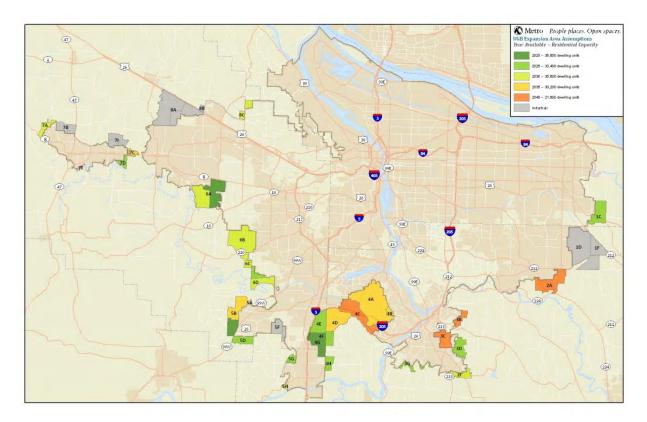


Figure 10: assumed availability and capacity of prospective UGB expansion areas

Clark County supply: zoning

Zoning for Clark County is assumed to be the zoning that was in place in January 2010. The scenarios that informed the 2009 UGR assumed the zoning that was in place in 2005.

Clark County supply: vacant, buildable land

For vacant buildable land in Clark County, Washington, Metro used the county's January 2010 data. The 2009 UGR used the county's 2005 data. Clark County uses a different methodology for inventorying its vacant, buildable land than Metro.

Clark County supply: refill land

Clark County has a different method than Metro for identifying refill capacity. However, for MetroScope modeling purposes, Metro's refill definitions are applied to Clark County land.

Clark County supply: prospective urban growth area expansions

In January 2008, Clark County added approximately 19 square miles of urban growth areas. A portion of the 19 square mile expansion was overturned and was appealed at the Washington State Superior Court.

Scenario assumptions for Clark County urban growth boundary expansions are based on the Superior Court decision. The timing and zoning assumptions were determined by Clark County staff. Those timing assumptions are depicted on the map below.

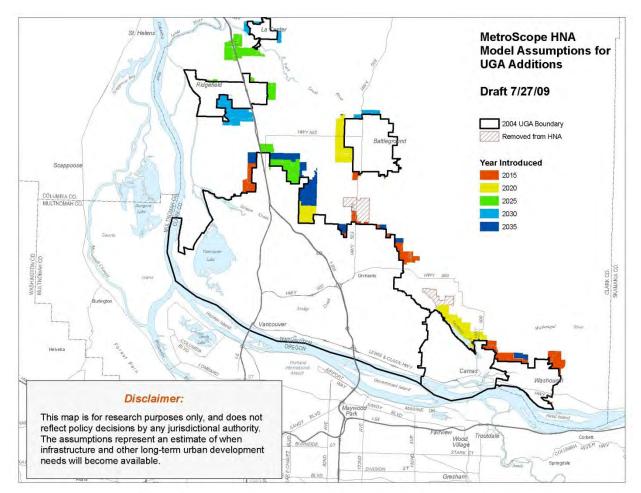


Figure 11: assumed availability of prospective Clark County urban growth areas

Neighbor City supply:

MetroScope scenarios distribute growth not just to the Metro UGB and to Clark County, but to cities outside of the Metro UGB that are within the 7-county area (e.g. Canby, Sandy, Banks, North Plains, Newberg, etc.). Oregon's State economist's 2004 county-level population forecast is used to estimate future growth in these cities. Neighbor city capacities are assumed to match forecasted population growth.

		Assumed capacity for new dwelling
City	County	units
Canby	Clackamas	7500
Sandy	Clackamas	3000
Molalla	Clackamas	5000
Estacada	Clackamas	1000
North Plains	Washington	2500
Gaston	Washington	1000
Banks	Washington	2000
Clatskanie	Columbia	1000
Ranier	Columbia	600
Prescott	Columbia	400
Columbia City	Columbia	800
St. Helens	Columbia	2400
Scapoose	Columbia	1100
Vernonia	Columbia	500
Newberg	Yamhill	16000
Dundee	Yamhill	1000
Yamhill	Yamhill	2400
McMinville	Yamhill	8400
Dayton	Yamhill	1500
Amity	Yamhill	3400
St. Paul	Marion	1000
Aurora	Marion	3500
Gervais	Marion	2500
Woodburn	Marion	8500

Measure 49 rural residential supply:

The passage of Measure 37 and its subsequent replacement by Measure 49 created the possibility of additional residential capacity outside of urban growth boundaries. The maximum possible amount of rural (non-UGB) Measure 49 capacity was assumed for these scenarios: three dwelling units of capacity for each residential-zoned Measure 37 claim, for a total of 6,087 dwelling units. It is unlikely that all of those Measure 37 claims have been re-filed under Measure 49 and unlikely that all those that were re-filed will be built. However, they are considered as available capacity in

these scenarios. The effects of this Measure 49 capacity on the overall (7-county) household distributions in these scenarios is likely negligible.

Other variables:

Accessibility: transportation network

This MetroScope scenario assumes the 2005 network for the 2005, 2010 and 2015 Metroscope allocation runs and then uses the 2035 State RTP network for the 2020, 2025 and 2035 iterations. The scenarios that informed the 2009 UGR used the 2035 "True" Financially-Constrained RTP. The "True" Financially Constrained RTP network only includes those projects that are in the Financially Constrained RTP for which there is an identified source of funding for construction (some projects in the Financially Constrained RTP only have an identified source of funding for planning and engineering).

Notable 2035 State RTP mobility projects **included** in this scenario's transportation network are:

Notable transit mobility projects

- Columbia River Crossing light rail train
- Milwaukie light rail
- SW corridor high-capacity transit
- WES service improvements
- I-205 bus rapid transit from Clackamas Town Center to Tualatin
- On-street bus rapid transit Division/Powell

Notable throughway mobility projects

- I-5 Columbia River Crossing
- Sunrise from I-205 to 172nd Ave.
- OR 217, US 26 & I-5/I-84 Interchange Improvements
- Operational improvements on I-205
- Operational improvements on I-5
- Additional interchange improvements on OR 217, US 26, I-5, I-205, and I-84

Notable arterial mobility projects

- I-5/99W Connector Alternative 7 (three arterial improvements including Southern Arterial)
- Sellwood Bridge

The project list for the 2035 State RTP also includes billions of dollars of investments in "community-building" projects, such as sidewalk improvements. For scenario purposes, community-building projects are handled differently than mobility projects. See the "Consumer preference: neighborhood score" section of this appendix for a description of how community-building projects are handled in this scenario.

Construction costs: system development charges

This scenario assumes that all new dwelling units are assessed a \$25,000 per dwelling unit system development charge. For modeling purposes, this charge appears as an additional construction cost.

Construction costs: residential incentives

Cities throughout the region have implemented effective strategies for attracting more households to their centers and corridors. These strategies include urban renewal, tax abatement, and investments in public amenities. These scenarios assume that residential incentives will be in place in the future as well. The guiding principle for making incentive assumptions for these scenarios was to err on the side of being conservative and only include those locations that have active urban renewal or that have some other identifiable tool in place that acts as a residential incentive (for instance, a vertical housing tax credit).

These scenarios assume varying levels of residential incentives in different locations. Three different incentive levels are assigned:

Tier A: \$50,000 per dwelling unit

Tier B: \$25,000 per dwelling unit

Tier C: \$10,000 per dwelling unit.

The upper end of the range, \$50,000 per dwelling unit, was estimated through staff discussions with the Portland Development Commission and the City of Portland.

Assumptions are also made regarding the timing of the incentive (expressed as the percentage of the total number of incented units that are available to the market in each five year increment). The level and timing of incentives assumed in this scenario are professional judgments made by staff. The table below summarizes this scenario's residential incentive assumptions. Changes to the assumptions used for the 2009 UGR scenarios are highlighted. These new incentive locations are included here on the advice of local jurisdictions, who have indicated that the incentive will be in place in 2010.⁶ Incentive assumptions for the 2009 UGR scenarios were reviewed by staff from the three counties, the City of Portland, MTAC, and the Portland Development Commission.

⁶ Wood Village adopted an urban renewal district in February 2010. It was inadvertently omitted from updated scenario assumptions.

					Perc							
					available (timing)							
		Active urban renewal?	······									Total number of incented
Location	Туре	(residential only)	than active urban renewal)	Tier*				2025	2030	2035	2040	units
Downtown	CC	yes		Α	20%	40%	40%					13,500
North Macadam	CC	yes		Α	33%	33%	33%					7,500
Oregon Conv. Center	CC	yes		Α	33%	33%	33%					3,000
River District	CC	yes		Α	25%	25%	25%	25%				24,000
South Park Blocks	СС	yes		Α	25%	25%	25%	25%				2,000
Beaverton	Reg. Ctr.	Anticipated	urban renewal adoption anticipated	В		20%	20%	20%	20%	20%		2,000
Clackamas	Reg. Ctr.	yes		В	25%	25%	25%	25%				2,000
Gateway	Reg. Ctr.	yes		В	25%	25%	25%	25%				2,000
Gresham	Reg. Ctr.		Vertical housing tax abatement	В	33%	33%	33%					2,000
Hillsboro	Reg. Ctr.	Anticipated	urban renewal adoption anticipated	В		20%	20%	20%	20%	20%		2,000
Oregon City	Reg. Ctr.	yes		С	33%	33%	33%					2,000
Vancouver	Reg. Ctr.		Parking revenues go to redevelopment. City built parking structure	В	20%	20%	20%	20%				6,000
Gladstone	Town Ctr.	yes		С	20%	20%	20%	20%	20%			1,200
Hollywood	Town Ctr.		TOD tax abatement	В	25%	25%	25%	25%				1,200
Lake Oswego	Town Ctr.	yes		В		20%	20%	20%		20%		1,200
Lents	Town Ctr.	yes		В		20%	20%	20%	20%	20%		1,200
Milwaukie	Town Ctr.	Anticipated	vertical housing tax abatement; urban renewal adoption anticipated	В		20%	20%	20%	20%	20%		1,200
Rockwood	Town Ctr.	yes		В	20%	20%	20%	20%	20%			1,200
Sherwood	Town Ctr.	yes		С		20%	20%	20%	20%	20%		1,200
Tigard	Town Ctr.	yes		С		20%	20%	20%	20%	20%		1,200
Amberglen	Town Ctr.		significant amenity investments planned	В		20%	20%	20%	20%	20%		5,000
Interstate	Non-ctr. UR	ves	•	Α	25%	25%	25%	25%				8,000
MLK	Non-ctr. UR	ves		Α	20%	20%	20%	20%	20%			3,500
Villebois	Non-Ctr UR	yes		С	33%	33%	33%					2,500
Portland TOD (1/4 mile radius												,
around MAX stations at NE 60th, NE 82nd, 122nd, 148th, SE Division, Portland portion of 162nd	Non-Ctr UR		TOD tax abatement	с	25%	25%	25%	25%				1,200 at each location
Canby	City	yes		C	2370	2370	20%	20%	20%	20%	20%	600
Sandy	City	ves		C			20%	20%	20%	20%	20%	600

Consumer preferences: neighborhood score

Recognizing that residents are willing to pay different prices for different locations, MetroScope scenarios have an input assumption called neighborhood score. A neighborhood score is assigned to each census tract. The score represents the relative market desirability of the census tract and is based on historic residential sales prices. Statistical regression analysis is used to determine what portion of a residence's value can be attributed to its location (neighborhood). This statistical analysis controls for private improvements (e.g. lot size, residential square footage, number of bathrooms, age of house, number of bedrooms, etc).

In the 2009 UGR scenarios, the neighborhood score remained static through the course of the scenario. Past studies have indicated, however, that neighborhood scores change over time, sometimes due to public investments in amenities (see Appendix 2 for information about price premiums associated with urban amenities). For this scenario, neighborhood scores were conservatively increased in some locations to reflect the over \$3 billion in public investments included in the 2035 State RTP as "community-building" projects in centers, corridors, main streets

and station communities. Scores for neighborhoods that already have particularly high or low historic scores were not adjusted with the rationale that there are diminishing returns on investments in locations with high scores and that especially low scores are likely to persist in some locations. Neighborhoods with moderate scores are believed to be ones that are most likely to respond to community-building investments. Therefore, where warranted by community-building investments in the State RTP, scores were adjusted for neighborhoods that currently have moderate scores.

After identifying projects in the State RTP that qualify as "community-building" investments, the impact of those projects was estimated by first adding up the total expenditures on projects for each Census Tract. The total values were then divided by the sum of households and employees in the tract, to create a sort of "per capita" measure of investment by census tract. This method helps to normalize across zones covering different areas, with varying population and employment. In order to focus on areas with significant public investments, only census tracts with investments of at least \$500 per household/employee were considered for a neighborhood score improvement.

Census tracts with an existing neighborhood score between 0.10 and 0.50 were assumed to be the most likely to respond positively to community-building investments in public infrastructure. There were 84 census tracts in total with a neighborhood score in the 0.10 to 0.50 range and at least \$500 in community-building investments. These per household and employee investments were then ranked, highest to lowest. Natural breaks in this ranking were observed between the few zones that had the very highest levels of investment, up to \$33,800 per household/employee, and many more zones with low to moderate investments of \$500 to \$5000 per household/employee. So the census tracts were divided along these breaks into four groups, and neighborhood scores were adjusted as follows. The neighborhood scores for the top five census tracts, with investments of \$13,000 to \$33,800 per household/employee, were increased by 20%. Neighborhood scores for the next eight, with investments of \$5,300 to \$8,100, were bumped up by 15%. The following 38 tracts, with investments of \$1,700 to \$4,800 were increased by 10% and the bottom 33, with investments of \$500 to \$1,600, were increased by 5%. Overall, these changes increase the average neighborhood score in these 84 zones from 0.23 to 0.25.

Figure 12 displays this scenario's neighborhood score assumptions. A higher score (darker color) indicates that the census tract has a higher market desirability.⁷

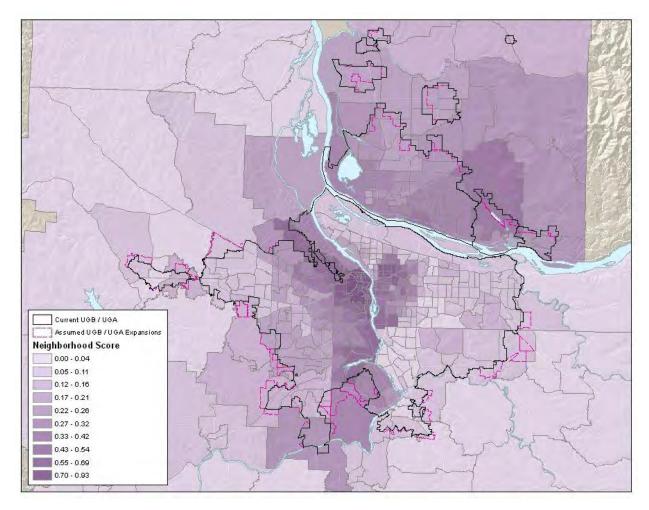


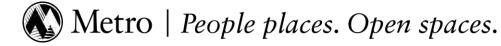
Figure 12: assumed neighborhood scores by Census Tract

⁷ Areas with sparse residential sales data (i.e. rural areas) may exhibit exaggerated neighborhood scores (the result of a small number of high value sales). Urbanized areas with more sales activity are likely to have more accurate neighborhood scores.

www.oregonmetro.gov

Appendix 2: How public investments stimulate private development

August 2010



6996

TABLE OF CONTENTS

Assessment of Residential Efficiency Measures (Johnson Reid, LLC)

Metro white paper







ASSESSMENT OF RESIDENTIAL EFFICIENCY MEASURES

JULY 21, 2010 | METRO







TABLE OF CONTENTS

Ι.	INTRODUCTION	1
١١.	METHODOLOGY	1
	GENERAL OVERVIEW	1
	ACHIEVABLE PRICING	2
	COST TO DEVELOP	
	THRESHOLD RETURN	5
	HIGHEST AND BEST USE	6
	REDEVELOPMENT	6
III.	GENERAL OUTPUT	8
IV.	DISTRICTS	9
v.	AMENITY RELATED PREMIUMS	10
	LITERATURE REVIEW	
	HEDONIC MODELING	
	Overview	
	Centers & Corridor Value Premium Results	
	Corridor & Center Locational Findings	
	Corridor & Center Property Quality Findings	
	Corridor & Center Property Neighborhood & Public Investment Findings	
	Corridor & Center Findings Conclusions	
	PUBLIC AMENITY PREMIUMS: EVIDENCE & CONCLUSIONS	
IM	PACTS OF MARKET INTERVENTIONS	
	ACHIEVABLE PRICING	
	COST TO DEVELOP	
	THRESHOLD RETURN	
	POLICY EFFORTS	
	INCIDENCE	
	CONCLUSION	
	DEFINITION OF TERMS	
	CONSTRUCTION TYPES	
	Туре I	
	Туре II	
	Type V	
	DETAILED ECONOMETRIC RESULTS	

I. INTRODUCTION

As part of Metro's ongoing efforts to assess the carrying capacity of the Region's residential land inventory, Johnson Reid developed a modeling framework to supplement and expand upon Metro's existing models.

The model developed is a "production" model, in that it approaches the question of the anticipated nature of future development from the perspective of a developer. Key inputs are incorporated into a determination of what development form returns the greatest value to the underlying property. The model is based on a series of simplified decision pro formas, which represent a range of prospective development forms, using different construction techniques and having distinct density and cost characteristics. The output of the model can be represented as an assumed predominant development form given a set of assumptions within a specified geographic area.

This document will summarize the key components of the model and general output results. The report also addressed price premiums associated with a range of neighborhood characteristics. This information is derived based on a review of existing literature as well as original hedonic modeling. It should be noted that the model incorporates a number of significant variables that are highly dynamic, which will likely shift substantively over the planning horizon.

II. METHODOLOGY

GENERAL OVERVIEW

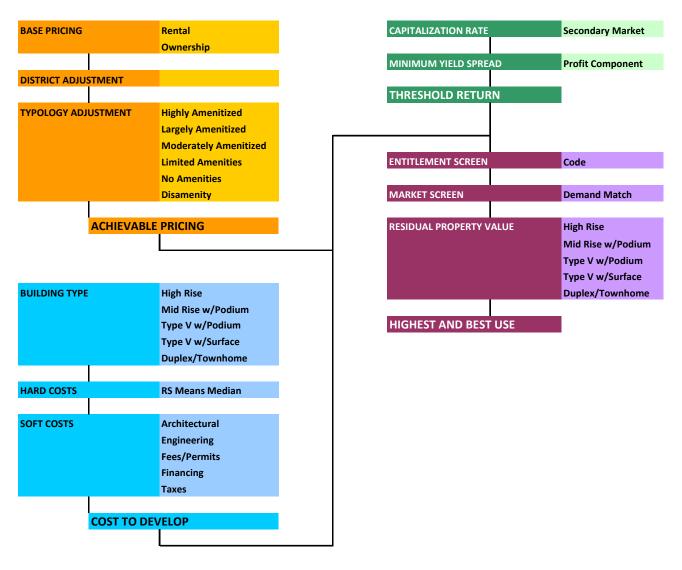
Our approach to this assignment was to develop a "production" model, which mimics a developer's decision tree and solves for the highest and best use residential development form. We use a pro forma based predictive model to generate predominant residential development profiles for a series of delineated subareas. This model evaluates highest and best use development forms under a range of assumptions, based on the implied residual property value¹ under each use. This allows us to calculate the likely predominant development form within a series of geographic subareas.

This section outlines the characteristics of the production model developed, and the relationship between changes in assumptions and key variables and predicted development form. Extensive work was done to quantify to the extent possible price premiums associated with a range of factors, primarily literature review as well as original hedonic modeling. A key output of this work is identification of the marginal impact of a range of potential public actions on the anticipated form and magnitude of development activity.

The model can be broken up into three primary categories that are determinative of final development form: achievable pricing, cost to develop, and threshold returns. The following is a schematic of the general range of assumptions in the model, as well as a discussion of the key components.

¹ Residual Property Value reflects the maximum supportable acquisition value of the property under an assumed development program.

SCHEMATIC OF MODEL



A key objective of this model is to develop a theoretical construct within which to evaluate the impact of a range of public investments and actions on the anticipated form of development. The analysis will assess the level to which investments such as public transit and streetscape can change achievable residential pricing, which the model can convert into a marginal anticipated impact on development form using a development model approach (production model). Public investments and actions can have a significant impact on pricing, the cost to develop as well as threshold returns.

ACHIEVABLE PRICING

Achievable pricing in the market is the variable that has the most significant impact on development form. The model approaches pricing at a geographic district level, and then allows for additional

adjustments to pricing based on specific locations within the district. Current achievable pricing can be determined with a considerable level of reliability, but pricing would be expected to shift over time. Metro's MetroScope² modeling can provide input to supportable assumptions with respect to anticipated shifts in housing prices over time.

Current achievable pricing can be established for both rental and ownership housing at the regional and district level using readily available sources of current market information. For rental units, these would include periodic surveys completed by groups such as the Metro Multi-Family Housing Association, Norris Beggs & Simpson and Norris & Stevens. While these surveys are valuable, care should be taken to differentiate between new product and general market patterns, as the model is predicated on new development trends.

Current achievable pricing patterns for ownership housing can be derived from sources such as the Realtor's Multiple Listing Service (RMLS) and New Home Trends. As with the rental product, the model is driven by assumptions with respect to achievable pricing for new product as opposed to the general market average.

The variables in the model are based on an assumed achievable price per square foot for rental as well as ownership product. Adjustments by district are based on observed patterns in the secondary survey materials.

COST TO DEVELOP

Cost to develop is another key determinant on final development forms. For this analysis, we chose five alternative development forms:

Development Form	Description	Example Photo
High Rise	Steel and concrete construction. Assumed density was a 12.0 FAR. Local examples are found in the South Waterfront and recent Pearl District projects.	

² MetroScope is an interactive transportation and land use forecasting tool developed by Metro.

		1858
Mid-Rise	Also steel and concrete construction, but limited in height to 4-7 stories. These are seen locally in early urban projects, or areas in which a high-rise solution is considered too large in scale.	
Type V Construction over Podium	Wood frame and/or steel stud construction over a single story concrete podium. This is a common construction type on infill sites in the close-in eastside neighborhoods.	
Type V Construction with Surface	Typically wood frame construction with surface parking, carports or stand-alone garages. Construction is usually two to three stories high, with a density approaching 30 units per acre. This is the predominant form in most suburban contexts in the metro area.	
Duplex/Townhomes	Also typically wood frame, these units often have parking under the unit. Projects can be fee simple or with condominium ownership of the ground.	

As a general rule, the higher density development forms have a higher cost per square foot to construct. This is offset by a greater achievable density (units/acre), which has value when the achievable price is higher than the cost of construction excluding land. When achievable pricing is below construction costs, there is no marginal value associated with the increase in density and development forms with delivery values greater than achievable pricing are deemed to be not viable.

Construction cost assumptions are derived in the model based on R.S. Means median values for the development forms evaluated. The R.S. Means numbers are based on real project experience, but are necessarily backward looking as they are based on recent experience. This can provide for some short-term bias in the estimates, but the bias will shift over time and be less significant over a longer term planning horizon.

We recognize that the basic development forms used in our analysis do not represent the full spectrum of potential outcomes, but at a district level we feel that they can adequately address what a "predominant development form" assumption should be.

THRESHOLD RETURN

Achievable pricing and the cost to develop are reconciled with an assumed threshold rate of return necessary to induce development. While developers don't always make money, their going in assumption always reflects an expectation of return to offset the risk inherent in development. Acceptable rates of return can vary considerably over time, and reflect factors such as the perceived risk associated with a particular form of real estate relative to other available returns. Not all developers calculate returns in a consistent manner, as their individual deal structures and anticipated dispositions vary.

For this analysis, we selected a measure of threshold return that is easily tracked and simple to calculate. For income properties, the threshold return is expressed as a risk spread between current market capitalization rates³ and the project's initial return on cost at stabilization. Within the analysis, we are assuming a 2% risk spread. This allows for some dynamism by area as well as over time. Capitalization rates move substantially over time, and tend to track with outside variables such as treasury rates and financing costs. In addition, capitalization rates can vary considerably by the nature and type of product, with lower capitalization rates seen in areas perceived to represent lower levels of risk.

For the ownership residential product, the assumed threshold rate of return was set at a 20% return on sales, which reflects that the gross profit after sales commission is 20% greater than the cost of construction.

As a general rule, the threshold return is a function of returns available for other investments, and their relative perceived level of risk. Real estate is a highly cyclical industry with extended delivery times and considerable construction and market risk, and as such typically demands higher return

³ A capitalization rate (cap rate) is a commonly used way to value an income property (investment property). Net operating income before taxes is divided by the cap rate to establish a market value.

levels. Threshold returns dropped during the last construction cycle as higher rates of leverage (allowable debt levels, which lower equity requirements) and increased non-recourse loan availability reduced perceived risk levels to developers. This is no longer the case in terms of the availability of non-recourse loans, but market rates of return have remained quite low.

HIGHEST AND BEST USE

The underlying assumption was that development patterns would largely occur in the form determined to represent the highest and best use, defined as the development form that generated the greatest residual property value. In other words, marginal development activity would largely be consistent in form with what the model indicates would support the greatest value for the underlying property.

The highest and best use determination is based on the allowable use that has the highest indicated residual property value between the five alternative development forms and two tenure options (owner and renter). An entitlement screen is necessary, as use types identified as having the greatest residual values may not be allowable under existing zoning. This can represent either a density restriction (allowable densities are below what is market supportable), or a mandated density (minimum densities are above what is market supportable).

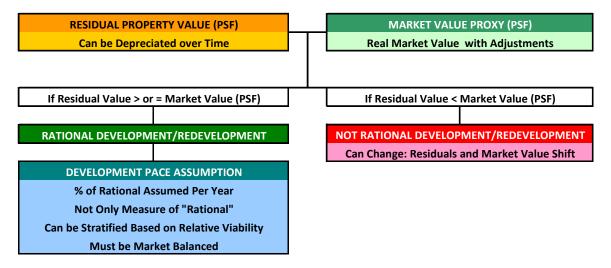
Another key screen that should be monitored is what is referred to as a "market screen". While the analysis is likely to identify a use as the highest and best use in an area, the market may not support full build-out in that use type. As an example, if rental residential development in Type V construction over a podium is identified as the highest and best use, it is unlikely that all new housing developments will be rental apartments, as the rental market serves approximately 35% of households in the Portland metropolitan area. If the market was completely built-out in this manner, it would likely get substantially over-built and achievable pricing would drop.

Ability to pay is another factor to consider with the highest and best use determinations. While achievable pricing at the margin may be adequate to support relatively costly cost housing forms such as high-rise condominiums, there is a limit to how many households would be able to afford this option. MetroScope has output related to the implied housing cost burden, which needs to be considered in these calculations.

REDEVELOPMENT

The determination of residual property values also provides key input into predicting redevelopment activity. As a general rule, redevelopment is considered plausible when the residual land value under the highest and best use development scenario is equal to or greater than the estimated current value of the property, including improvements.

REDEVELOPMENT MODEL SCHEMATIC

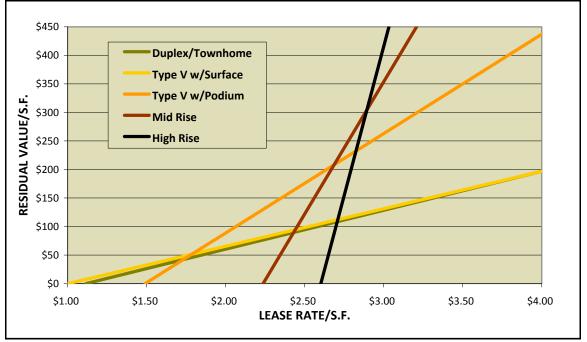


If the residual value is greater to or equal to the market value of the property, it is assumed to represent a rational development or redevelopment opportunity. While development and/or redevelopment is considered viable in these instances, it does not necessarily mean that it will be developed with the study time frame. There are a number of additional factors that impact redevelopment, and we assume that only a portion of opportunities identified as viable will be realized within the study horizon.

III. GENERAL OUTPUT

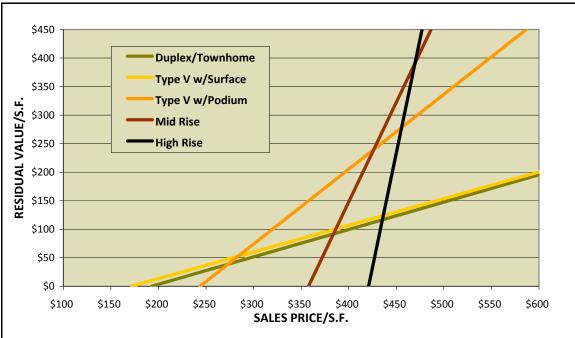
The residential development model generates a general relationship between the five basic development forms, under both a rental and ownership assumption. Within the model, achievable pricing is the independent variable while costs to development and threshold returns are givens and outside of the developer's control. Based on the assumptions used, we can generate a simple graphic that demonstrates the basic relationship between the development forms.

As shown in the following graphic, the pro formas for the development prototypes support different residual property values under different achievable lease rates for rental residential product. Under each assumed lease rate, the development form that supports the highest residual property value is considered the highest and best use, assuming the form is entitled. As shown in the graphic, a market with achievable pricing at \$1.50 per square foot would see Type V construction with surface parking as representing the highest and best use. As achievable rents approach \$1.60 per square foot, Type V construction with podium parking transitions into the highest and best use. When achievable pricing assumptions move above \$2.40, we see Mid-Rise and High-Rise products becoming the indicated highest and best use.



RENTAL RESIDENTIAL DEVELOPMENT

The model indicates a similar pattern for ownership residential product. In this case the transition between Type V surface parked development and Type V podium development is at an achievable sales price of around \$270 per square foot.



OWNERSHIP RESIDENTIAL DEVELOPMENT

In both cases, the marginal benefit of the higher costs per square foot for construction are offset by greater achievable densities when achievable pricing is high enough.

The generalized relationships shown cannot account for all potential permutations associated with the cost of delivering products. There are significant economies of scale associated with many development forms, which are difficult to efficiently design and construct on small sites, or sites with topographical on configuration limitations. Conversely, there are market driven limits to the amount of product that is feasible to develop in a market, which argues against large-scale developments in markets that are insufficiently deep to support them.

IV. DISTRICTS

Viable development forms vary substantially throughout the Portland metropolitan area. This is primarily due to differences in achievable pricing and can be reflected in the model. As noted previously, we can set achievable pricing at a district level based on secondary market data sources. While the generalized relationships between development forms remain constant, we find that geographic districts within the region vary substantially in achievable pricing, and subsequently likely predominant residential development forms.

A matrix of current achievable pricing assumptions for new construction was generated for eleven distinct geographic districts. These numbers were derived from a combination of data sources, including New Home Trends, Realtor's Multiple Listing Service, and the Metro Multifamily Housing Association. The following table summarizes the baseline assumptions by district used in our model:

	Rental	Price/
District	\$/SF	SF
1 Portland CBD	\$2.16	\$371
2 Close-In Eastside	\$1.72	\$275
3 Close-In Westside	\$1.79	\$250
4 East Multnomah County	\$1.38	\$250
5 East Clackamas	\$1.43	\$250
6 Milwaukie/Gladstone	\$1.39	\$250
7 Oregon City	\$1.41	\$250
8 Lake Oswego/West Linn	\$1.63	\$363
9 Beaverton	\$1.43	\$250
10 SW Suburbs	\$1.39	\$250
11 NW Suburbs	\$1.46	\$250

ASSUMED PRICING BY DISTRICT

The assumed pricing matrix reflects per square foot baseline pricing by district for new product. Rental rates are expressed by monthly rate, while the price per square foot reflects ownership pricing. These prices are not necessarily reflective of actual achievable rents in the current markets, but theoretical achievable rents if the area was fully amenitized. The model also allows for further refinement in achievable pricing based on level of amenity adjustment. The baseline rents are set to reflect a 100% location⁴, with locations considered less desirable discounted from those baseline levels.

The market is currently unusually fluid, and pricing estimates are seen as less reliable than normal under these conditions. The pricing matrix is set up as a dynamic input into the model, allowing for regular updating as appropriate.

V. AMENITY RELATED PREMIUMS

A variety of public investment types, ranging from parks to transit to other public facilities, has a demonstrated record of affecting the economic value of the built environment nearby. This section provides a broad review of notable research into the economic premiums created by public investment types, nationwide and in the Portland metro area. This section also discusses original hedonic modeling intended to identify economic premiums from a variety of public investment types that have not yet generally been explored in the Portland metro area.

LITERATURE REVIEW

For almost 30 years, significant economic and statistical research has been published that attempts to quantitatively explain the many different variables that can affect the value of a home. The original study that framed the issue in modern statistical methodology was Sherwin Rosen's 1974 study "Hedonic Prices and Implicit Markets: Product Differentiation in Perfect Competition" published in the *Journal of Political Economy*.

⁴ A 100% location refers to the most desirable/marketable location within a market.

That study introduced a rigorous statistical process – hedonic modeling – that enables estimates of how individual factors, isolated among many different ones, affect home prices. For instance, the methodology lets research answer the questions:

- Does a nearby city park distinctly affect the value of a home no matter what the many physical features of a home may be?
- Does the park positively affect value?
- By how much does the park distinctly contribute to the appeal and price of the home?

Over the past fifteen years, as statistical modeling software has become far more sophisticated and economical while data sets have become more detailed and easier to access, a highly diverse and robust body of literature has grown that analyzes many different factors affecting home values. These include "amenities" such as parks, proximity to employment centers, and school districts. Research also explores the negative, housing price impacts of "disamenities," or such things as landfills and noise from freeways.

For purposes of this specific analytical effort, we focus on published research literature that has sought to identify the impact of specific public facility and amenity investments and their impact upon home values.⁵ The literature review is divided into four general categories of study, in order of how long the topic has been researched – and therefore the more "robust" and rigorous the body of literature is. These are:

- Impact of parks and open space upon home values;
- Impact of non-automobile transportation investment upon home values;
- Impact of commercial services or "urban amenities" upon home values; and
- Impact of street design and pedestrian connectivity amenities upon home values.

A conclusion section summarizing findings follows thereafter. A discussion of caveats to the published literature is also included, primarily among them the issue of single-family residential property value bias. The overwhelming majority of studies in the literature, and among those summarized below, attempt to estimate the value of different public investments on residential values as measured by single-family residences. Detached homes are the prevalent residence type nationwide and thus represent a multitude of data observations with easily measurable economic values and other independent determinants.

As the use of this analysis will be treatment of public investments that may enhance the economic viability of higher-density residential choices, largely attached residential development, the literature is useful in establishing economic value parameters but not necessarily indicative of choices made by households who prefer attached residential product. Accordingly, we caveat the single-family residential bias of these results, as well as later discuss a "self-selection" bias among households who prefer attached residential development and have unique preferences for amenities as well.

⁵ The yet-unpublished study, *Hedonic Price Effects of Pedestrian and Transit-Designed Development* (Keith Bartholomew & Reid Ewing, Department of City & Metropolitan Planning, University of Utah, 2009) and "The Economic Benefits of Open Space, Recreation Facilities and Walkable Community Design" (published in Active Living Research, March, 2010, Robert Wood Johnson Foundation, http://activelivingresearch.org) were identified as the most recent surveys of academic and non-profit/advocacy literature. Jointly, both works serve as the foundation of this literature review.

RESIDENTIAL VALUE IMPACTS OF PARKS & PUBLIC FACILITIES

The value of park space as an amenity generally to communities and specifically residential development is one of the oldest issues of study in both planning and real estate economics, extending to 1926 analysis of the financial return of New York's Central Park.⁶ Open space, and specifically urban park space, are long established as important public investments for maintaining robust, healthy communities – assuming they are well-maintained and safely managed. Review of more modern research literature indicates the following about the distinct impact of different park and open space amenities upon nearby home values:

- Capitalization of the benefits of public park space into residential development is typically concentrated between 500 and 3,000 feet from park space, with declining benefit as distance increases.⁷
- For larger, regional parks, measurable positive home value impact goes out to 1,500 feet distance; however 75% of the benefit is within 500 to 600 feet of the park.⁸
- Park space design maximizes value capitalization with the "Edge Principal," i.e. longer narrow parks with greater edge are of higher value than parks with wider or round parks.⁹
- Parks with emphasis on natural areas (woods, ponds, etc.) exhibit higher value capitalization than improved, flat open spaces for social or athletic functions.¹⁰
- Although numerous empirical studies have been conducted nationwide with a diverse array of results, in general larger, passive-use and well-maintained parks add anywhere from 10% to 20% additional value to residential development within 3-4 blocks, all else equal.¹¹
- The most thorough review of park amenity impact literature generally concludes the size of the park and proximity to it are the best indicators of positive economic value created by the park.¹² Generally, higher park size and greater proximity to the park open space or improved space contribute to economic value of a residence. Economic distinction between improved park space and open/natural park space was more mixed.

Nearly all of the above studies focused on a diversity of urban residential form, i.e. attached residential development as well as detached, and capitalized property values associated with parks.

⁶ Metropolitan Conference of City and State Park Authorities (1926). Parks as investments. New York City. Cited in L.H. Weir (1928), Parks, *A Manual of municipal and county parks*. New York: A.S. Barnes.

⁷ Crompton, J.L. (2001). The Impact of Parks on Property Values: A Review of the Empirical Evidence. *Journal of Leisure Research*, Vol. 33, No. 1, pp. 1-31.

⁸ Crompton, J.L. (2004). *The proximate principle: The impact of parks, open space and water features on residential property values and the property tax base.* Ashburn, VA: National Recreation and Park Association.

⁹ Little, C. E. (1990). *Greenways for America*. Baltimore: John Hopkins University Press.

¹⁰ Kaplan, R. & Kaplan, S. (1990). *The experience of nature*. New York: Cambridge University Press.

¹¹ Crompton, J.L. (2001). The Impact of Parks on Property Values: A Review of the Empirical Evidence. *Journal of Leisure Research*, Vol. 33, No. 1, pp. 1-31.

¹² McConnell, V. and Walls, M. (2005). *The value of open space: Evidence from studies of nonmarket benefits.* Cambridge, MA: Lincoln Institute of Land Policy.

A study of parks and capitalized values within the City of Portland in 2000,¹³ which largely focuses on detached, single-family housing actually found less marginal impact of parks on prices and, therefore, premiums paid by households to live near parks. Findings of the study indicated:

- Overall, park space proximity displayed a 1.43% price premium to nearby, largely single-family homes;
- Golf course open space by far exhibited the greatest price premium estimated at 5.97%;
- General public park space benefited proximate homes by 1.28% on average.

Later work by Netusil with Lutzenheiser¹⁴ studying Portland, Oregon data estimated that the optimal size of a park should be that of a golf course. Finally, a study of the impact of street trees upon home values throughout the Portland metropolitan area indicated that the number of trees fronting a property and within 100 feet of the property can, all else equal, increase the price of a home by \$8,000 (2008 dollars).¹⁵

RESIDENTIAL VALUE IMPACTS OF NON-AUTOMOBILE TRANSPORTATION IMPROVEMENTS

With significant capital investment in local-serving rail nationwide over the last twenty years, and increasing bicycle and pedestrian right-of-way more recently, a body of literature has grown that statistically estimates the impact of various non-automobile transportation access and proximity.¹⁶

Rail Transit Impacts

The great concentration of statistical research has focused on rail transit, and particularly light-rail or streetcar transit proximity to a home, and to a lesser extent commercial property. Heavier commuter rail impacts upon property values have also been studied. The following is a summary of key findings from the standout, more-often cited published studies, most accessibly surveyed by a 2001 paper by consulting firm Parsons Brinckerhoff.¹⁷

Nationwide Residential Impacts

• Homes have sold for between \$197 to \$272 more for every 100-foot greater proximity to a light rail station in San Jose and San Diego, California, respectively, while similar analysis found no effect in Sacramento.¹⁸

¹³ Bolitzer, B. & Netusil, N.R. (2000). The impact of open spaces on property values in Portland, Oregon. *Journal of Environmental Management*, Vol. 59, pp. 185-193.

¹⁴ Lutzenhiser, M., and Netusil, N.R. (2001). The effect of open spaces on a home's sale price. *Contemporary Economic Policy* 19 (3): 291-298.

¹⁵ White, R. (2009). Spreading the green and sharing the wealth. *Metroscape* 27-30.

¹⁶ The reader is also invited to review two studies that provide alternative methodology to hedonic modeling to estimate the value of rail/streetcar transit in the Portland metro area: "Portland Light Rail Transit Land Development Experience & Application," E.D. Hovee & Company, LLC Memorandum to David Unsworth & Jillian Detweiler, TriMet, July 28, 2008; and *Portland Streetcar Development Oriented Transit*, Office of Transportation and Portland Streetcar, Inc., April 2008.

¹⁷ Parsons Brinckerhoff. (2001). The effects of rail transit on property values: A summary of studies (Project 21439S). Cleveland, OH: NEORail.

¹⁸ Landis, J. R. Cervero, S. Guhathakurta, David Loutzenheiser, and M. Zhang. (1995). Rail Transit Investments, Real Estate Values, and Land Use Change: A Comparative Analysis of Five California Rail Transit Systems.

- Average home prices decline by between \$1,600 and \$2,300 for every 100 feet distance from the commuter rail station to the home in San Francisco and New York, respectively.¹⁹
- Apartment rents decrease by an average of 2.5% for each 530-foot distance from Washington D.C. Metro stations.²⁰
- Single-family homes enjoy nearly 7.0% higher values located in Los Angeles communities with commuter rail.²¹
- Conversely, similar studies found contradictory evidence in San Francisco, namely no significant impact of a rail station on home price but did find that within 1,000 feet of CalTrain right-of-way, house prices are generally \$51,000 lower, all else equal,²² while a Boston study found residential prices 20% lower within 400 feet of heavy commuter or freight rail.²³

Nationwide Commercial Impacts

- Commercial space in Santa Clara County, California within ¼ mile of a light rail station demonstrated up to \$0.05 greater rent per square foot, all else equal, while office space sales within the ¼ mile of a light rail station recorded \$4.87 higher price per square foot, all else equal.²⁴
- Commercial space per square foot in Washington, D.C. decreases by \$2.30 for every 1,000-foot distance from a commuter rail station.²⁵
- Alternatively, a study found no impact of commercial property impacts from rail station access in San Diego.²⁶

Portland Metro Area Residential Impacts

• Within 100 feet of a light rail station, Portland homes have sold for \$663 more than other homes all else equal.²⁷ Alternatively, other analyses have found that for every 100 foot distance from light rail, homes sell for \$75 less.²⁸

- ²³ Armstrong, R. (1994) Impacts of Commuter Rail Service as Relected in Single-Family Residential Property Values. Preprint, Transportation Research Board, 73rd Annual Meeting.
- ²⁴ Weinberger, R. (2000). Commercial Property Values and Proximity to Light Rail: Calculating Benefits with a Hedonic Price Model. Presented at Transportation Research Board 79th Annual Meeting, Washington, D.C. January 9-13.
- ²⁵ Federal Transit Administration. (2000). *Transit Benefits 2000 Working Papers: A Public Choice Policy Analysis.* Washington, D.C.: Federal Transit Administration, Office of Policy Development.
- ²⁶ Landis, J. R. Cervero, S. Guhathakurta, David Loutzenheiser, and M. Zhang. (1995). *Rail Transit Investments, Real Estate Values, and Land Use Change: A Comparative Analysis of Five California Rail Transit Systems.*

¹⁹ Lewis-Workman, S. & Brod, D. (1997) *Measuring the Neighborhood Benefits of Rail Transit Accessibility*. Transportation Research Record 1576, pp.147-153.

²⁰ Benjamin, J. and G. Stacy Sirmans. (1996). "Mass Transportation, Apartment Rent and Property Values." The Journal of Real Estate Research, Vol. 12, No. 1.

²¹ Fejarang, R. (1994). *Impact on Property Values: A Study of the Los Angeles metro Rail*. Preprint, Transportation Research Board, 73rd Annual Meeting, Washington, D.C., January 9-13.

²² Landis, J. R. Cervero, S. Guhathakurta, David Loutzenheiser, and M. Zhang. (1995). *Rail Transit Investments, Real Estate Values, and Land Use Change: A Comparative Analysis of Five California Rail Transit Systems.* Monograph 48, Institute of Urban and Regi*/onal Studies, University of California at Berkeley.

- Within 200 feet of a light rail station, Portland homes have sold for \$2,300 more than others, all things equal.²⁹
- Beginning at a distance of 100 meters, every meter distance beyond was estimated to reduce Portland area home prices by \$32.20 on average.³⁰

The most recent, comprehensive national survey of hedonic home price analysis of transit proximity conducted by Cervero³¹ indicates in general, within a ¼ mile to ½ mile radius, home price escalation is typically anywhere from 6.4% to 45% reflecting significant geographic variation and sensitivity to study specifications.

Finally, in what is perhaps the most pertinent and recent study on the issue, Michael Duncan of the University of North Carolina at Charlotte studied the differences in how detached, single-family residences and condominium units distinctly capitalize the benefits of rail proximity.³² His laboratory was the San Diego metropolitan statistical area and its transit oriented development areas. Findings include:

- Condominium units within 1/4 mile of a rail station had, all things equal, \$22,452 greater property value than like condominium units beyond a quarter-mile but within a mile of the rail station.
- The condominium unit proximity premium translates into a value boost of 16.6%, all things equal.
- Single-family residential units within ¼ mile of a rail station had, on average, \$11,800 greater value than like homes beyond a quarter-mile, but within one mile of the station.
- The single-family premium, comparable to other findings in the literature review, translates into a 5.7% property value boost for proximity to a rail station, all else equal.

Commercial Development Impacts

A less robust body of literature now exists that is beginning to empirically support the contention that commercial uses proximate to residential areas boosts the value of homes, all things equal. In other words, research is indicating potential home value premiums for being within a "15-minute neighborhood" or a "16-hour district" in current planning terms.

- 27 Al-Mosaind, M. K. Dueker, and J. Strathman. (1993). Light Rail Transit Stations and Property Values: A Hedonic Price Approach. Portland, OR: Center for Urban Studies. Preprint, Transportation Research Board, 72nd Annual Meeting.
- ²⁸ Lewis-Workman, S. & Brod, D. (1997) *Measuring the Neighborhood Benefits of Rail Transit Accessibility*. Transportation Research Record 1576, pp.147-153.
- ²⁹ Dueker, K. and M. Bianco. (1999). *Light Rail Transit Impacts in Portland: The First Ten Years.* Presented at Transportation Research Board, 78th Annual Meeting.
- 30 Chen, H., A. Rufulo, and K. Dueker. (1998). Measuring the Impact of Light Rail Systems on Single Family Home Prices: A Hedonic Approach with GIS Applications. Prepared for the Transportation Research Board, 77th Annual Meeting.
- ³¹ Cervero, R., S. Murphy, C. Ferrell, N. Goguts, Y. Tsai, G.B. Arrington, et al. 2004. Transit-oriented development in the United States: Experiences, challenges, and prospects (TCRP 102). Washington, DC: Transportation Research Board.
- ³² Duncan, M. (2008). Comparing Rail Transit Capitalization Benefits for Single-Family and Condominium Units in San Diego, California. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2067, Transportation Research Board of the National Academies, Washington, D.C., pp 120-130.

Unlike the large volume of research on impacts of transit proximity, research on commercial development impacts is far less uniform in its findings of positive benefits. Some studies find value in being near a commercial district in general, while others find that being too close to the traffic, noise, and lights from various commercial property types translate into lower residential values in the immediate vicinity. For instance:

- Early research has found that being immediately adjacent to commercial offerings has a negative impact to property values, while homes that are not immediately next door to commercial development decrease in value by roughly \$1,500 for every 33 feet away from retail.³³
- A 2008 analysis in King County, Washington found interesting, but mixed results regarding transit-oriented development mix and residential values.³⁴ The study identified increased value for lower-cost housing to be near retail job opportunities, while proximity to retail reduced value for higher-end homes, all things equal.
- A 1999 study of the Kentlands New Urbanist, planned community development in Maryland indicated generally positive residential value impacts of mixed uses, including parks and open space as well as commercial uses, proximate to residential areas.³⁵

The research team of Yan Song of the University of North Carolina and Garrit-Jan Knaap of the University of Maryland has published a series of studies on the impacts of various New Urbanism design, mixes of use, and infrastructure feature impacts upon housing values, most notably in 2003.³⁶ Studying Washington County, Oregon, they have found the following relationships via hedonic modeling, though with results sensitive to specification:

- In general, residential development proximate to commercial development enjoys greater values.
- However, homes have higher value, all things equal, when within a more homogenous, single-family residential area compared to homes within a mix of uses.
- The closer single-family homes are to multi-family homes, values tend to decrease.

Measuring the impact of proximate commercial development on residential home values is in practice the most difficult relationship to model statistically. Among other things:

- Commercial development size, forms, and services can vary widely;
- Unlike dedicated park or open space, commercial services can easily change within a fiveyear timeframe or shorter depending upon the health of the center;
- Traffic noise, visibility, and access in relationship to residential areas can be highly variable;
- Individual retail or service establishments can have very different appeal (café vs. tavern) at different times of day, to different demographics; *and*

³³ Li, M. and J.H. Brown. (1980). Micro-Neighborhood Externalities and Hedonic Housing Prices. *Land Economics* 56 (2): 125-141.

³⁴ Mathur, S. 2008. Impact of Transportation and Other Jurisdictional-Level Infrastructure and Services on Housing Prices. *Journal of Urban Planning and Development* 134 (1): 32-41.

³⁵ Tu, C. and M. Eppli. (1999), Valuing New Urbanism: The Case of Kentlands. *Real Estate Economics* Vol. 27.

³⁶ Song, Y. and G. Knapp. (2003), New Urbanism and Housing Values: A Disaggregate Assessment. *Journal of Urban Economics* 54: 218-238.

• The value of being near a district in general as compared to specific types of commercial/non-residential development can be difficult to statistically distinguish.

To counter these problems in estimating commercial amenity values, the 2007 Urban Living Infrastructure study for Metro's Transit Oriented Development Program comprised a hedonic model of residential values as a function of specific commercial offerings within a 1.5 block distance. Home sales proximate to six key, mixed-use districts in the Portland metro were analyzed. Important findings specific to this metro area included:

- Specialty grocers, which sell gourmet goods and organic produce as well as have a café and flower store in-house, had very significant positive impacts to residential values nearby.
- Cinemas, typically single-screen and vintage in established commercial districts, also had substantial positive property value impact, likely signaling such an amenity as an anchor for entertainment and dining after business hours, i.e. the "16-hour district."
- Book shops, garden stores, and a few other unique commercial offerings were also found to have positive property value impact for homes nearby.
- Many other amenities were studied and had positive impact estimates, but were not "statistically significant" or statistical confidence in the estimates was not as strong.
- Alternatively, some commercial offerings were estimated to act as property value "disamenities," most notably pub/taverns primarily for alcoholic beverage consumption, day spas likely due to resident/non-resident parking conflict, and record stores.

RESIDENTIAL VALUE IMPACTS OF STREET DESIGN & NON-AUTO CONNECTIVITY

As economic research into the impacts of transit and open space upon residential values has become more robust, the second area of increasing new research has to do with New Urbanist street design, pedestrian connectivity, and even bicycle connectivity. Published research into each has only recently emerged and as such, a review indicates the body of work is from conclusive. A summary of key studies is found for each topic below.

Connected Street Patterns

New Urbanist residential development in different parts of the country has increasingly utilized "connected" street patterns, i.e. neighborhood grid-type systems rather than cul-de-sacs, etc. Research has followed seeking to identify which street system type is preferred by buyers and if that value is capitalized into home prices. Published research to date is mixed in findings:

- Song and Knaap in their 2003 study of Washington County, Oregon homes found homes have higher value, all else equal, in developments with grid-like connectivity in addition to value being nearby commercial development.³⁷
- A 2007 study of Seattle-area residential development found that more traditional grid-like street patterns increase home values where neighborhoods are more homogenously residential, while grid-like street patterns have negative effects on property values when higher traffic volume uses such as commercial are nearby.³⁸

³⁷ Ibid.

³⁸ Matthews, J. and G. Turnbull. (2007) Neighborhood Street Layout and Property Value: The Interaction of Accessibility and Land Use Mix. *Journal of Real Estate Finance and Economics* 35: 111-141.

• Alternatively, two studies – one in 1990³⁹ and the other in 2002⁴⁰ – generally found that neo-traditional features such as grid-patterned streets and alleyways had lower capitalized values in home prices than cul-de-sacs and more typical suburban driveway/garage form.

Traffic Calming vs. Traffic Disamenity

Regardless of street layout, traffic calming devices have been studied for their impact upon residential values with mixed results in two older studies identified, potentially dependent upon the specific type of traffic calming device.

- Most recently, it was found that speed tables street-wide speed bumps with a flat plateau in the middle in residential areas to slow traffic had little discernible impact upon home values when neighborhoods without calming devices were compared.⁴¹
- In a much older study⁴², diagonal diverters were the topic of study in a comparison of highly similar neighborhoods with and without the improvements. Diagonal diverters are barriers running diagonally across an existing four-way intersection that prevents through-traffic for automobiles, but maintains through-traffic for bicycles and pedestrians. The study found that home values appreciated faster in neighborhoods with the device than without.

Interestingly, the study of noise created by auto-friendly street design has far more robust research published and gives more confidence about the need for pedestrian-friendly design in different instances. The most prominent studies on the topic find that negative value impacts of street noise range from 0.2% value reduction per decibel of noise⁴³ to 0.6% value reduction⁴⁴, while a third indicates the negative value impact only occurs above 65 decibels of noise.⁴⁵

On a related topic, research has occurred on a still-limited scale regarding the replacement of trafficintensive freeways and associated noise with boulevards or other less-intensive automobile uses. The most notable paper on the topic,⁴⁶ prepared for the University of California Transportation Center in December of 2007, provided hedonic modeling of home prices as effected by the

³⁹ Asabere, P. (1990) The Value of a Neighborhood Street with Reference to Cul-De-Sac. *Journal of Real Estate Finance and Economics* 3 (2): 185-193.

⁴⁰ Guttery, R.S. (2002). The Effects of Subdivision Design on Housing Values: The Case of Alleyways. *Journal of Planning Education and Research* 23 (3): 265-273.

⁴¹ Edwards, V. and W. Bretherton. (1998) The Economic Impact of Speed Humps on Housing Values. Paper presented at the 1998 Institute of Transportation Engineers Annual Meeting, Toronto, Ontario. Washington, DC: ITE.

⁴² Bagby, D. (1980). The Effects of Traffic Flow on Residential Property Values. *Journal of the American Planning Association* 46: 88-94.

⁴³ Bateman, I., B. Day, I. Lake, and A. Lovett. (2001). *The Effect of Road Traffic on Residential Values: A Literature Review and Hedonic Pricing Study.* Norwich, UK: Economic & Social Research Council.

⁴⁴ Wilhelmsson, M. (2000). The Impact of Traffic Noise on the Values of Single-Family Houses. *Journal of Environmental Planning and Management* 43 (6): 799-815.

⁴⁵ Thebe, M. (2004). Planes, Trains, and Automobiles: The Impact of Traffic noise on House Prices. *Journal of Real Estate Finance and Economics* 28 (2/3): 209-234.

⁴⁶ Cervero, R., Kang, J. and K. Shively. (2007). "From Elevated Freeways to Surface Boulevards: Neighborhood, Traffic, and Housing Price Impacts in San Francisco." Working Paper, University of California Transportation Center.

replacement of the Embarcadero Freeway Corridor and the Central Freeway Corridor in San Francisco with more pedestrian-friendly, less auto-intensive boulevards. Highlights include:

- Before and after freeway replacement, proximity to automobile noise translated into disamenities, or home value discounts for homes proximate to the two corridors.
- A modest amenity benefit was estimated within ³/₄ miles from the new Embarcadero Boulevard after 2000, controlling for proximity to the waterfront.
- Values of homes proximate to the new Octavia Boulevard, the replacement of the Central Freeway Corridor, jumped by \$116,000 in 2005, all else equal.
- The study also reviewed traffic patterns and usage to find that replacement of the freeways with Boulevards did not cause measurable negative impact to property values or neighborhoods with dispersion of traffic in the wake of freeway replacement.

"Walkability"

The term "walkability" has become common in both planning and real estate realms due in part to the increasingly New Urbanist orientation of residential development nationwide. "Walkability," however, is an inexact term generally reflecting relative proximity of a residential or commercial property to other commercial or employment destinations. To be "walkable," a property is usually within a mile of a destination and pedestrian connectivity is typically convenient.

Most recently, the private software company Front Seat launched its Walk Score methodology⁴⁷ and website to increasing notoriety and popularity in real estate and formal planning circles. A "Walk Score" is assigned by the service based on ¼-mile distance increments from a residence or business to other key commercial destinations. The ratings system is largely distance-driven, rather than infrastructure-driven; safe pedestrian access is not necessarily guaranteed in a "high" Walk Score (within ¼ mile distance).⁴⁸ In other words, the ratings system does indicate proximity, but does not indicate safe pedestrian or bicycle infrastructure or connectivity. This is particularly true for a Walk Score from one commercial address to another.

It is also not to be confused as a measure of how much walking or bicycling takes place. A home may have a high Walk Score, but the proximity of the home to a commercial area can just as likely indicate a very short, convenient drive via automobile to the commercial area in question. Even so, Walk Score has become a short-hand algorithm for proximity of a residential use or commercial use to a wide menu of commercial uses as a proxy for lesser need for an automobile.

Walk Score has specifically been utilized as a measure of "walkability" in recent studies of commercial property impacts upon residential and other commercial properties. The work of researchers Gary Pivo of the University of Arizona and Jeffrey Fisher of the University of Indiana best represents rigorous academic study of walkable proximity, or "Walk Score," between property types.

• Their 2009 study⁴⁹ of Walk Score premiums on a variety of residential, commercial and industrial properties nationwide found, on average, a 5% to 8% value gain for every 10 point gain in a property's Walk Score. The study also found, however, that higher Walk Score

^{47 &}lt;u>http://www.walkscore.com/about.shtml</u>

^{48 &}lt;u>http://www.walkscore.com/methodology.shtml</u>

⁴⁹ Pivo, G. and J. Fisher. (2009). "Effects of Walkability on Property Values and Investment Returns." Working Paper. Responsible Property Investing Center, Boston College and University of Arizona, and Binecki Center for Real Estate Studies, Indiana University.

translates into mixed effects on commercial property returns and capitalization rates depending upon use, with the most negative effect upon retail property return measures.

• Their follow-up 2010 study⁵⁰ further explored the mixed results of walkability and income properties specifically with a more detailed methodology. They found that for every tenpoint increase in Walk Score, property value increased by 1% to 9% on average and more generally correlated with lower capitalization rates and higher income.

Bicycle Connectivity

With bicycle mobility planning gaining momentum in different parts of the country, bicycle connectivity has become increasingly studied in academic literature. Interestingly, study methodologies are a bit more diverse and yield mixed conclusions about the value of bicycle access investment upon property values.

Opinion survey studies have historically been more numerous in gauging the effect of bike paths, on and off-road, and bike trail greenbelts upon residential home values *purely from the perception of property owners*. An unpublished review of survey studies in Colorado, Seattle, Omaha, Vancouver, Monmouth County, New Jersey, Santa Rosa, California, three National Park Service trails indicates that property owners nearby bike trails of various forms generally view the investment as an amenity, and specifically either boost nearby property values slightly or not at all.⁵¹

Hedonic modeling of bike value impacts on property value, alternatively, provides far more mixed results. Unlike existing property owner surveys, hedonic modeling offers the advantage of being able to control numerous variables that affect the value of a property, as well as simultaneously study a far larger sample of properties than just immediate property owners. Hedonic modeling is a more recent focus of research.

- The Delaware Transportation survey study⁵² included a more simple hedonic model of bike access value impact for properties with only a handful of variables and found significant, positive impacts of being near bike paths.
- Alternatively, researcher Kevin Krizek of the University of Minnesota has published a series of papers on the various benefits of bike access upon property values and finds results depend highly upon the path type and urban or suburban setting. His most oft-cited study⁵³ of various districts and path types in the Twin Cities metro area finds that in a more urban environment, for every 400 feet closer to a roadside bike path, home values decline by nearly \$2,300. For every 400 feet closer to an off-road path, value increases by \$510. In a suburban setting, every 400 feet closer to a roadside path decreases home value by \$1,059, while every 400 feet closer to an off-road path decreases home value by \$240.

⁵⁰ Pivo, G. and J. Fisher. (2010). "The Walkability Premium in Commercial Real Estate Investments." Working Paper, Responsible Property Investing Center, University of Arizona, and Binecki Center for Real Estate Studies, Indiana University.

⁵¹ Racca, D. and A. Dhanju. (2006). "Property Value/Desirability Effects of Bike Paths Adjacent to Residential Areas." Project Report, Delaware Center for Transportation and the State of Delaware Department of Transportation.

⁵² Ibid.

⁵³ Krizek, K. (2006). Two Approaches to Valuing Some of Bicycle Facilities' Presumed Benefits. *Journal of the American Planning Association* 72 (3): 309-320.

The Krizek study controls for automobile/bicycle traffic volume issues and conflict potential, but subsequent hedonic research has focused on appropriate bicycle path buffers and their effect on bicycle commuting patterns. No studies were identified that takes the next step of drawing a relationship between on-street bicycle path buffers and property values.

CONCLUSIONS & CAVEATS

After a review of the most notable literature on the topic of various public investments and property values, we come to the following conclusions about what guidance research can give to Metro regarding development potential, in order of confidence and robustness of the literature.

- **Parks & Open Space:** The oldest and most-studied topic of parks and impacts upon property values overwhelmingly indicates positive correlation between type of park space (unimproved/open higher than improved), size of space (larger having higher impact) and access to park space from residential areas.
- **Transit:** Transit, rail in particular, has highly robust academic research over a period of time lending empirical confidence to the idea that proximity to rail is a positive amenity for property owners. Studies are not quite as voluminous, and are limited to metro areas large enough and dense enough where commuter rail investment has been possible. Results are also varied by nature of rail (heavy vs. light) and geographic location.
- **Commercial Amenity:** An increasing body of work is finding positive, though admittedly mixed, benefits for proximity of various property types to commercial development. While some studies indicate noise and traffic nuisance as a concern, others find being nearby a commercial district but "not too close" has positive impacts. The Metro Urban Living Infrastructure study went as far as to identify specific business types that have unique, significant impacts upon property values as potential indicators of urban development catalysts.
- **Traffic Nuisance/Calming:** Although research into the efforts to calm the nuisance, or perception of nuisance, of traffic nearby residential areas have not been robust, a more persuasive body of research has estimated the negative impact to property values of residences nearby noisy/auto-intensive roads and related noise.
- Walkability/Connectivity: Although not precisely defined, the impact of being reasonably proximate to commercial and employment areas via distance only or connectivity of street design indicates positive, but again mixed, impacts to property values. Research is limited and conclusions are difficult to draw. Furthermore, some design elements such as alleys have been identified as having negative value impacts.
- **Bicycle Connectivity:** Statistical analysis of the value of bike trail/path improvements on property values is limited at this time. The most rigorous analysis has found that bike paths are generally negative for residential property values in suburban environments and mixed in benefit in an urban environment. Alternatively, numerous property owner surveys generally reflect a positive perception of being near trails by those property owners.

Review of all of the above indicates significant, rigorous analysis of the topic at hand. But it is also worth noting the caveats and limitations of the hedonic modeling body of work.

• **Detached Residential Bias:** As indicated at the beginning of this section, the overwhelming topic of study is the impact of amenities to single-family homes or land zoned for single-family residential development. Demographic and product "tastes" can be significantly

different enough for attached residential form that sensitivities to public investments may be somewhat different.

- **Geography:** The vast majority of studies scrutinize property values in specific cities or districts of cities all over the United States, including studies in this literature review. Studies cited above, however, are identified as significant ones in the body of work and frequently take a regional approach for comparison purposes. However, household behavior in hotter climates may or may not be indicative of household behavior in the milder Pacific Northwest climate where year-round bicycling, for instance, is less subject to weather extremes.
- **Time & Amenity Saturation:** As time moves on, a new and unique park may generate significantly positive improvement values nearby. But with depreciation and construction of other parks in greater saturation, the uniqueness of the park or any other public investment declines and impact value likely declines as well.
- **Nominal Dollar Values:** With time changing, the results of many studies identified were expressed in terms of current dollars. Unfortunately 1999 dollars for example provides little indication of value impacts in 2010.
- **Self-Selection:** Topics of study parks, bike paths, walkability are all amenities but it can also be said that "beauty is in the eye of the beholder." While development patterns in the Portland metro area indicate increased interest in urban, attached residential forms, the public amenities analyzed in these studies likely apply to that specific share of the regional population: those seeking to be nearby specific public investments.
- **Urban & Suburban Differences:** Some studies in the literature review attempted to identify different value impacts of public investments and indeed found differences between urban and suburban residential areas.

Upon conclusion of the following section, which discusses a new set of measurements of public investment upon property values in the Portland metro area, a reconciliation of literature review findings and new analysis results is provided to indicate potential urban amenity values for policy consideration.

HEDONIC MODELING

<u>Overview</u>

JOHNSON REID conducted several iterations of an econometric, hedonic model of metro area improvement values as potentially determined by various public investment types and other typical indicators of development value. Hedonic, or personal preference/pleasure, modeling seeks to explain observed behavior when there are likely numerous and widely varied factors and preferences involved in that behavior. Hedonic modeling is particularly powerful in dealing with the issue of property value analysis because it enables:

- The ability to measure many determinants of the value of a property; *and*
- The ability to understand the *marginal* or isolated value of an individual property feature, such as off-street parking, presence of street trees, or pedestrian access.

In mathematical notation, the relationship of interest is between the observed behavior (market value of a residential, mixed-use, or commercial property) and the potential factors that contribute to the value of those properties:

(1) Price = f (Locational, Physical, Environmental, Economic, Other)

or, Price is a function of Locational, Physical, Environmental, Economic and Other factors. Here, "Other" factors include those likely difficult to observe, specifically the unique preferences of property owners, investors, and other factors that can be difficult to objectively observe.

In statistical notation for hedonic modeling of property values, Equation (1) is expressed as follows:

(2)
$$P = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_n x_n + \varepsilon$$

where:

- P = Price
- α = A fixed (constant) dollar figure independent of the value property owners place on factors described in Equation (1)
- β = The dollar value that a property owner places on a specific property feature
- x = An individual feature of a property that has a unique dollar value
- n = The total number of property features that factor into its estimated value
- ε = Unpredictable determinates of property value, or "random error"

Equation (2) can be understood as follows:

The value of a property can be expressed in terms of a the basic value for the ownership of a property in general (α), n different and unique features of a property (x), the dollar value that an owner places on each feature (β), and unpredictable factors (ϵ).

JOHNSON REID then created a hedonic model of property values throughout the Portland metro area utilizing an original data set compiled by Metro for this study. Over 1,600⁵⁴ properties were sampled throughout the metro area, specifically in the following designated areas:

- Three Regional Centers: Clackamas, Gresham, and Hillsboro;
- Two Town Centers: Happy Valley and Tanasbourne;
- Pearl District; and
- Corridors: Fifteen designated corridors in all three of the metro area counties. A detailed list of all centers and corridors in the study can be found in the Appendix.

For every property observation and its market value,⁵⁵ Metro compiled a wide menu of qualitative and quantitative data on a host of issues ranging from zoning, property age and quality, primary use,

⁵⁴ Due to incomplete data fields and irregularities in some observations, Johnson Reid and Metro agreed that a number of observations should be excluded, leading to a final observation count of 1,346 properties throughout the metro area.

presence of street trees, property access, traffic volume and speeds, and a number of other physical and economic factors. In all, a total of 30 property quality variables were utilized to explain the values of properties in the sample. A detailed list of all variables, ranging from pedestrian environment to property construction type to location is found in the Appendix.

For the vast majority of information, JOHNSON REID constructed qualitative "dummy" or indicator variables, which simply assign a value of 1 or 0 depending upon whether or not the property does or does not have a certain quality. For instance, the indicator variable for commercial zoning was assigned a value of "1" if the property is zoned for commercial and a "0" if not.

Centers & Corridor Value Premium Results

On the following page is a comprehensive hedonic model "run" for the Centers/Corridors/non-Pearl District data set typical of various model specifications possible. We would generally observe the following:

- The model run utilizes the majority of the geographic, locational, and public investment variables as constructed and observed by Metro staff.
- The dependent variable is the natural logarithm of Real Market Value (RMV) per square foot.
- Independent variables are the natural logarithms of data observation values for each variable, as well as many indicator or "dummy" variables assessing qualitative information.
- The model attempts to correct for heteroskedasticity, or the risk that observations in different districts will have different variation.

Corridor & Center Locational Findings

A total of 22 locational dummy variables were utilized in the model. Accordingly, Coefficient ("Coef." or "premium" estimates should be read as the value of being within a specific corridor or center relative to being in the Pearl District, the Happy Valley Town Center, and the Clackamas Regional Center. Significant, high-value commercial development roughly equated statistically and the three districts "dropped out" as coefficients during statistical analysis.

Coefficient estimates are generally what one would expect, with the vast majority of the other centers and corridors showing a discount relative to the Pearl District, all things equal. Coefficient estimates themselves are individually somewhat problematic alone, however, and should be viewed as relative magnitude or relative discount compared to other districts.

Detailed results including locational variables are found in the Appendix of this report.

Corridor & Center Property Quality Findings

⁵⁵ <u>Assessed</u> real market value per square foot was utilized as the dependent variable for measure rather than transaction sales value. To wit, sales transactions records and prices were of far lesser consistency upon review than assessed real market value as indicated in tax records. Neither measure is perfect, but assessed real market value is at least consistent in its merits and problems.

Like locational variables, property quality variables also generally make intuitive sense as to what would indicate higher or lower value for a commercial or attached residential development. As with locational variables, however, the magnitude of individual coefficients or "premiums" is misleading and should be read as relative to a baseline variable.

- Construction age: A property built before 1994 is corroborated by the model as having a negative premium value to a new development or even development between 1994 and 2000.
- Zoning: Zoning coefficient estimates generally make intuitive sense relative to one another. Specifically, relative to mixed use residential zoning (MUR), more commercial-related zoning had relative price premiums. Public facility zoned-property surprisingly had the highest relative value. Commercial zoning was the only coefficient to demonstrate statistical significance.
- Number of floors: Somewhat surprisingly, more floors in a building indicate a discount. This likely reflects the lower value of a building with the more floors of rental apartment development the most common type of such structure the structure has. The coefficient is not statistically significant.
- Construction types: Value coefficients for different construction material types generally also make intuitive sense. Relative to wood frame, typically low-rise construction, predominantly concrete low-rise construction has a slight discount. Unsurprisingly, steel and glass construction indicates a significant relative premium to wood frame at over 13%, all things equal.
- Depreciated Value: In contradictory manner, the model estimates that properties indicated to be recently in poor quality indicate a 1% premium over new construction, all things equal, though the coefficient fails to be statistically significant.
- Street Parking Only: Unsurprisingly, buildings primarily served by on-street parking had a negative premium of 2%. This estimate is, of course, endogenous as land value indicates the economic efficiency gained by structured parking versus surface parking provision.

Corridor & Center Property Neighborhood & Public Investment Findings

Public amenity investments generally contribute positive property value compared to those properties that do not benefit from such proximity.

- Neighborhood Score: A higher neighborhood score results in a significant price premium according to model results. Again, it is important to emphasize self-selection for this variable as urban, walkable neighborhoods are preferred by only a percentage of the population.
- Traffic Speed and Volume: Higher-speed roads are found to cause a nearly 15% price discount, all things equal. Traffic volume, alternatively, shows a modest premium of 3% by the model, likely reflecting the appeal of higher volume traffic by commercial enterprises. Neither coefficient is statistically significant.
- Bike Racks & Street Furniture: Bike racks have a statistically significant price premium relative to properties without bike racks nearby, estimated at roughly 22%, all things equal, and statistically significant. Street furniture is associated with an estimated discount of 19%, though statistically insignificant.

- Street Design: Property values are estimated to enjoy a modest value premium of 7% when proximate to roads of greater than two lanes. This result likely underscores the value of access and visibility for vehicular traffic to commercial development. Left turn access, alternatively, is associated with a 6% discount based on model results. Both coefficients are statistically insignificant. Two-way traffic, on the other hand, is estimated to modestly improve values by up to 3%, the coefficient is not statistically significant in this specification. Street trees negatively contribute to property value to the tune of -17% discount, all else equal, though the coefficient is not statistically significant. Findings given the above indicate the conflict between pedestrian "friendliness" for districts, but at the same time clear visibility and access for commercial properties also in the districts.
- Street Frontage and Connectivity: Model results indicate that significant sidewalk exposure and street frontage with maximum pedestrian access both negatively affect property values. Though larger, the negative price effect all else equal is statistically significant for street frontage impacts. We would cite this as further evidence of the impact of the importance of preserved visibility and vehicular access in balance with pedestrian visibility and access for business viability.
- Cul-de-Sac Layout: Consistent with research literature, properties that are situated in suburban-style cul-de-sac street layout are estimated to experience a negative price effect, though not in a statistically significant manner.

Corridor & Center Findings Conclusions

We generally find the results of modeling to indicate the following:

- Commercial building property value effects are important in centers and corridors. Greater visibility and ease of vehicular access are important for property values in balance with pedestrian access and landscaped environment based on sample observations.
- Relative discounts vs. premiums generally corroborate intuitive understanding, though the importance of commercial visibility and access even for ground floor retail in mixed use projects should not be understated.
- Magnitudes of coefficient estimates should be interpreted in relation to one another and "all else equal" rather than read as exact premium or discount estimates. Unfortunately, all else equal rarely exists.
- Bike racks clearly indicate additional value per foot for properties in center and corridor areas.
- The model itself has an adjust-R² of roughly 80%, indicating that the majority of variation in property values is being explained by the model as specified.
- There is likely collinearity among different variables as is usually the case, however a standard test was run utilizing Stata and only two variables indicated significant risk of collearity: incompatible zoning and industrial zoning. Industrial zoning was subsequently dropped from the model(s).

In general, our results corroborate hedonic model results expressed in the literature review for other metro areas as well as previous studies of the Portland metro area. As is the case in all econometric studies, the model is sensitive to specification and variation in results is usually a consequence. Results expressed above, therefore, should be viewed as a one-time snapshot of public amenity investments and their impact upon property values, rather than a definitive indication of public investment tools.

PUBLIC AMENITY PREMIUMS: EVIDENCE & CONCLUSIONS

A careful reading of the literature, as well as the hedonic modeling exercise summarized above, indicates a number of different economic, physical, and public features that alone or "all else equal" positively contribute to property values. Although tempting, it would defy common sense to assume that all of the different public environment variables and private development qualities would cumulatively offer high property value premiums. A literal reading of the above analyses would indicate that a transit station, a specialty grocery store, and a golf course-sized park all within a quarter mile of a property would generate a combined value premium of well over 100%, all else equal, for example.

In reality, amenities do not "stack" cumulatively; they reflect self-selection by households that prefer such amenities; and are highly location-specific given household location preferences. In other words, amenity improvements combine differently for different parts of a metro area, different households, and in different permutations. For example:

- Proximity to rail, for example, has very different value potential for a central city resident whose rail commute is seven minutes versus a suburban resident whose commute via the nearby station is 45 minutes.
- Alternatively, the nearby development of a new park in an unsaturated suburban community would have different value for a suburban household than a new park for an urban household already proximate to a number of city parks.

Rather, an appropriate approach to considering different amenties and their values is to consider location and spending behavior among households who strongly prefer or marginally prefer to live in attached housing. For such households, location preferences are very high – proximity to employment, recreation, and services is generally of higher value than for households that prefer single-family residential development.

In essence, the value of the various locational features and amenities in a geographic area capitalized into property values is a reflection of the ability of the household to substitute transportation expense for housing expense. In other words, a premium for being near a transit station is really a shift of the household's spending on nearby transit rather and away from frequently more-expensive automobile expenses. The same is true for proximity to shopping and services, as well as recreation opportunities. The greater ability to walk or bicycle, rather than incur automobile travel time and expense, enables greater substitution from traditional travel expense to housing expense. The shift, of course, is preferable for only a share of population based on life stage, employment, age, and other factors.

Given this behavior among households who prefer attached housing, the following schematic was created to illustrate the relationship between the three primary drivers of convenience - Work, Recreation, and Services – the various amenities identified in the literature review and the model results, and JOHNSON REID's experience working with various jurisdictions and private development interests on the issue of property values and location throughout the metro area.

As the schematic illustrates, each of the three primary locational needs of households that prefer attached housing – rental or ownership – generally achieve no more than a 20% to 25% price premium by category. In other words, a condominium within convenient walking distance or convenient transit ride to a major employment center generally does not fetch more than a total

premium of 25% compared to similar properties with no such convenience. The same can be said for being near parks, open space or other recreation, and great convenience to shopping and services.

	Close to Work 20% to 25% Max. Premium		Close to Recreation 20% to 25% Max. Premium		Close to Services 20% to 25% Max. Premium		
			5% to 10%	Value	Premiums	Pedes	strian Environment & Streetscape
Dedicated Park & Open Space Connection		5%	to 15% Value Premiu	ms			
Proximity to Transit & Connectivity		5%	to 20% Value Premiu	ms			

Within each of the three location needs, however, different amenity investments contribute differently to property values.

- Proximity to transit in the literature indicates anywhere from 5% for single-family residences to 20% for various condominium-type development according to analysis.
- Transit & Connectivity do, however, contribute to the convenience premium for all three locational needs if the property is not immediately close to employment, recreation, or services.
- Dedicated Park & Open Space similarly contributes to property values in their convenience to all three locational needs, generally offering a 5 to 15% locational premium at most for proximity to such offerings based on previous findings. Such investment not only improves residential recreation and quality of life, but park space frequently amenitizes employment areas and commercial areas.
- Finally, Pedestrian Environment & Streetscape affords the lowest marginal premiums based on literature review and findings. We find that such improvements are symptomatic of more urban, dense locales rather than causal factors. However, some improvements can and do enhance pedestrian accessibility that did not previously occur according to the literature review. Combined premiums, based on findings review, would not likely combine distinctly for more than 5% to 10% value enhancement.

Given the above, we conclude the following:

• Fundamentally, proximity or convenience to Work, Recreation, and Services are the most significant drivers of property value from the transportation spending substitution effect. In other words, without significant proximity or convenience to one or a combination of the

three, substantial public investment in parks, transit that does not make one of the three convenient, or streetscape will have little measurable impact in inducing higher-density development.

- Individual, major amenity investments or a combination of various smaller amenity investments aimed at enhancing convenience to employment, recreation, or services, will not likely combine for more than a distinct 20% to 25% price premium, with premiums likely greater in areas with less connectivity or amenity saturation.
- For areas such as the Pearl District, which are highly amenitized in all of the above categories, a cumulative price premium from those amenities likely doesn't exceed 60% to 75% all else equal. All other districts and corridors should likely expect lower combined premiums from relative investment levels.
- We would not anticipate much greater than a 20% to 25% maximum premium for a single or combined public investment in most suburban corridor locations based on relative district pricing differences and predominant automobile-dependent development pattern.

IMPACTS OF MARKET INTERVENTIONS

The model can provide a structure within which to evaluate the marginal impact of a series of potential market interventions. These can be roughly divided into exogenous variables and variables that can be affected by local actions and regional policy. Variables such as the cost of materials and baseline lending terms are typically outside of local control. There are a number of areas in which local jurisdictions and policy makers have an ability to substantively impact the development process, which can be modeled using the framework developed.

Policy sensitive market shifts can be categorized by their impact on the three primary components of a highest and best use determination.

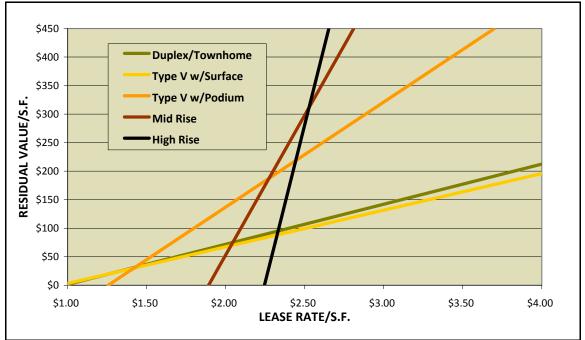
ACHIEVABLE PRICING

Achievable pricing in an area is a function of a complex set of variables, many of which can be impacted by intentional interventions. A key determinant of achievable pricing is the perceived level of amenity associated with any location. This can be related to items such as convenience (proximity to employment and services), community amenities (school districts), and physical amenities (views, golf courses). Public investments in areas such as transit and public realm improvements can significantly impact achievable pricing, as can support for highly valued tenants such as specialty grocers.

The net impact of a shift in achievable pricing on development form is dependent upon the districts current pricing. As shown previously, there is a direct relationship between achievable pricing and predicted development densities. This relationship is reflected in a step function, in which the development form with the greatest return shifts when pricing passes a threshold level. For a district in which current pricing is close to an inflection point that will support higher density development forms, a marginal shift upward in achievable pricing may result in a higher density of predicted development.

COST TO DEVELOP

Common market interventions are related to directly impacting the cost to develop. These include measures such as SDC waivers, land write-downs, parking management districts, tax credits and advantageous lending terms. As shown in the following two graphics, if a 10% cost reduction was assumed in the model, the transition point between uses would shift to lower price points.



RENTAL RESIDENTIAL DEVELOPMENT W/ 10% COST REDUCTION

In this case, the 10% reduction in cost shifts the inflection point between Type V surface and podium parked product from approximately \$1.60 to approximately \$1.45 per square foot. Public policy that serves to reduce the cost to develop can be expected to shift marginal density levels higher when the cost shift changes the highest and best use determination. If achievable market pricing in the preceding example was \$1.50 per square foot, the 10% cost reduction would be expected to shift marginal construction from Type V surface parked at 30 units per acre to Type V with podium parking at 87 units per acre. If done in a market with achievable market rents at \$1.00 per square foot, there would be no expected impact on the form of development in this case.

THRESHOLD RETURN

Within the model, the "threshold return" is intended as a proxy for the expected profit necessary to induce development. Real estate development entails considerable risk, and predicted returns need to be commensurate with that risk if new development is to be assumed. As with any investment, higher perceived risks require higher expected rates of return. The following are key areas of risk in real estate development:

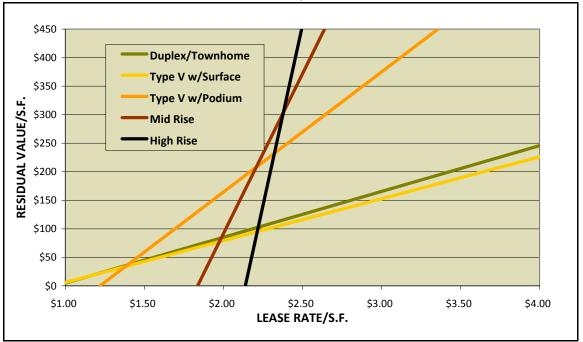
- Entitlement Securing entitlements for development is often an uncertain and time consuming portion of the development process. Even when the proposed development represents an outright allowed use under the code, a project may be subject to issues such as design review requirements and neighborhood outreach which may impact entitled uses and/or add time to the process.
- **Financing** Financial commitments can be fluid during the development process, with lenders and/or equity partners backing out of deals or renegotiating terms mid-

development. These players can also limit flexibility. In addition, financing commitments are subject to appraisal, which always carries risk.

- **Construction** There are many risk factors associated with construction. The cost of materials can fluctuate significantly, timing delays can impact contractor availability windows, unforeseen problems may emerge during site-work, etc.
- Market Actual achievable rent levels and/or sales prices may be significantly different than assumed at the time development was initiated. In addition, capitalization rates often shift significantly, which has a pronounced impact on income properties.

Developments that are unprecedented locally are typically considered to carry an unusual amount of risk, if not by the developer then certainly by the lender. The amount of debt financing available will be largely subject to the results of a bank-commissioned appraisal, which will have difficulty establishing a value for an atypical development form.

We can run a permutation of the basic relationship between uses and run the model assuming a reduction in the threshold yield from 8.0% to 7.0% for rental residential product. As shown in the following graph, the reduction in threshold yield shifts the inflection point between Type V surface and podium parked product from approximately \$1.60 to approximately \$1.40 per square foot. While the 1% differential in the rate of return seems negligible, the change from 8% to 7% reflects a 12.5% reduction in actual return.



RENTAL RESIDENTIAL DEVELOPMENT W/ 1% THRESHOLD YIELD REDUCTION

The primary underlying dynamics of a threshold return are largely outside of local control, and are related to variables such as available interest rates. There are two key areas of return that are significant in assessing yield, the cost of first position debt (secured by the property and often a

personal guarantee) and equity (cash, or subordinated debt, which serves as equity). First position debt often has attractive interest rates, as it is considered more secure. The equity portion of financing typically has a considerably higher cost, as it has a higher level of risk.

POLICY EFFORTS

There are areas in which public policy can impact perceived risk, many of which have been used over the years. The following categories some policy-sensitive variables and/or market interventions, and their impact on components of the highest and best use determination:

ACHIEVABLE PRICING	AMENITIES		
	HC TRANSIT		
	PUBLIC REALM		
COST TO DEVELOP	SDC WAIVERS		
	LAND WRITE-DOWNS		
	PARKING MANAGEMENT		
	VERTICAL HOUSING TAX CREDITS		
	LENDING TERMS		
THRESHOLD RETURN	LENDING TERMS		
	MASTER LEASES		
	PUBLIC INVESTMENTS		
HIGHEST AND BEST USE			

Each of these areas of market intervention can change the highest and best use determination, and subsequently the prevailing form of development assuming it is consistent with local entitlements. The marginal impact of any particular policy measure can be addressed using the methodological construct outlined in the model, and will vary substantially by geographic area within the Portland metropolitan area.

The anticipated effectiveness of policy efforts within specific districts can be predicted with the modeling framework developed as part of this assignment. The model can address marginal shifts in the form and magnitude of development and redevelopment activity, as well as providing a more rigorous and reliable methodology to assess the likelihood of redevelopment at the parcel and district level.

INCIDENCE

A key consideration in evaluating public interventions in the development market is the concept of "incidence". Incidence is a common concept in economic disciplines such as tax theory, and relates to who actually pays or benefits from a particular policy. In the case of market interventions, it is important for jurisdictions or agencies to understand the impact of their actions. Over time, the market will capitalize a subsidy into factors such as land value.

Many areas with a substantial record of market intervention have altered local market conditions as a result of the likelihood of intervention in future projects. An area that cuts development cost by waiving SDCs or offsite requirements may find that land values are subsequently higher to reflect the

availability of lower construction costs in that area. This can offset the marginal advantage offered by the public intervention, and reduce its usefulness over time.

If the policy objective for market intervention is to alter the form of development, these impacts need to be understood and monitored.

CONCLUSION

Our analysis indicates that public intervention in the residential housing market can have a measurable impact on the form of development, as well as the likelihood of redevelopment. Public investments in measures such as transit, public open spaces and services have a demonstrated ability to increase achievable pricing. As outlined in the production model developed, in many cases these shifts in pricing can alter the highest and best use equation within a market and change the predominant development form.

While many of the investments in infrastructure and services are supportable based solely on their amenity value to residents, these investments can also be utilized to encourage a change in development form. The effectiveness of these investments in shifting forms will depend upon the current market conditions in the area, and the extent to which a marginal shift would be predicted to shift achievable pricing to a level that supported a higher intensity development form. Markets with current achievable pricing only moderately below that necessary to support a more urban development form are likely to see a better return on public investment than a market with current pricing well below the threshold necessary to support a different form.

The analysis and model is geared towards a broad regional assessment. The methodological approach developed in this analysis can also be utilized for more detailed assessments of planning areas or districts. In addition, it allows for sensitivity testing of the marginal impact of more specific public investments on anticipated development forms. Market parameters will vary widely throughout the region, in terms of pricing as well as market responsive product types.

The model utilizes a number of variables that would be expected to vary substantively over time. As a result, these variables should be tracked and updated on a regular basis. While Metro is using this analysis to inform a longer term planning effort, the model is also able to provide meaningful data and output for short-term and more targeted policy decisions.

DEFINITION OF TERMS

- Site Size: This refers to the site size in square feet, and is intended to represent usable. In
 most urban contexts, the usable will be close to the total square footage, but the actual
 usable may be substantially lower if impacted by inefficient configuration, wetlands or other
 site characteristics that reduce the site's developable area. In general, as sites get smaller
 configuration issues become more significant, as there are less options to mitigate impacts.
- Floor Area Ratio (FAR): This is a common planning term, reflecting the ratio of built space to usable site area.
- Efficiency: Building efficiency refers to the percentage of a building that is leaseable or saleable. Corridors and common areas are not typically counted in this calculation, and building forms with extensive public areas and enclosed corridors will have lower efficiency ratios. The efficiency ratio is inherently lower in condominium buildings as opposed to rental apartments, as unit sizes are measured in different ways.
- Parking Ratio: This is an important variable, and one that is impacted by market demands, financing requirements as well as zoning requirements. This is policy sensitive to the extent that policy is fundamentally impacting parking. While publicly-mandated parking requirements can be removed, market and/or financing factors may still require significant ratios.
- Operating Expenses: These apply to rental apartments, and represent items such as property management fees, property taxes, utilities and maintenance.
- Cost/Construct: The cost to construct reflects the costs to improve the property, largely
 related to the new structures but may also include substantial demolition or off-site cost
 requirements. In this model, the costs are limited to construction of the building(s), interior
 finishes, contractor profit and architectural fees. This is derived from RS Means, which
 summarizes building experience reports by construction type and area.
- Soft Costs: Additional soft costs are an integral part of the overall cost of construction. These
 include engineering, traffic studies, system development charges, impact fees, financing
 costs and developer fees.
- Parking Costs: This is broken down as an average all in cost per space delivered.
- Capitalization Rate: The Capitalization Rate or Cap Rate is a ratio used to estimate the value of income producing properties. Put simply, the cap rate is the net operating income divided

by the sales price or value of a property expressed as a percentage. Investors, lenders and appraisers use the cap rate to estimate the purchase price for different types of incomeproducing properties. A market cap rate is determined by evaluating the financial data of similar properties which have recently sold in a specific market.

- Risk Spread: This represents the percentage differential between an acceptable rate of return on cost and the prevailing market capitalization rate.
- Efficiency: Building efficiency refers to the percentage of a building that is leaseable or saleable.

CONSTRUCTION TYPES

<u>Type I</u>

Typically these are concrete frame buildings made of noncombustible materials. All of the building elements (structural frame, bearing walls, floors and roofs) are fire resistance rated.

<u>Type II</u>

These buildings are constructed of noncombustible materials. Typically these are masonry bearing walls structures with steel studs for walls and steel bar joists for floor and roof structures. IIA has fire rated building elements (structural frame, bearing walls, floors and roofs). IIB is the most common construction type for commercial buildings because the building elements are not required to be fire resistance rated but still must be non-combustible.

<u>Type V</u>

Type V construction is typically wood frame construction. V-A requires fire rated assemblies for all building elements (structural frame, bearing walls, floors and roofs); this is often seen in older construction that predates sprinklers but still not commonly used. V-B is very common because it does not require any fire rating.

DETAILED ECONOMETRIC RESULTS

				95% Confidence	
lrmv	Coefficient	t score	P> t	Inte	rval
n_score	0.74	1.11	0.27	-0.56	2.04
_94_const	0.04	0.54	0.59	-0.11	0.18
pre_94_const	-0.16	-2.15	0.03	-0.30	-0.01
mfr_zon	0.01	0.10	0.92	-0.14	0.16
com_zon	0.35	3.36	0.00	0.14	0.55
mue_zon	0.03	0.31	0.76	-0.14	0.20
sfr_zon	0.39	1.38	0.17	-0.16	0.95
pf_zon	0.41	1.49	0.14	-0.13	0.96
incomp_zon	0.12	0.47	0.64	-0.37	0.60
lspeed	-0.15	-1.00	0.32	-0.43	0.14
lvolume	0.03	0.33	0.74	-0.16	0.23
lhalf_sfr	0.02	0.18	0.86	-0.18	0.21
lhalf_mfr	0.00	-0.04	0.97	-0.14	0.13
lstruc	0.85	36.42	0.00	0.81	0.90
prim_sfr	-0.06	-0.64	0.52	-0.24	0.12
prim_mu_res	0.42	4.28	0.00	0.23	0.61
prim_rental	-0.18	-2.02	0.04	-0.36	-0.01
prim retail	0.15	1.30	0.20	-0.08	0.38
prim_off	0.04	0.30	0.77	-0.22	0.29
prim_ind	-0.30	-2.33	0.02	-0.55	-0.05
lfloors	-0.07	-0.97	0.33	-0.20	0.07
conc_brick~t	-0.07	-0.94	0.35	-0.21	0.07
steel_glas~t	0.13	1.59	0.11	-0.03	0.28
renov	0.04	0.30	0.76	-0.20	0.28
deprec	0.01	0.07	0.95	-0.20	0.22
bike_racks	0.22	2.12	0.03	0.02	0.43
st_furn	-0.19	-1.58	0.11	-0.43	0.05
street_only	-0.02	-0.30	0.77	-0.14	0.10
_lanes	0.07	0.90	0.37	-0.08	0.21
two_way	0.03	0.65	0.52	-0.05	0.10
left_turn	-0.06	-1.22	0.22	-0.17	0.04
	-0.20	-2.18	0.03	-0.38	-0.02
sidewalk75	-0.12	-0.33	0.74	-0.82	0.58
trees50	-0.17	-0.46	0.64	-0.88	0.54
trad_grid	0.43	1.95	0.05	0.00	0.85
cul_de_sac	-0.16	-0.25	0.80	-1.39	1.08
constant	6.54	5.11	0.00	4.03	9.05

ECONOMETRIC ANALYSIS RESULTS OF PUBLIC INVESTMENT TOOLS IN CENTERS & CORRIDORS

The following is a brief description of each of the variables utilized in the model:

Dependent Variable: Real market value of the observed property. As the model is log – log in specification, the dependent variable is really the natural log of real market value.

• lrmv (log value): natural log of the real market value of the property observation;

Locational Variables: The following variables are solely utilized to "account for" or capture the unique economic variation between different centers and corridors in the study.

- pearl_district (dummy): 1 if observation is located in the Pearl District;
- clack_center (dummy): 1 if observation is located in Clackamas Regional Center;
- gresh_center (dummy): 1 if observation is location in Gresham Regional Center;
- happyv_center (dummy): 1 for location in Happy Valley Town Center;
- hills_center (dummy): 1 for location in Hillsboro Regional Center;
- tanasb_center (dummy): 1 for location in Tanasbourne Town Center;
- centrale_center (dummy): 1 for location in Central Eastside;
- 122_148_burn_corr (dummy): 1 for location along the 122nd to 148th portion of East Burnside;
- alberta_corr (dummy): 1 for location along the Grand to 32nd portion of Alberta;
- allen_beav_corr (dummy): 1 for location along the Allen corridor in Beaverton;
- cornel_corr (dummy): 1 for location along the Route 8 corridor in Cornelius;
- divis_20_39_corr (dummy): 1 for location between 20th and 39th along the SE Division corridor;
- glis_48_72_corr (dummy): 1 for location between 48th and 72nd along the NE Glisan corridor;
- kruse_corr (dummy): 1 for location along the Kruse Way corridor in Lake Oswego;
- lwr82nd_corr (dummy): 1 for location along the Lower SE 82nd corridor;
- lwrlomb_corr (dummy): 1 for location along the Lower N Lombard corridor;
- mclough_corr (dummy): 1 for location along the SE McLoughlin corridor;
- outse_div_corr (dummy): 1 for location along the Outer SE Division corridor;
- outerse_stark_corr (dummy): 1 for location along the Outer SE Stark corridor;
- pachi_tig_corr (dummy): 1 for location along the Pacific Highway corridor in Tigard;
- sellw_13_corr (dummy): 1 for location along the 13th Ave corridor in Sellwood;
- tvhi_corr (dummy): 1 for location along the Tualatin Valley Highway corridor in Beaverton/Aloha/Hillsboro;

Qualitative Variables: The following variables are meant to model the physical quality of the sample observations, as well as the various types of neighborhood qualities and public investments that may affect enhanced property values based on the literature review.

- n_score (value): Metro's Neighborhood Score for the property;
- _94_const (dummy): 1 if improvement constructed between 1994 and 2000;

- pre_94_const (dummy): 1 if improvement constructed before 1994;
- vac_const (dummy): 1 if property is vacant;
- mfr_zon (dummy): 1 if property zoning is MFR multifamily residential;
- com_zon (dummy): 1 if property zoning is COM or primarily commercial;
- mue_zon (dummy): 1 if property zoning is MUE mixed-use employment;
- pf_zon (dummy): 1 if property zoning is PUB or public facility;
- incomp_zon (dummy): 1 if property use is incompatible with zoning;
- lspeed (log value): natural log of modeled speed for nearest street segment;
- lvolume (log value): natural log of modeled automobile volume for the nearest street segment;
- lhalf_sfr (log value): natural log of number of single-family residential dwellings within a half-mile;
- lhalf_mfr (log value): natural log of number of multifamily residential dwellings within a half-mile;
- Ifloors (log value): natural log of the number of stories in the building structure;
- conc_brick_struct (dummy): 1 if the primary construction material for the building is concrete or brick typical of low-rise construction;
- steel_glass_struct (dummy): 1 if the primary construction material for the building is a combination of steel, concrete and/or glass typical of mid-rise and high-rise construction;
- renov (dummy): 1 if the property was observed to be recently renovated or remodeled based on Metro staff observation of tax record data;
- deprec (dummy): 1 if the property was observed to have deferred maintenance or dated quality based on Metro staff observation of tax record data;
- bike_racks (dummy): 1 if bike racks are immediately present near the property;
- st_furn (dummy): 1 if street furniture is immediately present near the property;
- street_only (dummy): 1 if the building is parked only on-street;
- struct_park (dummy): 1 if the building is primarily parked by internal structured parking;
- trad_design (dummy): 1 if Metro staff observed traditional design in the property;
- _lanes (dummy): 1 if the primary road near the property has more than two lanes;
- two_way (dummy): 1 if the primary roadway near the property has two-way traffic;
- left_turn (dummy): 1 if the primary roadway near the property enables left turns;
- street_front (dummy): 1 if the building directly fronts the sidewalk/roadway or has minimal but pedestrian-friendly/landscaped setback from the sidewalk;
- sidewalk75 (dummy): 1 if Metro staff observed sidewalks in more than 75% of the property's surrounding area;

- trees50 (dummy): 1 if Metro staff observed street trees planted on more than 50% of the area surrounding the property; *and*
- cul_de_sac (dummy): 1 if the property access is via a suburban/cul-de-sac street layout as opposed to a grid pattern.

Linear regress	sion				Number of obs	= 1346
					F(52, 1289)	
					Prob > F	
					R-squared Root MSE	= 0.8961 = .3384
					Root mot	
		Robust				
1 mmv	Coef.	Std. Err.	t	P> [t]	[95% Conf.	Interval]
pearl_dist	(dropped)					
clack_center	(dropped)					
gresh_center	6995432	.8227902	-0.85	0.395	-2.313698	.9146116
happyv_cen~r hills_center	(dropped) .2522438	.8589919	0.29	0.769	-1.432932	1.937419
hills_center tanasb_cen~r	2563281	.9570467	-0.27	0.769	-2.133868	1.621212
centrale_c~r	8268383	.4231055	-1.95	0.051	-1.656889	.0032126
_148_burn_~r	1513192	.8980519	-0.17	0.866	-1.913123	1.610485
alberta_corr	1143948	.5876596	-0.19	0.846	-1.267269	1.038479
allen_beav~r	1329063	.932286	-0.14	0.887	-1.961871	1.696058
<pre>connel_conn divds_20_Zen</pre>	1527516	.9347463	-0.16	0.870	-1.986543	1.681039
divis_20_3∼r glis_48_72∼r	3079474 1830298	.5114039 .5439078	-0.60 -0.34	0.547 0.737	-1.311223 -1.250071	.695328 .8840118
knuse_conn	4486796	1.276574	-0.35	0.725	-2.95307	2.055711
1wn82nd_conn	1567235	.9120319	-0.17	0.864	-1.945953	1.632506
lwrlomb_corr	3558589	.7209774	-0.49	0.622	-1.770277	1.058559
mclough_conn	3351376	.9142534	-0.37	0.714	-2.128726	1.45845
outse_div_~r	2755084	.9142546	-0.30	0.763	-2.069099	1.518082
outerse_st~r	1122046	.8939294	-0.13	0.900	-1.865921	1.641512
pachi_tig_~r sellw_13_c~r	-1.151555 1563114	.856904	-1.34	0.179 0.739	-2.832635	.5295241 .7631423
tvhi_corr	3600532	.4686772 .9068029	-0.33 -0.40	0.739	-1.075765 -2.139025	1.418918
n_score	.7400585	.6649689	1.11	0.851	5644816	2.044599
_94_const	.0398098	.0738636	0.54	0.590	1050962	.1847158
pre_94_const	1590961	.0738685	-2.15	0.031	3040118	0141805
mfr_zon	.0078116	.0776509	0.10	0.920	1445243	.1601476
com_zon	.3472377	.1033889	3.36	0.001	.1444087	.5500667
mue_zon sfr_zon	.0271265 .3904692	.0871875 .2829286	0.31 1.38	0.756 0.168	1439185 1645818	.1981715 .9455203
pf_zon	.4131831	.2764975	1.38	0.168	1292514	.9556176
incomp_zon	.1163109	.2482876	0.47	0.640	3707812	.603403
lspeed	1456958	.1455589	-1.00	0.317	4312542	.1398625
lvolume	.0331934	.1009487	0.33	0.742	1648484	.2312352
lhalf_sfr	.017562	.0997807	0.18	0.860	1781884	.2133124
lhalf_mfr	002554	.0695471	-0.04	0.971	1389919	.133884
lstruc	.851139 0605511	.0233696 .0939444	36.42	0.000	.8052925 2448517	.8969856 .1237496
prim_sfr prim_mu_res	0605511 .4158853	.0939444	-0.64 4.28	0.519 0.000	.2250946	.6066761
prim_rental	1822744	.0903571	-2.02	0.044	3595376	0050112
prim_retail	.1517426	.1171499	1.30	0.195	0780829	.381568
prim_off	.0387783	.1296974	0.30	0.765	2156629	.2932195
prim_ind	2991658	.1284399	-2.33	0.020	55114	0471916
1floors	0668457	.0690471	-0.97	0.333	2023026	.0686112
conc_brick≁t	0671165 .1264546	.0714775	-0.94	0.348	2073416	.0731085
steel_glas~t renov	.0375662	.0797509 .1236163	1.59 0.30	0.113 0.761	0300012 204945	.2829103 .2800774
deprec	.007092	.1066225	0.07	0.947	2020805	.2162646
bike_racks	.2243743	.1056774	2.12	0.034	.0170557	.4316929
st_furn	1940468	.1225235	-1.58	0.113	4344142	.0463205
street_only	0185358	.0620328	-0.30	0.765	1402321	.1031604
trad_design	.4750167	.6163625	0.77	0.441	734167	1.6842
_lanes	.0654083	.0723136	0.90	0.366	0764569	.2072734
two_way left_turn	.0251285 0638571	.0389367 .0525182	0.65	0.519 0.224	0512578 1668877	.1015148 .0391735
street_front	2005185	.0917735	-2.18	0.029	3805604	0204767
sidewalk75	1188397	.3569071	-0.33	0.739	8190223	.581343
trees50	1677431	.36265	-0.46	0.644	8791921	.543706
trad_grid	.4251297	.218054	1.95	0.051	00265	.8529094
cul_de_sac	1574	.6302416	-0.25	0.803	-1.393812	1.079012
_cons	6.538009	1.279686	5.11	0.000	4.027513	9.048506

Metro White Paper:

Using hedonic analysis to estimate achievable market rents/prices and a real estate pro forma to estimate additional redevelopment capacity

BACKGROUND

This analysis examines how much <u>additional</u> residential capacity can arise from redevelopment of selected centers and corridors in the Metro region. The 2009 UGR (and MetroScope analysis) estimates that half of today's high density multi-family zoned capacity in the region will go underutilized during the next 20 years. The analysis indicates that developer costs and market acceptance will be too high a hurdle for the market to efficiently clear. This suggests that <u>if</u> the achievable rents/prices for high-density development forms could be increased, then more of the high-density zoned capacity could be within reach of the market. Our study estimates the value of investing in public amenities; its impact on raising achievable prices/rents for condos and apartments; and on the subsequent market responses that higher prices/rents may produce for residential redevelopment densities. Higher achievable rents allow for a shift in the "highest and best use" equation to favor higher density anticipated redevelopment formats with higher associated residual property values.

The high-density multi-family development form offers the region significant development capacity, but a significant proportion is not accessible to the market either today or in the future. Residential supply in the Metro UGB is based on local zoning in place today. In some areas, zoning is well ahead of market acceptance. Zoning densities are too high and the cost to develop at the minimum density is too expensive for the achievable prices/rents that can be fetched from the market today (or in the future.) Because the market is unable to access this high-density zoning capacity, the UGR has discounted its effective carrying capacity in its 20 year analysis. Ideally, development occurs when markets are allowed to clear such that market preferences, development costs, entitlement rights, and development subsidies (if any) come together at equilibrium market prices. The market clearing price and quantity is set by market participants, that is, buyers (or renters) and sellers (i.e., developers). The analysis reveals that the same conditions prevail for redevelopment which is also hampered by a market that is unable to clear without higher achievable prices/rents and quantities (i.e., densities).

We perform an hedonic analysis to first quantify the value homeowners and renters would pay for the public amenities. Secondly, a pro forma real estate model is employed to determine how additional public investments/subsidies shift price points to allow redevelopment to higher density multifamily projects than otherwise would be produced by the market. This production model approach will yield a range for how much more capacity might be generated when public investments are concentrated in centers and corridors to help stimulate higher density redevelopment opportunities.

This analysis considers how much additional capacity can be gained when the value of public amenities are quantified into a pro forma real estate framework. This framework includes ten

proto-type development forms and estimates the development form which is the most profitable to build. An amenity versus no amenity approach combines the hedonic analysis with the pro forma to estimate whether public investment(s) are indeed enough to shift market clearing to a higherdensity development format.

METHODOLOGY

Metro staff contracted with the consulting firm Johnson-Reid to assist in the estimation of the hedonic model. Johnson-Reid has prepared a formal write up of their results.¹ Metro staff has also prepared a brief report describing our independent hedonic analysis. These reports describe the results of the hedonic measurement analysis and form the basis for the real estate price premium employed in the pro forma.

The price premium is employed in the pro forma real estate model to calculate a residual real estate value. The premium adds to the baseline achievable prices/rents. The residual real estate value is an estimate of the maximum acquisition price that can be incorporated into a development while still yielding an acceptable return for the developer. We use the residual real estate value on ten different development forms with the price premium adding to baseline achievable prices/rents. This is the pricing filter employed to screen out potential sites in selected corridors and centers which have the potential to redevelop.

The price premium represents an estimate based on observed sales information, assessor data, and discernible site characteristics gathered specifically from primary data collection sources and compiled into the hedonic modeling data set. The price premium represents the value homeowners and renters are willing to pay for neighborhood characteristics and public amenity investments that have been capitalized into the sales price or value of the real property. Hedonic measurement techniques are used to estimate the price premium from the public amenity items in our study.

The redevelopment screen using the pro forma valuation with the price premium is applied to five selected corridors or centers, including:

- Foster
- Interstate/Prescott
- Gresham center
- Milwaukie center
- Lake Oswego center

We assume ten typical development forms for the pro forma with commensurate achievable prices/ rents, cost of construction, capitalization rates and operating costs. These ten forms are divided into

¹ Please refer to the Johnson-Reid report *Residential Carrying Capacity Analysis* for more detailed information on methodology and assumptions.

two ownership categories: own (condominiums) and rent (apartments/townhomes). There are five building types:

- High rise (FAR =12)
- Mid-rise (FAR = 5.5)
- Type 5 construction over podium
- Type 5 construction with surface parking
- Townhomes/Duplexes

A generalized district-level pro-forma is developed for each of the ten development forms. Highest and best use calculations with and without price premiums applied. Highest and best uses were calculated for each of the five project areas (i.e., centers and corridor locations). The redevelopment screen was used to filter out potential redevelopment sites/acres.

A difference analysis was performed on the potential redevelopment acres that compared what could be the highest and best uses with and without price premiums. The net difference in increased capacity from redevelopment owed to a price premium on public investments was based on redeveloping sites only if the price premium ramped up development to a higher/denser development form as compared to a highest and best use when price premiums were excluded and redevelopment would have occurred at a lesser density development form.

ASSUMPTIONS AND FINDINGS

The hedonic analysis suggests that we can expect a range of public amenities such as improving neighborhood design, streetscape design, adding street car or light rail facilities could impart a **price premium between 5 to 60%** for a center or corridor area. A **price premium of 20% for non-central city locations is more realistic** as it's very unlikely that a suburban center or corridor will have the full set of public amenity investments that has been incorporated into our hedonic equations.²

² Please review the Johnson-Reid 2010 report *Residential Carrying Capacity Analysis* for more detail on how these price premiums were developed.

Consequently, we assume a 20% premium in our real estate pro-forma analysis for the five study areas. Combining the price premium with district area achievable prices/rents yields these highest and best use estimates for the five locations. These prices are necessarily averages for each district and do not represent any particular site or project. They are generalized representations of highest and best use estimates.

• Foster	\$70 per square foot	Type 5 podium rental
 Interstate/Prescott 	\$70	Type 5 podium rental
Gresham center	\$36	Type 5 surface ownership
Milwaukie center	\$25	Type 5 surface ownership
 Lake Oswego center 	\$144	Type 5 podium ownership

Also, we have generalized assumptions for the five building types assumed in our pro forma.

Building Type	FAR	Avg. Unit Size	Units/Acre
High Rise	12	850	518
Mid-Rise structured parking	5.5	850	227
Type 5 Podium parking	2	850	87
Type 5 Surface parking	0.6	850	30
Duplex/Townhome	0.6	1200	22

A comparison of highest and best use for each study area indicates only Foster, Interstate/Prescott and Lake Oswego Center having the pro forma market pricing to shift redevelopment forms from a lower density product type (without price premium) to a higher density product (with price premium). The change in density as a result of moving to a higher and better use is 57 dwelling units an acre, or the jump from Type 5 with surface parking to podium parking. The additional density of building at 2.0 FAR and podium parking permit development at 87 dwelling units per acre versus 30 units in our generalized pro forma for the study areas.

Assuming a redevelopment screen of \$70 for Foster, Interstate/Prescott and \$144 for Lake Oswego Center, we get 28.5 and 63.0 acres of land that could be redeveloped. Additional density which accords 57 more dwelling units per acre and the nearly 92 more redevelopment acres yields an **estimated topend of about 5,200 more dwelling units** that could be added to the residential supply/capacity calculations.

If the redevelopment screen was tightened to \$50 a square foot for the three study areas that saw their theoretical densities rise as a result of the pricing premium, it would result in about 15 acres of possible redevelopment in Foster, Interstate/Prescott or Lake Oswego. **This amounts to about 1,000 more dwelling units as a low end estimate.**

CONCLUSION

The value that households ascribe to investments in public amenities can be measured using statistical analysis called hedonic modeling. This analysis statistically isolates what people are willing to pay to live close to public amenities. People are willing to pay more to have access to public goods, but it is difficult to quantify and measure a public goods underlying value without hedonic statistics. Metro staff, with help from Johnson-Reid, has estimated a price premium of about 5% to 60% that can be attributed to public investments in transportation infrastructure, community and neighborhood design and development of public assets adjacent to corridors and centers in the region. The more likely price premium seems to be about 20% for suburban locations.

This price premium is employed in a generalized district-level pro forma real estate analysis and is used as a screening device that can filter out existing development to pick out potential redevelopment. Ten different development forms are modeled in the pro forma. The pro forma is then capable of estimating which development form can be built given market rents/prices against development and operating costs. A development form emerges as the highest and best use. The residual value from the highest and best development form becomes the filter value for selecting redevelopment sites in our five study areas.

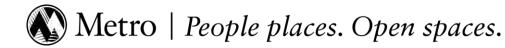
The results from our analysis of the five study areas illustrates redevelopment possibilities and what could be expected as additional realizable capacity that can be traced to higher achievable rents/prices. The price premium is owed to the proximity and access to nearby public investments. People are willing to pay more to be close to these amenities. The higher achievable price/rents permit developers to build apartments and condos at a higher density than otherwise. As a result, we come up with a maximum capacity adjustment of 5,200 dwelling units and a low-end estimate of 1,000 units depending upon our assertion of the price premiums on rents and housing prices in each subarea.

www.oregonmetro.gov

Appendix 3:

Local actions to achieve aspirations

August 2010



PURPOSE

The Vision for the Portland Metro Region is memorialized in the 2040 Growth Concept, the guiding planning document for the region whose foundation is built upon the collaboration of city, county and regionally elected officials and citizens. This plan represents the combination of our shared responsibilities to the region as well as the combined aspirations of each individual community. The approach of the 2040 Growth Concept is to make the most of what we have by focusing development in our existing downtown, mainstreets and employment areas. This approach also protects our farm and forest resources for the future.

In 2009, Metro Council approved the Urban Growth Report, which documented the residential and employment capacity available to meet forecast needs in the region over the next 20 years. The 2010 Capacity Ordinance describes the additional local and regional actions and investments that that the region can count toward meeting this forecast need. This appendix describes examples of the local actions and investments that have been made that increase the available residential and employment capacity as well as efforts that are underway that will increase capacity in the future. Only actions that have been completed or demonstrate a reasonable likelihood for completion have been counted towards meeting the region's 20 year residential and employment needs. This appendix focuses primarily on residential capacity in centers and corridors. Examples of local actions and investments include:

- zone changes
- investments in new and existing infrastructure
- transportation and transit investments
- new financing tools
- parking managements policies

These investments and actions were researched over the last two years as part of Metro's Local Aspirations Process. The purpose was twofold:

- Take inventory of the region's goals at the local level, and determine how Metro could assist local governments with their aspirations
- Identify actions and investments that would lead to increased use of existing zoned capacity

Metro staff has engaged local partners through the extensive **Local Aspirations** process, and reviewed local plans in an effort to accurately identify those actions that have already been taken to influence residential capacity in the region.

In addition to the examples found here, many other cities are also engaged in planning activities that will eventually lead to increased use of available capacities. For example, the City of Beaverton is currently engaged in outreach with their citizens related to their Civic Plan. The City of Milwaukie is actively working on plans for downtown revitalization, including code updates, habitat restoration and brownfield remediation. Forest Grove and the City of Portland are currently updating their Comprehensive Plan under Periodic Review, and will lay out a path for future growth

and prosperity. These efforts will have significant and long lasting results. For example, the City of Portland effort is the first update to their Comprehensive Plan in over 30 years.

What is clear from Metro's work on capacity estimates is that there is a large amount of underutilized residential capacity within the Region's Centers, Corridors, and Station Communities. In addition to adding zoned capacity to the region, the goal is to better utilize existing capacity. The work done through Local Aspirations, the adoption of the 2035 Regional Transportation Plan (RTP), and the review of local plans has allowed Metro to compile actions and investments that either have occurred or are likely to occur in the immediate future. With the adoption of the RTP in June of 2010, Metro and the Region have committed to a specific list of transportation-related investments that complement and work in conjunction with local actions to increase the utilization of zoned capacity. It should be noted that there are limitations to the information presented in this appendix. The information focuses on residential capacity, with a focus on Centers and Corridors. Information concerning commercial districts and established residential neighborhoods is not explored in depth.

LOCAL ACTIONS

Gresham

The City of Gresham has focused its aspirations on several locations throughout the City, including the Rockwood Town Center, Springwater Employment Area and their Regional Center, which includes two distinct neighborhoods: Civic Neighborhood and Downtown Gresham. Gresham has adopted policies and made investments to support development within these areas and has plans for additional actions.

Downtown represents the more historic portion of Gresham. The area has a significant amount of employment, commercial development, and medium and higher density residential development. The City recently updated their zoning code Downtown to address design and density and spur further private investment. The City's investment in downtown is already starting to pay off in the form of existing Transit Oriented Development (TOD), new public spaces, green street construction, and important amenities that serve to activate the area. New businesses include a brew pub, restaurant, full service grocery store, as well as other important commercial uses. In 2011, the City plans to take additional steps to promote and leverage private investment, including consideration of urban renewal and development of a new parking management plan with new parking ratios.

While the downtown represents the historic portion of Gresham, Civic Neighborhood represents the future of the City. Meant to house new jobs and high density housing, the area already serves as the government and retail center of the city. To better facilitate access to Civic Neighborhood and promote private investment, the City of Gresham and Metro have started construction a new MAX light rail station. Proposed TOD development in this station area is expected to leverage additional private investment, as it has elsewhere in the center, with developments such as the Beranger and the Crossings.

From a broader perspective, the City is currently engaged in the following activities:

- A comprehensive review of their entire fee structure in an attempt to determine proper cost-recovery charges for all areas of service provided. This review includes looking at the current System Development Charges methodology and its impact on targeted areas, such as Civic Neighborhood and Downtown Gresham.
- The City also has a program that allows for deferring payment of SDCs until occupancy or financing SDCs over a period of up to 10 years. The purpose is to defray up-front development costs to encourage purchase or lease of property prior to re-payment.
- The City of Gresham Capital Improvement Program also calls for several new projects that will encourage development at full zoned capacity, including an upgrade to a sewer line in the Regional Center.
- Upgrades and new utility connections are planned for the Springwater area to facilitate additional housing and attract new employers.

The Regional Transportation Plan includes new projects that will contribute to the utilization of existing zoned capacity and provide new amenities to support further redevelopment within the City. Examples include:

- Burnside boulevard treatments: SE 181st to Stark
- Construct bike/pedestrian trail along MAX alignment from Cleveland Ave to Ruby Junction
- Upgrades to 202nd from Burnside to Powell
- Highway interchange on U.S. 26 near 267th Avenue
- Realign intersection of SE 187th Avenue/SE 188th Avenue at Stark St. to improve safety and neighborhood access
- Improve sidewalks, lighting, crossings, bus shelters, benches at SE 181st LRT station, on Stark St. and other intersecting streets.

Figure 1: City of Gresham 2010 Actions/Investments



Wood Village

The City of Wood Village, a small community in the Metro region, has articulated a desire to have a more vibrant and active mixed-use center at the heart of its town. To achieve this goal, the City set out to adopt the necessary policies and make the investments needed to stimulate private development. In 2009-2010, the City undertook the following work:

- Wood Village currently shares their Town Center with the City of Fairview. This co-center concept requires coordination with the City of Fairview, which is ongoing. Wood Village adopted an Urban Renewal District within their portion of the Town Center on February 23, 2010. The adoption of urban renewal will allow the City to focus efforts on expanding housing choices and support critical infrastructure projects that are the key to a successful center.
- Adopted a Vertical Housing Tax Credit (VHTC) Program. Experience shows that the state's VHTC Program yields higher density residential development where permitted by land use regulations. The city of Wood Village was approved by the Oregon Department of Housing and Community Services to implement the VHTC program in specific portions of the Town Center November 24, 2009.
- Adopted new zoning to allow cottage-style housing on September 15, 2009. Adoption of cottage housing offers an option to both condo and single-family residential housing with smaller, more affordable units with dedicated common areas. Additional housing options for the city's residents will allow for more optimal utilization of zoned capacity in these areas.
- Participated in the Metro Brownfield Recycling Program, which allowed for the assessment and remediation of a City-owned, contaminated property that will now be utilized for future redevelopment.

Taken as individual actions, each of these efforts stand to influence market utilization of capacity to some small extent. However, taken together as they apply to the Wood Village Town Center, they have the ability to significantly affect the market utilization of the zoned capacity currently in place. Although Wood Village is only one square mile in size, these actions and investments stand to contribute to the region's capacity needs.

Figure 2: City of Wood Village 2010 Actions/Investments



Hillsboro-AmberGlen

The City of Hillsboro has recently spent considerable time and effort planning for the AmberGlen/Tanasbourne Town Center. Actions and investments in the area include:

- Recently adopted a comprehensive plan amendment for the AmberGlen area. In conjunction with the Tanasbourne Town Center, the City hopes to establish a new, mixed-use community that focuses on high-density housing, open public spaces, public transit and new employment. The plan calls for an additional 5,000 dwelling units to be built within the study area. With a wide-range of building types, the plan will serve a diverse market and provide a wide array of housing styles.
- Poised to start work on the adoption of zoning in the plan area. The City is seeking to have the new zoning in place by the end of 2010. The plan calls for new high capacity transit, which Hillsboro is actively pursuing through the System Expansion Policy process, identified in the recently adopted RTP.

- Partnering with Tri-Met to study potential right-of-way needs for a future light rail spur through AmberGlen and Tansasbourne.
- Undertaking an Urban Renewal Feasibility Study for AmberGlen/Tanasbourne, with the hope of identifying a funding source that will be needed for the large public investment planned in the area.
- Kaiser Permanente has broken ground on a new one million square foot hospital in Tanasbourne, which will bring hundreds of new jobs to the center.

The Regional Transportation Plan includes new projects that will contribute to the utilization of existing zoned capacity and provide new amenities to support further redevelopment within the City. Examples include:

- Capacity improvements to Highway 26 and 185th interchange in an attempt to improve access into the AmberGlen area and fix nearby congestion problems
- Pedestrian improvements in AmberGlen to fill in missing sidewalks
- Walker Road extension- Construct 3 lane with bike lanes and sidewalks
- Stucki Avenue extension- Construct 3 lane with off-street bike lanes and sidewalks, Realign intersection of Walker and Stucki
- 194th Avenue extension- Construct 2/3 lane with sidewalks and LRT in part or all of new segment
- Integrate existing streets into an urban street grid--extension of NW Stucki Avenue to near the Qatama LRT station, realignment of SW Walker Road to AmberGlen Parkway and the extension of NW Wilkins across the OHSU primate site to SW 185th Avenue

Hillsboro-Downtown

The City of Hillsboro is focusing on revitalizing its downtown through new planning efforts and targeted investments. Engaging their public in a long visioning process, the City has started to see new projects and zoning become a reality.

- Passed a new Urban Renewal Plan for downtown on April 20, 2010. This financing and redevelopment tool will provide the funding needed to achieve development goals for downtown Hillsboro.
- Adopted code changes downtown, which are meant to streamline development processes and clearly articulate the design features that the community is seeking.
- Opened a new Inter-Modal Transit facility, which provides parking for bicycle and transit riders and adds 800 new parking spaces. The additional parking will support redevelopment by eliminating, in some cases, the need for on-site parking.
- Parking Management Plan for downtown now underway, in conjunction with new parking requirements that plan to address the off-street parking issues in more urban settings.

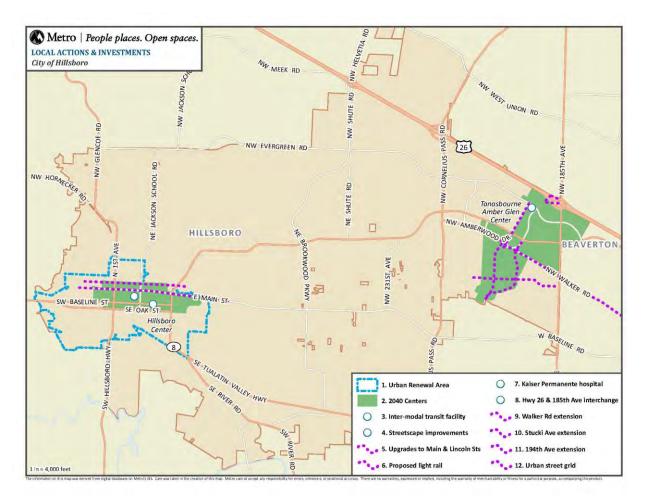
The Regional Transportation Plan includes new projects that will contribute to the utilization of existing zoned capacity and provide new amenities to support further redevelopment within the City. Examples include:

- Streetscape and gateway improvements include street trees and landscaping, pedestrian and bicycle facilities, curb extensions, traffic calming, public art, way-finding on key streets downtown
- Change Main and Lincoln Streets to two-way traffic

Projects identified in the recently adopted Urban Renewal Plan will also support the success of Downtown Hillsboro. Projects include:

- A second civic square or public plaza with a focus on the connection between the 10th Avenue business community and the commercial district
- Multi-use pathway or boardwalk along 1st Avenue/Hillsboro Highway connecting the Jackson Bottom Wetlands Preserve to the downtown area and connecting Dairy Creek Park to 1st Avenue and other regional trail connections to the downtown area

Figure 3: Hillsboro 2010 Actions/Investments



Tigard-Downtown

Tigard has been working diligently on its long-term aspirations. To support their aspirations and make Tigard an even more desirable location to live and work, the City has adopted new policies and investments meant to utilize their existing capacity more efficiently. New policies and investments meant to utilize their existing capacity more efficiently include:

- Adopted new zoning in Downtown, in an effort to increase the allowed density and promote the area as a desirable place to live. The proposed changes will authorize an additional 1,900 dwelling units in the center. These zoning changes, coupled with existing Urban Renewal and an Affordable Housing Tax Abatement Program will help bring new development downtown.
- Expanded the Tigard Town Center boundary to include the area known as the Tigard Triangle. By expanding the boundary, the City is committing to making the investments and incentives available that will spur redevelopment in this area. The Tigard Triangle is

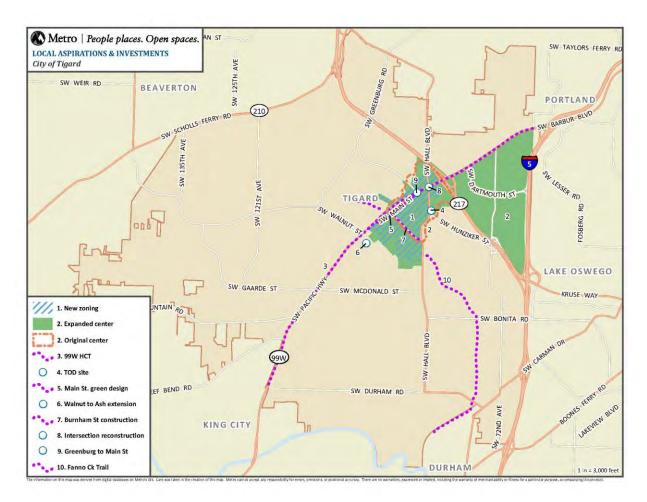
predominantly seen as mixed-use with an emphasis on employment-related uses. This will compliment the commercial and residential development planned for downtown.

- The 99W corridor has been selected as the Region's next priority for the expansion of High Capacity Transit. The City is now engaging new planning efforts to determine a future mix of land uses best suited to take advantage of this strategic regional investment.
- Working in partnership with private development and the Metro TOD program, the City is assisting in the construction of a new, senior housing project known as the Knoll. This project represents the first TOD-style development found in Downtown Tigard.

The Regional Transportation Plan includes new projects that will contribute to the utilization of existing zoned capacity and provide new amenities to support further redevelopment within the City. Examples include:

- Upgrade Main Street to a complete streetscape with Green Design features
- Walnut to Ash Street extension
- Burnham Street green street construction
- Reconstruction of the 99W/Hall Boulevard/Main Street intersection
- Add one travel lane on Hwy 99W through the intersection, turn lanes on the Greenburg and Main approaches, add bike lanes, and widen sidewalks
- Continued design and construction of Fanno Creek Trail

Figure 4: Tigard-Downtown 2010 Actions/Investments



Oregon City

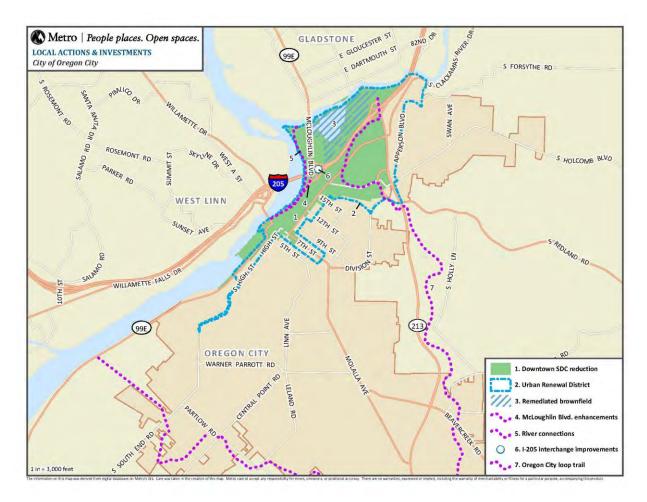
As the only Regional Center in the south part of the Metro Region, Oregon City is uniquely situated to provide housing, jobs, and essential services to a growing sector of the population. The City is focusing its efforts in Downtown where it strives to provide more housing choices and foster the development of local businesses to serve the community. City policies and investments made to attract development downtown, include:

- Adoption of a 10% reduction in Transportation System Development Charges for the Regional Center and Molalla Corridor.
- Adoption of an Urban Renewal District
- Brownfield assessment and remediation to prepare a site for new development. The site is currently known as The Coves, a planned 109-acre mixed-use community with 224 condos, 78 acres of open space and four restaurants that will be located next to Clackamette Cove north of Interstate 205 and east of Oregon 99E behind the Oregon City shopping center.

The Regional Transportation Plan includes new projects that will contribute to the utilization of existing zoned capacity and provide new amenities to support further redevelopment within the City. Examples include:

- McLoughlin Boulevard Enhancement Project- major street and pedestrian improvements from 10th Street to the I-205 overpass
 - Landscaped medians, street trees, native plant revegetation along the banks of the Willamette River, on-street parking, decorative lighting, public art
 - Bypass lane converted into a general purpose lane.
 - The new signalized street connection to 99E at 12th Street
 - New crosswalks to the river at 12th Street and 14th Street
 - The Willamette Terrace, river-viewing platform across from 13th Street with architectural anchors and a series of public art installations
- Plazas, trails and other amenities connecting the edge of the Clackamas river with the Willamette River into downtown Oregon City
- I-205 interchange improvements
- Oregon City Loop Trail

Figure 5: Oregon City 2010 Actions/Investments



Lake Oswego

Situated along Highway 43, south of the City of Portland, Lake Oswego has seen continued investment in downtown. With the adoption of urban renewal, investment in new streetscapes, transportation improvements, and a new plaza, the City has created a vibrant and attractive Town Center.

In conjunction with a streetcar extension south from downtown Portland along Highway 43, the City is planning for expansion of the town center to the adjacent Foothills Area. Encompassing roughly 19 acres, the Foothills area in Lake Oswego is an area generally considered to be prime redevelopment land, adjacent to a downtown with strong real estate demand. Previous visioning efforts focusing on the Foothills area stated a desire for mixed-use redevelopment, emphasized by new public space and improved connections from downtown to the river. To stimulate private investment in the Foothills area, the City embarked on the design and construction of the nine acre Foothills Park. The City plans to start the process to up-zone in the Foothills area late-2010 or early-2011.

In addition to the Foothills area, the City continues to invest resources and efforts in its downtown. With a thriving business community and future access to Lake Oswego via streetcar, the city is clearly poised to see new growth.

The Regional Transportation Plan includes new projects that will contribute to the utilization of existing zoned capacity and provide new amenities to support further redevelopment within the City. Examples include:

- Streetcar for the 5.7 mile corridor between Lake Oswego and downtown Portland scheduled to open in 2018.
- A Avenue street treatments
- Lake Oswego to Portland trail system

Figure 6: Lake Oswego 2010 Actions/Investments



Illustrative list of community-building projects in adopted local capital improvement plans

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
					\$90,000
Beaverton	Beaverton Creek Trail segment (.14 miles)	trail	Hall Blvd. / MAX line	Lombard Ave. / MAX line	(rough estimate by Metro)
Beaverton	Laurelwood Ave. sidewalk	pedestrian	Laurelwood Ave. / Beaverton Hillsdale Hwy	Laurelwood / Birchwood	\$343,000
					\$500,000
					(rough
Beaverton	Erickson Creek greenspace (1.5 acres)	park	Farmington Rd. / Menlo Dr.		estimate by Metro)
Cornelius	Arboretum City Park improvements	park	Baseline / 12th		\$24,000
Cornelius	Baseline streetscape	pedestrian	Baseline / 10th	Baseline / 19th	\$736,000
Forest Grove	Town Center pedestrian improvements	pedestrian	Main St. / Pacific Ave.		\$50,000
Forest Grove	Furnishings for renovated library	civic	Pacific Ave. / Birch St.		\$200,000
Forest Grove	18th Ave. sidewalks	pedestrian	18th Ave. / Hawthorne	18th Ave. / Maple	\$190,000
Gresham	Main City Park improvements	park	Main / Powell		\$1,720,000

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
	Main City Park				
Gresham	improvements (2nd phase)	park	Main / Powell		\$7,494,215
uresnam	phasej	рагк	Main / Towen		\$7, 4 ,415
			NE 3rd / NE		
Gresham	Center for the Arts	civic	Hood		\$16,480,000
	Center for the Arts		NE 3rd / NE		
Gresham	Plaza	park	Hood		\$3,045,220
Gresham	Civic Neighborhood parks and trails	park	bounded by NW Wallula, NW Burnside,NW Eastman, NW Division		\$662,900
	Civic Neighborhood		MAX / NW Civic		
Gresham	Station Plaza	park	Dr.		\$2,136,800
	Downtown urban		NE Elliot / NE		\$
Gresham	plazas and parks	park	3rd		5,424,804
	Rockwood urban		Rockwood URA		
Gresham	plazas and parks	park	boundaries		\$7,397,460
Gresham	Skate Park (@ Main City Park)	park	Main St. / Powell		\$351,832
	Skate Park (@ Main	,			
Gresham	City Park) phase II	park	Main St. / Powell		\$750,000
			W Powell / W		
Gresham	SW Community Park	park	Powell loop		\$13,309,547
	Pat Pfeiffer Park		Burnside /		
Gresham	(Rockwood)	park	172nd		\$2,422,559
Gresham	Civic Neighborhood TOD improvements	pedestrian	bounded by NW Wallula, NW Burnside,NW Eastman, NW Division		\$213,239
Gresham	Stark Street Arterial Blvd improvements	boulevard	Stark / 190th	Stark / 197th	\$3,256,458

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Gresham	Hood St bike / ped improvements	ped and bike	NE Hood St. / NE Division	NE Hood St. / E Powell	\$1,284,000
Gresham	NE 5th bike / ped improvements	ped and bike	NE 5th / Hood	NE 5th / Cleveland	\$1,392,601
Gresham	NW Wallula Ave bike / ped improvements	ped and bike	NW Wallula / Stark	NW Wallula / MAX line	\$1,870,193
Gresham	NE Cleveland bike / ped improvements	ped and bike	NE Cleveland / Powell	NE Cleveland / Stark	\$1,564,262
Gresham	Downtown Plan improvements	pedestrian	bounded by Burnside, Eastman Pkwy, SE 5th, NE Liberty		\$8,288,005
Gresham	Rockwood Plan bike / ped street improvements	ped and bike	Rockwood URA boundaries		\$8,896,423
Gresham	Sandy Blvd. bike / ped improvements	ped and bike	entire length of Sandy through Gresham		\$2,929,500
Gresham	Division St. regional blvd. improvements	boulevard	NE Division / NE Cleveland	NE Division / NE Burnside	\$6,000,000
Gresham	Burnside regional blvd. improvements	boulevard	Burnside / 181st	Burnside / Eastman	\$8,000,000
Gresham	181st regional blvd. improvements	boulevard	181st / Glisan	181st / Yamhill	\$2,000,000
Gresham	NE 3rd festival St.	pedestrian	NE 3rd / NE Hood	NE 3rd / NE Kelly	\$600,058
Gresham	MAX path (Rockwood to Gresham)	trail	MAX / NW 11- Mile Ave.	MAX / NE Cleveland	\$1,252,178
Gresham	Springwater Trail access (SW Walters)	ped and bike	Springwater Trail / SW Walters		\$1,000,000

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Gresham	Springwater Trailhead at Main City Park	trail	Main St. / Powell		\$529,289
Gresham	162nd / Burnside pedestrian access to MAX	pedestrian	162nd / Burnside		\$304,380
Gresham	181st / Burnside pedestrian access to MAX	pedestrian	181st / Burnside		\$710,220
Gresham	188th / Burnside pedestrian access to MAX	pedestrian			\$1,318,980
Gresham	197th / Burnside pedestrian access to MAX	pedestrian	197th / Burnside		\$405,840
Gresham	City Hall pedestrian access to MAX	pedestrian / plaza	NW 12th / Eastman		\$332,039
Gresham	Hood St. pedestrian access to MAX	pedestrian	NE Hood / NE 4th	NE Hood / NE Powell	\$736,681
Gresham	Cleveland Station pedestrian access to MAX	pedestrian	NE Cleveland / NE 6th		\$553,398
Gresham	Central Station pedestrian access to MAX	pedestrian	MAX / NW Civic Dr.		\$500,000
Gresham	Main St. pedestrian access to MAX	pedestrian	Main St. / NW Division	Main St. / NE 5th	\$2,000,000
Gresham	Division St. ped and bike improvements	ped and bike	Division St. / 174th	Division St. / Wallula	\$160,000
Gresham	Glisan bike improvements	bike	Glisan / 162nd	Glisan / 202nd	\$140,000
Gresham	Glisan sidewalks (193rd to 202nd)	pedestrian	Glisan / 193rd	Glisan / 202nd	\$19,111

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Gresham	Main St. pedestrian improvements (Division to 5th)	pedestrian	Main / Division	Main St. / NE 5th	\$550,000
Gresham	Rockwood redevelopment plan implementation	pedestrian	bounded by 181st, Burnside, Stark		\$500,000
Gresham	Rockwood Town Center future streets (complete network)	pedestian	various streets in vicinity of Burnside / 181st		\$1,000,000
Gresham	Cultural Marketplace	redevelop ment capital costs	Burnside / 188th		\$2,000,000
Gresham	190th streetscape	ped and bike	190th / Stark	190th / Yamhill	\$2,000,000
Gresham	181st Ave. boulevard improvements	boulevard	181st / Glisan	181st / Yamhill	\$2,400,000
Gresham	201st Ave. pedestrian improvements	pedestrian	201st / Stark	201st / Burnside	\$960,000
Gresham	201st and Stark intersection upgrade	pedestrian	201st / Stark		\$960,000
Gresham	Satellite Plaza	park	188th / Stark		\$1,000,000
Gresham	Rockwood Town Center parks (at least 2 new parks)	park	roughly bounded by 179th, Davis, NW Eleven-Mile, Main St.		\$2,400,000
Gresham	Gresham Fairview Trail access	trail	199th / Burnside		\$1,200,000
Gresham	Stark St. boulevard	boulevard	Stark / 190th	Stark / 197th	\$1,150,000

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Gresham	Burnside Rd. boulevard phase I	boulevard	Burnside / 181st	Burnside / 197th	\$1,834,336
Gresham	188th / Burnside pedestrian improvements	pedestrian	188th / Burnside		\$1,000,000
Gresham	188th / Stark pedestrian realignment	pedestrian	188th / Stark		\$1,000,000
	197th / Burnside pedestrian improvements	pedestrian	197th / Burnside		\$1,800,000
Gresham	188th MAX station improvements	civic	188th / Burnside		\$4,950,000
Gresham	Rockwood Community Center	civic	182 / Burnside		\$6,480,000
Gresham	Rockwood Town Center MAX line landscaping	other	181st / Burnside	Burnside / Stark	\$2,400,000
Gresham	181st (Rockwood) MAX Station improvments	civic	181st / Burnside		\$4,800,000
Gresham	Burnside boulevard improvements phase II	boulevard	Burnside / Stark	Burnside / 197th	\$3,000,000
Hillsboro	10th Ave. Bike Lane	bike	10th Ave. / Walnut	10th Ave. / Main	\$160,513
Hillsboro	Oak St. Bike Lane	bike	Oak St. / TV Hwy	Oak St. / Dennis	\$267,876
Hillsboro	Cornell Rd. bike lanes	bike	Cornell Rd. / Elam Young	Cornell Rd. / Ray Circle	\$637,800
Hillsboro	Cornell Rd. bike lanes	bike	Cornell Rd. / Grant St.	Cornell Rd. / 25th	\$321,026

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Hillsboro	Baseline Rd. bike lanes	bike	Baseline Rd. / Lisa	Baseline / 231st	\$1,993,125
Hillsboro	28th Ave. bike lanes	bike	28th Ave. / Grant	28th Ave. / Main	\$1,078,955
Hillsboro	Butler/Amberwood bike lane	bike	Butler / Brookwood	Butler / John Olsen	\$1,076,819
Hillsboro	Walker Rd. bike lanes	bike	Walker / Amberglen Pkwy	Walker / 185th	\$287,010
Lake Oswego	Boones Ferry Rd. ped / bike improvements (Lake Grove Village Center)	ped and bike	Boones Ferry / Madrona	Madrona / Kruse Way	\$16,000,000
Lake Oswego	Lake Grove Village Center (Hallmark festival street)	pedestrian	Hallmark / Mercantile	Hallmark / Douglas	\$2,000,000
Lake Oswego	Chow Corner regional sidewalk	pedestrian	Boones Ferry / Jean Rd.		\$100,000
Lake Oswego	State Street sidewalk and street tree replacement	pedestrian	State St. / George Rogers Park	State St. / Terwilliger	\$530,000
Lake Oswego	Library to Adult Community Center pathway	trail	4th St. / E Ave.		\$60,000
Lake Oswego	Lake Grove Village Center ped / bike improvements	ped and bike	Boones Ferry / Kruse Way		\$8,000,000

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Lake Oswego	Lake Grove Village Center parking facilities	parking	Boones Ferry / Kruse Way		\$1,000,000
Milwaukie	Milwaukie Riverfront Park	park	bounded by Willamette River, Kellogg Creek, Johnson Creek, and McLoughlin Blvd.		\$5,901,963
Milwaukie	Lake Rd. multimodal improvements phase I	ped and bike	Lake Rd. / Oatfield	Lake Rd. / Freeman	\$4,800,960
Milwaukie	Jackson St. streetscape	ped and bike	Jackson St. / Main St.	Jackson St. / 21st	\$1,215,000
OR City	Oregon City swimming pool improvements	civic	Jackson St. / 12th		\$3,000,000
OR City	Washington Street improvements (bike lanes)	bike	Washington / 12th	Washington / 16th	\$1,400,000
OR City	Washington Street improvements (bike lanes)	bike	Washington / 7th	Washington / 12th	\$750,000
OR City	McLoughlin Blvd. enhancement	boulevard	McLoughlin / Clackamas River bridge	McLoughlin / railroad tunnel	\$3,700,000
OR City	Molalla Ave. boulevard improvements	boulevard	Molalla / Dewey St.	Molalla Ave. / Hwy 213	\$7,102,765
OR City	Hwy 99E sidewalks	pedestrian	Hwy 99E / Clackamas River bridge	Hwy 99E / Dunes Dr.	\$80,000
OR City	Hwy 99E sidewalks	pedestrian	Hwy 99E / Tumwater	Hwy 99E/ Hedges	\$150,000

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
OR City	Center St. sidewalks	pedestrian	Center St. / 2nd	Center St. / Telford	\$400,000
OR City	Division St. sidewalks	pedestrian	Division St. / Selma	Division St. / 12th	\$27,000
OR City	Division St. sidewalks (westside)	pedestrian	Division St. / Gilman Park Dr.	Division St. / Anchor	\$90,000
OR City	Division St. sidewalks (eastside)	pedestrian	Division St. / 15th	Division St. / Anchor	\$45,000
OR City	Linn Ave. sidewalks	pedestrian	Linn Ave. / Jackson	Linn Ave. / Oak	\$90,000
OR City	S. 2nd St. sidewalks	pedestrian	S. 2nd / Tumwater	S. 2nd / Center	\$36,000
OR City	15th St. sidewalks	pedestrian	15th St. / Hwy 99E	15th St. / Taylor St.	\$750,000
OR City	Molalla Ave. bike lanes	bike	Molalla / 7th St.	Molalla Ave. / Hwy 213	\$32,480
OR City	Washington Street bike lanes	bike	Washington St. / Hwy 213	Washington St. / 5th	\$30,000
Portland	Dawson Park improvements (N. Interstate URA)	park	N. Williams / NE Morris		\$1,800,000
Portland	N. Interstate URA park improvements	park	Interstate URA		\$2,770,000
Portland	O'Bryant Square park development (downtown)	park	SW Park / Washington		\$4,000,000
Portland	River District Neighborhood Park development	park	NW 11th / NW Overton		\$4,875,000

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Portland	South Park Block 5 redevelopment	park	SW 9th / SW Yamhill		\$6,870,000
Portland	South Waterfront Greenway development	park	Curry St. @ Willamette River		\$9,000,000
Portland	South Waterfront neighborhood park development	park	SW Moody / SW Curry		\$4,000,000
Portland	Springwater Trailhead at 82nd	trail	Springwater Trail / 82nd Ave		\$1,650,000
Portland	Tanner Springs Park rainwater pavillion construction	park	NW 10th / NW Marshall		\$140,000
Portland	Willamette Greenway trail redevelopment	trail	east side of Willamette River (north Portland)		\$750,000
Portland	Interstate Firehouse Cultural Center upgrade	civic	N. Interstate / N. Emerson		\$74,000
Portland	Director Park street enhancements (Central City)	pedestrian	SW 9th / SW Yamhill		\$1,382,000
Portland	Gateway URA park development	park	Gateway URA		\$1,500,000
Portland	Lents URA park development	park	Lents URA		\$ 624,000
Portland	East Burnside / Couch improvements (bridge to 14th)	ped and bike	bounded by E. 3rd / NE 14th / E. Burnside / NE Couch		\$18,051,393
Portland	NE Cully Blvd ped / bike improvements	ped and bike	NE Cully / NE Prescott	NE Cully / NE Killingsworth	\$5,424,726
Portland	SE Division streetscape (SE 11th to 39th)	ped and bike	SE Division / SE 11th	SE Division / SE 39th	\$6,094,354

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Portland	Gateway Phase II streetscape	ped and bike	102nd Ave. in Gateway URA		\$475,000
			Cille / CM/	Cible / CM	
Portland	Gibbs St. pedestrian bridge over I-5	ped and bike	Gibbs / SW Moody	Gibbs / SW Kelly	\$11,494,525
Portland	N. Denver St. streetscape, bike / ped improvements	ped and bike	N. Denver / N. Watts	N. Denver / N. Argyle	\$2,722,170
Portland	N. Killingsworth streetscape	ped and bike	N. Killingsworth / N. Commercial	N. Killingsworth / NE Martin Luther King	\$652,000
Portland	Russell St. streetscaping	ped and bike	N. Russell / N. Albina	N. Russell / N. Interstate	\$2,990,836
Portland	St. Johns Town Center pedestrian improvements	pedestrian	N. Ivanhoe / N. Richmond	N. Ivanhoe / New York	\$2,071,926
Portland	Barbur sidewalk infill	pedestrian	Barbur Blvd. (unspecified intersections)		\$2,000,000
Portland	N. Interstate livability improvements (transp)	pedestrian	Interstate URA		\$750,000
Portland	Lents Town Center streetscape	ped and bike	SE Foster / SE 92nd		\$2,251,790
Portland	Lents Town Center traffic safety improvements (for livability)	pedestrian	Lents URA		\$905,000
Tigard	Fanno Creek Plaza	park	SW Main / SW Burnham		\$4,877,000
Tigard	Main Street / green street retrofit	ped and bike	Main St. / 99W	Main St. / Greenburg	\$700,000
Tigard	Hall Blvd at Hwy 99W (gateway to downtown)	pedestrian	Hall Blvd. / 99W		\$435,000

City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Tigard	Burnham Street reconstruction	pedestrian	Burnham / Main	Burnham / Ash	\$9,746,463
Tigard	Library facility enhancements	civic	SW Hall / SW Omara		\$100,000
Tigard	Fanno Creek Trail (Hall Blvd. / Fanno Creek)	trail	Hall Blvd. / Fanno Creek		\$120,000
Tigard	Fanno Creek Trail (Main St. to Grant St.)	trail	Main St. / Grant St.		\$185,000
Tigard	Fanno Creek Trail (Bonita and 74th to Cook Park)	trail	Bonita / 74th	Cook Park	\$730,000
Tigard	Fanno Creek Trail (Railroad Row Loop)	trail	SW Tigard St. / SW Main St.		\$594,000
Tigard	Tree canopy replacement	tree	citywide		\$600,000
Tigard	Community park acquisition and development	park	North Central Tigard (unspecified)		\$1,220,000
Tigard	Brown Property Trail (library to Bonita Park)	trail	SW Milton Ct. / SW Bonita		\$555,780
Tigard	Fanno Creek Park (25 acres next to plaza)	park	SW Main / SW Burnham		\$2,226,350
Tigard	Tigard Triangle local improvement district	pedestrian	SW Dartmouth / SW 69th		\$2,280,303
Tigard	Commercial street intersection (Lincoln to Main)	pedestrian	Commercial St. / Lincoln	Commercial St. / Main	\$800,000
Tualatin	Boones Ferry Rd. sidewalks	pedestrian	Boones Ferry / Tualatin Sherwood Rd.	Boones Ferry /Tualatin High School	\$500,000
Wilsonville	Town Center ped / bike connection	ped and bike	Town Center Loop E. / SW Wilsonville Rd.		\$70,642

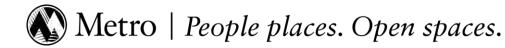
City	Facility	Category	Location	2nd Intersection (if linear)	Cost
Wilsonville	Transit Center amenities	civic	SW Barber St. / SW Barber St. (???)		\$150,000
TOTAL	1		1	1	\$345,600,078

www.oregonmetro.gov

Appendix 4:

Illustrations of the possible impacts of public investments

August 2010



PURPOSE

The 2040 Growth Concept, the guiding planning document for the region, articulates a desire to focus development in the designated 2040 design types. These include designated centers, corridors, main streets, station communities and employment areas. The 2040 Growth Concept strives to create active and successful places within the region. What has become clear since the adoption of the 2040 Plan is that to create these lively downtowns and thriving employment areas, the public must invest its limited dollars wisely; in a way that stimulates private development. However, the investments needed to stimulate private development are as varied as how the market responds.

The 2009 Urban Growth Report documented that the region has a large amount of underutilized residential capacity within Centers, Corridors, and Station Communities, indicating that the market is not producing the return on investment needed to build to higher densities. If the achievable rents/prices for high-density development forms could be increased, then more of the high-density zoned capacity could be within reach of the market.

To better answer the questions of how much and what type of public investments are most effective, Metro has undertaken a study that uses hedonic measurement techniques to estimate the price premium from public amenities and a pro forma real estate model to calculate the effect on real estate values. This research demonstrates that investments in public amenities in areas with little to no amenities can result in a significant increase in additional development potential and more efficient use of infill land. With further study and analysis, these results can help communities identify the types of investment needed to support their development aspirations and realize the unused zoned capacity within the region.

This appendix summarizes this research and illustrates the effect of a package of investments in public amenities at two locations within the region.

Methodology

The methodology to estimate the effect of public investments on the market builds on the work completed by Johnson-Reid and described in Appendix 2 of this document. By using a hedonic modeling process, Johnson-Reid estimated the value homeowners and renters would pay for specific public amenities. Reid's research pointed to higher rents in areas with public investments in urban amenities, such as streetscape design, connectivity and bicycle racks. The results of the Johnson-Reid work allowed Metro, and their consultant Fregonese Associates, to estimate a 20% increase in achievable rents on a building when a full package of amenities were assumed in a study area. For example, if a particular study area had an achievable rent of \$1.00/ft² on a particular building type, that achievable rent would increase to \$1.20/ft² on that same building type if a full package of amenities were assumed to be in place.

With the assistance of the consulting firm Fregonese Associates, Metro employed a pro forma real estate model to determine how additional public investments could shift price points to support redevelopment to higher density multifamily projects than otherwise would be produced by the

market. This approach yielded a range for how much more high density residential development might be generated when public investments are concentrated in centers and corridors. It identified increases in achievable rents and changes in the equation of what building types a developer could feasibly construct and which parcels become "ripe" (gain enough value) to warrant redevelopment. By utilizing real-time construction costs and land values, Fregonese Associates was able to determine what types of buildings could "pencil out" or be built while still providing a standard return on investment to the developer

Application of Methodology in selected communities

To test the theory of how public investments would increase the market, this analysis evaluated the effect of a package of public amenities in three communities that represented a range of existing amenity levels and market conditions. The three communities, shown on the following pages, were in Southeast Portland, Lake Oswego and Gresham. In each of these locations, the analysis showed a significant increase in the amount of land that becomes "ripe," for development due to additional public investments as well as a marked shift in feasible building types toward more dense, multistory types.

Envision Tomorrow, a suite of urban and regional planning tools, developed by Fregonese Associates, was used to model the land use scenarios within each community and estimate the effect of the amenities on achievable rents. National studies have shown that use of this set of tools have been successful to identify financially feasible development opportunities and needed adjustments to existing land use regulations to encourage new development. The scenario process included developing assumptions for prototype buildings, existing and future amenity values, prototype development assumptions and land use scenarios.

Prototype buildings

This analysis assumed ten prototype residential buildings that reflected different costs, price points, and tenure options. These buildings were chosen to represent a range of redevelopment types throughout the Metro Region that consistently achieve densities above those in single family residential areas. The building types and tenure options were:

- High rise (rental and ownership)
- Mid rise with structured parking (rental and ownership)
- 3-story with podium parking (rental and ownership)
- 3-story with surface parking (rental and ownership)
- Duplex/townhome (rental and ownership)

Existing and future amenity assumptions

The definition of an area's amenity status included characteristics related to:

- Neighborhood score-index that measures the relative desirability of a neighborhood
- Traffic speed and volume-average speed limit and total number of vehicle lanes
- Bike racks and street furniture-accessibility to either feature

- Street design-pedestrian accessibility, street trees, cul-de-sac design vs. linear streets
- Street frontage and connectivity-average block size, sidewalk density

Each of the districts was then assigned a typology code based on the frequency and quality of the amenities. By establishing a baseline typology, along with existing achievable rents, the study was clearly able to see the added benefit of moving the targeted areas into a high amenity category. An area categorized as having a high amenity package was granted the full 20% increase to achievable rents, thus influencing the redevelopment potential and building type that could be built on a site. These categories were

- Typology 1: high amenity-area with full package of amenities in place
- Typology 2: large amenity-area that falls short in one or two amenity categories
- Typology 3: moderate amenity-area with an average number of amenities
- Typology 4: limited amenity-area with limited number of positive amenities
- Typology 5: no amenities-area with no amenities found
- Typology 6: disamenity-area shows a negative market reaction to existing design, etc.

The three study neighborhoods were each assessed and assigned a typology code given their current conditions:

Location	Current Typology	Future typology
SE Portland/Foster-Lents Town	3 (moderate amenity)	1 (high amenity)
Center		
Lake Oswego Town Center	2 (large amenity)	1 (high amenity)
Gresham Regional Center	3 (moderate amenity)	1 (high amenity)

Prototype Development

Starting at the building and parcel level, the physical, parking and financial assumptions were tailored for each prototype. For example, the rental residential prototypes assumed 1 parking space per unit while the owner-occupied residential prototypes assumed 1.5 spaces per unit. The financial assumptions - specifically the achievable rents and sales prices - were further adjusted for each of the three neighborhood study areas, based on geographic location. The reason behind this decision was that each neighborhood presents a unique set of variables related to the cost of land and market value of homes. Applying one set of achievable rents and sales prices would not have accurately reflected the unique set of conditions within each jurisdiction. There are clear market differences between what a person will pay for a house in downtown Portland versus downtown Gresham. This is not a judgment of value, but merely an acknowledgment that the market is varies greatly over the Metro region. For Metro to truly understand how the market will react to public investment, each area must be modeled under the most accurate existing market conditions possible. Johnson Reid's generalized pro forma analysis was used to estimate the residual land value for each prototype by district and level of amenity. Using the Return on Investment (ROI) model, the physical assumptions of Johnson Reid's hypothetical building prototypes were further refined and the impacts of amenities on specific types of residential buildings were modeled.

Scenario Building

Envision Tomorrow also includes a Scenario Builder, an ArcGIS-based modeling and evaluation application capable of combining different development types into a future growth scenario. Ranging from the neighborhood to the regional scales, the model illustrates potential for redevelopment, not forecasts or predictions. The model estimates possible futures based on what already exists, evident trends, and the assumptions about amentity values. In essence, this redevelopment screen indicates what would be likely to happen if no new investments were made within each area. By applying the high amenity package Fregonese was able to use the Scenario Builder to create and compare two land use scenarios for each of the three neighborhood study areas. The first scenario tested the likely development opportunity sites and types of development under current (baseline) conditions. The second scenario assumed that public investments transformed the area into a neighborhood with a high level of amenities (Typology 1). The scenarios looked exclusively at how the high amenity category might affect total residential development in each area.

FINDINGS

For each of the three study neighborhoods, the study showed that few sites were ripe for development or redevelopment given today's market conditions and the levels of amenities currently found in the area. Most of the developments which might pencil were duplexes/townhomes or 3-story buildings with surface parking on highly underdeveloped sites. However, increasing the level of amenities to the high amenity level, the model demonstrated that a larger number of parcels "tipped" towards redevelopment, or a denser form of redevelopment. In particular, many parcels on which a three-story building with surface parking might be feasible under current conditions could support a three-story building with structured parking under a scenario with high levels of amenities. This effect on the market resulted in significant increases in residential density without raising building heights or even reducing parking ratios.

For the three test areas used in this illustration, each showed an increased market response to high levels of amenities. The differences between each location reflect the existing market conditions, existing level of amenities, the number of parcels that demonstrated redevelopment potential and the level of existing zoning. The illustrations in the following pages show current conditions in a portion of the area studied, the addition of public amenities, including bike lanes, pedestrian crossings and other street design improvements and the resulting three to five story buildings that become market ready due to the effect of the public amenities on rents/prices.

Scenario summary: increase in residential units feasible by study area

	Units in Baseline Scenario (existing typology score)	Units in High Amenity Scenario (high typology score)	% Increase
SE Portland/Foster- Lents Town Center	551	2,018	266%
Lake Oswego Town Center	878	2,084	137%
Gresham Regional Center	1,764	9,696	450%

SUMMARY

As Metro's consultants, Fregonese Associates illustrated how specific development sites might be affected with additional public investments in the study areas. The illustrations highlight current conditions, public investments, and redevelopment potential. It is important to note that the buildings illustrated in each redevelopment scenario are achievable (i.e. they "pencil out") at these locations, based on the assumed public investment in infrastructure and amenities.

The three study neighborhoods represent only a sample of the locations that Metro is currently exploring in an attempt to study the impact of public investments on the market. More work is needed to refine this analysis and approach. Further evaluation of the effects of public amenities at other locations around the region, different building types and proto-type assumptions and how the market reacts to targeted investments at a local and regional level would all improve the ability to estimate the effect of public investments on the market. Further research may show that public investment has a greater impact on achievable rents in targeted areas. With a better understanding of how public investment can leverage private development, the region can make more educated decisions about how best to invest and implement the 2040 Growth Concept to create the vibrant places communities envision.

ILLUSTRATION EXAMPLES

Lake Oswego

Figure 1: Existing Conditions: 2nd Street, facing north towards B Avenue



Figure 2: Initial Public Improvements



Infrastructure investments: streets trees, bicycle signage, sidewalk widening

Figure 3: Redevelopment Potential



New development: 3-story with podium parking

City of Portland-Lents/Foster Corridor

Figure 4: Existing Conditions- Foster and 84th Avenue, facing west



Figure 5: Initial Public Improvements



Infrastructure investments: street trees, bus shelter, pedestrian crossings, bike lane, sidewalk widening

Figure 6: Redevelopment Potential



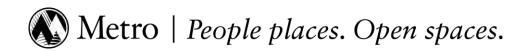
New development: 3-story with podium parking

www.oregonmetro.gov

Appendix 5:

Focus on jobs – maintaining a competitive supply of large sites for industrial uses

August 2010



PURPOSE

Local traded-sector industrial firms such as Intel, Precision Castparts, Boeing, and SolarWorld provide residents with family-wage jobs and bring wealth into the Metro region by selling products to consumers worldwide. These types of firms also have multiplier effects in the region's economy, indirectly creating jobs in other sectors. When deciding where to locate, large industrial firms often consider multiple regions¹. Having a supply of developable sites available in the Metro region is a basic requirement for remaining competitive in a global economy.

PROPOSAL

It is proposed that the region adopt a performance-based system that maintains a competitive supply of large sites inside the urban growth boundary (UGB) for traded-sector industrial jobs. The Metro Policy Advisory Committee proposed a large-site replenishment mechanism to achieve this purpose. This system would ensure that an additional large site is made available for every large site that is developed. Maintaining a competitive supply would be achieved through:

- Brownfield cleanup
- Focused investments to ensure that sites are developable
- Tax lot assembly
- Regulatory protection of industrial sites from conflicting uses
- Strategic UGB expansions

Implementing legislation

If the Metro Council supports the creation of a replenishment system, the policy would be described in the Regional Framework Plan and would be implemented through Titles 4 (Industrial and Other Employment Areas) and 14 (Urban Growth Boundary) of the Urban Growth Management Functional Plan.

To achieve the purposes of the replenishment mechanism, regulations that protect the region's supply of large industrial sites from non-industrial uses will be essential. The region should also focus investments in a way that supports development on industrial lands, including the cleanup and reuse of contaminated sites.

¹ Frequently-mentioned competitors include Albuquerque, Austin, and Salt Lake City

Baseline inventory of large sites for monitoring

Metro has compiled a draft inventory of large, vacant industrial and employment sites inside the UGB (attached to this appendix). For the purpose of the inventory, the following criteria were used to identify large sites:

- <u>The site must be large</u> the site must have one or more adjacent tax lots in common ownership that comprise at least 50 gross acres.
- <u>The site must be mostly vacant</u> the site must be vacant or have minimal improvements. An exception is made for large sites that have been added to the UGB to meet industrial needs, but that had existing improvements at the time of the expansion (this is likely to be the case with future UGB expansions as well).
- <u>The site must be intended for industrial or employment uses</u> the site must be designated under Title 4 of the Urban Growth Management Functional Plan (Industrial and Other Employment Lands)² or have industrial zoning. These designations help to protect the site from conflicting uses and division into smaller sites.
- <u>The site must be developable</u> less than 25 percent of the site must be covered with slopes of 10 percent or greater.

Local planning staff had the opportunity to review the draft inventory for accuracy. If the Metro Council implements a large-site replenishment mechanism, a final large-site inventory would be adopted by an order of Metro's Chief Operating Officer after the adoption of the December 2010 Capacity Ordinance. The final inventory would include any large sites added to the UGB as part of the 2010 growth management decision. The final inventory of large sites would establish the target number of large sites to maintain inside the UGB through the year 2014 (the year that a new urban growth report analysis will be conducted)³.

Large-site replenishment

With a replenishment mechanism, if a large site in the inventory gets developed or if a portion of a large site gets developed, leaving fewer than 50 vacant acres, one additional large site would be

² Title 4 is intended to protect the region's supply of industrial lands from conflicting uses.

³ The replenishment mechanism would be suspended during any year that a new Urban Growth Report Analysis is being conducted (e.g., 2014 and 2019).

made available in the UGB⁴ within one year. The trigger for the mechanism would be that the jurisdiction responsible for planning the area notifies Metro that construction has begun⁵.

To satisfy state law, Metro, in coordination with cities and counties in the region, would first seek to identify measures that make an additional large site inside the UGB available for industrial use. Examples of efficiency measures include tax lot assembly or brownfield cleanup. If no efficiency measures are in place, a Major UGB Amendment process would be completed within a year of the initial notice that a large site had developed⁶. The UGB expansion would occur in adopted urban reserve areas. Advance completion of concept planning for potential expansion areas would facilitate the decision of which site to bring into the UGB. A proposed fast-track UGB expansion mechanism could be used to expedite this process.

Cyclical reassessment of large site supply and demand

Regional large-site demand and supply would be reassessed in the 2014 UGR, which would be the basis for a growth management decision in 2015. The supply of large sites that results from those decisions would be the new target inventory inside the UGB to maintain through 2020. The large-site replenishment process would again be used in those intervening years to maintain a competitive supply within the UGB.

Protection of large sites

In order to maintain a competitive supply of large sites, it is also necessary to protect sites from conflicting uses and division into smaller sites. All applicable Title 4 and zoning protections would continue to protect large sites. It is proposed that Title 4 include additional protections including the prohibition of new schools, parks, and places of assembly on Regionally Significant Industrial Areas. It is also proposed that Title 4 would prohibit division of a lot or parcel smaller than 50 acres that is part of an inventoried large site.

⁴ The replacement large site would not necessarily be provided in the same jurisdiction or submarket area as the site that gets developed. This is because Metro is obligated first to attempt to identify measures that would make more efficient use of land inside the UGB. Given Metro's charge to plan for regional growth, these efficiency measures may take place in any jurisdiction in the Metro UGB. Likewise, some cities in the region are landlocked—an expansion of the UGB cannot provide a replacement large site.

⁵ Jurisdictions would also, at an earlier date, notify Metro that land use approvals have been granted for a large site, allowing additional time to identify a replacement site in case construction proceeds. The one year period would, however begin upon notification that construction has begun.

⁶ UGB expansions will not necessarily be able to provide a large site with all tax lots in common ownership. If a tax lot assembly strategy is not already described in concept plans, such expansions should include a condition that the city responsible for planning is required to adopt a strategy for tax lot assembly. UGB expansions will also not necessarily be able to provide sites that are completely vacant. Regardless of ownership patterns or development status at the time of UGB expansion, it is proposed that any area added to the UGB under this replenishment mechanism should be included in a revised large-site inventory. Tax lot assembly needs or development status would be noted in the inventory to assist policy makers in identifying strategies for making sites development ready.

SHARED RESPONSIBILITIES

This proposed replenishment concept will not work without collaboration between Metro and local governments.

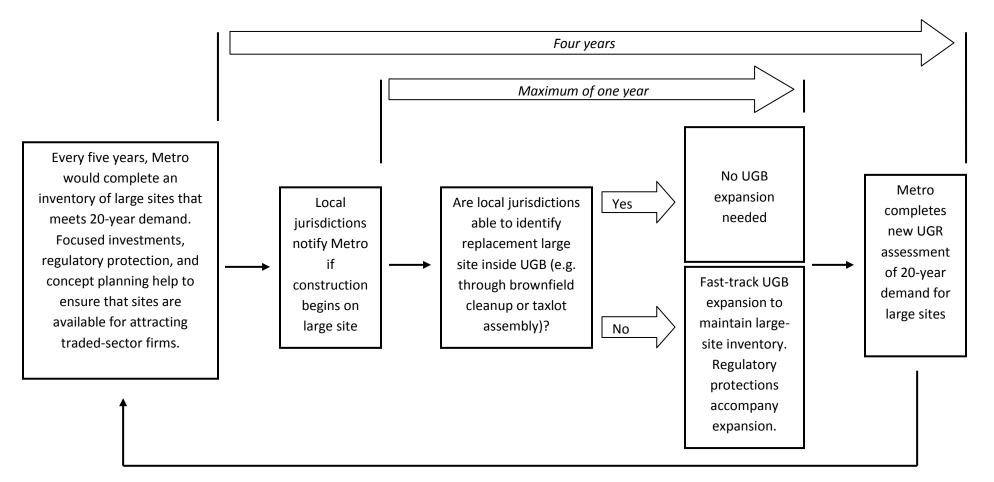
Responsibilities of Metro

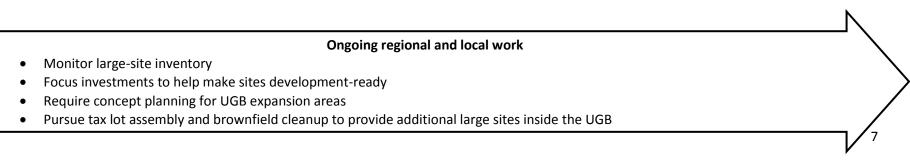
- Convene regional leaders from the public and private sectors to identify critical public investment gaps and recommend methods to fill those gaps, including:
 - Make the most of existing development finance tools and identify new tools to support our communities
 - Focus regional resources on specific priority investments to catalyze private investment
- Ensure that regulatory protections of industrial lands are enforced by cities and counties
- Maintain inventory map of large industrial sites
- Reassess adequacy of large-site inventory as economic conditions evolve (as part of the UGR, every five years)
- Make strategic UGB expansions when needed

Responsibilities of local governments

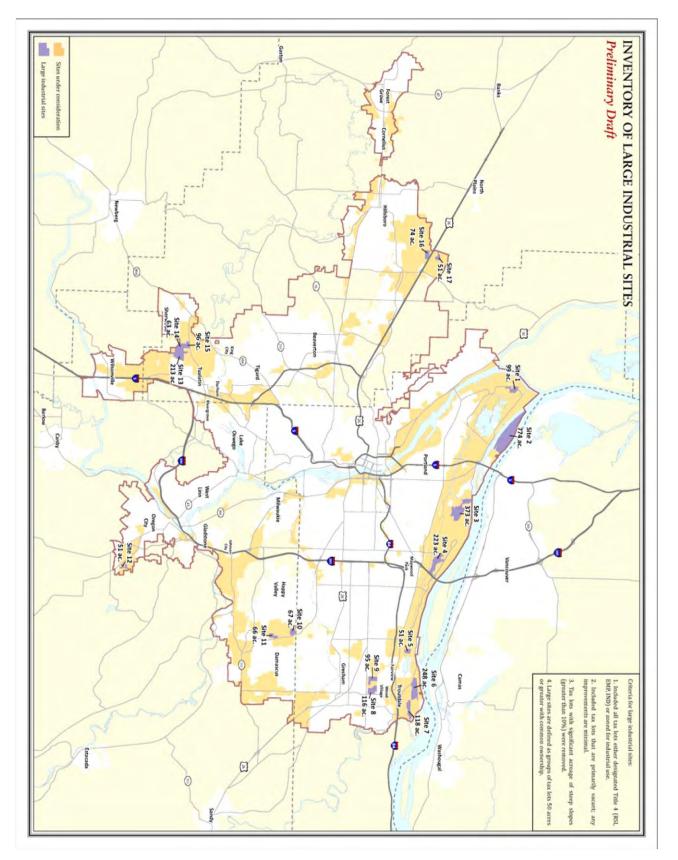
- Participate in a Community Investment Strategy to make large sites developable
- Enforce regulatory protections of industrial lands
- Pursue brownfield cleanup and tax lot assembly opportunities
- Notify Metro when an inventoried large site is developed
- Complete concept planning before UGB expansions are made

Large-site replenishment concept





Draft large-site inventory



www.oregonmetro.gov

Appendix 6:

Requests from local jurisdictions to amend their regional design types

August 2010

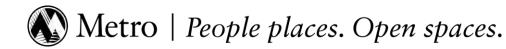


Table of Contents

Background and Introduction4	
The 2040 Growth Concept Map4	
Policies that guide center designations4	
Other considerations	
Requests for Center changes6	
Happy Valley Town Center6	
Cornelius Town Center10	
Hillsboro Tanasbourne / AmberGlen Regional Center13	
Other changes to the 2040 Map17	

On file at Metro:

Summary of existing Metro policies on centers

Local jurisdiction requests to change center designations

BACKGROUND AND INTRODUCTION

Three jurisdictions, Happy Valley, Cornelius and Hillsboro, have requested changes to their center locations or designations on the 2040 Growth Concept Map. Staff recommends that the Metro Council approve these changes and adopt the revised 2040 Map as shown in Exhibit O to the 2010 Capacity Ordinance. This appendix describes these requests and the policies that guide Council consideration of these requests. Available on file at Metro is a summary of Metro policies on centers and the requests from the local jurisdictions including the supporting information they provided.

The 2040 Growth Concept Map

In 1995, after extensive public involvement, the Metro region adopted the 2040 Growth Concept to guide future development and within the region and protect farm and forestland outside the urban area. It focuses development in mixed-use centers, corridors and employment areas connected by a multi-modal transportation system. Regional policies guide the region toward achieving this vision. Local and regional investments are critical in order to achieve the vibrant places residents envision.

The 2040 Growth Concept Map illustrates this regional vision and the Regional Framework Plan narrative fully describes it. The map, adopted by Council, identifies central city, regional and town centers, station areas, main streets and corridor locations as a focus for mixed-use, residential and employment development. Changes to the map represent changes to growth management policy and are subject to Metro Council approval. In the past 15 years, the Metro Council has acted on only two requests for changes, reflecting the intentionality of the vision. However, the 2040 Growth Concept is a living document and it is appropriate to have these designations evolve over time as conditions change.

Policies that guide center designations

When considering a request to change the 2040 Map, the Council turns to existing policies in the Regional Framework Plan, Regional Urban Growth Management Functional Plan, Regional Transportation Plan and Regional Transportation Functional Plan for guidance. Policies on centers have been updated over the years, including some revisions as a result of the Regional Transportation Plan. The Metro Council may adopt other new policies on centers, such as those that align regional investments with local actions that are included in the recommendations in this Community Investment Strategy. A summary of existing policies is on file at Metro. Local jurisdictions that have requested changes have been asked to describe how their proposal is consistent with existing policies that set expectations for Regional Centers and Town Centers, as summarized in Table 1.

Policy	Regional Centers	Town Centers
Accessible	The center is accessible to hundreds of thousands of people.	The proposed center is accessible to tens of thousands of people.
Zoning	The area is zoned for a mix of housing types to provide housing choices. The area is zoned to allow the number of residents and employees needed to support High Capacity Transit.	The area is zoned for a mix of uses that makes, or will make the center walkable.
Enhancement strategy	The city has adopted a strategy of actions and investments to enhance the proposed center.	The city has adopted a strategy of actions and investments to enhance the proposed center.
Public Transit	The area is served by high-capacity transit or is proposed to be served in the 2035 Regional Transportation Plan (RTP) and meets or is planned to meet the transit system design standards proposed in the RTP.	The area is served by public transit.
Multimodal and connectivity standards	The city has adopted a plan for a multimodal street system that meets or will meet connectivity standards in the Regional Transportation Plan.	The city has adopted a plan for a multimodal street system that meets or will meet connectivity standards in the Regional Transportation Plan.
Non-SOV targets	The city has adopted a strategy that calls for actions and investments to meet the non-SOV modal targets in the RTP.	The city has adopted a strategy that calls for actions and investments to meet the non-SOV modal targets in the RTP.
Parking Management	The city has a parking management program consistent with that in the recently adopted RTP.	The city has a parking management program consistent with that in the recently adopted RTP.

Table 1: Summary of existing Metro policy for Regional and Town Centers

Other considerations

Experience over the last 15 years has shown that the centers develop at varying rates, dependent upon market conditions, political leadership, financial resources and other factors. Leading planning and development experts have advised the region over the years of the need to focus investments in fewer centers to achieve the greatest impact and to align land use plans with economic and market realities. To anticipate these concerns over potential new or relocated centers, the three local jurisdictions have been asked to respond to additional considerations:

- How would a center change detract from or support other nearby centers to serve as the center of urban life and market area for a regional center or town center?
- If there are multiple regional and town centers located within your jurisdiction, describe how you will prioritize and focus development efforts among them.
- Recognizing that zoning alone will not achieve the kind of vibrant and active centers envisioned by the 2040 Growth Concept, describe your jurisdiction's plans for promoting development through partnerships, incentives, investments and other actions.
- What kind of market analysis has your jurisdiction completed that indicates that the development you have planned will support the level of activity you envision for your center?

REQUESTS FOR CENTER CHANGES

The mayors from the three cities submitted requests for changes to their centers to the Metro Council and described how their proposed changes were consistent with existing policy and addressed additional considerations. Their requests, including adopted resolutions in support of the requests, are attached to this appendix. The following summarizes the requests and demonstrates the policy consistency that supports the staff recommendations.

Happy Valley Town Center

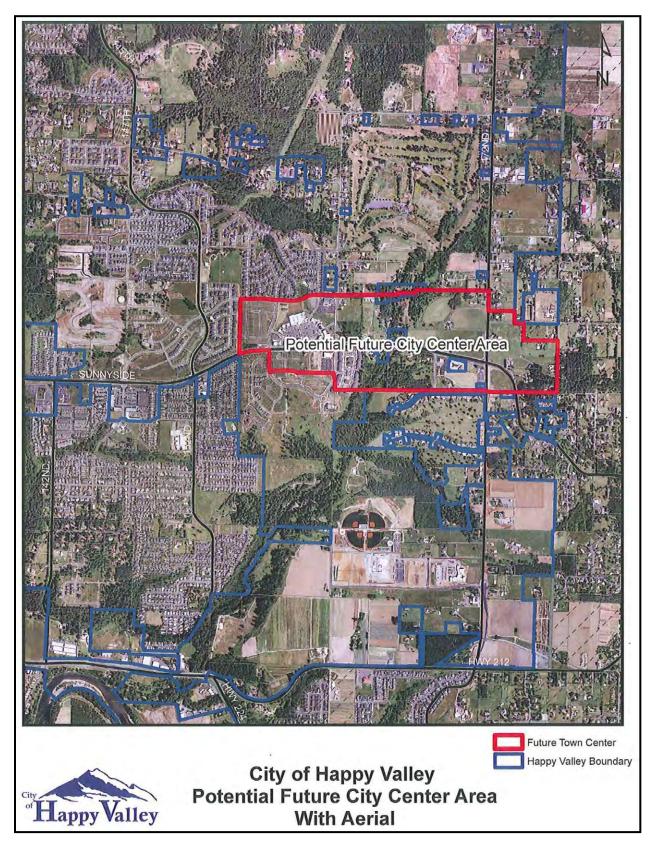
Happy Valley has requested a relocation of their existing Town Center designation from King Road to Sunnyside/SE 172nd, about two to three miles to the east, to a commercial area called, coincidentally, the Happy Valley Town Center. Fifteen years ago, when the 2040 Growth Concept was adopted, Happy Valley had a population of less than 5,000. The City has grown significantly since then and has a forecast population of over 30,000 by 2030. The City has concluded that the King Road area has limited potential to develop into a Town Center. The King Road area houses local fire and police offices but has no commercial zoning and is surrounded by an existing single family neighborhood that has not supported increased development along King Road.

The proposed Town Center houses the new city hall and new commercial development, is surrounded by a mix of single and multi-family development and is identified in the City's plans for continued growth. Recent investments have widened and improved road, bicycle and sidewalk access. To support the Town Center designation, the City has received a grant to fund the up-zoning of parts of the center area, develop parking management plans and identify other tools to support the center.

Figure 1: View east along Sunnyside Road in Proposed Happy Valley Town Center



Figure 2: Proposed Happy Valley Town Center location



The following summarizes the consistency of the proposed Happy Valley Town Center relocation with Metro policies:

Town Center policies	Summary response for Happy Valley
Accessible to tens of thousands:	The new location is more central to growth areas in Happy Valley
Mix of uses and walkable:	Area has mix of residential, commercial and civic, institutional uses and new street investments. City is proposing to up-zone, which will allow for an increased mix and intensity of uses.
Strategy to enhance:	Adopted resolution in support of town center change and submitted request for TGM grant to initiate zone changes, parking management and other plans to support center.
Public transit service:	Happy Valley has annexed to Tri Met service area but has limited service. Additional services would be needed to support the proposed Happy Valley Town Center location.
Meet multi-modal, connectivity standards	Happy Valley's Transportation system plan requires a multi- modal street system that meets or exceeds regional requirements. Some roads already constructed, others are planned.

Additional Considerations	Summary response for Happy Valley
Detract from other centers?	No. Instead of adding, this replaces existing center and is distant from Damascus center.
Partnerships for success?	City maintains partnerships with local business groups, property owners, business operations and offers expedited design review and financial support of major infrastructure needed for growth. Additional partnering is proposed.
Analysis to support request?	Location reflects market shifts to areas of new development patterns, additional economic analysis to support center underway.

Happy Valley - summary and recommendations

Happy Valley has grown significantly in the last 15 years and will continue to grow by tens of thousands as well as serve growth in adjacent Damascus to the east. The relocation of the Town Center is consistent with this growth pattern. The city will need to continue to promote a mix of uses, investments and tools to support additional transit services and the walkable, vibrant place envisioned as a Town Center. The City has expressed their intent to continue with these efforts as part of the Town Center designation. Metro's Chief Operating Officer supports this request for a center designation change. In order to develop as a successful, vibrant center, the Chief Operating Officer advises that policy makers be explicit in their expectations for additional development and intensity in the Happy Valley Town Center necessary to support transit service, mixed income housing, public spaces, and employment along with these continued investments and actions.

Cornelius Town Center

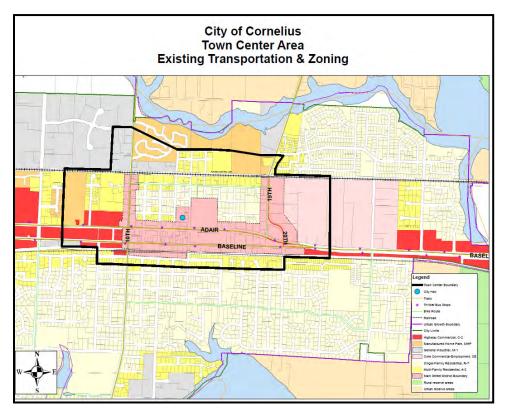
The City of Cornelius has requested to change the designation in their downtown from a Main Street to a Town Center. Cornelius is the only city in the Metro area that does not have or share a Town Center designation. While other Main Street designations on the 2040 map are typically ½ block deep along a commercial corridor, the Cornelius main Street has always included a district of multiple blocks in the center of the downtown with commercial and residential zoning. The area functions as the center of the community with medical clinics and other activity generators. Since the 2040 Concept was adopted, Cornelius has completed plans and development guides for their Main Street district and has invested in street and other infrastructure in the area.

As part of this proposal, the City of Cornelius envisions a larger district for the Town Center, including the area envisioned as future high capacity transit in the Regional Transportation Plan. The City has plans for continued redevelopment and investment in this area.

Figure 3: N. Adair Street in proposed Cornelius Town Center



Figure 4: Proposed Cornelius Town Center Boundary



Town center policies	Summary response for Cornelius Town Center
Accessible to tens of thousands:	Cornelius has a population of over 11,000 residents and 350 businesses. The town Center will serve this and future growth as well as adjacent areas.
Mix of uses and walkable:	Area has mix of residential, commercial and civic, institutional uses and an established, walkable street grid system.
Strategy to enhance:	Cornelius has developed strategies for the downtown area and will continue to implement and refine these strategies. Recent examples include an adopted Master Plan for parks and trails.
Public transit service:	Cornelius is served by a relatively high-performing, frequent bus service and the City envisions high capacity transit in the future.
Meet multi-modal, connectivity standards	Cornelius has a transportation system plan that meets or exceeds connectivity standards and promotes multi-modal use.

The following table summarizes the consistency of Cornelius' request with town center policies:

Additional Considerations	Summary response for Cornelius Town Center
Detract from other centers?	Though located near centers in Hillsboro and Forest Grove, Cornelius has developed its own market niche and is not expected to detract from other centers. The Town Center is the focus for downtown Cornelius.
Partnerships for success?	The City maintains partnerships with local public, non-profit and business organizations, has worked successfully with them in the past and expects to continue to do so in the future.
Analysis to support request?	Studies by the State and private firms indicate the market will continue to gradually intensify following public incentives, private investment, public transit and overall improvement of the community's health and attractiveness.

Cornelius - summary and recommendations

The City of Cornelius's downtown Main Street district functions as their Town Center and is poised to continue in this role. Metro's Chief Operating Officer supports changing the designation from

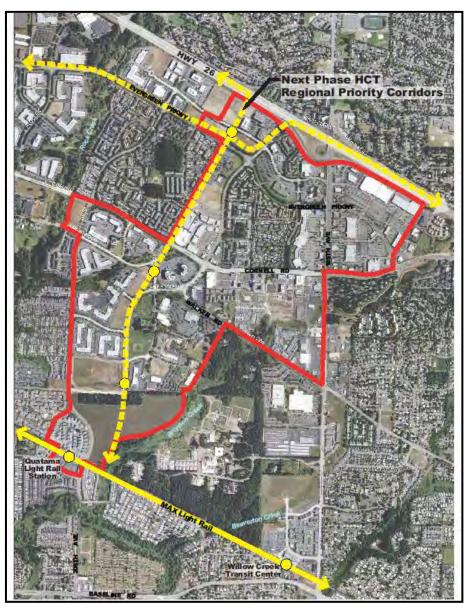
Main Street to Town Center to align this function with the regional vision. As one of the smaller towns in the Metro area with limited resources, future intensity and development of the Town Center will depend on continued public, private and non-profit partnerships and the COO advises that policy makers be explicit in their expectation that these partnerships be of service to supporting the Town Center.

Hillsboro Tanasbourne / AmberGlen Regional Center

The City of Hillsboro has requested to expand the existing Tanasbourne Town Center to include the adjacent AmberGlen area and change the designation to Regional Center, resulting in a total of eight Regional Centers on the 2040 Map instead of seven. Since the 2040 Growth Concept was adopted, the Tanasbourne area has grown into a sizable commercial destination. Though not mixed use, the commercial area is surrounded by single and multi-family residential. The adjacent AmberGlen site is one of the largest redevelopment opportunities in the region and Hillsboro has developed a public/private partnership for the area. The city estimates development capacity in AmberGlen / Tanasbourne to house over 30,000 residents and 23,000 jobs. The City has initiated a proposal to update the Tanasbourne area plan.

The city of Hillsboro's request for a Regional Center designation is linked with their aspirations to partner with Metro, Tri-Met and the private sector to put the tools and incentives in place to support the highest possible densities. Hillsboro envisions an extension of light rail to serve the area, use of green practices, and urban renewal to finance needed infrastructure.

Figure 5: Proposed Tanasbourne/AmberGlen Center boundary



Regional Center Summary response for Hillsboro Tanasborne / AmberGlen Regional policy Center Accessible to The addition of one more regional center means that the share of hundreds of population available to other centers is smaller. However, between 2010 thousands and 2030 the Urban Growth Report projects and increase of 224,000 to 301,500 new dwelling units within the Metro area, or an increase in hundreds of thousands of new residents. In addition, the redevelopment planned for Tanasbourne / AmberGlen would increase the number of residents in the center. The City has a policy to provide a mix of urban housing design types, Mix of housing types to provide housing densities and heights to serve a range of household ages and income choices levels. The City has not yet adopted specific zoning or tools to promote housing choice. Allow the number of Plans for AmberGlen are intended to provide for the number of residents residents and and employees necessary to support high capacity transit and the City is employees needed to continuing to evaluate HCT feasibility. support High Capacity Transit Strategy to enhance The City has adopted policies to enhance and develop the AmberGlen area and is initiating the next steps to develop the tools to implement these policies, including consideration of urban renewal. Served by high-An extension of HCT to AmberGlen is included in the Regional capacity transit or is Transportation Plan as a future corridor. Hillsboro is initiating efforts to proposed to be apply the system expansion policy in the RTP and document that housing served; meets or is and employment will support HCT. planned to meet the transit system design standards Multi-modal street Plans for AmberGlen call for an urban street grid to support walking, system and bicycling and transit use while accommodating vehicles. connectivity standards Strategy to meet the Plans for AmberGlen call for mixed use development, parking non-SOV modal management, street designs and high capacity transit investments to targets support non-SOV targets.

The table below summarizes the consistency of Hillsboro's request with regional center policies:

Parking management	Plans for AmberGlen call for a parking management program.
program	

Additional Considerations	Summary response Tanasbourne / AmberGlen Regional Center
Detract from other centers?	To avoid detracting from other centers, Tanasbourne/AmberGlen Regional Center designation depends on continued growth in the region in general and Washington County in particular, stimulating high urban densities in the center and continued investments in other regional centers. In addition, Washington county has 15 town centers (including Cornelius) that need additional investments and market access.
Prioritize if more than one?	Hillsboro has plans and investment tools in place to support the Regional Center downtown and will continue this support.
Partnerships for success?	Property owners in the AmberGlen area have worked closely with Hillsboro to develop the plans for the area. Hillsboro intends to continue this partnership as well as partner with other service providers.
Analysis to support request?	Hillsboro has completed studies in partnership with the property owners to document the economic feasibility for the redevelopment in the AmberGlen area and have proposed additional analysis for the Tanasbourne area.

Tanasbourne / AmberGlen - summary and recommendations

The Tanasbourne/AmberGlen area has the potential to develop into a unique regional center supported by a combination of public and private investments. In many ways, the area is a role model for public private partnerships and for aspirations for density that go beyond the typical suburban levels consistent with the focused development envisioned in the 2040 Growth Concept. Metro's Chief Operating Officer recommends that Metro Council approve this request for a regional center designation to demonstrate commitment to this transformation. Much work has yet to be done to transform this opportunity into reality, however. In order to develop as a successful, vibrant center, the Chief Operating Officer advises that policy makers be explicit in their expectations for local actions as part of their approval of this change. To achieve the aspirations for a Regional Center, Hillsboro will need to move forward on strategies to provide for mixed income housing and housing choice, densities to support HCT and Non-SOV use as well as bring the existing Tanasbourne area up to the mixed use and multi-modal standards of a Regional Center.

OTHER CHANGES TO THE 2040 MAP

Metro periodically updates the 2040 Map to reflect changes in policy that refine and illustrate the 2040 Growth Concept. These recommendations include an updated 2040 Map to reflect consistency with:

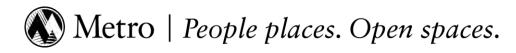
- Construction of light rail along Interstate Avenue and I-205.
- Construction of commuter rail along the Beaverton Wilsonville corridor.
- Planned light rail in the Milwaukie corridor and to Clark County and rapid streetcar in the Lake Oswego Corridor
- Regional transportation plan policies supporting future light rail or high capacity transit in the Southwest Corridor and the Foster/Powell corridor.
- Regional transportation plan policies designating key road alignments in the Sherwood Tualatin corridor, East Metro areas and the Highway 212/224 corridor.
- Urban and rural reserves designations.

In addition, the updated 2040 Map presents a simpler, less cluttered look, by consolidating inner and outer neighborhood designations and industrial and employment area designations, and removing some of the base features such as local roads. Centers shown on the 2040 Map reflect the recommendations for Happy Valley, Cornelius and Hillsboro.

www.oregonmetro.gov

Appendix 7:

Summary of potential infrastructure funding sources



INTRODUCTION AND PURPOSE

Securing funding to maintain or improve infrastructure and services in existing communities and accommodate population and employment growth is an important factor in facilitating residential, commercial and industrial development across the region. Regardless of where the development is located—whether in new or existing urban areas—funding for infrastructure is limited and constrained by a variety of factors.

This memo explores the different limitations on funding for infrastructure to support development in existing urban areas and new urban areas as well as the variety of factors that influence whether and how funds are available for infrastructure in these areas. Examples of funding sources used to support development around the region help illustrate the availability of funding sources in existing and new urban areas. While further investments across the region are needed to accommodate anticipated population and employment growth, this memo illustrates that there are a variety of considerations on funding sources used in the region's new and existing urban areas.

KEY FINDINGS

- Federal and state funding sources for infrastructure have steadily decreased over the years. Over the last 30 years, "the federal share of infrastructure funding has been declining...and many funds once available to state governments for capital improvements no longer exist" (Metro, Regional Infrastructure Analysis, 2008). This leaves a larger burden on local governments to develop more robust funding tools for infrastructure. Accordingly, the 2035 Regional Transportation Plan update assumes that local funding sources (including system development charges, urban renewal, local gas taxes and vehicle registration fees) will pay for 53 percent of project costs in the plan.¹
- Local sources are subject to multiple limitations. Local funding sources for infrastructure such as system development charges, urban renewal and developer contributions are constrained by a variety of factors. State law prohibits jurisdictions with populations of 50,000 or more from putting more than 15 percent of assessed value or land area in urban renewal and mandates that system development charges only pay for certain capital improvements. In addition, local improvement districts and urban renewal must be approved by a vote of the people, which adds a political dimension to the utilization of these funding sources. Finally, local funding sources are often collected with the sole purpose of funding maintenance like street utility fees or capital projects like system development charges and cannot be used for other purposes. The lack of federal and state resources and the limitations on local sources makes it challenging to utilize local funding sources for infrastructure in new and existing urban areas.
- There are different funding sources available in new urban areas than there are in existing urban areas. There are a variety of factors that can influence what local funding sources are available for infrastructure. These include the location of the development, the

¹ This figure is for the State RTP. For the Financially Constrained RTP, local funding sources account for 44 percent of total project costs.

number of developers involved and their willingness to invest up-front capital, the fragmentation of the land and the political will of the jurisdiction. In new urban areas, where land ownership is often less fragmented and there are only a few developers involved at the start, the public sector can work with the developers to invest up-front capital to fund large needed infrastructure improvements.² Developers, whose investments will be reimbursed through SDC credits or fees on future development, are willing to put up this money because they will receive a significant economic return on their investment.

Currently, in areas like South Hillsboro and North Bethany significant infrastructure costs will be funded by the local jurisdiction though property taxes, transportation development taxes, community service districts and by private developers through supplemental development fees. This was also the case in South Waterfront, where two major property owners (Oregon Health Sciences University and North Macadam Investors) partnered with the City of Portland to fund the infrastructure needed to redevelop the existing urban area. In existing urban areas, where ownership is more fragmented and each developer is responsible for a smaller portion of infrastructure investment needed to facilitate development, there is less economic benefit that developers will realize by financing infrastructure investments up front. While both existing and new urban areas are able to access traditional funding sources like urban renewal and system development charges, it is this impetus for developers to invest in significant infrastructure improvements that can be more common in new urban areas.

Furthermore, according to Metro's 2008 Regional Infrastructure Analysis³, "urban developments tend to require the majority of their infrastructure up-front, while urbanizing developments can finance this in phases over many years" (Metro, Regional Infrastructure Analysis, 2008). In existing urban areas, which are more compact and must serve as functional developments for existing residents and employees, all necessary infrastructure must be built up-front. Whereas in new urban areas, which are more spread out, infrastructure investments can be phased over time and targeted to the areas where development is planned. This allows developers in new urban areas to fund infrastructure in segments, while funding infrastructure in existing urban areas at once can be challenging for the multiple developers typically found in an existing urban area.

• **Funding sources for infrastructure are not interchangeable.** Examination of federal, state and local funding sources in this memo reveals that funding sources for infrastructure are often tied to a specific location or development and cannot be used interchangeably. Federal or state funding, in the form of loans or grants, is often authorized for a specific project that meets particular criteria. Local funding sources like urban renewal and local improvement districts can only be used in the areas in which they are levied. System development charges and transportation impact fees are used for a narrowly defined list of projects that is often predetermined through capital improvement plans or transportation plans. For example, taxes and fees raised with a specific purpose, such as Washington County's transportation

² This phenomenon is exemplified in the examples section of this memo, which focuses on North Bethany, South Hillsboro and Pleasant Valley.

³ In 2008, Metro convened infrastructure providers and local jurisdictions across the region to conduct an analysis on the region's infrastructure needs over a 30-year period.

development tax, can only be used to pay for transportation projects. Furthermore, local funding sources are constrained by geography, as a funding source raised in one area cannot be used to fund infrastructure in another. Washington County's Major Streets Improvement Program (MSTIP), approved by Washington County voters, cannot be used outside of Washington County. The examples of funding sources used in developments across the region highlight this fact that funding is often tied to a specific location.

BACKGROUND

Overview

Public investments like transportation and parks help shape the built environment and attract private investments in residential, commercial and industrial development. Private investment in existing urban areas utilizes the zoned capacity within the urban growth boundary to accommodate population and employment growth. As such, public investments in infrastructure are needed to spur private investment activity necessary to accommodate population and employment growth within the urban growth boundary. A 2009 advisory group on development in the region's centers and corridors⁴ noted that, "the current level of public investment in compact urban development is not sufficient to address escalating costs of development" (Portland Metropolitan Studies, 2009).

Metro's capacity analysis using Metroscope modeling and market-based pro-forma tools has illustrated the impact of various newly-adopted public infrastructure investments (i.e. light rail) on increasing market capacity to accommodate additional development inside the existing urban growth boundary. However, even accounting for multiple targeted infrastructure investments in existing urban areas, the market is not expected to use 100 percent of zoned capacity within the existing urban growth boundary. As a result, the Metro Council might need to consider strategic urban growth boundary expansions as part of the overall strategy to accommodate projected growth for the upcoming 20-year period.

It is proven that infrastructure investments (like light rail) in focused locations can spur the private investments necessary to accommodate population and employment growth. However, there is limited funding available to support these investments. In that context, one of the factors determining where development can accommodate growth is where funding mechanisms are or will be available to deliver the infrastructure and services that support development.

Historically, infrastructure investments in new urban areas have been funded in a relatively straightforward manner with public sources such as property taxes and federal investments in highway and water infrastructure. Redevelopment in existing urban areas, which often involves reuse of brownfield sites or adding housing and employment to existing areas, represents a different model than development in new areas, and doesn't necessarily have the same funding options. In comparison to funding for new urban areas, these complexities can make it challenging to utilize various local and state funding sources to support infrastructure in existing urban areas.

⁴ In the summer of 2009, a group of private finance and development experts were convened by Institute of Metropolitan Studies on Metro's behalf to discuss challenges to developing in centers and corridors. This finding came out of their conversation about the various challenges to compact urban development.

Private capital has also historically preferred financing development in new areas (i.e. more traditional single family housing or low density employment areas) compared to more compact urban development. Despite the fact that recent demographic, economic and environmental trends are favoring compact development in existing urban areas, redevelopment can be perceived to be a higher investment risk for capital investors (Portland Metropolitan Studies, 2009). The more traditional types of development, typically built for one owner/tenant, are seen as well known investment models with less complexity and therefore, fewer early financing requirements to minimize risk. On the other hand, sites with multi-lease or sale requirements typical of compact development, are required by investors to sell or lease a high percentage of the units very early on in the process to get funding from the banks. For example, a 2005 white paper on infill barriers notes that, "because infill and redevelopment projects are often concerned with providing amenities such as transit and pedestrian orientation, access to retail and employment opportunities and green space and residential dwelling units located above commercial development, the capital lending markets consider such projects as risky." (Infill Development: Barriers and Incentives, 2005) This makes private financing sources more expensive than the standardized capital available in new urban areas (Infill Development: Barriers and Incentives, 2005).

While the paradigm is beginning to shift as a result of many successful urban developments across the region, this perception remains. In addition, the recent financial crisis has increased the standard for banks to invest in projects, which makes it less likely to get private capital funding for non-traditional development types (Portland Metropolitan Studies, 2009).

Infrastructure Costs

In 2008, Metro convened infrastructure providers and local jurisdictions across the region to conduct an analysis of the region's infrastructure needs over a 30-year period. The resulting report, the 2008 Regional Infrastructure Analysis, divides infrastructure costs into three categories:

- Local—demand related to specific dwelling units
- **Community**—off-site infrastructure attributed to specific dwelling units
- **Regional**—infrastructure that benefits the entire region, though it is difficult to establish a nexus between the need and individual use.

Local and community infrastructure needs are typically addressed by a variety of local funding sources such developer contributions, system development charges and urban renewal. Regional infrastructure needs, are by definition not directly connected to individual use, and are therefore, not typically funded by local sources that are levied on individual development. Regional infrastructure, such as major arterials and bridges, regional water and sewer facilities and transit, are often funded by federal and state formula funding, grants and loans. This memo focuses primarily on local funding sources that are levied on development and used to pay for infrastructure that supports development. However, this memo provides some context on federal and state funding sources.

STATE AND FEDERAL FUNDING SOURCES

Federal Funding Sources

Federal funding sources for infrastructure, which typically fund large highway, water, transit and community development projects, have declined over the last 30 years. The Oregon Task Force in Land Use Planning report notes that, "in the 1970s, federal grants financed 75 percent of water and wastewater project costs and 80 percent of transportation projects. In the 1980s, Congress reduced these grants...and by the 1990s, federal funding sources were further reduced and converted from grants to loans (Oregon Task Force, 2009)." There are a variety of federal programs such as Community Development Block Grants and transportation funding through the Transportation Authorization Bill (SAFETEA-LU)⁵ that allocate federal dollars to metropolitan regions, cities and counties based on a formula by population. However, these programs are unable to keep up with the growing needs and inflation across the country. For example, it is projected to cost \$250 billion annually over the next 50 years to support "good" infrastructure and the U.S. currently spends about 40 percent of that amount each year (Metro, Regional Infrastructure Analysis, 2008).

State Funding Sources

State funding for infrastructure is provided through road taxes (i.e., state gas taxes, vehicle registration fees, and weight-mile taxes), bond measures, user fees and state lottery dollars. Oregon's gas tax has experienced a decrease in purchasing power relative to the costs for maintaining and building roads, sidewalks, transit systems. In addition, other infrastructure finance tools available to state government have not kept pace with the rate of inflation (Oregon Task Force, 2009).

The state of Oregon employs a set of loan and grant programs funded by these various sources to offset the cost of large infrastructure projects. These programs focus funding on state highways and other transportation projects, clean drinking water, brownfields, Port projects and other special public works projects. Typically state monies are distributed through Business Oregon, the State's Economic Development clearinghouse, or Oregon Department of Transportation, which establish specific criteria to prioritize certain projects.

• Infrastructure Finance Authority: The Infrastructure Finance Authority (IFA) was created to ensure that the state's infrastructure needs, namely those around safe drinking water and wastewater systems, are better identified and prioritized to most efficiently use the state's limited resources. The Infrastructure Finance Authority coordinates state funded loans or grants according to state priorities and criteria attached to certain federal funding streams that support the projects such as Community Development Block Grants (CDBG). The IFA assists communities to build infrastructure capacity that addresses public health safety and compliance issues as well as support their ability to attract, retain and expand businesses. The

⁵ The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law in 2005 and provides guaranteed funding for highways, highway safety, and public transportation totaling \$244.1 billion.

IFA also works with municipalities, state agencies and property owners to prepare industrial land for certification.

The fund provides loans for wastewater and safe drinking water investments, community development investments and special works projects such as airport facilities, restoration of publically owned industrial lands, telecommunications facilities, railroads, roadways and bridges and others. The criteria by which infrastructure projects are funded by the state particularly through the Infrastructure Finance Authority vary depending on the federal source of the money. The Safe Drinking Water program's priorities are set by the Health Division and by compliance related issues. The CDBG program's priorities are listed in the Method of Distribution and approved by the U.S. Department of Housing and Urban Development (HUD). The IFA relies on local communities to identify their priorities, and then evaluates the requests through the state's perspective of what's important. According to utility providers, the IFA loans represent such a small percentage of the costs of serving growth in both new and existing urban areas.⁶ In addition, the majority of the projects funded in one quarter of 2009 reflected a diverse focus on wastewater, manufacturing projects, community development projects and forest and wood projects (Business Oregon News Room, 2009).

- **Strategic Investment Program:** The Strategic Investment Program is a state economic development initiative that exempts a portion of large capital investments from property taxes for businesses that qualify. The program is available statewide for projects developed by businesses that often require expensive and expansive infrastructure investments, which commonly means manufacturing firms. Once the state enters into a deal with the company under the provisions of the Strategic Investment Program, the program allows for the assessed value of large industrial facilities to be capped at \$100 million (with annual increases of three percent). Instead of property taxes, companies pay a community service fee to local governments equal to either 25 percent of the abated property tax savings or \$500,000 annually, whichever is greater, up to two million dollars. This program has been instrumental in facilitating the investment and development of Intel in Ronler Acres and Genentech by Shute Road in Hillsboro among other projects. Since this program is designed to attract large and expansive capital investments, it is typically applied to developments on the edges of the region in less developed urban areas and isn't often utilized by companies locating in dense existing urban areas.
- **Funding for Brownfield Assessment and Cleanup:** There is much interest in the region in developing more brownfield sites in existing urban areas to accommodate employment and population growth; however, the funding sources that exist aren't robust enough to address redevelopment needs. As the Port of Portland's comparison of Brownfield and Greenfield development costs concludes that "there is a public value to developing brownfield sites, but there is little to no public money available to do so" (Mackenzie, 2005).

The state created a brownfield redevelopment fund in 1997 that was re-capitalized in 2006 with nine million dollars to fund cleanup efforts across the state. The primary purpose of this fund is to assist local governments, non-profit organizations and private interests to evaluate

⁶ Meeting of select water providers from around the region at Metro, July 28th, 2010

and clean-up contaminated sites for redevelopment (Financial Tools for Brownfield and Infill Redevelopment, 2009). Also, the State runs the Oregon Coalition Brownfields Cleanup Fund (BCF), a brownfields cleanup ongoing loan program, which is capitalized at \$2 million. Funds for this program come from the Environmental Protection Agency.

LOCAL FUNDING SOURCES

The following funding sources available to local jurisdictions are strongly connected to specific developments. As such, they are levied on new development and help fund infrastructure to support new development. However, each jurisdiction is responsible for deciding how to utilize these funding sources and how heavily to rely on them. Each funding source described below is subject to specific limitations, which constrain its ability to support needed infrastructure in both new and existing urban areas.

Developer Contributions

The level of developer contributions utilized for a development depends on the particular infrastructure needed to make the land ready for development and are subject to an agreement between a jurisdiction and developers.⁷ Developers typically are responsible for investing in onsite or off-site improvements that make the land ready for development. On-site improvements are internal to the development and off-site costs are improvements directly connected to the project. In new urban areas, the few developers who are responsible for contributing to the infrastructure needed to support the development will often realize the economic benefit of making investments in public infrastructure. On the other hand, the multiple property owners in existing urban areas who are responsible for contributing fees to support improvements probably won't realize the economic benefits in the same way.

For development in new urban areas, this involves creating a master plan, clearing and preparing a site, building internal roads, installing utilities, creating parks and open spaces, protecting environmentally sensitive areas, and building any other required elements for place-making. Internal collector streets and other improvements that provide district-level access can also be funded by the developer such as a new intersection or road that would primarily serve a project (Leland Consulting, 2008). For redevelopment in urban areas, this could involve cleaning up a brownfield site (which can be both publicly and privately funded), providing on-site amenities such as a plaza and, depending on the size and location of the site, paying for access and internal circulation within the site. These costs are incurred by the private developer without public funding assistance, though they can sometimes be traded for system development charge credits.

System Development Charges

Under Oregon Revised Statutes, System Development Charges (SDC) are subject to limitations on how they can be assessed and what capital projects they can fund. In addition, jurisdictions make policy decisions about how to assess SDCs on different types of development and what portion of

⁷ This phenomenon is exemplified in the examples section of this memo, which focuses on North Bethany, South Hillsboro and Pleasant Valley.

the full cost of growth SDCs should charge. As a result, these considerations seriously impact the capacity of SDCs to fund infrastructure in both new and existing urban areas.

System Development Charges are fees levied on new development to finance improvements and services required to accommodate the development that are larger than just on-site improvements. Services funded by system development charges include transportation, water, sewer, stormwater and parks. Jurisdictions can charge two types of SDCs:

- Improvement—charges to fund new infrastructure to serve new development
- **Reimbursement**—charges to fund existing capacity in a system that will be used to serve new development. Oregon law mandates that SDCs can only be used for five infrastructure types: water, sewer, parks, stormwater and transportation. In addition, Oregon law requires that improvement SDCs be based on "a capital improvement plan, public facilities plan, master plan or comparable plan that includes a list of the capital improvements that may be funded with improvement fee revenues and the estimated cost and timing for each improvement."

There is flexibility in Oregon law as to whether SDCs assessed may include a reimbursement fee, an improvement fee, or a combination of the two. However, jurisdictions can only use system development charges for certain types of infrastructure and only for capital projects, not maintenance. In new urban areas, SDCs are typically used for needed basic infrastructure such as roads, parks and creation or increase of water and sewer capacity. To a point, infill development in existing urban areas, which increases the density of residential and commercial development served, can often leverage existing infrastructure services already in place through a hookup or access to existing services. This can take less of a toll on infrastructure services than development on the edge of urban areas. In addition to these technical considerations around SDCs, each jurisdiction decides how to assess SDCs on different types of development, how to use SDCs as incentives and what percent of the cost of infrastructure to charge is a policy matter.

Historically, SDCs have been assessed uniformly across service areas based on system-wide average costs and many jurisdictions in Oregon currently charge a uniform SDC rate for single family and multi housing developments, which can often have different impacts on the system. In order to reflect these differential impacts, a few jurisdictions including Portland, Beaverton, Oregon City and others assess differential SDC rates for transportation and parks based on development impacts. As a result, multi-family and more compact development in existing urban areas is charged less than detached single family houses in new areas, which provides incentives to build more compact development and assess fees that are more reflective of actual costs (Galardi, 2007).

Recently, however, more jurisdictions are revising their SDCs to more realistically reflect the differences in costs between development and redevelopment and the impacts of location on service costs. Gresham's parks, stormwater and transportation SDCs in the new urban areas of Pleasant Valley and Springwater reflect the higher costs required to extend and construct facilities in those areas. A survey undertaken by the City of Portland in 2007 reveals that transportation system development charges assessed by Gresham for the Springwater area were a region-high of \$6,416 per residence (Economic Analysis for 2007 Update of Portland's Transportation System Development Charge). These SDCs are intended to support the high costs of serving the area

including a ramp to U.S. 26 priced at around \$29 million and water, sewer, and stormwater systems that cost \$40 million to \$50 million (Mayer, 2009).

On the other hand, some jurisdictions use reduced or waived SDCs as an incentive to encourage compact development. For example, the City of Portland offers substantial reductions (by 30-60 percent) in the transportation system development charge for developments in the Central City located on or near a frequent service bus, streetcar, or light rail line or other projects that either meet minimum density requirements or are located in a commercial zone where no parking is required, no on-site parking is provided, and there are no drive-through facilities. In 2010, the Portland Bureau of Transportation also created two overlay zones where transportation SDCs can be added to the citywide SDC fee. The fees helped pay for the Portland-to-Milwaukie light rail project (Bjork, 2010).

In addition, no jurisdiction in the region charges SDCs that re-coup the full costs of providing services (Galardi, 2007). Instead, most cities and service districts charge about 30 to 50 percent of costs through SDCs (1000 Friends). Cities and counties are not legally prohibited from charging SDCs that re-coup the full service costs, but cities and counties usually charge less than full SDCs for many political and economic reasons.

This is underscored by the fact that each jurisdiction requires different levels of on and off-site improvements for infill development. As part of the development of Metro's 2008 Regional Infrastructure Analysis⁸, a survey of over 8,600 residential building permits issued in recent years was conducted in selected jurisdictions in an effort to understand the on- and off-site improvements required for each type of development. The results of this survey, however, did not provide clear and consistent data from which to draw conclusions, due to differences in local jurisdiction's definitions of "infill/minor partitions" and "subdivisions/PUDs", and policies on when off-site infrastructure improvements are required. This highlights the significant variations in policies at the local level on charging developments for improvements to infill development sites. As such, reducing SDCs or charging differential SDCs is a policy decision for each jurisdiction and can be a significant barrier or incentive for different types of development.

Transportation Impact Fee/Transportation Development Tax

In addition to city-wide system development charges, both Clackamas and Washington counties charge Transportation impact fees/transportation development taxes and county-wide system development charges. Similar to SDCs, transportation impact fees are assessed on development to pay for growth and are used to fund specific projects identified in transportation plans (Washington). Clackamas County administers Transportation System Development Charges (TSDC), one-time fees for new or expanded developments in unincorporated Clackamas County. The fee, based on the number of vehicle trips a particular type of development generates, is

⁸ As part of the work to develop the 2008 Regional Infrastructure Analysis, Metro hired consultants to study the infrastructure costs in different areas across the region and develop a report called *Comparative Infrastructure Costs: Local Case Studies, 2009*.

intended to cover the cost of transportation facilities needed to serve the new or expanded development and the people who will occupy or use the development.

Prior to 2008, Washington County's transportation impact fee was assessed uniformly on development regardless of whether it was located within cities, unincorporated urban or rural areas. However, in 2008 Washington County voters approved a Transportation Development Tax (TDT) to replace the transportation SDC. The Transportation Development Tax (TDT), a countywide tax applied to all new developments to pay for the transportation infrastructure needed throughout the county to accommodate growth, doubled the charge that developers pay for the impacts on the transportation system. The TDT was projected to bring in enough revenue to construct about 28 percent of the transportation infrastructure in the cities and county's 20-year transportation plans. Eligible projects are on major roads, including sidewalks and bike lanes, as well as transit capital projects like bus shelters.

Urban renewal

Urban renewal can be an especially effective and robust tool for funding infrastructure needed for development. In addition to Portland's aggressive urban renewal portfolio, cities across the region have used urban renewal to varying degrees and have experienced relative success with urban renewal districts in downtowns and employment areas. While typically in this region, urban renewal has been used primarily to fund development in existing urban areas, the requirements of urban renewal allow it to be used for both new and existing urban areas.

However there are some limitations on how urban renewal districts can be established and utilized. In order to establish an urban renewal district, a city must identify a blighted area that needs serious investment. Definitions of "blighted" include an area that lacks necessary infrastructure or has dilapidated infrastructure. However, there are political considerations associated with determining areas as "blighted" that can make it challenging for governments to establish urban renewal districts. In 2007, Washington County considered using it to pay for major infrastructure improvements in the North Bethany area, but faced opposition regarding determining the area as "Blighted" (Pitz, 2007).

In Oregon, jurisdictions with a population of 50,000 or higher can only put 15 percent of their total land or assessed value in urban renewal. For jurisdictions with a population of less than 50,000, this cap is at 25 percent. Roughly half the jurisdictions in the region have established urban renewal districts (including Hillsboro and soon to be, Beaverton⁹). Portland has almost reached their limit of 15 percent land area and assessed value in urban renewal. As a result of this law, there is a limit on how broadly urban renewal can be used in one jurisdiction and therefore, how much infrastructure it can fund.

In addition, urban renewal has been and continues to be a politically sensitive issue. Voters must approve an urban renewal district in their jurisdiction and over the years voters have rejected

⁹ In 2008, the City of Beaverton's voters approved a city charter amendment that makes urban renewal available as a tool for the city to use, subject to voter approval. Although an urban renewal program is not yet adopted, it is expected that an urban renewal plan will be on the ballot in Beaverton in November 2010.

several attempts to establish urban renewal districts. Recently, Tualatin voters rejected an extension of an urban renewal district last year (Frank, 2010). Since urban renewal freezes the existing tax base and uses property tax increment for specific projects in the district, other special districts and taxing authorities may oppose urban renewal districts. The special districts working with the 2009 Legislature passed house bill 3056 which impacts the process for determining maximum indebtedness for a new URA and affects how much financial capacity an urban renewal district will have. House bill 3056 also imposes a cap on the value of tax increment revenue that could be collected by an urban renewal area in a given year with the difference being released back to the other taxing districts (EcoNorthwest, A Primer on Urban Renewal Legislation and House Bill 3056, 2009). In essence, this limits financial capability and revenue generation potential for urban renewal, which dilutes its ability to fund infrastructure for new and existing development.

Recently, Portland has received criticism for attempting to inject more flexibility into the utilization of urban renewal revenue by extending the life and geographic boundaries of successful urban renewal districts to pay for needed infrastructure in adjacent areas. The Portland City Council proposed expanding the River District boundaries into Old Town and Chinatown, other downtown pockets and projects in the David Douglas School District. This expansion was intended to pay for a variety of needed infrastructure projects including investments in a post office complex in Northwest Portland, a service center for the homeless in Old Town, downtown's low-income housing stock, Multnomah County offices and a new school for David Douglas. However, this proposal was met with much political and citizen opposition and resulted in a lawsuit (Haberman, 2009).

Street Utility Fees

Street utility fees, which are sometimes called transportation utility fees, are monthly fees collected from residents and businesses based on their impact on the transportation system. Residential and commercial impacts on the transportation system are calculated according to number of trips a specific land use generates. Street utility fees, which are found across the region, are used exclusively for rehabilitation and maintenance of city streets and revenues cannot be used to fund capital projects to expand the transportation system. This provision makes them ineligible to be considered as useful tool to fund capital infrastructure needed to support development throughout the region.

Local Improvement Districts/Business Improvement Districts

A Local Improvement District (LID) is a method by which a discrete group of property owners can share in the cost of infrastructure improvements such as installing water and sanitary sewer lines or transportation improvements. A Business Improvement District applies the same concept to businesses in a given area. By law, LIDs can only be utilized by cities in the region. Most LIDs involve improving a street, building sidewalks, and installing a stormwater management system and are financed by special assessments on property taxes. In addition, special assessments are used to finance reconstruction of deteriorated, substandard, or outmoded facilities, both in older developed areas and in areas newly annexed to a city. What makes LIDs unique is that the costs of the infrastructure improvement are levied on the property owners who directly benefit from the improvement and costs are apportioned according to the estimated benefit that will accrue to each property.

According to Legislation behind LIDs, local governments can use special assessments for LIDs based on three main factors of benefit. These principles include direct service that benefits a property (i.e. a road providing access), obligation to others (i.e. investing in infrastructure that allows for property to be developed without harming adjacent sites and equal sharing, which means that since each property owner benefits from a sidewalk, they are each responsible for it (Basics about Local Improvement Districts).

Local Improvement Districts require a majority vote of the people who would be taxed, which can limit their success of passing and subsequently funding infrastructure needs. In addition, special assessments can only be levied on the on the property owners that directly benefit from the improvement, which limits the type of improvement that can be financed through this method to ones that can be easily attributed to measureable benefits on the property values of select nearby properties.

County Service District

Though LIDs are unavailable to counties, state statute enables counties to establish Special Districts, which operate similarly to a LID. Special District Funds generated can be used for construction or operation of capital facilities. A district's assessments can be based on property value, in which case, as a property tax, it is subject to the tax limits associated with Measure 50/47. This funding mechanism was discussed as a possibility for North Bethany, with a focus on alternative assessment formulas based on factors such as land area, trip generation or proximity to facilities (Hovee, 2008). Since these mechanisms have been rarely used, the political and legal feasibility of these options has not been frequently tested.

EXAMPLES: NEW URBAN AREAS

The following examples of the sources utilized to fund development-supportive infrastructure in a set of new and existing urban areas illustrates the different funding challenges and opportunities for each community. In addition, these examples highlight how various funding sources can be developed and applied specifically to a district like a system development charge overlay, but not necessarily to the larger community.

North Bethany, Washington County Funding Sources Proposed to Finance \$69 million for Transportation (Schmidt, 2010)

- \$11 million to be raised by establishing community service district in 2011 from MSTIP funds
- \$10 million over a 20-year period from a transportation fund collected by countywide property taxes



- 75 percent of North Bethany transportation development taxes to generate \$24 million
- Supplemental development fee of over \$6000 for a single family home in the area to raise \$23 million
- \$1.5 million from fund that developers were required to pay into when developing properties around Springville Road (Bjork, 2010).

North Bethany is a newly urbanizing area in Washington County that was brought into the urban growth boundary in 2002. The area is planned primarily as a residential community with adjacent commercial and institutional uses. Major infrastructure investment costs have complicated development in this area and Washington County has worked over the years to identify appropriate and robust funding sources to facilitate the development of this area. Under the current market at the time, land prices were exceptionally high and developers paid top dollar for land under the assumption that the traditional funding arrangement for infrastructure would apply (http://friendsofrockcreek.net/_pdf/KenT_NorthBethany_Presentation_20090513.pdf). This limited their ability and willingness to pay for the huge infrastructure costs needed to make the area ready for development (Gorman, 2007).

Since there were few existing facilities in the area when it was brought into the UGB, there's a wide gap between actual costs and conventional revenue resources. As identified in the North Bethany Concept Plan, the infrastructure necessary for the development of North Bethany is estimated to cost \$520 - \$540 million in 2007 dollars with transportation needs in the area currently comprising 40 percent of all estimated infrastructure needs (EcoNorthwest, 2009). This underscores the challenge posed by the fact that current charges levied against new development are insufficient to fund the creation of an entire transportation needs created by North Bethany development could equal \$289 million, but now the project list has been narrowed to \$103 million (Schmidt, 2010).

In previous years, the County has considered the creation of an urban renewal area, a designation that elicited concern from several special tax districts about taking away revenue for service to the area (Pitz, 2007). Currently, the Washington County Commission is focusing on a mix of financing and funding strategies including the creation of a tax district, utilizing county transportation money and increased development fees passed on to homeowners. This mix of strategies would generate \$69 million to pay for 12 projects including the construction of a major new road in North Bethany and improvements to Northwest Springville and Kaiser Roads (Schmidt, 2010). Since most of the infrastructure costs are needed up front before development can occur, the County will probably have to bond against future revenue streams—either from SDCs charged to developers or from future new taxes charged to Washington County residents.

South Hillsboro Funding Sources Proposed to Finance \$235 million for transportation

• Private developers will pay \$164 million to fund local neighborhood streets, collector roads and part of Cornelius



Pass Road and will re-coup some of these costs through an area-specific impact fee assessed to all new development in the area (Leland Consulting, 2008).

• Hillsboro will finance the remaining \$39 million with the proposed South Hillsboro Enhanced Traffic Impact Fee that could produce as much as \$32.5 million to help fund public improvements.

South Hillsboro is a new urban area that includes land inside and outside the urban growth boundary and is being planned for primarily residential and retail and office uses. The South Hillsboro Community Plan identifies almost \$300 million in total infrastructure needs including \$203 million of major transportation costs and over \$50 million in parks costs needed to implement the full build-out of the 1,566-acre plan area (Hovee, 2008).

While existing connection fees and system development charges are expected to generate sufficient revenues to finance public sewer, water and stormwater infrastructure in the South Hillsboro planning area, additional sources of funding will be required to fully finance public transportation and parks infrastructure. Current developers have agreed to invest in local streets and roads, but they will be reimbursed in part by an area specific impact fee, separate from the County transportation impact fee. This will ensure that all South Hillsboro developers share the cost of providing district-level improvements. The city is planning to finance the rest through the South Hillsboro Enhanced Traffic Impact Fee.

2007 Pleasant Valley Agreement—Funding Sources Proposed to Finance \$30 million for Infrastructure

• The three major developers that owned about 120 acres in Pleasant Valley agreed to pay \$14 million upfront for new infrastructure including wastewater and water lines, improving transportation and creating parks. The developers will be later reimbursed through credits for System Development Charge



City of Gresham website, <u>http://greshamoregon.gov</u>

• The City of Gresham will pay nearly \$16 million for wastewater improvements—with money budgeted from capital improvement plans and loans.10

Pleasant Valley, a 1,400-acre parcel between Gresham and Happy Valley that was brought into the urban growth boundary in 1998, is planned as a residential community with a town center and employment zones. The land, which is split between the cities of Portland and Gresham, lacked the infrastructure required for development to occur, especially urban roads, water and wastewater systems. The Pleasant Valley Plan District calculates the 30-year costs of infrastructure needed in the area as around \$450 million (Gresham, 2005).

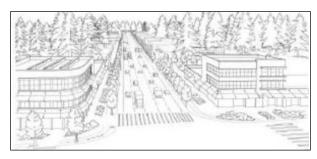
¹⁰ Mara Stine, Gresham Outlook, Development begins in Pleasant Valley, July 2007

In 2007, city officials worked out a deal with a handful of developers to finance development for phase one, which spans 280 acres and will generate more than 1,200 homes and 6 acres of retail space. According to the agreement, the three major developers that owned about 120 acres in Pleasant Valley – agreed to pay \$14 million upfront for new infrastructure, including a wastewater line, extending two major water lines and a stormwater management system, removing an unsafe curve from 190th Avenue and making it a two-way road, creating two parks and building environmentally sensitive green streets that better manage stormwater. Gresham planned to later reimburse the developers through credits for System Development Charges (Stine, 2007).

The amount charged to developers was around \$25,000 per lot, a majority of which would be paid back over time as a credit for each home they built (Redden, 2009). The agreement, which was finalized in July 2007, fell apart when the housing market crashed and the developers went out of business. Due the downturn in the housing market and the subsequent deterioration of the agreement for funding infrastructure, Pleasant Valley development has slowed. As of 2009, Gresham has completed the sewer improvements for Phase I of the development of Pleasant Valley, making around 120 acres of land ready for development.

Coffee Creek, Wilsonville Potential Funding Sources for Infrastructure

- Developers will pay for local streets and utility connections
- A mix of public and private funding and financing will be used for on- and off-site improvements.



Drawing taken from the Coffee Creek Master Plan

The Coffee Creek area in Wilsonville is a newly urbanizing area that is being planned as an employment area and is designated as a Regionally Significant Industrial Area. According to the Coffee Creek Master Plan, major public infrastructure items including roads, trails, water, sewer, and storm water facilities are estimated to cost approximately \$7.6 million over the initial five years. Additional capital costs are expected to require another \$26.6 million for on-site public facility investments (excluding local streets, which are assumed to be paid and constructed by private developer(s). The Master Plan also recommended \$16.7 million in road costs and the \$4 million rail road crossing improvement in Coffee Creek (Otak, 2007).

According to the area's Master Plan, developers will be responsible for providing local streets and utility connections to trunk line systems. However, to maintain flexibility, the plan focuses primarily on collector and arterial roadway improvements, and water and sewer trunk lines and does not identify specific locations for local connections.

EXAMPLES: EXISTING URBAN AREAS

The following case studies highlight the challenges and opportunities of accessing funding for infrastructure improvements in existing urban areas. There are many areas within the urban

boundary that lack basic infrastructure like sidewalks. With highly fragmented land ownership, funding infrastructure in these areas often involves multiple property owners each concerned with only a small portion of the cost. On the other hand, when areas like Orenco Station are developed as a single large greenfield site by one company, it can be easier to facilitate and fund infrastructure improvements. Where property ownership is more dispersed and existing buildings are scattered across the terrain, it's extremely difficult to make changes to an area.

East Portland—Available Funding Sources

- System Development Charges
- Lents Urban Renewal District—\$245,000,000 in maximum indebtedness (Annual Urban Renewal Report Covering Fiscal Years 2008-2009 and 2009-2010)



Assurety NW Headquarters in the Lents Town Center, from PDC's website, http://www.pdc.us/ura/lents.asp

The East Portland area, east of 82nd Avenue, encompasses many neighborhoods including Lents and Hazelwood and was annexed into the City around 20 years ago. As such, this area has never enjoyed the investments in infrastructure—sidewalks and other transportation in particular—that have been built in inner Portland neighborhoods and throughout the region. As the area has experienced tremendous growth, it is lagging behind in streets, parks, schools, community centers and other improvements necessary to accommodate the additional people (Redden, East Portland Already Feels Growing Pains, 2007). As East Portland continues to urbanize and experience high rates of infill on large lots, this lack of infrastructure is becoming a more significant issue. In addition, projects in East Portland received less than 10 percent of citywide federal stimulus money (Mirk, 2010).

New development in this area incrementally improves streets and sidewalks, but the network is incomplete, and facilities are overly burdened. This type of infill development contributes in a piecemeal fashion to the completion and improvement of the street network, including sidewalks. In some cases, improvements are required for the developing property, but the improvement may be isolated in a larger area that lacks full improvements, which can act as a barrier to development activity. Developers must cover the cost of their street improvements, but lack assurance that adjacent properties will make similar improvements in a timely manner. In addition, while costs and risks of investing in infrastructure are high, each property owner won't necessarily realize the economic benefits of making the investments and in fact, could experience negative pricing effects of the lack of infrastructure.

The public funding tools available to fund infrastructure improvements in East Portland include urban renewal in Lents, system development charges, and portions of the city's general fund. The Lents urban renewal district, which was established in 1998, covers over 2800 acres, has a maximum indebtedness of \$245 million. The last date to issue debt is June 2020. As of June 30, 2009 \$58.5 million of maximum indebtedness had been issued. The district is earning about seven to eight million in property tax income, but in order to get maximum revenue out of the district, more investments need to be made that increase the increment generated. Finally, since there are so many property owners in the district, the City can't develop an agreement with developers to pay for infrastructure improvements.

Gateway—Available Funding Sources

- System Development Charges
- Gateway Urban Renewal District—\$164 million in maximum indebtedness (Annual Urban Renewal Report Covering Fiscal Years 2008-2009 and 2009-2010)



The Russellville Commons Transit Oriented Development Project in Gateway Regional Center

Gateway is another area within the Portland boundaries that needs significant infrastructure improvement, especially in the transportation realm, but lacks the cohesive comprehensive strategy to achieve it. Despite its central location and access to major transportation nodes, Gateway has struggled to develop a cohesive sense of place. The street grid in Gateway is bigger and the intersections fewer than in other neighborhoods in Portland, which makes creating a pedestrian-oriented environment more challenging and expensive. Paying for a new, dense street network would financially burden property owners in the area

Even so, developers foot the cost of many infrastructure additions, which increase the cost to build, translating into either smaller units or higher prices (Ryan, 2007). And in Gateway, where market rate units are priced under \$200,000 is key, costs for these improvements are more than the property owners or developers can pay and are not justified by the revenue generated by the redevelopment projects (Ryan, 2007). According to a developer in the area, other challenges include land assembly, which the City has since examined as part of the Gateway redevelopment strategy, and creating street access to large parcels (Ryan, 2007).

The Gateway Urban Renewal District was established in 2001 and is capable of financing up to \$164 million for public improvements over 20 years. However, lack of development limits the revenue generated by the district. The district comprises 659 acres, with a maximum indebtedness of \$164.2 million of which \$21.0 million has been issued through 2009. In 2007, a super local improvement district (LID) was considered as part of the Central Gateway Redevelopment Plan to defer infrastructure costs of new projects as well. Currently, PDC is considering expanding the Gateway boundary along a corridor bounded by Northeast Halsey and Southeast Stark streets from 106th to 122nd avenues to place more commercially developable property in the district (Perlman, 2010).

South Waterfront District, Portland 2003 Development Agreement

- In total developers invested a total of \$1.6 billion in up front capital and took on payment obligations to service debt on increased TIF (Curl, 2003).
- OHSU paid \$17 million for the tram (City Council approves third amendment to South Waterfront Development agreement, 2003)



- PDC paid \$274 million with funding from urban renewal and advance borrowing on projected tax increment for fiscal year 2008/2009 (Hovee, 2003).
- The balance of public funding came from local improvement districts; Portland Department of Transportation system development charges; and other federal, state and regional dollars.

2010 North Macadam Transportation System Development Charge

• In 2010, the North Macadam Transportation System Development Charge Overlay was adopted to raise about \$22.5 million over 20 years to pay for needed transportation infrastructure and to be used as match for state and federal projects.

South Waterfront is an existing urban area that is being redeveloped from an industrial area into a residential and employment hub for Oregon Health Sciences University (OHSU). The total projected cost of the infrastructure needed to serve development in the area was around \$1.9 billion. Though the area was designated as an urban renewal district in 1999, in 2003 the City of Portland signed an agreement with private developers and OHSU to fund the infrastructure needed to redevelop the area. The three principal parties developed and signed a development agreement in 2003 that explicitly outlined funding responsibilities and strategies, which was ultimately feasible because the small number of interests and landowners involved—the City, OHSU and North Macadam Investors. The agreement, which formalized obligations for redevelopment of a 31-acre property in the center of the South Waterfront District, called for public investment in streets and in exchange for the developer's providing land for green space, affordable housing and require construction to attain the highest in environmentally sustainable standards (Curl, 2003).

In 2008, the city of Portland proposed a transportation overlay district, the North Macadam Transportation System Development Charge Overlay District as part of a North Macadam development strategy of \$194 million (North Macadam Transportation System Development Charge Overlay Presentation, 2009). The SDC overlay district, which was adopted in 2010, will help address existing transportation needs in the area (Redden, Road Fees May Leap, 2009). The neighborhood, which was built in a former industrial zone with few existing streets, face transportation challenges as a result of regional and local growth in an already constrained transportation system. In addition, part of the promise of this densely planned area is to provide residents and workers with a variety of transportation options, including pedestrian and bicycle paths, a Portland streetcar link and a MAX light-rail line crossing the river. Paying for the improvements is proving difficult, however, in part because of city policies governing transportation system development charges. To address this, a transportation system development charge overlay is estimated to raise \$22.5 million toward the transportation projects (Moore, 2009). In 2008, this fund was used to fund \$10 million portion of local match to Portland Milwaukie Light Rail project.

Redevelopment of Reynolds Aluminum Brownfield Site, Troutdale Funding Sources—\$36 million

- ODOT grant—\$1 million
- ODOT funding—\$24 million
- State loans—\$11.7 million (Parker, 2010)



The 350 acre Troutdale Industrial Park has been redeveloped by the Port of Portland and the City of Troutdale from an EPA Superfund site into a thriving industrial area home to FedEx offices. The Port of Portland purchased 700 acres of the site for \$17 million and made over \$30 million in infrastructure improvements for utilities and internal streets and transportation access.

The Port utilized a variety of public funding sources to pay for the cleanup and infrastructure required to make the site shovel ready. Specifically, the Port received a \$100,000 grant from Oregon Department of Parks and Recreation for the Reynolds Trail and \$1 million grant from ODOT Immediate Opportunity Funds for transportation improvements. The Port also received \$24 million from ODOT for improvements at interchange at I-84 and \$11.7 million from the state in loans including \$3 million from Port Revolving Fund and \$8.7 million from Special Public Works Fund (Parker, 2010).

CONCLUSION

Numerous local and regional reports over the past few years have highlighted the expense and challenge to fund infrastructure no matter where it is located. In addition, the funding sources for infrastructure at the federal and state level are decreasing and local funding sources are constrained by state law. For local sources, there are a variety of considerations that impact whether adequate funding sources will be available to support needed infrastructure including the location of the development, the number of developers involved and their willingness to invest up front capital, the political will of the jurisdiction and the fragmentation of the land in question. Finally, funding sources used in the region today are limited by geography and category of expenditure and are not interchangeable.

However, investing in infrastructure is an important element of supporting residential and employment growth. Furthermore, investing in infrastructure strategically in existing urban areas or new areas adjacent to existing urban areas creates a significant public good. Facilitating

redevelopment in existing urban areas ensures that more farmland and forestland is protected and preserved and investment in existing infrastructure is leveraged where possible.

The examples highlighted here underscore the point that each location has its own opportunities and challenges relating to funding infrastructure and that several funding streams can only be applied to the location in which they are levied. In addition, examples like North Bethany highlight the challenges of trying to incorporate regional impacts from development into infrastructure funding strategies. In that context, development that leverages existing infrastructure in place has a smaller impact on regional systems. However, as examples of challenges in Gateway and East Portland highlight, challenges for funding infrastructure improvements in existing urban areas include multiple property owners/potential developers and the need for piecemeal improvements that carry limited financial benefits for developers. These factors mean that infrastructure needs must rely more fully on traditional tools like system development charges and urban renewal, which are each limited in their own way.

Due to all the challenges and complexities associated with funding infrastructure from private development, taxes and impact fees, solutions will need to be tailored to individual locations. The region needs to maximize public resources needed to maintain and improve existing communities and accommodate growth. Success should be measured through the lens of efficiency and the quality of the communities that are fostered.

SOURCES

1000 Friends, of Oregion. *Questions and Answers about Oregon's Land Use Program*. Retrieved July 29, 2010, from 1000 Friends of Oregon:

http://www.onethousandfriendsoforegon.org/resources/downloads/qa/sdcs.pdf

Agency, T. M. (2005). Infill Development: Barriers and Incentives. Reno.

Bjork, N. (2010). North Bethany development gets push. Daily Journal of Commerce .

Bjork, N. (2010). Portland Adds Two System Development Charges. Daily Journal of Commerce .

Business Oregon News Room. (2009, August 25). Retrieved July 29, 2010, from Business Oregon: http://www.oregon4biz.com/news.php?a=11

City Council approves third amendment to South Waterfront Development agreement. (2003). Retrieved July 29, 2010, from Portland.com: http://www.portland.com/portland/press-releases/city-council-approves-third-amendment-to-south-waterfront-development-agreement/

Portland Development Commission. (2010). *Annual Urban Renewal Report Covering Fiscal Years 2008-2009 and 2009-2010.* Portland.

Galradi Consulting. (2007). Promoting Vibrant Communities with System Development Charges. Metro.

Curl, A. (2003). South Waterfront District Agreement Taking Shape. Daily Journal of Commerce .

Economic Analysis for 2007 Update of Portland's Transportation System Development Charge.

EcoNorthwest. (2009). North Bethany Concept Finance Plan. Portland.

EcoNorthwest. (2009) A Primer on Urban Renewal Legislation and HB 3056.

Frank, R. (2010). Tualatin Drops Urban Renewal Extension amid Community, Fire District Opposition. *The Oregonian*.

Gorman, K. (2007). The Puzzle of North Bethany. The Oregonian .

City of Gresham. (2005). Pleasant Valley Plan District. Gresham.

Haberman, M. (2009). Two Lawsuits Stall Portland's Efforts to help the Homesless and Create an Employment District. *The Oregonian*.

Hovee, E. (2003). North Macadam Urban Renewal Area Return on Investment Update. Portland.

Hovee, E. (2008). South Hillsboro Infrastructure Funding Review. Portland.

http://friendsofrockcreek.net/_pdf/KenT_NorthBethany_Presentation_20090513.pdf. (n.d.). Retrieved July 29, 2010, from http://friendsofrockcreek.net/ pdf/KenT NorthBethany Presentation 20090513.pdf

Leland Consulting Group. (2008). *Infrastructure Financing Strategy: South Hillsboro Planning Area*. Portland.

Mackenzie Group. (2005). *Brownfield/Greenfield Development Cost Comparison Study*. Portland: Port of Portland.

Mayer, J. (2009, December). Gresham Will Consider Downsized Development at Springwater. *The Oregonian*.

Mayer, J. (2009). Gresham Will Consider Downsized Development at Springwater. Thr Oregonian.

Metro. (2009). Comparative Infrastructure Costs: Local Case Studies.

Metro. (2008). Regional Infrastructure Analysis.

Mirk, S. (2010). East of Eden. Portland Mercury .

Moore, S. K. (2009). North Macadam Area Headed for a Makeover. SW Community Connection .

Office of Oregon Legislative Research and, P. (n.d.). *Basics about Local Improvement Districts*. Retrieved July 29, 2010, from Oregon Legislature: http://www.leg.state.or.us/comm/commsrvs/district.pdf

Oregon, B. (2009, October 17). *Financial Tools for Brownfield and Infill Redevelopment*. Retrieved July 29, 2010, from Northwest Environmental Business Council: http://www.nebc.org/Documents/brownfields09/w-homolac.pdf

Otak. (2007). Coffee Creek Master Plan. Wilsonville.

Parker, R. (2010, March). (B. Cohen, Interviewer)

Perlman, L. (2010). East Portland UR boundaries may change. Mid-County Memo .

Pitz, R. (2007). North Bethany Development Plan Could Have an Urban Feel. Beaverton Valley Times .

Task Force on Land Use Planning. (2009). Final Report to the 2009 Oregon Legislature.

Portland Metropolitan Studies, I. o. (2009). Acheiving Sustainable Compact Development in the Portland Metropolitan Area: New Tools and Approaches for Developing Centers and Corridors. Portland.

Redden, J. (2007). East Portland Already Feels Growing Pains. Portland Tribune .

Redden, J. (2009). Price of Growth: \$10 Billion. Portland Tribune .

Redden, J. (2009). Road Fees May Leap. Portland Tribune .

Ryan, A. (2007). Portland's Gateway is a Pedestrian District, but one Without. *Daily Journal of Commerce*.

Schmidt, B. (2010). North Bethany's Future Relies on Corralling Transportation Money and Raising New Taxes and Fees. *The Oregonian*.

Stine, M. (2007). Development Begins in Pleasant Valley. Gresham Outlook .

Portland Bureau of Transportation. (2009, April). *North Macadam Transportation System Development Charge Overlay Presentation*. Retrieved July 29, 2010, from City of Portland: efiles.ci.portland.or.us/.../City%20Auditor%20-%20City%20Recorder%20-%20Council%20O~m%20Transportation%20System%20Development%20

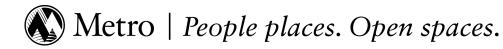
Washington, C. (n.d.). *Transportation Development Tax*. Retrieved July 29, 2010, from Washington County:

http://www.co.washington.or.us/LUT/Divisions/CurrentPlanning/Transportation/transportation-development-tax.cfm

www.oregonmetro.gov

Draft 2010 Capacity Ordinance and exhibits

August 2010



About Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy

Metro representatives

Metro Council President – David Bragdon

Metro Councilors – Rod Park, District 1; Carlotta Collette, District 2; Carl Hosticka, District 3; Kathryn Harrington, District 4; Rex Burkholder, District 5; Robert Liberty, District 6.

Auditor – Suzanne Flynn

Metro 600 NE Grand Ave. Portland, OR 97232 503-797-1800

www.oregonmetro.gov

BEFORE THE METRO COUNCIL

)

FOR THE PURPOSE OF MAKING THE GREATEST PLACE AND PROVIDING CAPACITY FOR HOUSING AND EMPLOYMENT TO THE YEAR 2030; AMENDING THE REGIONAL FRAMEWORK PLAN AND THE METRO CODE; AND DECLARING AN EMERGENCY) Ordinance No. 10-1244

-) Introduced by Chief Operating Officer
-) Michael Jordan with the Concurrence of
 - Council President David Bragdon

WHEREAS, Metro, the cities and counties of the region and many other public and private partners have been joining efforts to make our communities into "the Greatest Place"; and

WHEREAS, state law requires Metro to assess the capacity of the urban growth boundary (UGB) on a periodic basis and, if necessary, increase the region's capacity for housing and employment for the next 20 years; and

WHEREAS, Metro forecasted the likely range of population and growth in the region to the year 2030; and

WHEREAS, Metro assessed the capacity of the UGB to accommodate the forecasted growth, assuming continuation of existing policies and investment strategies, and determined that the UGB did not provide sufficient and satisfactory capacity for the next 20 years; and

WHEREAS, the Metro Council, with the advice and support of the Metro Policy Advisory Committee (MPAC), established six desired outcomes to use as the basis for comparing optional amendments to policies and strategies to increase the region's capacity; and

WHEREAS, the outcomes reflect the region's desire to develop vibrant, prosperous and sustainable communities with reliable transportation choices that minimize carbon emissions and to distribute the benefits and burdens of development equitably in the region; and

WHEREAS, Metro undertook an extensive process to consult its partner local governments and the public on optional ways to increase the region's capacity and achieve the desired outcomes; and

WHEREAS, joint efforts to make the region "the Greatest Place" not only improve our communities but also increase our capacity to accommodate growth and achieve the desired outcomes; now, therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

- 1. The Regional Framework Plan (RFP) is hereby amended, as indicated by Exhibit A, attached and incorporated into this ordinance, to adopt: desired outcomes toward which the Metro Council will direct its policies and efforts; new policies on performance measurement to measure progress toward achievement of the outcomes; new policies on efficient use of land, public works and other public services; and new policies on investment in Centers, Corridors, Station Communities, Main Streets and Employment Areas.
- 2. The urban growth boundary (UGB) is hereby amended, as shown on the attached Exhibit B, the Urban Growth Boundary and Urban and Rural Reserves Map, adopted by this

ordinance as the official depiction of the UGB and of the boundaries of urban and rural reserves. The Urban Growth Boundary and Urban and Rural Reserves Map is hereby made part of Title 14 (Urban Growth Boundary) of the Urban Growth Management Functional Plan (UGMFP).

- 3. The conditions on the expansions of the UGB made by section 2 of this ordinance are hereby adopted and described and depicted in Exhibit C, attached and incorporated into this ordinance.
- 4. Title 1 (Housing) of the UGMFP is hereby amended, as indicated in Exhibit D, attached and incorporated into this ordinance, to help ensure sufficient capacity to meet housing needs to year 2030.
- 5. Title 4 (Industrial and Other Employment Areas) of the UGMFP is hereby amended, as indicated in Exhibit E, attached and incorporated into this ordinance, to help ensure sufficient capacity to meet employment needs to year 2030.
- 6. The Title 4 Industrial and Other Employment Areas Map is hereby amended, as indicated in Exhibit F, attached and incorporated into this ordinance, to reflect existing development and economic realities more accurately and to help maintain a supply of sites for traded-sector industries.
- 7. Title 6 (Centers, Corridors, Station Communities and Main Streets) of the UGMFP is hereby amended, as indicated in Exhibit G, attached and incorporated into this ordinance, to implement new policies and investment strategies in those places.
- 8. The Title 6 Centers, Corridors, Station Communities and Main Streets Map is hereby adopted, as shown on Exhibit H, attached and incorporated into this ordinance, to implement Title 6 and other functional plan requirements.
- 9. Title 8 (Compliance Procedures) of the UGMFP is hereby amended, as indicated in Exhibit I, attached and incorporated into this ordinance, to reduce procedural burdens on local governments and Metro.
- 10. Title 9 (Performance Measures) is hereby repealed, as indicated in Exhibit J, to be consistent with new policies on performance measurement.
- 11. Title 10 (Functional Plan Definitions) of the UGMFP is hereby amended, as indicated in Exhibit K, attached and incorporated into this ordinance, to conform to the definitions to the use of terms in the amended UGMFP.
- 12. Metro Code Chapter 3.01 (Urban Growth Boundary and Urban Reserves Procedures) is hereby repealed, as indicated in Exhibit L, to be replaced by new Title 14 adopted by section 13 of this ordinance.
- 13. Title 14 (Urban Growth Boundary) is hereby adopted and added to the UGMFP, as indicated in Exhibit M, attached and incorporated into this ordinance, with amendments from Metro Code Chapter 3.01 to provide a faster process to add large sites to the UGB for industrial use.

Vqp{'Cpf gtuqp.'Tgeqtf kpi 'Ugetgvct{

39(1).

Daniel B. Cooper, Metro Attorney

ADOPTED by the Metro Council this 16th day of December, 2010.

with state law and the Regional Framework Plan.

18. This ordinance is necessary for the immediate preservation of public health, safety and welfare because it repeals and re-adopts provisions of the Metro Code that govern changes to local government boundaries that may be under consideration during the ordinary 90-day period prior to effectiveness. An emergency is therefore declared to exist, and this ordinance shall take effect immediately, pursuant to Metro Charter section

The Urban Growth Report 2009-2030 and the 20 and 50 Year Regional Population and 16. Employment Range Forecasts, approved by the Metro Council by Resolution No. 09-4094 on December 17, 2009, are adopted to support the decisions made by this ordinance.

The Findings of Fact and Conclusions of Law in Exhibit P, attached and incorporated into this ordinance, explain how the actions taken by the Council in this ordinance provide capacity to accommodate housing and employment to year 2030 and comply

- 15. The 2040 Growth Concept Map, the non-regulatory illustration of the 2040 Growth Concept in the RFP, is hereby amended, as shown on Exhibit O, attached and incorporated into this ordinance, to show new configurations of 2040 Growth Concept design-type designations and transportation improvements.
- 14. Metro Code Chapter 3.09 (Local Government Boundary Changes) is hereby amended, as indicated in Exhibit N, attached and incorporated into this ordinance, to conform to revisions to ORS 268.390 and adoption of urban and rural reserves pursuant to ORS 195.141, and to ensure newly incorporated cities have the capability to become great communities.

David Bragdon, Council President

Attest:

Approved as to form:

Page 3 – Ordinance No. 07-

OMA/___/kvw (

17.

7142

Exhibit A to Ordinance No. 10-1244

AMENDMENTS TO THE REGIONAL FRAMEWORK PLAN

A. Add the following:

It is the policy of the Metro Council to exercise its powers to achieve the following six outcomes, characteristics of a successful region:

- 1. People live and work in vibrant communities where they can choose to walk for pleasure and to meet their everyday needs.
- 2. Current and future residents benefit from the region's sustained economic competitiveness and prosperity.
- 3. People have safe and reliable transportation choices than enhance their quality of life.
- 4. The region is a leader in minimizing contributions to global warming.
- 5. Current and future generations enjoy clean air, clean water and healthy ecosystems.
- 6. The benefits and burdens of growth and change are distributed equitably.
- It is also the policy of the Metro Council to:

Use performance measures and performance targets to:

- a. Evaluate the effectiveness of proposed policies, strategies and actions to achieve the desired Outcomes
- b. Inform the people of the region about progress toward achieving the Outcomes
- c. Evaluate the effectiveness of adopted policies, strategies and actions and guide the consideration of revision or replacement of the policies, strategies and actions; and

Publish a report on progress toward achieving the desired Outcomes on a periodic basis.

B. Amend Chapter 1 (Land Use) Policy 1.1 as follows:

1.1 Compact Urban Form

It is the policy of the Metro Council to:

a.

- 1.1.1 Encourage and facilitate a compact urban form within the UGB.
- 1.1.2 Adopt and implement a strategy of investments and incentives to use land within the UGB more efficiently.
- 1.1.3 Facilitate infill and re-development, particularly within Centers, Corridors, Station Communities, Main Streets and Employment Areas, to use land and urban services efficiently, to support public transit, to promote successful, walkable communities and to achieve the appropriate activity levels along the Activity Spectrum in the State of the Centers Report of January, 2009.
- 1.1.4 Encourage elimination of unnecessary barriers to compact, mixed-use, pedestrian-friendly and transit-supportive development within Centers, Corridors, Station Communities and Main Streets.
- 1.1.5 Promote the distinctiveness of the region's cities and the stability of its neighborhoods.
- 1.1.6 Enhance compact urban form by developing the Intertwine, an interconnected system of parks, greenspaces and trails readily accessible to people of the region.
- 1.1.8 Promote excellence in community design.

C. Amend Chapter 1 (Land Use) Policy 1.2 as follows:

1.2 Centers, Corridors, Station Communities and Main Streets

It is the policy of the Metro Council to:

1.2.1

Recognize that the success of the 2040 Growth Concept depends upon the success of the region's Centers, Corridors, Station Communities and Main Streets as the principal centers of urban life in the region. Recognize that each Center, Corridor, Station Community and Main Street has its own character and stage of development and its own aspirations; each needs its own strategy for success.

- 1.2.2 Work with local governments, community leaders and state and federal agencies to develop an investment strategy for Centers, Corridors, Station Communities and Main Streets with a program of investments in public works, essential services and community assets, that will enhance their roles as the centers of public life in the region. The strategy shall:
 - a. Give priority in allocation of Metro's investment funds to Centers, Corridors, Station Communities and Main Streets;

- b. Link Metro's investments so they reinforce one another and maximize contributions to Centers, Corridors, Station Communities and Main Streets;
- c. Coordinate Metro's investments with complementary investments of local governments and with state and federal agencies so the investments reinforce one another , maximize contributions to Centers, Corridors, Station Communities and Main Streets and help achieve local aspirations; and
- d. Include an analysis of barriers to the success of investments in particular Centers, Corridors, Station Communities and Main Streets.
- 1.2.3 Encourage employment opportunities in Centers, Corridors, Station Communities and Main Streets by:

a. Improving access within and between Centers, Corridors, Station Communities and Main Streets;

b. Encouraging cities and counties to allow a wide range of employment uses and building types, a wide range of floor-to-area ratios and a mix of employment and residential uses; and

c. Encourage investment by cities, counties and all private sectors by complementing their investments with investments by Metro.

- 1.2.4 Work with local governments, community leaders and state and federal agencies to employ financial incentives to enhance the roles of Centers, Corridors, Station Communities and Main Streets and maintain a database of incentives and other tools that would complement and enhance investments in particular Centers, Corridors, Station Communities and Main Streets.
- 1.2.5 Measure the success of regional efforts to improve Centers and Centers, Corridors, Station Communities and Main Streets and report results to the region and the state and revise strategies, if performance so indicates, to improve the results of investments and incentives.

D. Amend Chapter 1 (Land Use) Policy 1.3 as follows:

1.3 Housing Choices and Opportunities

- 1.3.1 Provide housing choices in the region, including single family, multi-family, ownership and rental housing, and housing offered by the private, public and nonprofit sectors.
- 1.3.2 As part of the effort to provide housing choices, encourage local governments to ensure that their land use regulations:
 - a. Allow a diverse range of housing types;
 - b. Make housing choices available to households of all income levels; and
 - c. Allow affordable housing, particularly in Centers and Corridors and other areas wellserved with public services.

- 1.3.3 Reduce the percentage of the region's households that are cost-burdened, meaning those households paying more than 50 precent of their incomes on housing and transportation.
- 1.3.4 Maintain voluntary affordable housing production goals for the region, to be revised over time as new information becomes available and displayed in Chapter 8 (Implementation), and encourage their adoption by the cities and counties of the region.
- 1.3.5 Encourage local governments to consider the following tools and strategies to achieve the affordable housing production goals:
 - a. Density bonuses for affordable housing;
 - b. A no-net-loss affordable housing policy to be applied to quasi-judicial amendments to the comprehensive plan;
 - c. A voluntary inclusionary zoning policy;
 - d. A transferable development credits program for affordable housing;
 - e. Policies to accommodate the housing needs of the elderly and disabled;
 - f. Removal of regulatory constraints on the provision of affordable housing; and
 - g. Policies to ensure that parking requirements do not discourage the provision of affordable housing.
- 1.3.6 Require local governments in the region to report progress towards increasing the supply of affordable housing and seek their assistance in periodic inventories of the supply of affordable housing.
- 1.3.7 Work in cooperation with local governments, state government, business groups, non-profit groups and citizens to create an affordable housing fund available region wide in order to leverage other affordable housing resources.
- 1.3.8 Provide technical assistance to local governments to help them do their part in achieving regional goals for the production and preservation of housing choice and affordable housing.
- 1.3.9 Integrate Metro efforts to expand housing choices with other Metro activities, including transportation planning, land use planning and planning for parks and greenspaces.
- 1.3.10 When expanding the Urban Growth Boundary, assigning or amending 2040 Growth Concept design type designations or making other discretionary decisions, seek agreements with local governments and others to improve the balance of housing choices with particular attention to affordable housing.

- 1.3.11 Consider incentives, such as priority for planning grants and transportation funding, to local governments that obtain agreements from landowners and others to devote a portion of new residential capacity to affordable housing.
- 1.3.12 Help ensure opportunities for low-income housing types throughout the region so that families of modest means are not obliged to live concentrated in a few neighborhoods, because concentrating poverty is not desirable for the residents or the region.
- 1.3.13 Consider investment in transit, pedestrian and bicycle facilities and multi-modal streets as an affordable housing tool to reduce household transportation costs to leave more household income available for housing.
- 1.3.14 For purposes of these policies, "affordable housing" means housing that families earning less than 50 percent of the median household income for the region can reasonably afford to rent and earn as much as or less than 100 percent of the median household income for the region can reasonably afford to buy.

E. Amend Chapter 1 (Land Use) Policy 1.4 as follows:

1.4 Employment Choices and Opportunity

- 1.4.1 Locate expansions of the UGB for industrial or commercial purposes in locations consistent with this plan and where, consistent with state statutes and statewide goals, an assessment of the type, mix and wages of existing and anticipated jobs within subregions justifies such expansion.
- 1.4.2 Balance the number and wage level of jobs within each subregion with housing cost and availability within that subregion. Strategies are to be coordinated with the planning and implementation activities of this element with Policy 1.3, Housing Choices and Opportunities and Policy 1.8, Developed Urban Land.
- 1.4.3 Designate, with the aid of leaders in the business and development community and local governments in the region, as Regionally Significant Industrial Areas those areas with site characteristics that make them especially suitable for the particular requirements of industries that offer the best opportunities for family-wage jobs.
- 1.4.4 Require, through the Urban Growth Management Functional Plan, that local governments exercise their comprehensive planning and zoning authorities to protect Regionally Significant Industrial Areas from incompatible uses.
- 1.4.5 Facilitate investment in those areas of employment with characteristics that make them especially suitable and valuable for traded-sector goods.
 - F. Repeal Chapter 1 (Land Use) Policy 1.6

G. Repeal Chapter 1 (Land Use) Policy 1.15

Exhibit A to Ordinance No. 10-1244

AMENDMENTS TO THE REGIONAL FRAMEWORK PLAN

A. Add the following:

It is the policy of the Metro Council to exercise its powers to achieve the following six outcomes, characteristics of a successful region:

- 1. People live and work in vibrant communities where they can choose to walk for pleasure and to meet their everyday needs.
- 2. Current and future residents benefit from the region's sustained economic competitiveness and prosperity.
- 3. People have safe and reliable transportation choices than enhance their quality of life.
- 4. The region is a leader in minimizing contributions to global warming.
- 5. Current and future generations enjoy clean air, clean water and healthy ecosystems.
- 6. The benefits and burdens of growth and change are distributed equitably.
- It is also the policy of the Metro Council to:
- <u>Use performance measures and performance targets to:</u>
 - a. Evaluate the effectiveness of proposed policies, strategies and actions to achieve the desired Outcomes
 - b. Inform the people of the region about progress toward achieving the Outcomes

<u>c.</u> Evaluate the effectiveness of adopted policies, strategies and actions and guide the consideration of revision or replacement of the policies, strategies and actions; and

Publish a report on progress toward achieving the desired Outcomes on a periodic basis.

B. Amend Chapter 1 (Land Use) Policy 1.1 as follows:

1.1 <u>Compact</u> Urban Form

It is the policy of the Metro Council to:

1.1.1 Balance the region's growth by:

- a. Maintaining a compact urban form, with each access to nature.
- b. Preserving existing stable and distinct neighborhoods by focusing commercial and residential growth in mixed-use centers and corridors at a pedestrian scale.
- c.—Ensuring affordability and maintaining a variety of housing choices with good access to jobs and assuring that market-based preferences are not eliminated by regulation.
- d.a. Targeting public investments to reinforce a compact urban form.
- 1.1.1 Encourage and facilitate a compact urban form within the UGB.
- <u>1.1.2</u> Adopt and implement a strategy of investments and incentives to use land within the UGB more efficiently.
- 1.1.3Facilitate infill and re-development, particularly within Centers, Corridors, Station Communities,
Main Streets and Employment Areas, to use land and urban services efficiently, to support
public transit, to promote successful, walkable communities and to achieve the appropriate
activity levels along the Activity Spectrum in the State of the Centers Report of January, 2009.
- 1.1.4Encourage elimination of unnecessary barriers to compact, mixed-use, pedestrian-friendly and
transit-supportive development within Centers, Corridors, Station Communities and Main
Streets.Streets.
- <u>1.1.5</u> Promote the distinctiveness of the region's cities and the stability of its neighborhoods.
- <u>1.1.6</u> Enhance compact urban form by developing the Intertwine, an interconnected system of parks, greenspaces and trails readily accessible to people of the region.
- <u>1.1.8 Promote excellence in community design.</u>
 - C. Amend Chapter 1 (Land Use) Policy 1.2 as follows:
 - 1.2 Built EnvironmentCenters, Corridors, Station Communities and Main Streets

It is the policy of the Metro Council to:

1.2.1 Ensure that development in the region occurs in a coordinated and balanced fashion as evidenced by:

Taking a regional "fair-share" approach to meeting the housing needs of the urban population.

Providing infrastructure and critical public services concurrent with the pace of urban growth and that support the 2040 Growth Concept.

Continuing growth of regional economic opportunity, balanced so as to provide an equitable distribution of jobs, income, investment and tax capacity throughout the region and to support other regional goals and objectives.

Coordinating public investment with local comprehensive and regional functional plans.

Creating a balanced transportation system, less dependent on the private automobile, supported by both the use of emerging technology and the location of jobs, housing, commercial activity, parks and open space.

Recognize that the success of the 2040 Growth Concept depends upon the success of the region's Centers, Corridors, Station Communities and Main Streets as the principal centers of urban life in the region. Recognize that each Center, Corridor, Station Community and Main Street has its own character and stage of development and its own aspirations; each needs its own strategy for success.

- 1.2.2Work with local governments, community leaders and state and federal agencies to develop an
investment strategy for Centers, Corridors, Station Communities and Main Streets with a
program of investments in public works, essential services and community assets, that will
enhance their roles as the centers of public life in the region. The strategy shall:
 - a. Give priority in allocation of Metro's investment funds to Centers, Corridors, Station Communities and Main Streets;
 - b. Link Metro's investments so they reinforce one another and maximize contributions to Centers, Corridors, Station Communities and Main Streets;
 - c. Coordinate Metro's investments with complementary investments of local governments and with state and federal agencies so the investments reinforce one another, maximize contributions to Centers, Corridors, Station Communities and Main Streets and help achieve local aspirations; and
 - d. Include an analysis of barriers to the success of investments in particular Centers, Corridors, Station Communities and Main Streets.
- <u>1.2.3</u> Encourage employment opportunities in Centers, Corridors, Station Communities and Main Streets by:

<u>a. Improving access within and between Centers, Corridors, Station</u> <u>Communities and Main Streets;</u> b. Encouraging cities and counties to allow a wide range of employment uses and building types, a wide range of floor-to-area ratios and a mix of employment and residential uses; and

c. Encourage investment by cities, counties and all private sectors by complementing their investments with investments by Metro.

- 1.2.4Work with local governments, community leaders and state and federal agencies to employ
financial incentives to enhance the roles of Centers, Corridors, Station Communities and Main
Streets and maintain a database of incentives and other tools that would complement and
enhance investments in particular Centers, Corridors, Station Communities and Main Streets.
- 1.2.5Measure the success of regional efforts to improve Centers and Centers, Corridors, StationCommunities and Main Streets and report results to the region and the state and revise
strategies, if performance so indicates, to improve the results of investments and incentives.

D. Amend Chapter 1 (Land Use) Policy 1.3 as follows:

1.3 Housing Choices and Opportunities

- 1.3.1 Provide housing choices in the region, including single family, multi-family, ownership and rental housing, and housing offered by the private, public and nonprofit sectors.
- 1.3.2 As part of the effort to provide housing choices, encourage local governments to ensure that their land use regulations:
 - a. Allow a diverse range of housing types;
 - b. Make housing choices available to households of all income levels; and
 - c. Allow affordable housing, particularly in Centers and Corridors and other areas wellserved with public services.
- **1.3.3** Reduce the percentage of the region's households that are cost-burdened, meaning those households paying more than 50 precent of their incomes on housing and transportation.
- <u>1.3.4</u> Maintain voluntary affordable housing production goals for the region, to be revised over time as new information becomes available and displayed in Chapter 8 (Implementation), and encourage their adoption by the cities and counties of the region.
- 1.3.4<u>5</u> Encourage local governments to consider the following tools and strategies to achieve the affordable housing production goals:
 - a. Density bonuses for affordable housing;

- b. A no-net-loss affordable housing policy to be applied to quasi-judicial amendments to the comprehensive plan;
- c. A voluntary inclusionary zoning policy;
- d. A transferable development credits program for affordable housing;
- e. Policies to accommodate the housing needs of the elderly and disabled;
- f. Removal of regulatory constraints on the provision of affordable housing; and
- g. Policies to ensure that parking requirements do not discourage the provision of affordable housing.
- 1.3.5<u>6</u> Require local governments in the region to report progress towards increasing the supply of affordable housing and seek their assistance in periodic inventories of the supply of affordable housing.
- 1.3.67 Work in cooperation with local governments, state government, business groups, non-profit groups and citizens to create an affordable housing fund available region wide in order to leverage other affordable housing resources.
- 1.3.78 Provide technical assistance to local governments to help them do their part in achieving regional goals for the production and preservation of housing choice and affordable housing.
- 1.3.89 Integrate Metro efforts to expand housing choices with other Metro activities, including transportation planning, land use planning and planning for parks and greenspaces.
- 1.3.910 When expanding the Urban Growth Boundary, assigning or amending 2040 Growth Concept design type designations or making other discretionary decisions, seek agreements with local governments and others to improve the balance of housing choices with particular attention to affordable housing.
- 1.3.1<u>91</u> Consider incentives, such as priority for planning grants and transportation funding, to local governments that obtain agreements from landowners and others to devote a portion of new residential capacity to affordable housing.
- 1.3.142 Help ensure opportunities for low-income housing types throughout the region so that families of modest means are not obliged to live concentrated in a few neighborhoods, because concentrating poverty is not desirable for the residents or the region.
- 1.3.123 Consider investment in transit, pedestrian and bicycle facilities and multi-modal streets as an affordable housing tool to reduce household transportation costs to leave more household income available for housing.

<u>1.3.14</u> For purposes of these policies, "affordable housing" means housing that families earning less than 50 percent of the median household income for the region can reasonably afford to rent and earn as much as or less than 100 percent of the median household income for the region can reasonably afford to buy.

E. Amend Chapter 1 (Land Use) Policy 1.4 as follows:

1.4 EconomicEmployment Choices and Opportunity

It is the policy of the Metro Council to:

- 1.4.1 Locate expansions of the UGB for industrial or commercial purposes in locations consistent with this plan and where, consistent with state statutes and statewide goals, an assessment of the type, mix and wages of existing and anticipated jobs within subregions justifies such expansion.
- 1.4.2 Balance the number and wage level of jobs within each subregion with housing cost and availability within that subregion. Strategies are to be coordinated with the planning and implementation activities of this element with Policy 1.3, Housing and Affordable Housing, Choices and Opportunities and Policy 1.8, Developed Urban Land.
- 1.4.3 Designate, with the aid of leaders in the business and development community and local governments in the region, as Regionally Significant Industrial Areas those areas with site characteristics that make them especially suitable for the particular requirements of industries that offer the best opportunities for family-wage jobs.
- <u>1.4.4</u> Require, through the Urban Growth Management Functional Plan, that local governments exercise their comprehensive planning and zoning authorities to protect Regionally Significant Industrial Areas from incompatible uses.
- <u>1.4.5</u> Facilitate investment in those areas of employment with characteristics that make them especially suitable and valuable for traded-sector goods.
 - F. Repeal Chapter 1 (Land Use) Policy 1.6

1.6 Growth Management

- 1.6.1 Manage the urban land supply in a manner consistent with state law by:
 - a. Encouraging the evolution of an efficient urban growth form.
 - b. Providing a clear distinction between urban and rural lands.
 - c. Supporting interconnected but distinct communities in the urban region.

- d. Recognizing the inter-relationship between development of vacant land and redevelopment objectives in all parts of the urban region.
- e. Being consistent with the 2040 Growth Concept and helping attain the region's objectives.
- G. Repeal Chapter 1 (Land Use) Policy 1.15

1.15 Centers

- 1.15.1 Recognize that the success of the 2040 Growth Concept depends upon the maintenance and enhancement of the Central City, Regional and Town Centers, Station Communities and Main Streets as the principal centers of urban life in the region. Each Center has its own character and is at a different stage of development. Hence, each needs its own strategy for success.
- 1.15.2 Develop a regional strategy for enhancement of Centers, Station Communities and Main Streets in the region:
 - a. Recognizing the critical connection between transportation and these design types, and integrate policy direction from the Regional Transportation Plan.
 - b. Placing a high priority on investments in Centers by Metro and efforts by Metro to secure complementary investments by others.
 - c. Including measures to encourage the siting of government offices and appropriate facilities in Centers and Station Communities.
- 1.15.3 Work with local governments, community leaders and state and federal agencies to develop an investment program that recognizes the stage of each Center's development, the readiness of each Center's leadership, and opportunities to combine resources to enhance results. To assist, Metro will maintain a database of investment and incentive tools and opportunities that may be appropriate for individual Centers.
- 1.15.4 Assist local governments and seek assistance from the state in the development and implementation of strategies for each of the Centers on the 2040 Growth Concept Map. The strategy for each Center will be tailored to the needs of the Center and include an appropriate mix of investments, incentives, removal of barriers and guidelines aimed to encourage the kinds of development that will add vitality to Centers and improve their functions as the hearts of their communities.
- 1.15.5 Determine whether strategies for Centers are succeeding. Metro will measure the success of Centers and report results to the region and the state. Metro will work with its partners to revise strategies over time to improve their results.

Exhibit B of Ordinance No. 10-1244

Placeholder for Title 14 Map (showing urban and rural reserves and new UGB, if amended)

To be completed December 2010

Exhibit C of Ordinance No. 10-1244

Placeholder conditions to be placed on UGB expansion areas, if any.

To be completed fall 2010

Exhibit D to Ordinance No. 10-1244

TITLE 1: HOUSING CAPACITY

3.07.110 Purpose and Intent

The Regional Framework Plan calls for a compact urban form and efficient use of land. It is the purpose of Title 1 to accomplish these policies in areas of the region where housing is allowed. Title 1 directs each city and county to maintain or increase its capacity and to take action if necessary to accommodate its share of regional growth.

3.07.120 Housing Capacity

- A. Each city shall maintain or increase its capacity for housing, as determined by cumulating the minimum dwelling unit densities of all zoning districts that allow housing. If a city annexes territory designated by a county to allow housing, the city shall ensure through its land use regulations there is no net loss of housing capacity from the level allowed in the territory by the county. The city shall add the housing capacity of the annexed territory to the city's total housing capacity and shall report the change to Metro.
- B. Each county shall maintain or increase its capacity for housing, as determined by cumulating the minimum dwelling unit densities of all zoning districts that allows housing. If a city annexes county territory designated to allow housing, the county may subtract the housing capacity of the annexed territory from its total housing capacity and report the change to Metro.
 - C. If the Metro Council adds territory to the UGB which it designates for housing, the city or county responsible for planning the territory under section 3.07.1120 of this chapter shall, upon adoption of the planning and land use regulations, add the housing capacity of the territory to the city or county's total housing capacity within Metro and report the capacity to Metro.
- D. Each city and county shall adopt and maintain or increase a minimum dwelling unit density for each zoning district in which dwelling units are allowed within the UGB. If a city
- Page 1 Exhibit G to Ordinance No. 10-XXXX m:\attorney\confidential\Richard\Capacity Ord Ex G.clean.draft.011210 OMA/RPB/kvw (01/12/10)

or county has not adopted a minimum density for a zoning district prior to March 31, 2011, the city or county shall adopt a minimum density that is at least 80 percent of the maximum density.

- E. A city or county may not approve a division of land or a development application that would result in housing density below the minimum density for the zoning district. A city or county may not prohibit the division of a lot or parcel that is at least twice the size of the minimum dwelling unit density in any zoning district in which dwellings are authorized.
- F. A city or county shall authorize the establishment of at least one accessory dwelling unit for each detached singlefamily dwelling unit in each zoning district that allows detached single-family dwellings. The authorization may be subject to reasonable regulation for siting and design purposes.

3.07.130 Transfer of Capacity

- A city or county may reduce the housing capacity of any zoning district so long as the city or county simultaneously increases the minimum zoned capacity of another zoning district by an amount equal to or greater than the reduction in the reduction district upon a demonstration that:
 - The capacity to be transferred is reasonably likely to occur in the receiving zoning district within the 20year planning period of Metro's last capacity analysis under ORS 197.299; and
 - The transfer does not reduce the housing capacity of the Central City or a Regional Center, Town Center, Corridor or Station Community.
 - A. Notwithstanding subsection A, a city or county may reduce the housing capacity of any zoning district without increasing minimum zoned capacity in another district for one or more of the following purposes:

1. To re-zone the area for industrial use and limit uses consistent with Title 4 of this chapter;

2. To protect natural resources pursuant to Titles 3 or 13 of this chapter; or

3. To allow a regionally significant educational or medical facility similar in scale to those listed in section 3.07.1340D(5)(i) of Title 13 of this chapter.

- C. A city or county may transfer housing capacity to another city or county inside the UGB upon a demonstration that:
 - The transfer will not result in a reduction of total regional housing capacity;
 - The capacity to be transferred is reasonably likely to occur in the receiving zoning district within the 20year planning period of Metro's last capacity analysis under ORS 197.299; and
 - 3. The transfer does not reduce the housing capacity of the Central City or a Regional Center, Town Center, Corridor or Station Community.
- D. A city or county may seek a transfer of capacity as authorized in subsection C by filing an application on a form provided by Metro. After receipt of a complete application, Metro shall set the matter for a public hearing before the Metro Council and shall notify MPAC and those persons who request notification of requests for transfers of capacity.
- E. The Metro Council shall hold a public hearing to consider the request for a transfer of capacity. Any person may participate in the hearing. The Metro Council may set terms and conditions upon approval of a transfer so long as they relate to the criteria in subsection C and are incorporated into the Metro Council's order.
- F. The Metro Council shall issue an order with its conclusions and analysis and send a copy to the local governments involved in the transfer and any person who participated in the hearing before the Metro Council. Any person who participated in the hearing may seek review of the Metro Council's order as a land use decision under ORS 197.015(10)(a)(A).

Exhibit #D to Ordinance No. 10-1244

TITLE 1: REQUIREMENTS FOR HOUSING AND EMPLOYMENT ACCOMMODATIONCAPACITY

3.07.110 Purpose and Intent

One goal of the The Regional Framework Plan is calls for a compact urban form and the efficient use of land. It is the purpose of Title 1 intends to use land within the UGB efficiently by increasing its capacity to accommodate housing and employment to accomplish these policies in areas of the region where housing is allowed. Title 1 directs each city and county in the region to consider actions to maintain or increase its capacity and to take action if necessary to accommodate its share of regional growth as specified in this title.

3.07.120 Housing and Employment Capacity

- Each city and county shall determine its capacity for Α. housing and employment in order to ensure that it provides and continues to provide at least the capacity for the city or county specified in Table 3.07-1, supplemented by capacity resulting from addition of territory to the UGB maintain or increase its capacity for housing, as determined by cumulating the minimum dwelling unit densities of all zoning districts that allow housing. Local governments shall use data provided by Metro unless the Metro Council or the Chief Operating Officer determines that data preferred by a city or county is more accurate. If a city annexes territory designated by a county to allow housing, the city shall ensure through its land use regulations there is no net loss of housing capacity from the level allowed in the territory by the county. The city shall add the housing capacity of the annexed territory to the city's total housing capacity and shall report the change to Metro.
- B. A city or Each county shall determine its capacity for dwelling units by cumulating the minimum number of dwelling units authorized in each zoning district in which dwelling units are authorized. A city or county may use a higher number of dwellings than the minimum density for a zoning district if development in the five years prior to the determination has actually occurred at the higher number maintain or increase its capacity for housing, as determined by cumulating the minimum dwelling unit densities of all zoning districts that allows housing. If

a city annexes county territory designated to allow housing, the county may subtract the housing capacity of the annexed territory from its total housing capacity and report the change to Metro.

- C. If the Metro Council adds territory it designates for housing to the UGB, the city or county responsible for planning under section 3.07.1120 of the Metro Code, shall, upon adoption of the planning and land use regulations, add the housing capacity of the territory to the city or county's total housing capacity within Metro and shall report the capacity to Metro.
- CD. If a city annexes county territory, the city shall ensure that there is no net loss in regional housing or employment capacity, as shown on Table 3.07-1, as a result of amendments of comprehensive plan or land use regulations that apply to the annexed territoryEach city and county shall adopt and maintain or increase a minimum dwelling unit density for each zoning district in which dwelling units are allowed within the UGB. If a city or county has not adopted a minimum density for a zoning district prior to March 31, 2011, the city or county shall adopt a minimum density that is at least 80 percent of the maximum density.
- DE. After completion of its initial determination of capacity, each city or county shall report changes in its capacity by April 15 of the first calendar year following completion of its initial determination and by April 15 of every following yearA city or county may not approve a division of land or a development application that would result in housing density below the minimum density for the zoning district. A city or county may not prohibit the division of a lot or parcel that is at least twice the size of the minimum dwelling unit density in any zoning district in which dwellings are authorized.
- F. A city or county shall authorize the establishment of at least one accessory dwelling unit for each detached singlefamily dwelling unit in each zoning district that allows detached single-family dwellings. The authorization may be subject to reasonable regulation for siting and design purposes.

3.07.130 Design Type Boundaries Requirement

For each of the following 2040 Growth Concept design types, city and county comprehensive plans shall be amended to include the boundaries of each area, determined by the city or county consistent with the general locations shown on the 2040 Growth Concept Map or on maps adopted by ordinances adding territory to the UGB:

<u>Central City</u>--Downtown Portland is the Central City which serves as the major regional center, an employment and cultural center for the metropolitan area.

Regional Centers--Seven regional centers will become the focus of compact development, redevelopment and high-quality transit service and multimodal street networks.

<u>Station Communities</u>--Nodes of development centered approximately one-half mile around a light rail or high capacity transit station that feature a high-quality pedestrian environment.

<u>Town Centers</u>--Local retail and services will be provided in town centers with compact development and transit service.

<u>Main Streets</u>--Neighborhoods will be served by main streets with retail and service developments served by transit.

<u>Corridors</u>--Along good quality transit lines, corridors feature a high-quality pedestrian environment, convenient access to transit, and somewhat higher than current densities.

<u>Employment Areas</u>--Various types of employment and some residential development are encouraged in employment areas with limited commercial uses.

<u>Industrial Areas</u>--Industrial areas are set aside primarily for industrial activities with limited supporting uses.

<u>Regionally Significant Industrial Areas</u>--Industrial areas with site characteristics that are relatively rare in the region that render them especially suitable for industrial use.

<u>Inner Neighborhoods</u>--Residential areas accessible to jobs and neighborhood businesses with smaller lot sizes are inner neighborhoods. <u>Outer Neighborhoods</u>--Residential neighborhoods farther away from large employment centers with larger lot sizes and lower densities are outer neighborhoods.

3.07.140 Measures to Increase Development Capacity

- A. Each city and county shall adopt a minimum dwelling unit density, as prescribed in this subsection, for each zoning district in which dwelling units are authorized inside the UGB:
 - 1. Any city or county minimum density standard deemed to comply with the Urban Growth Management Functional Plan pursuant to Section 3.07.810 prior to January 1, 2003, shall be deemed to comply with this subsection.
 - 2. A city or county shall not approve a subdivision or development application that will result in a density below the minimum density for the zoning district.
 - 3. A city or county may change the dwelling unit density of any zoning district so long as the zoning district continues to comply with this subsection and so long as the city or county continues to provide at least the overall capacity for housing for the city or county specified in Table 3.07-1.
- B. A city or county shall not prohibit the partition or subdivision of a lot or parcel that is at least twice the size of the minimum size for new lots or parcels in any zoning district in which dwelling units are authorized.
- C. A city or county shall authorize the establishment of at least one accessory dwelling unit for each detached singlefamily dwelling unit in a zoning district and for each detached or attached single-family dwelling unit in a Regional Center or Station Community. The authorization may be subject to reasonable regulation for siting and design purposes.
- D. In order to assist Metro to evaluate the effectiveness of Title 1 in aid of accomplishment of the 2040 Growth Concept, and to comply with state progress reporting requirements in ORS 197.301, by April 15 of each evennumbered year beginning 2004, each city and county shall report to Metro the actual density of new residential development per net developed acre authorized in those

zoning districts that allow residential development in the
preceding 24 months.

3.07.150 Transfer of Capacity

- A. A city or county may amend its comprehensive plan and land use regulations to reduce the housing capacity of any zoning district so long as the city or county simultaneously increases the minimum zoned capacity of another zoning district by an amount equal to or greater than the reduction in the reduction district upon a demonstration that:
 - 1. The capacity to be transferred is reasonably likely to occur in the receiving zoning district within the 20year planning period of Metro's last capacity analysis under ORS 197.299; and
 - 2. The transfer does not reduce the housing capacity of the Central City or a Regional Center, Town Center, Corridor or Station Community.

B.Notwithstanding subsection A, a city or county may reduce the housing capacity of any zoning district without increasing minimum zoned capacity in another district for one or more of the following reasons:

1. To re-zone the area for industrial use and limit uses consistent with Title 4 of this chapter;

2. To protect natural resources pursuant to Titles 3 or 13 of this chapter; or

3. To allow a regionally significant educational or medical facility similar in scale to those listed in section 3.07.1340D(5)(i) of Title 13 of this chapter.

- C. <u>A city or a county may transfer housing capacity for</u> housing or employment shown on Table 3.07-1 to another city or county inside the UGB upon a demonstration that:
- The transfer complies with the policies of the Regional Framework Planwill not result in a reduction of total regional housing capacity;
- 2. The transfer will not reduce the capacity of the region for housing or employment specified on Table

3.07-1to be transferred is reasonably likely to occur in the receiving zoning district within the 20-year planning period of Metro's last capacity analysis under ORS 197.299; and

- 3. The housing or employment capacity to be transferred is reasonably likely to occur at the receiving site within the 20-year planning period of Metro's last UGB capacity review under ORS 197.299; and
- 4. The transfer does not <u>move</u> <u>reduce the housing</u> capacity from a designated Center to an Inner or Outer <u>Neighborhood</u>, or from <u>of</u> a Regional Center <u>to a</u>. Town Center, Corridor, Station Community or Main Street.
- BD. A city or county may seek a transfer of capacity as authorized in subsection AC by filing an application on a form provided for that purpose by Metro. After receipt of a complete application, Metro shall set the matter for a public hearing before the Metro Council and shall notify MPAC and those persons who request notification of requests for transfers of capacity.
- GE. The Metro Council shall hold a public hearing to consider the request for a transfer of capacity. Any person may participate in the hearing. The Metro Council may set terms and conditions upon approval of a transfer so long as they relate to the criteria in subsection AC and are incorporated into the Metro Council's order.
 - D. D. F. The Metro Council shall issue an order with its conclusions and analysis and send a copy to the local governments involved in the transfer and any person who participated in the hearing before the Metro Council. Any person who participated in the hearing may seek review of the Metro Council's order as a land use decision under ORS 197.015(10) (a) (A).

<u>3.07.160</u> Local Plan Accommodation of Expected Growth Capacity for Housing and Employment-Performance Standard

All cities and counties within Metro shall demonstrate that:

A. The provisions required in Section 3.07.140 of this title have been included in comprehensive plans and implementing ordinances; and

- B. Using the computation method in Section 3.07.120, calculated capacities will achieve the target capacities for dwelling units and full-time and part-time jobs contained in Table 3.07-1; and
- C. Effective measures have been taken to reasonably assure that the calculated capacities will be built for dwelling units and jobs; and
- D. Expected development has been permitted at locations and densities likely to be achieved during the 20-year planning period by the private market or assisted housing programs, once all new regulations are in effect.

3.07.170 Design Type Density Recommendations

A. For the area of each of the 2040 Growth Concept design types, the following average densities for housing and employment are recommended to cities and counties:

Central City - 250 persons per acre Regional Centers - 60 persons per acre Station Communities - 45 persons per acre Town Centers - 40 persons per acre Main Streets - 39 persons per acre Corridor - 25 persons per acre Employment Areas - 20 persons per acre Industrial Areas - 9 employees per acre Regionally Significant Industrial Area - 9 employees per acre Inner Neighborhoods - 14 persons per acre Outer Neighborhoods - 13 persons per acre

City or County	Section 3.07.120(A)(1)(b) Dwelling Unit Capacity	Job Capacity
Beaverton	13,635	21,368
Cornelius	1,285	3,054
Durham	243	522
Fairview	2,929	7,063
Forest Grove	3,054	5,943
Gladstone	880	1,569
Gresham ³	20,020	27,679
Happy Valley ⁴	5,705	1,418
Hillsboro ⁵	16,106	59,566
Johnson City	38	82
King City ⁶	461	470
Lake Oswego	4,049	13,268
Maywood Park	12	5
Milwaukie	3,188	3,650
Oregon City	9,750	8,298
Portland ³	72,136	209,215
Rivergrove	20	θ
Sherwood	5,216	9,518
Tigard	6,308	17,801
Troutdale	3,260	7,222
Tualatin ⁷	4,054	12,301
West Linn	3,732	1,935
Wilsonville ²	4,425	15,030
Wood Village	458	1,074
Clackamas County ^{1,3}	13,340	31,901
Multnomah County ⁸	θ	θ
Washington County ¹	51,649	55,921
Regional Total	246,053	516,873

⁴Standards apply to the urban unincorporated portion of the county only.

²Wilsonville has not completed its capacity analysis (as of October 2002), 1996 Title 1 data used.

³Includes capacity for Pleasant Valley Concept Plan, former Urban Reserve Nos. 4 and 5.

⁴Includes capacity for former Urban Reserve Nos. 14 and 15.

⁵Includes capacity for former Urban Reserve No. 55.

⁶Includes capacity for former Urban Reserve No. 47.

⁷Includes capacity for former Urban Reserve No. 43.

⁸Capacity for unincorporated Multnomah County is included in the capacities of the Cities of Gresham, Portland and Troutdale.

Exhibit E to Ordinance No. 10-1244

TITLE 4: INDUSTRIAL AND OTHER EMPLOYMENT AREAS

3.07.410 Purpose and Intent

The Regional Framework Plan calls for a strong regional economy. To improve the economy, Title 4 seeks to provide and protect a supply of sites for employment by limiting the types and scale of non-industrial uses in Regionally Significant Industrial Areas (RSIAs), Industrial and Employment Areas. Title 4 also seeks to provide the benefits of "clustering" to those industries that operate more productively and efficiently in proximity to one another than in dispersed locations. Title 4 further seeks to protect the capacity and efficiency of the region's transportation system for the movement of goods and services and to encourage the location of other types of employment in Centers, Corridors, Main Streets and Station Communities. The Metro Council will evaluate the effectiveness of Title 4 in achieving these purposes as part of its periodic analysis of the capacity of the urban growth boundary.

3.07.420 Protection of Regionally Significant Industrial Areas

A. Regionally Significant Industrial Areas (RSIAs) are those areas near the region's most significant transportation facilities for the movement of freight and other areas most suitable for movement and storage of goods. Each city and county with land use planning authority over RSIAs shown on the Employment and Industrial Areas Map shall derive specific plan designation and zoning district boundaries of RSIAs within its jurisdiction from the Map, taking into account the location of existing uses that would not conform to the limitations on non-industrial uses in this section and the need to achieve a mix of employment uses.

B. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit the size and location of new buildings for retail commercial uses - such as stores and restaurants - and retail and professional services that cater to daily customers - such as financial, insurance, real estate, legal, medical and dental offices - to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 3,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:

1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and

2. Training facilities whose primary purpose is to provide training to meet industrial needs.

C. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit the siting and location of new buildings for the uses described in subsection B and for nonindustrial uses that do not cater to daily customers-such as banks or insurance processing centers-to ensure that such uses do not reduce off-peak performance on Main Roadway Routes and Roadway Connectors shown on the Regional Freight System Map in the 2035 Regional Transportation Plan or require added road capacity to prevent falling below the standards.

D. Cities and counties shall review their land use regulations and revise them, if necessary, to prohibit the siting of schools, places of assembly larger than 20,000 square feet or parks intended to serve people other than those working or residing in the RSIA.

- E. No city or county shall amend its land use regulations that apply to lands shown as RSIA on the Employment and Industrial Areas Map to authorize uses described in subsection B that were not authorized prior to July 1, 2004.
- F. Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:
 - 1. Lots or parcels smaller than 50 acres may be divided into any number of smaller lots or parcels.

- 2. Lots or parcels 50 acres or larger may be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields at least one lot or parcel of at least 50 acres in size.
- 3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph 2 of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed, with uses described in subsection B of this section.
- 4. Notwithstanding paragraphs 2 and 3 of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:
 - a. To provide public facilities and services;
 - b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;
 - c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; or
 - d. To allow the creation of a lot solely for financing purposes when the created lot is part of a master planned development.
- G. Notwithstanding subsection B of this section, a city or county may allow the lawful use of any building, structure or land at the time of enactment of an ordinance adopted pursuant to this section to continue and to expand to add up to 20 percent more floor area and 10 percent more land area. Notwithstanding subsection E of this section, a city

or county may allow division of lots or parcels pursuant to a master plan approved by the city or county prior to July 1, 2004.

3.07.430 Protection of Industrial Areas

Cities and counties shall review their land use regulations Α. and revise them, if necessary, to include measures to limit new buildings for retail commercial uses-such as stores and restaurants-and retail and professional services that cater to daily customers-such as financial, insurance, real estate, legal, medical and dental offices-in order to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 5,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:

> 1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and

2. Training facilities whose primary purpose is to provide training to meet industrial needs.

- B. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for the uses described in subsection A to ensure that they do not interfere with the efficient movement of freight along Main Roadway Routes and Roadway Connectors shown on the Regional Freight System Map in the 2035 Regional Transportation Plan. Such measures may include, but are not limited to, restrictions on access to freight routes and connectors, siting limitations and traffic thresholds. This subsection does not require cities and counties to include such measures to limit new other buildings or uses.
- C. No city or county shall amend its land use regulations that apply to lands shown as Industrial Area on the Employment

and Industrial Areas Map to authorize uses described in subsection A of this section that were not authorized prior to July 1, 2004.

D. Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:

1. Lots or parcels smaller than 50 acres may be divided into any number of smaller lots or parcels.

2. Lots or parcels 50 acres or larger may be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields at least one lot or parcel of at least 50 acres in size.

3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph (2) of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed with uses described in subsection A of this section.

4. Notwithstanding paragraphs 2 and 3 of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:

a. To provide public facilities and services;

b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;

c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; or d. To allow the creation of a lot solely for financing purposes when the created lot is part of a master planned development.

E. Notwithstanding subsection B of this section, a city or county may allow the lawful use of any building, structure or land at the time of enactment of an ordinance adopted pursuant to this section to continue and to expand to add up to 20 percent more floorspace and 10 percent more land area.

3.07.440 Protection of Employment Areas

- A. Except as provided in subsections C, D and E, in Employment Areas mapped pursuant to Metro Code section 3.07.130, cities and counties shall limit new and expanded commercial retail uses to those appropriate in type and size to serve the needs of businesses, employees and residents of the Employment Areas.
- B. Except as provided in subsections C, D and E, a city or county shall not approve a commercial retail use in an Employment Area with more than 60,000 square feet of gross leasable area in a single building, or commercial retail uses with a total of more than 60,000 square feet of retail sales area on a single lot or parcel, or on contiguous lots or parcels, including those separated only by transportation right-of-way.
- C. A city or county whose zoning ordinance applies to an Employment Area and is listed on Table 3.07-4 may continue to authorize commercial retail uses with more than 60,000 square feet of gross leasable area in that zone if the ordinance authorized those uses on January 1, 2003.
- D. A city or county whose zoning ordinance applies to an Employment Area and is not listed on Table 3.07-4 may continue to authorize commercial retail uses with more than 60,000 square feet of gross leasable area in that zone if:
 - The ordinance authorized those uses on January 1, 2003;
 - Transportation facilities adequate to serve the commercial retail uses will be in place at the time the uses begin operation; and

- 3. The comprehensive plan provides for transportation facilities adequate to serve other uses planned for the Employment Area over the planning period.
- E. A city or county may authorize new commercial retail uses with more than 60,000 square feet of gross leasable area in Employment Areas if the uses:
 - 1. Generate no more than a 25 percent increase in sitegenerated vehicle trips above permitted non-industrial uses; and
 - Meet the Maximum Permitted Parking Zone A requirements set forth in Table 3.08-3 of Title 4 of the Regional Transportation Functional Plan.

3.07.450 Employment and Industrial Areas Map

- A. The Employment and Industrial Areas Map is the official depiction of the boundaries of Regionally Significant Industrial Areas, Industrial Areas and Employment Areas.
- B. If the Metro Council adds territory to the UGB and designates all or part of the territory Regionally Significant Industrial Area, Industrial Area or Employment Area, after completion of Title 11 planning by the responsible city or county, the Chief Operating Officer (COO) shall issue an order to conform the map to the boundaries established by the responsible city or county. The order shall also make necessary amendments to the Habitat Conservation Areas Map, described in section 3.07.1320 of Title 13 of this chapter, to ensure implementation of Title 13.
- C. A city or county may amend its comprehensive plan or zoning regulations to change its designation of land on the Employment and Industrial Areas Map in order to allow uses not allowed by this title upon a demonstration that:
 - The property is not surrounded by land designated on the map as Industrial Area, Regionally Significant Industrial Area or a combination of the two;
 - The amendment will not reduce the employment capacity of the city or county;

- 3. If the map designates the property as Regionally Significant Industrial Area, the subject property does not have access to specialized services, such as redundant electrical power or industrial gases, and is not proximate to freight loading and unloading facilities, such as trans-shipment facilities;
- 4. The amendment would not allow uses that would reduce off-peak performance on Major Roadway Routes and Roadway Connectors shown on the Regional Freight System Map in the 2035 Regional Transportation Plan below volume-to-capacity standards in the plan, unless mitigating action is taken that will restore performance to RTP standards within two years after approval of uses;
- 5. The amendment would not diminish the intended function of the Central City or Regional or Town Centers as the principal locations of retail, cultural and civic services in their market areas; and
- 6. If the map designates the property as Regionally Significant Industrial Area, the property subject to the amendment is ten acres or less; if designated Industrial Area, the property subject to the amendment is 20 acres or less; if designated Employment Area, the property subject to the amendment is 40 acres or less.
- D. A city or county may also amend its comprehensive plan or zoning regulations to change its designation of land on the Employment and Industrial Areas Map in order to allow uses not allowed by this title upon a demonstration that:
 - 1. The entire property is not buildable due to environmental constraints; or
 - 2. The property borders land that is not designated on the map as Industrial Area or Regionally Significant Industrial Area; and
 - 3. The assessed value of a building or buildings on the property, built prior to March 5, 2004, and historically occupied by uses not allowed by this title, exceeds the assessed value of the land by a ratio of 1.5 to 1.

- E. The COO shall revise the Employment and Industrial Areas Map by order to conform to an amendment made by a city or county pursuant to subsection C or D of this section within 30 days after notification by the city or county that no appeal of the amendment was filed pursuant to ORS 197.825 or, if an appeal was filed, that the amendment was upheld in the final appeal process.
- F. After consultation with MPAC, the Council may issue an order suspending operation of subsection C in any calendar year in which the cumulative amount of land for which the Employment and Industrial Areas Map is changed during that year from Regionally Significant Industrial Area or Industrial Area to Employment Area or other 2040 Growth Concept design type designation exceeds the industrial land surplus. The industrial land surplus is the amount by which the current supply of vacant land designated Regionally Significant Industrial Area and Industrial Area exceeds the 20-year need for industrial land, as determined by the most recent "Urban Growth Report: An Employment Land Need Analysis", reduced by an equal annual increment for the number of years since the report.
- G. The Metro Council may amend the Employment and Industrial Areas Map by ordinance at any time to make corrections in order to better achieve the policies of the Regional Framework Plan.
- H. Upon request from a city or a county, the Metro Council may amend the Employment and Industrial Areas Map by ordinance to consider proposed amendments that exceed the size standards of paragraph 6 of subsection C of the section. To approve an amendment, the Council must conclude that the amendment:
 - Would not reduce the employment capacity of the city or county;
 - 2. Would not allow uses that would reduce off-peak performance on Major Roadway Routes and Roadway Connectors shown on the Regional Freight System Map in the 2035 Regional Transportation Plan below volumeto-capacity standards in the plan, unless mitigating action is taken that will restore performance to RTP standards within two years after approval of uses;

- 3. Would not diminish the intended function of the Central City or Regional or Town Centers as the principal locations of retail, cultural and civic services in their market areas;
- Would not reduce the integrity or viability of a traded sector cluster of industries;
- Would not create or worsen a significant imbalance between jobs and housing in a regional market area; and
- 6. If the subject property is designated Regionally Significant Industrial Area, would not remove from that designation land that is especially suitable for industrial use due to the availability of specialized services, such as redundant electrical power or industrial gases, or due to proximity to freight transport facilities, such as trans-shipment facilities.
- I. Amendments to the Employment and Industrial Areas Map made in compliance with the process and criteria in this section shall be deemed to comply with the Regional Framework Plan.
- J. The Council may establish conditions upon approval of an amendment to the Employment and Industrial Areas Map under subsection F to ensure that the amendment complies with the Regional Framework Plan and state land use planning laws.
- K. By January 31 of each year, the COO (COO) shall submit a written report to the Council and MPAC on the cumulative effects on employment land in the region of the amendments to the Employment and Industrial Areas Map made pursuant to this section during the preceding year. The report shall include any recommendations the COO deems appropriate on measures the Council might take to address the effects.

3.07.460 Large Sites for Industrial Use

- A. For purposes of this section, "developed" means construction has begun on one or more buildings that will accommodate industrial uses.
- B. The COO shall maintain an inventory of sites that are:

- a. Contiguous lots or parcels in the same ownership totaling 50 acres or more;
- b. Designated on the Employment and Industrial Areas Map or zoned for industrial;
- c. Suitable for industries that prefer large sites; and
- d. Vacant but for buildings or uses on the site at the time the site was added to the UGB.
- C. A city or county with land use planning authority over a large site on the Employment and Industrial Areas Map shall limit division of any lot or parcel 50 acres or larger that is part of the site as provided in paragraphs (2), (3) and (4) of subsection E of section 3.07.420 or subsection D of section 3.07.430, whichever is applicable. A city or county may not allow division of a lot or parcel smaller than 50 acres that is part of the site.
- D. A city or county with land use planning authority over a site on the Employment and Industrial Areas Map shall inform the COO when a site is developed.
- E. Following notification pursuant to subsection D that a large site on the inventory is developed, the COO shall work with cities and counties to create a new site consistent with subsection B within the UGB. If, within one year following the notification, the COO is unable to create a new large site within the UGB, the COO shall file an application pursuant to section 3.07.1435 of this chapter to expand the UGB to add a new large site.
- F. The COO shall revise the Employment and Industrial Areas Map by order to add new large sites created pursuant to subsection E or added the UGB and to remove sites that no longer qualify as large sites under subsection B.

Exhibit E to Ordinance No. 10-1244

TITLE 4: INDUSTRIAL AND OTHER EMPLOYMENT AREAS

3.07.410 Purpose and Intent

The Regional Framework Plan calls for a strong regional economiceconomy climate. To improve the region's economic climateeconomy, Title 4 seeks to provide and protect a supply of sites for employment by limiting the types and scale of nonindustrial uses in Regionally Significant Industrial Areas (RSIAs), Industrial and Employment Areas. Title 4 also seeks to provide the benefits of "clustering" to those industries that operate more productively and efficiently in proximity to one another than in dispersed locations. Title 4 further seeks to protect the capacity and efficiency of the region's transportation system for the movement of goods and services and to encourage the location of other types of employment in Centers, Corridors, Main Streets and Station Communities. The Metro Council will evaluate the effectiveness of Title 4 in achieving these purposes as part of its periodic analysis of the capacity of the urban growth boundary.

3.07.420 Protection of Regionally Significant Industrial Areas

A. Regionally Significant Industrial Areas (RSIAs) are those areas near the region's most significant transportation facilities for the movement of freight and other areas most suitable for movement and storage of goods. Each city and county with land use planning authority over RSIAs shown on the Employment and Industrial Areas Map shall derive specific plan designation and zoning district boundaries of RSIAs within its jurisdiction from the Map, taking into account the location of existing uses that would not conform to the limitations on non-industrial uses in this section and the need to achieve a mix of employment uses.

B. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit the size and location of new buildings for retail commercial uses - such as stores and restaurants - and retail and professional services that cater to daily customers - such as financial, insurance, real estate, legal, medical and dental offices - to ensure that they serve primarily the needs of workers in the area. One such

1

measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 3,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:

1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and

2. Training facilities whose primary purpose is to provide training to meet industrial needs.

<u>C.</u> Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit the siting and location of new buildings for the uses described in subsection B and for nonindustrial uses that do not cater to daily customers-such as banks or insurance processing centers-to ensure that such uses do not reduce off-peak performance on Main Roadway Routes and Roadway Connectors shown on <u>Metro's the</u> <u>Regional</u> Freight <u>Network</u>_<u>System Map</u>, <u>November</u>, 2003, below <u>standards set</u> in the <u>20042035</u> Regional Transportation Plan or require added road capacity to prevent falling below the standards.

D. Cities and counties shall review their land use regulations and revise them, if necessary, to prohibit the siting of schools, places of assembly larger than 20,000 square feet or parks intended to serve people other than those working or residing in the RSIA.

- $\underline{E} \overline{+}$. No city or county shall amend its land use regulations that apply to lands shown as RSIA on the Employment and Industrial Areas Map to authorize uses described in subsection B that were not authorized prior to July 1, 2004.
- <u>FE</u>. Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:

- 1. Lots or parcels smaller than 50 acres may be divided into any number of smaller lots or parcels.
- 2. Lots or parcels larger than 50 acres <u>or larger may</u> be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields at least one lot or parcel of at least 50 acres in size.
- 3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph 2 of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed, with uses described in subsection B of this section.
- 4. Notwithstanding paragraphs 2 and 3 of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:
 - a. To provide public facilities and services;
 - b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;
 - c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render the remainder more practical for a permitted use; or
 - d. To allow the creation of a lot <u>solely</u> for financing purposes when the created lot is part of a master planned development.
- <u>GF</u>. Notwithstanding subsection B of this section, a city or county may allow the lawful use of any building, structure or land at the time of enactment of an ordinance adopted pursuant to this section to continue and to expand to add

up to 20 percent more floor area and 10 percent more land area. Notwithstanding subsection $\pm \underline{F}$ of this section, a city or county may allow division of lots or parcels pursuant to a master plan approved by the city or county prior to July 1, 2004.

3.07.430 Protection of Industrial Areas

Α. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for retail commercial uses-such as stores and restaurants-and retail and professional services that cater to daily customers-such as financial, insurance, real estate, legal, medical and dental offices-in order to ensure that they serve primarily the needs of workers in the area. One such measure shall be that new buildings for stores, branches, agencies or other outlets for these retail uses and services shall not occupy more than 5,000 square feet of sales or service area in a single outlet, or multiple outlets that occupy more than 20,000 square feet of sales or service area in a single building or in multiple buildings that are part of the same development project, with the following exceptions:

> 1. Within the boundaries of a public use airport subject to a facilities master plan, customary airport uses, uses that are accessory to the travel-related and freight movement activities of airports, hospitality uses, and retail uses appropriate to serve the needs of the traveling public; and

2. Training facilities whose primary purpose is to provide training to meet industrial needs.

B. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for the uses described in subsection A to ensure that they do not interfere with the efficient movement of freight along Main Roadway Routes and Roadway Connectors shown on <u>Metro's the Regional Freight Network System Map, November, 2003 in the 2035 Regional</u> <u>Transportation Plan</u>. Such measures may include, but are not limited to, restrictions on access to freight routes and connectors, siting limitations and traffic thresholds. This subsection does not require cities and counties to include such measures to limit new other buildings or uses.

- C. No city or county shall amend its land use regulations that apply to lands shown as Industrial Area on the Employment and Industrial Areas Map to authorize uses described in subsection A of this section that were not authorized prior to July 1, 2004.
- D. Cities and counties may allow division of lots or parcels into smaller lots or parcels as follows:

1. Lots or parcels smaller than 50 acres may be divided into any number of smaller lots or parcels.

2. Lots or parcels larger than 50 acres <u>or larger</u> may be divided into smaller lots and parcels pursuant to a master plan approved by the city or county so long as the resulting division yields at least one lot or parcel of at least 50 acres in size.

3. Lots or parcels 50 acres or larger, including those created pursuant to paragraph (2) of this subsection, may be divided into any number of smaller lots or parcels pursuant to a master plan approved by the city or county so long as at least 40 percent of the area of the lot or parcel has been developed with industrial uses or uses accessory to industrial use, and no portion has been developed, or is proposed to be developed with uses described in subsection A of this section.

4. Notwithstanding paragraphs 2 and 3 of this subsection, any lot or parcel may be divided into smaller lots or parcels or made subject to rights-of-way for the following purposes:

a. To provide public facilities and services;

b. To separate a portion of a lot or parcel in order to protect a natural resource, to provide a public amenity, or to implement a remediation plan for a site identified by the Oregon Department of Environmental Quality pursuant to ORS 465.225;

c. To separate a portion of a lot or parcel containing a nonconforming use from the remainder of the lot or parcel in order to render

the remainder more practical for a permitted use; or

d. To allow the creation of a lot <u>solely</u> for financing purposes when the created lot is part of a master planned development.

E. Notwithstanding subsection B of this section, a city or county may allow the lawful use of any building, structure or land at the time of enactment of an ordinance adopted pursuant to this section to continue and to expand to add up to 20 percent more floorspace and 10 percent more land area.

3.07.440 Protection of Employment Areas

- A. Except as provided in subsections C, D and E, in Employment Areas mapped pursuant to Metro Code <u>Section 3.07.130</u>, cities and counties shall limit new and expanded commercial retail uses to those appropriate in type and size to serve the needs of businesses, employees and residents of the Employment Areas.
- B. Except as provided in subsections C, D and E, a city or county shall not approve a commercial retail use in an Employment Area with more than 60,000 square feet of gross leasable area in a single building, or commercial retail uses with a total of more than 60,000 square feet of retail sales area on a single lot or parcel, or on contiguous lots or parcels, including those separated only by transportation right-of-way.
- C. A city or county whose zoning ordinance applies to an Employment Area and is listed on Table 3.07-4 may continue to authorize commercial retail uses with more than 60,000 square feet of gross leasable area in that zone if the ordinance authorized those uses on January 1, 2003.
- D. A city or county whose zoning ordinance applies to an Employment Area and is not listed on Table 3.07-4 may continue to authorize commercial retail uses with more than 60,000 square feet of gross leasable area in that zone if:

——1. The ordinance authorized those uses on January 1, 2003;

- Transportation facilities adequate to serve the commercial retail uses will be in place at the time the uses begin operation; and
- 3. The comprehensive plan provides for transportation facilities adequate to serve other uses planned for the Employment Area over the planning period.
- E. A city or county may authorize new commercial retail uses with more than 60,000 square feet of gross leasable area in Employment Areas if the uses:
 - Generate no more than a 25 percent increase in sitegenerated vehicle trips above permitted non-industrial uses; and
 - 2. Meet the Maximum Permitted Parking Zone A requirements set forth in Table 3.07-23.08-3 of Title 24 of the Urban Growth ManagementRegional Transportation Functional Plan.

3.07.450 Employment and Industrial Areas Map

- A. The Employment and Industrial Areas Map is the official depiction of the boundaries of Regionally Significant Industrial Areas, Industrial Areas and Employment Areas.
- B. If the Metro Council adds territory to the UGB and designates all or part of the territory Regionally Significant Industrial Area, Industrial Area or Employment Area, after completion of Title 11 planning by the responsible city or county, the Chief Operating Officer (COO) shall issue an order to conform the map to the boundaries established by the responsible city or county. The order shall also make necessary amendments to the Habitat Conservation Areas Map, described in <u>Ssection</u> 3.07.1320 of Title 13 of this chapter, to ensure implementation of Title 13.
- C. A city or county may amend its comprehensive plan or zoning regulations to change its designation of land on the Employment and Industrial Areas Map in order to allow uses not allowed by <u>Title 4this title</u> upon a demonstration that:
 - The property is not surrounded by land designated on the map as Industrial Area, Regionally Significant Industrial Area or a combination of the two;

- 2. The amendment will not reduce the jobs <u>employment</u> capacity of the city or county <u>below the number shown</u> on Table 3.07-1 of Title 1 of the Urban Growth Management Functional Plan, or the amount of the reduction is replaced by separate and concurrent action by the city or county;
- 3. If the map designates the property as Regionally Significant Industrial Area, the subject property does not have access to specialized services, such as redundant electrical power or industrial gases, and is not proximate to freight loading and unloading facilities, such as trans-shipment facilities;
- 4. The amendment would not allow uses that would reduce off-peak performance on Major Roadway Routes and Roadway Connectors shown on <u>Metro's 2004 the</u> Regional Freight System Map <u>in the 2035 Regional Transportation</u> <u>Plan below standards in the Regional Transportation</u> <u>Plan below standards in the Regional Transportation</u> <u>Plan ("RTP"), or exceed volume-to-capacity ratios on Table 7 of the 1999 Oregon Highway Plan for state highways standards in the plan</u>, unless mitigating action is taken that will restore performance to RTP and OHP standards within two years after approval of uses;
- 5. The amendment would not diminish the intended function of the Central City or Regional or Town Centers as the principal locations of retail, cultural and civic services in their market areas; and
- 6. If the map designates the property as Regionally Significant Industrial Area, the property subject to the amendment is ten acres or less; if designated Industrial Area, the property subject to the amendment is 20 acres or less; if designated Employment Area, the property subject to the amendment is 40 acres or less.
- D. A city or county may also amend its comprehensive plan or zoning regulations to change its designation of land on the Employment and Industrial Areas Map in order to allow uses not allowed by Title 4this title upon a demonstration that:
 - 1. The entire property is not buildable due to environmental constraints; or

- The property borders land that is not designated on the map as Industrial Area or Regionally Significant Industrial Area; and
- 3. The assessed value of a building or buildings on the property, built prior to March 5, 2004, and historically occupied by uses not allowed by Title 4this title, exceeds the assessed value of the land by a ratio of 1.5 to 1.
- E. The <u>Chief Operating OfficerCOO</u> shall revise the Employment and Industrial Areas Map by order to conform to an amendment made by a city or county pursuant to subsection C <u>or D</u> of this section within 30 days after notification by the city or county that no appeal of the amendment was filed pursuant to ORS 197.825 or, if an appeal was filed, that the amendment was upheld in the final appeal process.
- After consultation with Metropolitan Policy Advisory F. CommitteeMPAC, the Council may issue an order suspending operation of subsection C in any calendar year in which the cumulative amount of land for which the Employment and Industrial Areas Map is changed during that year from Regionally Significant Industrial Area or Industrial Area to Employment Area or other 2040 Growth Concept design type designation exceeds the industrial land surplus. The industrial land surplus is the amount by which the current supply of vacant land designated Regionally Significant Industrial Area and Industrial Area exceeds the 20-year need for industrial land, as determined by the most recent "Urban Growth Report: An Employment Land Need Analysis", reduced by an equal annual increment for the number of years since the report.
- G. The Metro Council may amend the Employment and Industrial Areas Map by ordinance at any time to make corrections in order to better achieve the policies of the Regional Framework Plan.
- H. Upon request from a city or a county, the Metro Council may amend the Employment and Industrial Areas Map by ordinance to consider proposed amendments that exceed the size standards of paragraph 6 of subsection C of the section. To approve an amendment, the Council must conclude that the amendment:

- 1. Would not reduce the jobs <u>employment</u> capacity of the city or county below the number shown on Table 3.07-1 of Title 1 of the Urban Growth Management Functional Plan;
- 2. Would not allow uses that would reduce off-peak performance on Major Roadway Routes and Roadway Connectors shown on <u>Metro's 2004</u> <u>the</u> Regional Freight System Map <u>in the 2035 Regional Transportation Plan</u> below standards in the Regional Transportation Plan ("RTP"), or exceed volume-to-capacity ratios on Table 7 of the 1999 Oregon Highway Plan ("OHP") for state highways standards in the plan, unless mitigating action is taken that will restore performance to RTP and OHP standards within two years after approval of uses;
- 3. Would not diminish the intended function of the Central City or Regional or Town Centers as the principal locations of retail, cultural and civic services in their market areas;
- Would not reduce the integrity or viability of a traded sector cluster of industries;
- Would not create or worsen a significant imbalance between jobs and housing in a regional market area; and
- 6. If the subject property is designated Regionally Significant Industrial Area, would not remove from that designation land that is especially suitable for industrial use due to the availability of specialized services, such as redundant electrical power or industrial gases, or due to proximity to freight transport facilities, such as trans-shipment facilities.
- I. Amendments to the Employment and Industrial Areas Map made in compliance with the process and criteria in this section shall be deemed to comply with the Regional Framework Plan.
- J. The Council may establish conditions upon approval of an amendment to the Employment and Industrial Areas Map under subsection F to ensure that the amendment complies with the Regional Framework Plan and state land use planning laws.

K. By January 31 of each year, the <u>Chief Operating OfficerCOO</u> (COO) shall submit a written report to the Council and the <u>Metropolitan Policy Advisory CommitteeMPAC</u> on the cumulative effects on employment land in the region of the amendments to the Employment and Industrial Areas Map made pursuant to this section during the preceding year. The report shall include any recommendations the COO deems appropriate on measures the Council might take to address the effects.

3.07.460 Large Sites for Industrial Use

- <u>A. For purposes of this section, "developed" means</u> <u>construction has begun on one or more buildings that will</u> <u>accommodate industrial uses.</u>
- B. The COO shall maintain an inventory of sites that are:
 - <u>a. Contiguous lots or parcels in the same ownership totaling</u> 50 acres or more;
 - b. Designated on the Employment and Industrial Areas Map or zoned for industrial;
 - c. Suitable for industries that prefer large sites; and
 - <u>d. Vacant but for buildings or uses on the site at the time</u> the site was added to the UGB.
- C. A city or county with land use planning authority over a large site on the Employment and Industrial Areas Map shall limit division of any lot or parcel 50 acres or larger that is part of the site as provided in paragraphs (2), (3) and (4) of subsection E of section 3.07.420 or subsection D of section 3.07.430, whichever is applicable. A city or county may not allow division of a lot or parcel smaller than 50 acres that is part of the site.
- D. A city or county with land use planning authority over a site on the Employment and Industrial Areas Map shall inform the COO when a site is developed.
- E. Following notification pursuant to subsection D that a large site on the inventory is developed, the COO shall work with cities and counties to create a new site consistent with subsection B within the UGB. If, within one year following the notification, the COO is unable to create a new large site within the UGB, the COO shall

file an application pursuant to section 3.07.1425 of this chapter to expand the UGB to add a new large site.

F. The COO shall revise the Employment and Industrial Areas Map by order to add new large sites created pursuant to subsection E or added the UGB and to remove sites that no longer qualify as large sites under subsection B.

Exhibit F of Ordinance No. 10-1244

Placeholder for Title 4 Map (Industrial and Other Employment Areas)

To be completed fall 2010

Exhibit G of Ordinance No. 10-1244

TITLE 6: CENTERS, CORRIDORS, STATION COMMUNITIES AND MAIN STREETS

3.07.610 Purpose

The Regional Framework Plan (RFP) identifies Centers, Corridors, Main Streets and Station Communities throughout the region and recognizes them as the principal centers of urban life in the region. Title 6 calls for actions and investments by cities and counties, complemented by regional investments, to enhance this role. A regional investment is an investment in a new highcapacity transit line or designated a regional investment in a grant or funding program administered by Metro or subject to Metro's approval.

<u>3.07.620</u> Actions and Investments in Centers, Corridors, Station Communities and Main Streets

- A. In order to be eligible for a regional investment in a Center, Corridor, Station Community or Main Street, or a portion thereof, a city or county shall take the following actions:
 - Establish a boundary for the Center, Corridor, Station Community or Main Street, or portion thereof, pursuant to subsection B;
 - Perform an assessment of the Center, Corridor, Station Community or Main Street, or portion thereof, pursuant to subsection C; and
 - 3. Adopt a plan of actions and investments to enhance the Center, Corridor, Station Community or Main Street, or portion thereof, pursuant to subsection D.
 - B. The boundary of a Center, Corridor, Station Community or Main Street, or portion thereof, shall:
 - Be consistent with the general location shown in the RFP except, for a proposed new Station Community, be consistent with Metro's land use final order for a light rail transit project;

1

- 2. For a Corridor with existing high-capacity transit service, include at least those segments of the Corridor that pass through a Regional Center or Town Center;
- 3. For a Corridor designated for future high-capacity transit in the Regional Transportation Plan (RTP), include the area identified during the system expansion planning process in the RTP; and
- 4. Be adopted and may be revised by the city council or county board following notice of the proposed boundary action to the Oregon Department of Transportation and Metro in the manner set forth in subsection A of section 3.07.820 of this chapter.
- C. An assessment of a Center, Corridor, Station Community or Main Street, or portion thereof, shall analyze the following:
 - 1. Physical and market conditions in the area;
 - Physical and regulatory barriers to mixed-use, pedestrian-friendly and transit-supportive development in the area;
 - 3. The city or county development code that applies to the area to determine how the code might be revised to encourage mixed-use, pedestrian-friendly and transitsupportive development;
 - 4. Existing and potential incentives to encourage mixed-use pedestrian-friendly and transit-supportive development in the area; and
 - 5. For Corridors and Station Communities in areas shown as Industrial Area or Regionally Significant Industrial Area under Title 4 of this chapter, barriers to a mix and intensity of uses sufficient to support public transportation at the level prescribed in the RTP.
- D. A plan of actions and investments to enhance the Center, Corridor, Station Community or Main Street shall consider the diagnosis completed under subsection C and include at least the following elements:

- Actions to eliminate, overcome or reduce regulatory and other barriers to mixed-use, pedestrian-friendly and transit-supportive development;
- 2. Revisions to its comprehensive plan and land use regulations, if necessary, to allow:
 - i. In Regional Centers, Town Centers, Station Communities and Main Streets, the mix and intensity of uses specified in section 3.07.640; and
 - ii. In Corridors and those Station Communities in areas shown as Industrial Area or Regionally Significant Industrial Area in Title 4 of this chapter, a mix and intensity of uses sufficient to support public transportation at the level prescribed in the RTP;
- 3. Public investments and incentives to support mixed-use pedestrian-friendly and transit-supportive development; and
- 4. A plan to achieve the non-SOV mode share targets adopted by the city or county pursuant to section 3.08.230 of the Regional Transportation Functional Plan (RTFP) that includes:
 - i. The transportation system designs for streets, transit, bicycles and pedestrians consistent with Title 1 of the RTFP;
 - ii. A transportation system or demand management plan consistent with section 3.08.160 of the RTFP; and

E.A city or county that has completed all or some of the requirements of subsections B, C and D may seek recognition of that compliance from Metro by written request to the Chief Operating Officer (COO).

F.Compliance with the requirements of this section is not a prerequisite to:

1. Investments in Centers, Corridors, Station Communities or Main Streets that are not regional investments; or 2. Investments in areas other than Centers, Corridors, Station Communities and Main Streets.

3.07.630 Eligibility Actions for Lower Mobility Standards and Trip Generation Rates

- A. A city or county is eligible to use the higher volume-tocapacity standards in Table 7 of the 1999 Oregon Highway Plan when considering an amendment to its comprehensive plan or land use regulations in a Center, Corridor, Station Community or Main Street, or portion thereof, if it has taken the following actions:
 - 1. Established a boundary pursuant to subsection B of section 3.07.620; and
 - 2. Adopted land use regulations to allow the mix and intensity of uses specified in section 3.07.640.
- B. A city or county is eligible for an automatic reduction of 30 percent below the vehicular trip generation rates reported by the Institute of Traffic Engineers when analyzing the traffic impacts, pursuant to OAR 660-012-0060, of a plan amendment in a Center, Corridor, Main Street or Station Community, or portion thereof, if it has taken the following actions:
 - Established a boundary pursuant to subsection B of section 3.07.620;
 - Revised its comprehensive plan and land use regulations, if necessary, to allow the mix and intensity of uses specified in section 3.07.640; and
 - 3. A plan to achieve the non-SOV mode share targets adopted by the city or county pursuant to section 3.08.230 of the Regional Transportation Functional Plan (RTFP)that includes:
 - i. Transportation system designs for streets, transit, bicycles and pedestrians consistent with Title 1 of the RTFP;
 - ii. A transportation system or demand management plan consistent with section 3.08.160 of the RTFP; and

iii. A parking management program consistent with section 3.08.410 of the RTFP.

3.07.640 Activity Levels for Centers, Corridors, Station Communities and Main Streets

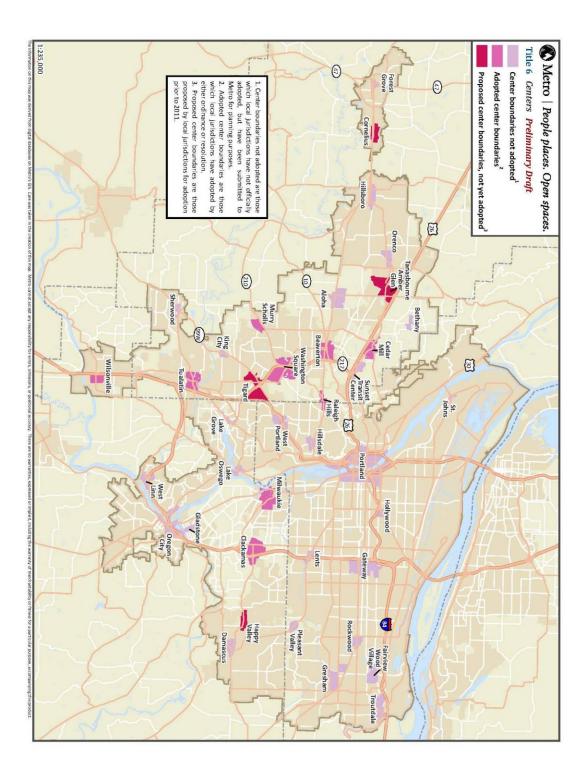
- A. Centers, Corridors, Station Communities and Main Streets need a critical number of residents and workers to be vibrant and successful. The following average number of residents and workers per acre is recommended for each:
 - Central City 250 persons
 Regional Centers 60 persons
 Station Communities 45 persons
 Corridors 45 persons
 Town Centers 40 persons
 Main Streets 39 persons
 - B. Centers, Corridors, Station Communities and Main Streets need a mix of uses to be vibrant and walkable. The following mix of uses is recommended for each:
 - 1. The land uses listed in State of the Centers: Investing in Our Communities, January, 2009, such as grocery stores and restaurants;
 - Institutional uses, including schools, colleges, universities, hospitals, medical offices and facilities;
 - 3. Civic uses, including government offices open to and serving the general public, libraries, city halls and public spaces.
 - C. Centers, Corridors, Station Communities and Main Streets need a mix of housings types to be vibrant and successful. The following mix of housing types is recommended for each:
 - 1. The types of housing listed in the "needed housing"
 statute, ORS 197.303(1);
 - 2. The types of housing identified in the city's or county's housing need analysis done pursuant to ORS 197.296 or statewide planning Goal 10 (Housing); and
 - 3. Accessory dwellings pursuant to section 3.07.120 of this chapter.

3.07.650 Centers, Corridors, Station Communities and Main Streets Map

- A. The Centers, Corridors, Station Communities and Main Streets Map is incorporated in this title and is Metro's official depiction of their boundaries. The map shows the boundaries established pursuant to this title and boundaries established prior to January 1, 2011. Until a local government has established a boundary by action of its elected officials, the map will depict the approximate locations of Centers, Corridors, Station Communities and Main Streets shown on the 2040 Growth Concept Map in the Regional Framework Plan (RFP).
- B. A city or county may revise the boundary of a Center, Corridor, Station Community or Main Street so long as the boundary is consistent with the general location on the 2040 Growth Concept Map in the RFP. The city or county shall provide notice of its proposed revision as prescribed in subsection B of section 3.07.620.
- C. The COO shall revise the Centers, Corridors, Station Communities and Main Streets Map by order to conform the map to establishment or revision of a boundary under this title.

7204

TITLE 6: CENTERS, CORRIDORS, STATION COMMUNITIES AND MAIN STREETS MAP



TITLE 8: COMPLIANCE PROCEDURES

3.07.810 Compliance With the Functional Plan

- A. The purpose of this section is to establish a process for determining whether city or county comprehensive plans and land use regulations comply with requirements of the Urban Growth Management Functional Plan. The Council intends the process to be efficient and cost-effective and to provide an opportunity for the Metro Council to interpret the requirements of its functional plan. Where the terms "compliance" and "comply" appear in this title, the terms shall have the meaning given to "substantial compliance" in Section 3.07.1010.
- B. Cities and counties shall amend their comprehensive plans and land use regulations to comply with the functional plan, or an amendment to the functional plan, within two years after its acknowledgement of the plan or amendment, or after any later date specified by the Metro Council in the ordinance adopting or amending the functional plan. The Chief Operating Officer (COO) shall notify cities and counties of the acknowledgment date and compliance dates described in subsections C and D.
- C. After one year following acknowledgment of a functional plan requirement cities and counties that amend their comprehensive plans and land use regulations shall make such amendments in compliance with the new functional plan requirement.
- D. Cities and counties whose comprehensive plans and land use regulations do not yet comply with the requirement shall, after one year following acknowledgment of the requirement, make land use decisions consistent with that requirement. The Chief Operating Officer shall notify cities and counties of the date upon which functional plan requirements become applicable to land use decisions at least 120 days before that date. For the purposes of this subsection, "land use decision" shall have the meaning of that term as defined in ORS 197.015(10).
- E. An amendment to a city or county comprehensive plan or land use regulation shall be deemed to comply with the functional plan upon the expiration of the appropriate

appeal period specified in ORS 197.830 or 197.650 of, if an appeal is made, upon the final decision on appeal. Once the amendment is deemed to comply, the functional plan shall no longer apply to land use decisions made in conformance with the amendment.

F. An amendment to a city or county comprehensive plan or land use regulation shall be deemed to comply with the functional plan as provided in subsection E only if the city or county provided notice to the COO as required by subsection A of Section 3.07.820.

3.07.820 Review by the Chief Operating Officer

- A city or county proposing an amendment to a comprehensive Α. plan or land use regulation shall submit the proposed amendment to the COO at least 45 days prior to the first evidentiary hearing on the amendment. The COO may request, and if so the city or county shall submit, an analysis of compliance of the amendment with the functional plan. Ιf the COO submits comments on the proposed amendment to the city or county, the comment shall include analysis and conclusions on compliance and a recommendation with specific revisions to the proposed amendment, if any, that would bring it into compliance with functional plan . The COO shall send a copy of comment to those persons who have requested a copy.
- B. If the COO concludes that the proposed amendment does not comply with the functional plan, the COO shall advise the city or county that it may:
 (1) Revise the proposed amendment as recommended in the COO's analysis;
 (2) Seek an extension of time, pursuant to Section 3.07.830, to bring the proposed amendment into compliance with the functional plan; or
 (3) Seek an exception pursuant to section 3.07.840.

3.07.830 Extension of Compliance Deadline

A. A city or county may seek an extension of time for compliance with a functional plan requirement. The city or county shall file an application for an extension on a form provided by the COO. Upon receipt of an application, the COO shall notify the city or countyand those persons who request notification of applications for extensions. Any person may file a written comment in support or opposition to the extension.

- B. The COO may grant an extension if the city or county is making progress toward compliance or there is good cause for failure to meet the deadline for compliance. Within 30 days after the filing of a complete application for an extension, the COO shall issue an order granting or denying the extension. The COO shall not grant more than two extensions of time to a city or county and shall grant no extension of more than one year. The COO shall send the order to the city or county and any person who filed a written comment.
- C. The COO may establish terms and conditions for the extension in order to ensure that compliance is achieved in a timely and orderly fashion and that land use decisions made by the city or county during the extension do not undermine the ability of the city or county to achieve the purposes of the functional plan requirement. A term or condition must relate to the requirement of the functional plan to which the COO has granted the extension.
- D. The city or county applicant or any person who filed written comment on the extension may appeal the COO's order to the Metro Council within 15 days after receipt of the order. If an appeal is filed, the Council shall hold a hearing to consider the appeal. After the hearing, the Council shall issue an order granting or denying the extension and shall send copies to the applicant and any person who participated in the hearing. The city or county or a person who participated in the proceeding may seek review of the Council's order as a land use decision described in ORS 197.015(10) (a) (A).

3.07.860 Exception from Compliance

- A. A city or county may seek an exception from compliance with a functional plan requirement by filing an application on a form provided by the COO. Upon receipt of an application, the Council President shall notify the city or county and those persons who request notification of requests for exceptions. Any person may file a written comment in support of or opposition to the exception.
- B. Except as provided in subsection C, the COO may grant an exception if:

- it is not possible to achieve the requirement due to topographic or other physical constraints or an existing development pattern;
- this exception and likely similar exceptions will not render the objective of the requirement unachievable region-wide;
- 3. the exception will not reduce the ability of another city or county to comply with the requirement; and
- the city or county has adopted other measures more appropriate for the city or county to achieve the intended result of the requirement.
- C. The COO may grant an exception to the housing capacity requirements in sections 3.07.120 or 3.07.130 if:

a. the city or county has completed the analysis of capacity for dwelling units required by subsections 3.07.120;

b. it is not possible to achieve the targets due to topographic or other physical constraints, an existing development pattern, or protection of natural resources pursuant to Titles 3 or 13 of this chapter; and

c. this exception and other exceptions to the targets will not render the targets unachievable region-wide.

- D. The COO may establish terms and conditions for the exception in order to ensure that it does not undermine the ability of the region to achieve the purposes of the requirement. A term or condition must relate to the requirement of the functional plan to which the Council grants the exception. The COO shall incorporate the terms and conditions into the order on the exception.
- E. The city or county applicant or a person who filed a written comment on the exception may appeal the COO's order to the Metro Council within 15 days after receipt of the order. If an appeal is files, the Council shall hold a hearing to consider the appeal. After the hearing, the Council shall issue an order granting or denying the

exception and send a copy to the applicant and any person who participated in the hearing. The city or county or a person who participated in the proceeding may seek review of the Council's order as a land use decision described in ORS 197.015(10)(a)(A).

3.07.850 Enforcement of Functional Plan

- A. The Metro Council may initiate enforcement if a city or county has failed to meet a deadline for compliance with a functional plan requirement or if it has good cause to believe that a city or county is engaging in a pattern or a practice of decision-making that is inconsistent with the functional plan or ordinances adopted by the city or county to implement the plan, or the terms or conditions in an extension or an exception granted pursuant to section 3.07.830 or 3.07.840, respectively. The Council may consider whether to initiate enforcement proceedings upon the request of the COO or a Councilor. The Council shall consult with the city or county before it determines there is good cause to proceed to a hearing under subsection B.
- B. If the Metro Council concludes that there is good cause, the Council President shall set the matter for a public hearing before the Council within 90 days of its conclusion. The COO shall publish notice of the hearing in a newspaper of general circulation in the city or county and send notice to the city or county, MPAC, the Department of Land Conservation and Development and any person who requests a copy of such notices.
- C. The COO shall prepare a report and recommendation on the pattern or practice, with a proposed order, for consideration by the Council. The COO Officer shall publish the report at least 14 days prior to the public hearing and send a copy to the city or county and any person who requests a copy.
- D. At the conclusion of the hearing, the Council shall adopt an order that dismisses the matter if it decides the city or county complies with the requirement. If the Council decides the city or county has failed to meet a deadline for compliance with a functional plan requirement or has engaged in a pattern or a practice of decision-making that is inconsistent with the functional plan, ordinances adopted by the city or county to implement the plan, or terms or conditions of an extension or an exception granted

pursuant to sections 3.07.830 or 3.07.840, respectively, the Council may adopt an order that:

1. Directs changes in the city or county ordinances necessary to remedy the pattern or practice; or 2. includes a remedy authorized in ORS 268.390(7).

E. The Council shall issue its order not later than 30 days following the hearing and send copies to the city or county, MPAC and any person who requests a copy.

3.07.860 Citizen Involvement in Compliance Review

- A. Any citizen may contact Metro staff or the COO or appear before the Metro Council to raise issues regarding local functional plan compliance, to request Metro participation in the local process, or to request the COO to appeal a local enactment for which notice is required to be given to the Chief Operating Officer pursuant to subsection A of section 3.07.820. Such contact may be oral or in writing and may be made at any time.
- B. In addition to considering requests as described in A above, the Council shall at every regularly scheduled Council meeting provide an opportunity for citizens to address the Council on any matter related to this functional plan. The COO shall maintain a list of persons who request notice of COO reviews, reports and orders under this chapter and shall send requested documents as provided in this chapter.
- C. Cities, counties and the Council shall comply with their own adopted and acknowledged Citizen Involvement Requirements (Citizen Involvement) in all decisions, determinations and actions taken to implement and comply with this functional plan. The Chief Operating Officer shall publish a Citizen Involvement fact sheet, after consultation with the Metro Committee for Citizen Involvement, that describes all opportunities for citizen involvement in Metro's growth management procedures as well as the implementation and enforcement of this functional plan.

3.07.870 Compliance Report and Order

A. The COO shall submit a report to the Metro Council by March1 of each calendar year on compliance by cities and counties with the Urban Growth Management Functional Plan. The COO shall send a copy of the report to each city and county within Metro.

B. A city, county or person who disagrees with a determination in the compliance report may seek review of the determination by the Council by written request to the COO. The Council shall review the request at a regularly scheduled meeting and shall notify the requestor and the affected city or county of the date of the review. The notification shall state that the Council does not have authority to:

(1) Determine whether previous amendments of comprehensive plans or land use regulations made by a city or county comply with functional plan requirements if those amendments already comply pursuant to subsections F and G of Section 3.07.810; or

(2) Reconsider a determination in a prior order issued under this section that a city or county complies with a requirement of the functional plan.

- C. Following its review, the Council shall adopt an order that determines whether the city or county complies with the functional plan requirements raised in the request. The order shall be based upon the Chief Operating Officer's report submitted pursuant to subsection A and upon testimony at the public hearing pursuant to subsection B, with which functional plan requirements each city and county complies. The COO shall send a copy of the order to the requestor, the affected city or county and any person who participated in the Council review.
- E. A city or county or a person who participated at the hearing may seek review of the Council's order as a land use decision described in ORS 197.015(10)(a)(A).

TITLE 8: COMPLIANCE PROCEDURES

3.07.810 Compliance With the Functional Plan

- A. The purpose of this section is to establish a process for determining whether city or county comprehensive plans and land use regulations comply with requirements of the Urban Growth Management Functional Plan. The Council intends the process to be efficient and cost-effective and to provide an opportunity for the Metro Council to interpret the requirements of its functional plan. Where the terms "compliance" and "comply" appear in this title, the terms shall have the meaning given to "substantial compliance" in Section 3.07.1010.
- B. Cities and counties shall amend their comprehensive plans and land use regulations to comply with the functional plan, or an amendment to the functional plan, within two years after its acknowledgement of the plan or amendment by the Land Conservation and Development Commission, or after any later date specified by the Metro Council in the ordinance adopting or amending such other date specified in the functional plan. The Chief Operating Officer (COO) shall notify cities and counties of the acknowledgment date and compliance dates described in subsections C and D.
- C. Notwithstanding subsection B of this section, cities and counties shall amend their comprehensive plans and land use regulations to comply with Sections 3.07.310 to 3.07.340 of Title 3 of the Urban Growth Management Functional Plan by January 31, 2000, and with the requirements in Sections 3.07.710 to 3.07.760 of Title 7 of the Urban Growth Management Functional Plan by January 18, 2003.
- DC. Cities and counties that amend their comprehensive plans or land use regulations after the effective date of the functional plan shall make the amendments in compliance with the functional plan. After one year following acknowledgment of a functional plan requirement adopted or amended by the Metro Council after January 1, 2005, cities and counties that amend their comprehensive plans and land use regulations shall make such amendments in compliance with the new functional plan requirement. The Chief Operating Officer shall notify cities and counties of the effective date.

- If a functional plan requirement was adopted or amended by DE. the Metro Council after December 12, 1997, cCities and counties whose comprehensive plans and land use regulations do not yet comply with the requirement shall, after one year following acknowledgment of the requirement, make land use decisions consistent with that requirement. Notwithstanding the previous sentence, however, cities and counties whose comprehensive plans and land use regulations do not yet comply with the requirements of Title 13 of this chapter, Metro Code Sections 3.07.1310 to 3.07.1370, shall make land use decisions consistent with those requirements after two years following their acknowledgment. The Chief Operating Officer shall notify cities and counties of the date upon which functional plan requirements become applicable to land use decisions at least 120 days before that date. The notice shall specify which functional plan requirements become applicable to land use decisions in each city and county. For the purposes of this subsection, "land use decision" shall have the meaning of that term as defined in ORS 197.015(10).
- An amendment to a city or county comprehensive plan or land EF. use regulation shall be deemed to comply with the functional plan upon the expiration of the appropriate appeal period specified in ORS 197.830 or 197.650 of, if an appeal is made, upon the final decision on appeal. - if no appeal to the Land Use Board of Appeals is made within the 21-day period set forth in ORS 197.830(9), or if the amendment is acknowledged in periodic review pursuant to ORS 197.633 or 197.644. If an appeal is made and the amendment is affirmed, the amendment shall be deemed to comply with the functional plan upon the final decision on appeal. Once the amendment is deemed to comply with the functional plan, the functional plan shall no longer apply to land use decisions made in conformance with the amendment.
- FG. An amendment to a city or county comprehensive plan or land use regulation shall be deemed to comply with the functional plan as provided in subsection \underline{EF} only if the city or county provided notice to the COO hief Operating Officer as required by subsection A of Section 3.07.820(A).

3.07.820 Compliance Review by the Chief Operating Officer

A. <u>A city or county proposing an amendment to a comprehensive</u> plan or land use regulation shall submit the proposed

amendment to the COO aAt least 45 days prior to the first evidentiary hearing on thean amendment to a comprehensive plan or land use regulation which a city or county submit to the Department of Land Conservation and Development pursuant to ORS 197.610(1) or OAR 660-025-0130(1), the city or county shall submit the proposed amendment to the Chief Operating Officer. The Chief Operating Officer shall review the proposed amendment for compliance with the functional plan. The COOhief Operating Officer may request, and if so the city or county shall submit, an analysis of compliance of the amendment with the functional plan. If the COOhief Operating Officer submits comments on the proposed amendment to the city or county, the comment shall include analysis and conclusions on compliance and a recommendation with specific revisions to the proposed amendment, if any, that would bring it into compliance with functional plan requirements. The COOhief Operating Officer shall send a copy of its analysis and recommendation comment to those persons who have requested a copy.

- B. If the C<u>OOhief Operating Officer</u> concludes that the proposed amendment does not comply with the functional plan, the C<u>OOhief Operating Officer</u> shall advise the city or county that it may:
 - (1) <u>R</u>revise the proposed amendment as recommended in the COO'shief Operating Officer's analysis;
 - (2) Sseek an extension of time, pursuant to Section 3.07.8350, to bring the proposed amendment into compliance with the functional plan; or
 - (3) <u>Sseek an exception pursuant to section 3.07.840.review</u> of the noncompliance by MPAC and the Metro Council, pursuant to Sections 3.07.830 and 3.07.840.

<u>3.07.830</u> Review of Compliance by Metropolitan Policy Advisory Committee

A. A city or county may seek review of the Chief Operating Officer's conclusion of noncompliance under Section 3.07.820B by MPAC and the Metro Council. The city or county shall file an application for MPAC review on a form provided for that purpose by the Chief Operating Officer. Upon receipt of a completed application, the Chief Operating Officer shall set the matter on the MPAC agenda and notify those persons who request notification of MPAC reviews.

- B. The Chief Operating Officer may seek review of city or county compliance with a functional plan requirement by MPAC and the Metro Council after the deadline for compliance with that requirement. The Chief Operating Officer shall file an application for MPAC review on the form described in subsection A and shall set the matter on the MPAC agenda. The Council President shall notify the city or county and those persons who request notification of MPAC reviews.
- C. MPAC may hold a public hearing on the issue of compliance. If MPAC holds a hearing, any person may testify. MPAC shall attempt to resolve any apparent or potential inconsistency between the proposed amendment and the functional plan. MPAC shall prepare a report to the Metro Council that sets forth reasons for the inconsistency. The Chief Operating Officer shall send a copy of the report to the city or county and those persons who request a copy.

3.07.840 Review by Metro Council

- A. Upon receipt of a report from MPAC under Section 3.07.830, the Chief Operating Officer shall set the matter for a public hearing before the Metro Council and notify the city or county and those persons who request notification of Council reviews.
- B. A person who requested a copy under Section 3.07.820A may seek review by the Metro Council of an Chief Operating Officer conclusion of compliance of a proposed amendment with the functional plan. The person shall file an application for Council review on a form provided for that purpose by the Chief Operating Officer. The Council President shall set the matter for a public hearing before the Council and notify the city or county, the Department of Land Conservation and Development and those persons who request notification of Council reviews.
- C. The Council shall hold a public hearing on the matter within 90 days after receipt of a report from MPAC under subsection A or within 90 days after the filing of a complete application under subsection B. Any person may testify at the hearing. The Council shall issue an order of compliance or noncompliance with its analysis and conclusion and send a copy to the city or county, MPAC, the Department of Land Conservation and Development and those persons who participated in the proceeding.

- D. If the Council finds that the proposed amendment does not comply with the functional plan, the Council shall advise the city or county that it may (1) revise and adopt the proposed amendment as recommended in the Council order; (2) seek an extension of time, pursuant to Section 3.07.850, to bring the proposed amendment into compliance with the functional plan; or (3) seek an exception from the functional plan, pursuant to Section 3.07.860. If the Council determines that an amendment of the functional plan is necessary to resolve the noncompliance, the Council shall include that determination in its order.
- E. The city or county or a person who participated in the proceeding may seek review of the Council's order as a land use decision described in ORS 197.015(10)(a)(A).

3.07.8350 Extension of Compliance Deadline

- A. A city or county may seek an extension of time for compliance with <u>athe</u> functional plan <u>requirement</u>. The city or county shall file an application for an extension on a form provided for that purpose by the C<u>OOhief Operating</u> Officer. Upon receipt of an application, the C<u>OOouncil</u> President shall set the matter for a public hearing before the Metro Council and shall notify the city or county₇ MPAC, the Department of Land Conservation and Development and those persons who request notification of applications for extensions. Any person may file a written comment in support or opposition to the extension.
- B. The Metro Council shall hold a public hearing to consider the extension. Any person may testify at the hearing. The Council The COO may grant an extension if it finds that: (1) the city or county is making progress toward accomplishment of its compliance work program; or (2) there is good cause for failure to meet the deadline for compliance. Within 30 days after the filing of a complete application for an extension, the COO shall issue an order granting or denying the extension. The COO shall not grant more than two extensions of time to a city or county and shall grant no extension of more than one year. The COO shall send the order to the city or county and any person who filed a written comment.

- C. The <u>COOMetro Council</u> may establish terms and conditions for the extension in order to ensure that compliance is achieved in a timely and orderly fashion and that land use decisions made by the city or county during the extension do not undermine the ability of the city or county to achieve the purposes of the functional plan requirement or of the region to achieve the 2040 Growth Concept. A term or condition must relate to the requirement of the functional plan to which the <u>Council COO has granteds</u> the extension. The <u>Council shall incorporate the terms and conditions into its order on the extension. The <u>Council</u> shall not grant more than two extensions of time to a city or a county. The <u>Council shall not grant an extension of</u> time for more than one year.</u>
 - D. The city or county applicant or any person who filed written comment on the extension may appeal the COO's order to the Metro Council within 15 days after receipt of the order.shall issue an order with its conclusion and analysis and send a copy to the city or county, MPAC, the Department of Land Conservation and Development and those persons who participated in the proceeding. If an appeal is filed, the Council shall hold a hearing to consider the appeal. After the hearing, the Council shall issue an order granting or denying the extension and shall send copies to the applicant and any person who participated in the hearing. The city or county or a person who participated in the proceeding may seek review of the Council's order as a land use decision described in ORS 197.015(10) (a) (A).

3.07.860 Exception from Compliance

A. A city or county may seek an exception from compliance with a functional plan requirement by filing an application on a form provided for that purpose by the COOhief Operating Officer. An application for an exception to the requirement in subsection 3.07.150D to increase dwelling unit and job capacity to the targets set forth in Table 3.07-1 must be filed between March 1 and March 31 of each calendar year in order to allow the Metro Council to consider the application concurrently with other such applications. Upon receipt of an application, the Council President shall notify the city or county set the matter for a public hearing before the Metro Council and shall notify MPAC, the Department of Land Conservation and Development and those persons who request notification of requests for exceptions. Any person may file a written comment in support of or opposition to the exception.

- B. The Metro Council shall hold a public hearing to determine whether the exception meets the following criteria:
 - Except as provided in paragraph (2) of this subsection C, the COOouncil may grant an exception if it finds:
 - <u><u>1</u>a.it is not possible to achieve the requirement due to topographic or other physical constraints or an existing development pattern;</u>
 - <u>2</u>b.this exception and likely similar exceptions will not render the objective of the requirement unachievable region-wide;
 - <u>3e</u>.the exception will not reduce the ability of another city or county to comply with the requirement; and
 - <u>4</u>d.the city or county has adopted other measures more appropriate for the city or county to achieve the intended result of the requirement.

-<u>C</u>2. The C<u>OOouncil</u> may grant an exception to the <u>housing capacity</u> requirements in <u>sub</u>sections 3.07.1240A <u>or 3.07.130</u> to increase dwelling unit and job capacity to the targets set forth in Table 3.07-1 if it finds:

a. the city or county has completed the analysis of capacity for dwelling units and jobs required by subsections 3.07.120A, B and C;

b. it is not possible to achieve the targets due to topographic or other physical constraints, an existing development pattern that precludes achievement of the 2040 Growth Concept, or protection of <u>natural resources pursuant to</u> <u>Titles 3 or 13 of this chapter</u>environmentally sensitive land; and

c. this exception and other exceptions to the targets will not render the targets unachievable region-wide.

- DE. The <u>Council COO</u> may establish terms and conditions for the exception in order to ensure that it does not undermine the ability of the region to achieve the <u>purposes of the</u> requirement 2040 Growth Concept. A term or condition must relate to the requirement of the functional plan to which the Council grants the exception. The <u>COOouncil</u> shall incorporate the terms and conditions into <u>theits</u> order on the exception.
- E. The city or county applicant or a person who filed a written comment on the exception may appeal the COO's order to the Metro Council within 15 days after receipt of the order. If an appeal is files, the Council shall hold a hearing to consider the appeal. After the hearing, the Council shall issue an order granting or denying the exception with its conclusion and analysis and send a copy to the applicant and any person who participated in the hearingcity or county, MPAC, the Department of Land Conservation and those persons who have requested a copy of the order. The city or county or a person who participated in the proceeding may seek review of the Council's order as a land use decision described in ORS 197.015(10) (a) (A).

3.07.8570 Enforcement of Functional Plan

- The Metro Council may initiate enforcement proceedings Α. under this section if a city or county has failed to meet a deadline for compliance with a functional plan requirementin an extension granted pursuant to Section 3.07.850 or if it has good cause to believe that a city or county is engaging in a pattern or a practice of decisionmaking that is inconsistent with the functional plan or local ordinances adopted by the city or county to implement the plan, or with the terms or conditions in an extension or an exception granted pursuant to section 3.07.830 or 3.07.840, respectively. The Council may consider whether to initiate enforcement proceedings upon the request of the COOhief Operating Officer or a Councilor. The Council shall consult with the city or county before it determines there is good cause to proceed to a hearing under subsection B-of this section.
- B. If the Metro Council concludes that there is good cause pursuant to subsection A of this section, the Council President shall set the matter for a public hearing before the Council within 90 days of its conclusion. The COOhief Operating Officer shall publish notice of the hearing in a

newspaper of general circulation in the city or county and send notice to the city or county, MPAC, the Department of Land Conservation and Development and any person who requests a copy of such notices.

- C. The C<u>OOhief Operating Officer</u> shall prepare a report and recommendation on the pattern or practice, with a proposed order, for consideration by the <u>Metro</u> Council. The C<u>OOhief</u> Operating Officer shall publish the report at least 14 days prior to the public hearing and send a copy to the city or county and any person who requests a copy.
 - D. If the Metro Council concludes that the city or county has not engaged in a pattern or practice of decision-making that that is inconsistent with the functional plan or local ordinances adopted by the city or county to implement the plan or with terms or conditions of an extension granted pursuant to Section 3.07.850, the Council shall enter an order dismissing the matter. At the conclusion of the hearing, the Council shall adopt an order that dismisses the matter if it decides the city or county complies with the requirement. If the Council decidesconcludes that the city or county has failed to meet a deadline for compliance with a functional plan requirement or has engaged in such a pattern or a practice of decision-making that is inconsistent with the functional plan, ordinances adopted by the city or county to implement the plan, or terms or conditions of an extension or an exception granted pursuant to sections 3.07.830 or 3.07.840, respectively, the Council may adopt shall issue an order that:

<u>D</u>sets forth the noncompliance and directs changes in the city or county ordinances necessary to remedy the pattern or practice; or
 includes a remedy authorized in ORS 268.390(7).

E. . The Council shall issue its order, with analysis and conclusions, not later than 30 days following the <u>public</u> hearing <u>and on the matter</u>. The Chief Operating Officer shall send a copiesy of the order to the city or county, MPAC, the Department of Land Conservation and Development and any person who requests a copy.

3.07.8690 Citizen Involvement in Compliance Review

A. Any citizen may contact Metro staff or the C<u>OOhief</u> Operating Officer or appear before the Metro Council to raise issues regarding local functional plan compliance, to request Metro participation in the local process, or to request the <u>COO Metro Council</u> to appeal a local enactment for which notice is required to be given to the Chief Operating Officer pursuant to <u>subsection A of s</u> ection 3.07.820A. Such contact may be oral or in writing and may be made at any time. <u>during or at the conclusion of any</u> city or county proceeding to amend a comprehensive plan or implementing ordinance for which notice is required to be given to the Chief Operating Officer. All such requests to participate or appeal made in writing shall be forwarded to the Metro Council.

- B. In addition to considering requests as described in A above, the <u>Metro</u> Council shall at every regularly scheduled Council meeting provide an opportunity for citizens to address the Council on any matter related to this functional plan. The <u>COOhief Operating Officer</u> shall maintain a list of persons who request notice of <u>COO</u> reviews, <u>and copies of</u> reports and orders <u>under this</u> <u>chapter</u> and shall send requested documents as provided in this chapter.
- C. Cities, counties and the <u>Metro</u> Council shall comply with their own adopted and acknowledged Citizen Involvement Requirements (Citizen Involvement) in all decisions, determinations and actions taken to implement and comply with this functional plan. The Chief Operating Officer shall at least annually publish and distribute a Citizen Involvement fact sheet, after consultation with the Metro Committee for Citizen Involvement, that <u>fully</u> describes all opportunities for citizen involvement in Metro's Regional <u>g</u>Growth <u>m</u>Management <u>proceduresProcess</u> as well as the implementation and enforcement of this functional plan.

3.07.8780 Compliance Report and Order

A. The COOhief Operating Officer shall submit a report to the Metro Council by MarchDecember 31 of each calendar year on compliance by cities and counties with the Urban Growth Management Functional Plan. <u>The COO shall send a copy of</u> the report to each city and county within Metro. <u>The report</u> shall include an accounting of compliance with each requirement of the functional plan by each city and county in Metro. The report shall recommend action that would bring a city or county into compliance with the functional plan requirement and shall advise the city or county whether it may seek an extension pursuant to Section 3.07.850 or an exception pursuant to Section 3.07.860. The report shall also include an evaluation of the implementation of this chapter and its effectiveness in helping achieve the 2040 Growth Concept.

Β. Upon receipt of the compliance report, the Metro Council shall set a public hearing for the purpose of receiving testimony on the report and determining whether a city or county has complied with the requirements of the functional plan. The Chief Operating Officer shall notify all cities and counties, the Department of Land Conservation and Development and any person who requests notification of the hearing of the date, time and place of the hearing. A city, county or person who disagrees with a determination in the compliance report may seek review of the determination by the Council by written request to the COO. The Council shall review the request at a regularly scheduled meeting and shall notify the requestor and the affected city or county of the date of the review. The notification shall state that the Council does not have jurisdiction authority to:

(1) to <u>D</u>determine whether previous amendments of comprehensive plans or land use regulations made by a city or county comply with functional plan requirements if those amendments already comply pursuant to subsections F and G of Section 3.07.810; or

(2) to <u>R</u>reconsider a determination in a prior order issued <u>under this section pursuant to subsection C</u> that a city or county complies with a requirement of the functional plan. Any person may testify, orally or in writing, at the public hearing.

C. Following the public hearingits review, the Metro Council shall adoptenter an order that determines whether the city or county complies with thewhich functional plan requirements each city and county complies raised in the request. The order shall be based upon the Chief Operating Officer's report submitted pursuant to subsection A and upon testimony at the public hearing pursuant to subsection B, with which functional plan requirements each city and county complies. The order may rely upon the report for

its findings of fact and conclusions of compliance with a functional plan requirement. If the Council receives testimony during its public hearing that takes exception to the report on the question of compliance, the order shall include supplemental findings and conclusions to address the testimony. The COOhief Operating Officer shall send a copy of theits order to the requestor, the affected cityies orand countyies and any person who testifies, orally or in writing, at the public hearingparticipated in the Council review.

D. Omission from the order of recognition by the Council of compliance by a city or county with a functional plan requirement shall not constitute a determination under Section 3.07.870A that the city or county has engaged in a pattern or practice of decision-making that is inconsistent with the requirement.

E. A city or county or a person who <u>participated</u> testified, orally or in writing, at the <u>public</u> hearing, may seek review of the Council's order as a land use decision described in ORS 197.015(10) (a) (A).

Exhibit J to Ordinance No. 10-1244

TITLE 9: PERFORMANCE MEASURES

Title 9 is repealed.

Exhibit K to Ordinance No. 10-1244

TITLE 10: FUNCTIONAL PLAN DEFINITIONS

3.07.1010 Definitions

For the purpose of this functional plan, the following definitions shall apply:

- (a) "Balanced cut and fill" means no net increase in fill within the floodplain.
- (b) "COO" means Metro's Chief Operating Officer.
- (c) "Comprehensive plan" means the all inclusive, generalized, coordinated land use map and policy statement of cities and counties defined in ORS 197.015(5).
- (d) "DBH" means the diameter of a tree measured at breast height.
- (e) "Design flood elevation" means the elevation of the 100-year storm as defined in FEMA Flood Insurance Studies or, in areas without FEMA floodplains, the elevation of the 25year storm, or the edge of mapped flood prone soils or similar methodologies.
- (f) "Design type" means the conceptual areas described in the Metro 2040 Growth Concept text and map in Metro's regional goals and objectives, including central city, regional centers, town centers, station communities, corridors, main streets, inner and outer neighborhoods, industrial areas, and employment areas.
- (g) "Designated beneficial water uses" means the same as the term as defined by the Oregon Department of Water Resources, which is: an instream public use of water for the benefit of an appropriator for a purpose consistent with the laws and the economic and general welfare of the people of the state and includes, but is not limited to, domestic, fish life, industrial, irrigation, mining, municipal, pollution abatement, power development, recreation, stockwater and wildlife uses.
- (h) "Development" means any man-made change defined as buildings or other structures, mining, dredging, paving, filling, or grading in amounts greater than ten (10) cubic yards on any lot or excavation. In addition, any other activity that results in the removal of more than 10 percent of the vegetation in the Water Quality Resource Area on the lot is defined as development, for the purpose of Title 3 except that less than 10 percent removal of vegetation on a lot must comply with section 3.07.340(C) Erosion and Sediment Control. In addition, any other activity that results in the removal of more than either 10 percent or 20,000 square feet of the vegetation in the Habitat Conservation Areas on the lot is defined as development, for the purpose of Title 13. Development does not include the following: (1) Stream enhancement or restoration projects approved by cities and counties; (2) Farming practices as defined in ORS 30.930 and farm use as defined in ORS 215.203, except that buildings associated with farm practices and farm

uses are subject to the requirements of Titles 3 and 13 of this functional plan; and (3) Construction on lots in subdivisions meeting the criteria of ORS 92.040(2).

- "Development application" means an application for a land use decision, limited land decision including expedited land divisions, but excluding partitions as defined in ORS 92.010(7) and ministerial decisions such as a building permit.
- (j) "Division" means a partition or a subdivision as those terms are defined in ORS chapter 92.
- (k) "Ecological functions" means the biological and hydrologic characteristics of healthy fish and wildlife habitat. Riparian ecological functions include microclimate and shade, streamflow moderation and water storage, bank stabilization and sediment/pollution control, sources of large woody debris and natural channel dynamics, and organic material sources. Upland wildlife ecological functions include size of habitat area, amount of habitat with interior conditions, connectivity of habitat to water resources, connectivity to other habitat areas, and presence of unique habitat types.
- "Emergency" means any man-made or natural event or circumstance causing or threatening loss of life, injury to person or property, and includes, but is not limited to, fire, explosion, flood, severe weather, drought earthquake, volcanic activity, spills or releases of oil or hazardous material, contamination, utility or transportation disruptions, and disease.
- (m) "Enhancement" means the process of improving upon the natural functions and/or values of an area or feature which has been degraded by human activity. Enhancement activities may or may not return the site to a pre-disturbance condition, but create/recreate processes and features that occur naturally.
- (n) "Fill" means any material such as, but not limited to, sand, gravel, soil, rock or gravel that is placed in a wetland or floodplain for the purposes of development or redevelopment.
- (o) "Flood Areas" means those areas contained within the 100-year floodplain and floodway as shown on the Federal Emergency Management Agency Flood Insurance Maps and all lands that were inundated in the February 1996 flood.
- (p) "Flood Management Areas" means all lands contained within the 100-year floodplain, flood area and floodway as shown on the Federal Emergency Management Agency Flood Insurance Maps and the area of inundation for the February 1996 flood. In addition, all lands which have documented evidence of flooding.
- (q) "Floodplain" means land subject to periodic flooding, including the 100-year floodplain as mapped by FEMA Flood Insurance Studies or other substantial evidence of actual flood events.

- (r) "Growth Concept Map" means the conceptual map demonstrating the 2040 Growth Concept design types attached to this plan¹.
- (s) "Habitat Conservation Area" or "HCA" means an area identified on the Habitat Conservation Areas Map and subject to the performance standards and best management practices described in Metro Code section 3.07.1340.
- (t) "Habitat-friendly development" means a method of developing property that has less detrimental impact on fish and wildlife habitat than does traditional development methods. Examples include clustering development to avoid habitat, using alternative materials and designs such as pier, post, or piling foundations designed to minimize tree root disturbance, managing storm water on-site to help filter rainwater and recharge groundwater sources, collecting rooftop water in rain barrels for reuse in site landscaping and gardening, and reducing the amount of effective impervious surface created by development.
- (u) "Habitats of Concern" means the following unique or unusually important wildlife habitat areas as identified based on cite specific information provided by local wildlife or habitat experts: Oregon white oak woodlands, bottomland hardwood forests, wetlands, native grasslands, riverine islands or deltas, and important wildlife migration corridors.
- (v) "Hazardous materials" means materials described as hazardous by Oregon Department of Environmental Quality.
- (w) "Implementing ordinances or regulations" means any city or county land use regulation as defined by ORS 197.015(11) which includes zoning, land division or other ordinances which establish standards for implementing a comprehensive plan.
- (x) "Invasive non-native or noxious vegetation" means plants listed as nuisance plants or prohibited plants on the Metro Native Plant List as adopted by Metro Council resolution because they are plant species that have been introduced and, due to aggressive growth patterns and lack of natural enemies in the area where introduced, spread rapidly into native plant communities.
- (y) "Land Conservation and Development Commission" or "LCDC" means the Oregon Land Conservation and Development Commission.
- (z) "Land use regulation" means any local government zoning ordinance, land division ordinance adopted under ORS 92.044 or 92.046 or similar general ordinance establishing standards for implementing a comprehensive plan, as defined in ORS 197.015.
- (aa) "Large-format retail commercial buildings" means a building intended for retail commercial use with more than 60,000 square feet of gross leasable area, or that amount or more of retail sales area on a single lot or parcel, or that amount or more on contiguous lots or parcels including lots or parcels separated only by a transportation right-of-way.

¹ On file in the Metro Council office.

- (bb) "Local program effective date" means the effective date of a city's or county's new or amended comprehensive plan and implementing ordinances adopted to comply with Title 13 of the Urban Growth Management Functional Plan, Metro Code sections 3.07.1310 to 3.07.1370. If a city or county is found to be in substantial compliance with Title 13 without making any amendments to its comprehensive plan or land use regulations, then the local program effective date shall be December 28, 2005. If a city or county amends its comprehensive plan or land use regulations to comply with Title 13, then the local program effective date shall be the effective date of the city's or county's amendments to its comprehensive plan or land use regulations, but in no event shall the local program effective date be later than two years after Title 13 is acknowledged by LCDC. For territory brought within the Metro UGB after December 28, 2005, the local program effective date shall be the effective date of the ordinance adopted by the Metro Council to bring such territory within the Metro UGB.
- (cc) "Metro" means the regional government of the metropolitan area, the elected Metro Council as the policy setting body of the government.
- (dd) "Metro boundary" means the jurisdictional boundary of Metro, the elected regional government of the metropolitan area.
- (ee) "MPAC" means the Metropolitan Advisory Committee established pursuant to Metro Charter, Chapter V, Section 27.
- (ff) "Mitigation" means the reduction of adverse effects of a proposed project by considering, in the following order: (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action by monitoring and taking appropriate measures; and (5) compensating for the impact by replacing or providing comparable substitute water quality resource areas or habitat conservation areas.
- (gg) "Mixed use" means comprehensive plan or implementing regulations that permit a mixture of commercial and residential development.
- (hh) "Mixed-use development" includes areas of a mix of at least two of the following land uses and includes multiple tenants or ownerships: residential, retail and office. This definition excludes large, single-use land uses such as colleges, hospitals, and business campuses. Minor incidental land uses that are accessory to the primary land use should not result in a development being designated as "mixed-use development." The size and definition of minor incidental, accessory land uses allowed within large, single-use developments should be determined by cities and counties through their comprehensive plans and implementing ordinances.

- (ii) "Native vegetation" or "native plant" means any vegetation listed as a native plant on the Metro Native Plant List as adopted by Metro Council resolution and any other vegetation native to the Portland metropolitan area provided that it is not listed as a nuisance plant or a prohibited plant on the Metro Native Plant List.
- (jj) "Net acre" means an area measuring 43.560 square feet which excludes:
 - Any developed road rights-of-way through or on the edge of the land; and
 - Environmentally constrained areas, including any open water areas, floodplains, natural resource areas protected under statewide planning Goal 5 in the comprehensive plans of cities and counties in the region, slopes in excess of 25 percent and wetlands requiring a Federal fill and removal permit under Section 404 of the Clean Water Act. These excluded areas do not include lands for which the local zoning code provides a density bonus or other mechanism which allows the transfer of the allowable density or use to another area or to development elsewhere on the same site; and
 - All publicly-owned land designated for park and open spaces uses.
- (kk) "Net developed acre" consists of 43,560 square feet of land, after excluding present and future rights-of-way, school lands and other public uses.
- "Net vacant buildable land" means all vacant land less all land that is: (1) within Water Quality Resource Areas; (2) within Habitat Conservation Areas; (3) publicly owned by a local, state or federal government; (4) burdened by major utility easements; and (5) necessary for the provision of roads, schools, parks, churches, and other public facilities.
- (mm) "Perennial streams" means all primary and secondary perennial waterways as mapped by the U.S. Geological Survey.
- (nn) "Performance measure" means a measurement derived from technical analysis aimed at determining whether a planning policy is achieving the expected outcome or intent associated with the policy.
- (oo) "Person-trips" means the total number of discrete trips by individuals using any mode of travel.
- (pp) "Persons per acre" means the intensity of building development by combining residents per acre and employees per acre.
- (qq) "Practicable" means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose. As used in Title 13 of this functional plan, "practicable" means available and capable of being done

after taking into consideration cost, existing technology, and logistics in light of overall project purpose and probable impact on ecological functions.

- (rr) "Primarily developed" means areas where less than 10% of parcels are either vacant or underdeveloped.
- (ss) "Property owner" means a person who owns the primary legal or equitable interest in the property.
- (tt) "Protected Water Features"

Primary Protected Water Features shall include:

- Title 3 wetlands; and
- Rivers, streams, and drainages downstream from the point at which 100 acres or more are drained to that water feature (regardless of whether it carries year-round flow); and
- Streams carrying year-round flow; and
- Springs which feed streams and wetlands and have year-round flow; and
- Natural lakes.

Secondary Protected Water Features shall include intermittent streams and seeps downstream of the point at which 50 acres are drained and upstream of the point at which 100 acres are drained to that water feature.

- (uu) "Public facilities and services" means sewers, water service, stormwater services and transportation.
- (vv) "Redevelopable land" means land on which development has already occurred, which due to present or expected market forces, there exists the strong likelihood that existing development will be converted to more intensive uses during the planning period.
- (ww) "Regionally significant fish and wildlife habitat" means those areas identified on the Regionally Significant Fish and Wildlife Habitat Inventory Map, adopted in Metro Code section 3.07.1320, as significant natural resource sites.
- (xx) "Restoration" means the process of returning a disturbed or altered area or feature to a previously existing natural condition. Restoration activities reestablish the structure, function, and/or diversity to that which occurred prior to impacts caused by human activity.

- (yy) "Retail" means activities which include the sale, lease or rent of new or used products to the general public or the provision of product repair or services for consumer and business goods.
- (zz) "Riparian area" means the water influenced area adjacent to a river, lake or stream consisting of the area of transition from a hydric ecosystem to a terrestrial ecosystem where the presence of water directly influences the soil-vegetation complex and the soil-vegetation complex directly influences the water body. It can be identified primarily by a combination of geomorphologic and ecologic characteristics.
- (aaa) "Rural reserve" means an area designated rural reserve by Clackamas, Multnomah or Washington County pursuant to OAR 660-027.
- (bbb) "Significant negative impact" means an impact that affects the natural environment, considered individually or cumulatively with other impacts on the Water Quality Resource Area, to the point where existing water quality functions and values are degraded.
- (ccc) "Straight-line distance" means the shortest distance measured between two points.
- (ddd) "Stream" means a body of running water moving over the earth's surface in a channel or bed, such as a creek, rivulet or river. It flows at least part of the year, including perennial and intermittent streams. Streams are dynamic in nature and their structure is maintained through build-up and loss of sediment.
- (eee) "Substantial compliance" means city and county comprehensive plans and implementing ordinances, on the whole, conforms with the purposes of the performance standards in the functional plan and any failure to meet individual performance standard requirements is technical or minor in nature.
- (fff) "Title 3 Wetlands" means wetlands of metropolitan concern as shown on the Metro Water Quality and Flood Management Area Map and other wetlands added to city or county adopted Water Quality and Flood Management Area maps consistent with the criteria in Title 3, section 3.07.340(E)(3). Title 3 wetlands do not include artificially constructed and managed stormwater and water quality treatment facilities.
- (ggg) "Top of bank" means the same as "bankfull stage" defined in OAR 141-085-0010(2).
- (hhh) "Urban development value" means the economic value of a property lot or parcel as determined by analyzing three separate variables: assessed land value, value as a property that could generate jobs ("employment value"), and the Metro 2040 design type designation of property. The urban development value of all properties containing regionally significant fish and wildlife habitat is depicted on the Metro Habitat Urban Development Value Map referenced in Metro Code section 3.07.1340(E).
- (iii) "UGB" means an urban growth boundary adopted pursuant to ORS chapter 197.

- (jjj) "Underdeveloped parcels" means those parcels of land with less than 10% of the net acreage developed with permanent structures.
- (kkk) "Urban reserve" means an area designated urban reserve by the Metro Council pursuant to OAR 660 Division 27.
- (lll) "Utility facilities" means buildings, structures or any constructed portion of a system which provides for the production, transmission, conveyance, delivery or furnishing of services including, but not limited to, heat, light, water, power, natural gas, sanitary sewer, stormwater, telephone and cable television.
- (mmm)"Vacant land" means land identified in the Metro or local government inventory as undeveloped land.
- (nnn) "Variance" means a discretionary decision to permit modification of the terms of an implementing ordinance based on a demonstration of unusual hardship or exceptional circumstance unique to a specific property.
- (000) "Visible or measurable erosion" includes, but is not limited to:
 - Deposits of mud, dirt sediment or similar material exceeding one-half cubic foot in volume on public or private streets, adjacent property, or onto the storm and surface water system, either by direct deposit, dropping discharge, or as a result of the action of erosion.
 - Evidence of concentrated flows of water over bare soils; turbid or sediment laden flows; or evidence of on-site erosion such as rivulets on bare soil slopes, where the flow of water is not filtered or captured on the site.
 - Earth slides, mudflows, earth sloughing, or other earth movement that leaves the property.
- (ppp) "Water feature" means all rivers, streams (regardless of whether they carry year-round flow, i.e., including intermittent streams), springs which feed streams and wetlands and have year-round flow, Flood Management Areas, wetlands, and all other bodies of open water.
- (qqq) "Water Quality and Flood Management Area" means an area defined on the Metro Water Quality and Flood Management Area Map, to be attached hereto². These are areas that require regulation in order to mitigate flood hazards and to preserve and enhance water quality. This area has been mapped to generally include the following: stream or river channels, known and mapped wetlands, areas with flood-prone soils adjacent to the stream, floodplains, and sensitive water areas. The sensitive areas are generally defined as 50 feet from top of bank of streams for areas of less than 25% slope, and 200 feet from

² On file in Metro Council office.

top of bank on either side of the stream for areas greater than 25% slope, and 50 feet from the edge of a mapped wetland.

- (rrr) "Water Quality Resource Areas" means vegetated corridors and the adjacent water feature as established in Title 3.
- (sss) "Wetlands." Wetlands are those areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support and under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands are those areas identified and delineated by a qualified wetland specialist as set forth in the 1987 Corps of Engineers Wetland Delineation Manual.
- (ttt) "Zoned capacity" means the highest number of dwelling units or jobs that are allowed to be contained in an area by zoning and other city or county jurisdiction regulations.

9

Exhibit L to Ordinance No. 10-1244

Metro Code Chapter 3.01 (Urban Growth Boundary and Urban Reserve Procedures) is repealed.

Exhibit M to Ordinance No. 10-1244

Title 14 is added to the Urban Growth Management Functional Plan

TITLE 14: URBAN GROWTH BOUNDARY

3.07.1405 Purpose

The Regional Framework Plan (RFP) calls for a clear transition from rural to urban development, an adequate supply of urban land to accommodate long-term population and employment, and a compact urban form. Title 14 prescribes criteria and procedures for amendments to the urban growth boundary (UGB) to achieve these objectives.

3.07.1410 Urban Growth Boundary

- A. The UGB for the metropolitan area is incorporated into this title and is depicted on the Urban Growth Boundary and Urban and Rural Reserves Map. Cities and counties within the Metro boundary shall depict the portion of the UGB, if any, that lies within their boundaries on their comprehensive plan maps. Within 21 days after an amendment to the UGB under this title, the COO shall submit the amended UGB to the city and county in which the amended UGB lies. The city and county shall amend their comprehensive plan maps to depict the amended UGB within one year following receipt of the amendment from the COO.
- B. Urban and Rural Reserves are depicted on the Urban Growth Boundary and Urban and Rural Reserves Map. Amendments to the UGB made pursuant to this title shall be based upon this map.

3.04.1420 Legislative Amendment to UGB - Procedures

- A. Legislative amendments follow periodic analysis of the capacity of the UGB and the need to amend it to accommodate long-range growth in population and employment. The Metro Council shall initiate a legislative amendment to the UGB when required by state law and may initiate a legislative amendment when it determines there is a need to add land to the UGB.
- B. Except as otherwise provided in this title, the Council shall make legislative amendments to the UGB by ordinance in the manner prescribed for ordinances in Chapter VII of
- Page 1 Exhibit L to Capacity Ordinance.010810 m:\attorney\confidential\Richard\Capacity Ord Ex L.010710 OMA/RPB/kvw (01/08/10)

the Metro Charter. For each legislative amendment, the Council shall establish a schedule of public hearings that allows for consideration of the proposed amendment by MPAC, other advisory committees and the general public.

- C. Notice to the public of a proposed legislative amendment of the UGB shall be provided as prescribed in section 3.07.1465.
- D. Prior to the final hearing on a proposed legislative amendment of the UGB in excess of 100 acres, the COO shall prepare a report on the effect of the proposed amendment on existing residential neighborhoods. The COO shall provide copies of the report to all households located within one mile of the proposed amendment area and to all cities and counties within the district at least 20 days prior to the hearing. The report shall address:
 - 1. Traffic patterns and any resulting increase in traffic congestion, commute times and air quality;
 - Whether parks and open space protection in the area to be added will benefit existing residents of the district as well as future residents of the added territory; and
 - 3. The cost impacts on existing residents of providing needed public facilities and services, police and fire services, public schools, emergency services and parks and open spaces.

3.07.1425 Legislative Amendment to the UGB - Criteria

- A. This section sets forth the factors and criteria for amendment of the UGB from state law and the Regional Framework Plan. Compliance with this section shall constitute compliance with statewide planning Goal 14 (Urbanization) and the Regional Framework Plan.
- B. The Council shall determine whether there is a need to amend the UGB. In determining whether a need exists, the Council may specify characteristics, such as parcel size, topography or proximity, necessary for land to be suitable for an identified need. The Council's determination shall be based upon:
- Page 2 Exhibit L to Capacity Ordinance.010810 m:\attorney\confidential\Richard\Capacity Ord Ex L.010710 OMA/RPB/kvw (01/08/10)

- Demonstrated need to accommodate future urban population, consistent with a 20-year population range forecast coordinated with affected local governments; and
- 2. Demonstrated need for land suitable to accommodate housing, employment opportunities, livability or uses such as public facilities and services, schools, parks, open space, or any combination of the foregoing in this paragraph; and
- 3. A demonstration that any need shown under paragraphs 1 and 2 of this subsection cannot reasonably be accommodated on land already inside the UGB.
- C. If the Council determines there is a need to amend the UGB, the Council shall evaluate areas designated urban reserve for possible addition to the UGB and shall determine which areas better meet the need considering the following factors:
 - 1. Efficient accommodation of identified land needs;
 - Orderly and economic provision of public facilities and services;
 - Comparative environmental, energy, economic and social consequences; and
 - 4. Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on land outside the UGB designated for agriculture or forestry pursuant to a statewide planning goal.
 - 5. Equitable and efficient distribution of housing and employment opportunities throughout the region;
 - 6. Contribution to the purposes of Centers and Corridors;
 - 7. Protection of farmland that is most important for the continuation of commercial agriculture in the region;
 - 8. Avoidance of conflict with regionally significant fish and wildlife habitat; and
 - 9. Clear transition between urban and rural lands, using natural and built features to mark the transition.

- D. The Council may consider land not designated urban or rural reserve for possible addition to the UGB only if it determines that:
 - Land designated urban reserve cannot reasonably accommodate the need established pursuant to subsection B of this section; or
 - 2. The land is subject to a concept plan approved pursuant to section 3.07.1110 of this chapter, involves no more than 50 acres not designated urban or rural reserve and will help the concept plan area urbanize more efficiently and effectively.
- E. The Council may not add land designated rural reserve to the UGB.
- F. The Council may not amend the UGB in such a way that would create an island of urban land outside the UGB or and island of rural land inside the UGB.

3.07.1430 Major Amendments - Procedures

- A. A city, a county, a special district or a property owner may initiate a major amendment to the UGB by filing an application on a form provided by Metro. The COO will accept applications for major amendments between February 1 and March 15 of each calendar year except that calendar year in which the Council is completing its analysis of buildable land supply under ORS 197.299(1). Upon a request by a Metro Councilor and a finding of good cause, the Metro Council may accept an application at other times by a vote of five members of the Council.
- B. Except for that calendar year in which the Council is completing its analysis of buildable land supply, the COO shall give notice of the March 15 deadline for applications for major amendments not less than 120 days before the deadline and again 90 days before the deadline in a newspaper of general circulation in Metro and in writing to each city and county in Metro and anyone who has requested notification. The notice shall explain the consequences of failure to file before the deadline and shall specify the Metro representative from whom additional information may be obtained.

- C. With the application, the applicant shall provide the names and addresses of property owners for notification purposes, consistent with section 3.07.1465. The list shall be certified as true and accurate as of the specified date by a title company, a county assessor or designate of the assessor or the applicant.
- D. The applicant shall provide a written statement from the governing body of each city or county with land use jurisdiction over the area and any special district that has an agreement with that city or county to provide an urban service to the area that it recommends approval or denial of the application. The Council may waive this requirement if the city, county or special district has a policy not to comment on major amendments, or has not adopted a position within 120 days after the applicant's request for the statement. The governing body of a local government may delegate the decision to its staff.
- E. The COO will determine whether an application is complete and will notify the applicant of the determination within seven working days after the filing of the application. The COO will dismiss an application and return application fees if a complete application is not received within the 14 days after the notice of incompleteness.
- F. Within 14 days after receipt of a complete application, the COO will:
 - 1. Set the matter for a public hearing before a hearings officer for a date no later than 55 days following receipt of a complete application; and
 - 2. Notify the public of the public hearing as prescribed in section 3.07.1465 of this title.
- G. The COO shall submit a report and recommendation on the application to the hearings officer not less than 15 days before the hearing and send copies to the applicant and others who have requested copies. Any subsequent report by the COO to be used at the hearing shall be available to the public at least seven days prior to the hearing.
- H. If the proposed major amendment would add more than 100 acres to the UGB, the COO shall prepare a report on the effect of the proposed amendment on existing residential

neighborhoods in the manner prescribed in subsection D of section 3.07.1420.

- I. An applicant may request postponement of the hearing within 20 days after filing a complete application. The COO may postpone the hearing for no more than 60 days. If the applicant fails to request rescheduling within 90 days after the request for postponement, the application shall be considered withdrawn and the COO will return the unneeded portion of the fee deposit assessed pursuant to section 3.07.1460.
- J. Participants at a hearing before a hearings officer need not be represented by an attorney. If a person wishes to represent an organization orally or in writing, the person must show the date of the meeting at which the organization adopted the position presented and authorized the person to represent it.
- K. Failure of the applicant to appear at the hearing shall be grounds for dismissal of the application unless the applicant requests a continuance prior to the hearing. The applicant has the burden of demonstrating that the proposed amendment complies with the criteria.
- L. The hearings officer shall provide the following information to participants at the beginning of the hearing:
 - The criteria applicable to major amendments and the procedures for the hearing;
 - A statement that testimony and evidence must be directed toward the applicable criteria or other criteria the person believes apply to the proposal; and
 - 3. A statement that failure to raise an issue in a manner sufficient to afford the hearings officer and participants an opportunity to respond to the issue precludes appeal of that issue.
- M. The hearing shall be conducted in the following order:
 - Presentation of the report and recommendation of the COO;
- Page 6 Exhibit L to Capacity Ordinance.010810 m:\attorney\confidential\Richard\Capacity Ord Ex L.010710 OMA/RPB/kvw (01/08/10)

- Presentation of evidence and argument by the applicant;
- Presentation of evidence and argument in support of or opposition to the application by other participants; and
- 4. Presentation of rebuttal evidence and argument by the applicant.
- N. The hearings officer may grant a request to continue the hearing or to leave the record open for presentation of additional evidence upon a demonstration that the evidence could not have been presented during the hearing. If the hearings officer grants a continuance, the hearing shall be continued to a date, time and place certain at least seven days from the date of the initial evidentiary hearing. A reasonable opportunity shall be provided at the continued hearing for persons to present and rebut new evidence.
- O. If new evidence is submitted at the continued hearing, the hearings officer may grant a request, made prior to the conclusion of the continued hearing, to leave the record open to respond to the new evidence. If the hearings officer grants the request, the record shall be left open for at least seven days. Any participant may respond to new evidence during the period the record is left open.
- P. Cross-examination by parties shall be by submission of written questions to the hearings officer, who shall give participants an opportunity to submit such questions prior to closing the hearing. The hearings officer may set reasonable time limits for oral testimony and may exclude or limit cumulative, repetitive, or immaterial testimony.
- Q. A verbatim record shall be made of the hearing, but need not be transcribed unless necessary for appeal.
- R. The hearings officer may consolidate applications for hearing after consultation with Metro staff and applicants. If the applications are consolidated, the hearings officer shall prescribe rules to avoid duplication or inconsistent findings, protect the rights of all participants, and allocate the charges on the basis of cost incurred by each applicant.

- S. Within 15 days following the close of the record, the hearings officer shall submit a proposed order, with findings of fact and conclusions of law and the record of the hearing, to the COO, who shall make it available for review by participants.
- T. Within seven days after receipt of the proposed order from the hearings officer, the COO shall set the date and time for consideration of the proposed order by the Council, which date shall be no later than 40 days after receipt of the proposed order. The COO shall provide written notice of the Council meeting to the hearings officer and participants at the hearing before the hearings officer, and shall post notice of the hearing at Metro's website, at least 10 days prior to the meeting.
- U. The Council shall consider the hearings officer's report and recommendation at the meeting set by the COO. The Council will allow oral and written argument by those who participated in the hearing before the hearings officer. Argument must be based upon the record of those proceedings. Final Council action shall be as provided in section 2.05.045 of the Metro Code. The Council shall adopt the order, or ordinance if the Council decides to expand the UGB, within 15 days after the Council's consideration of the hearings officer's proposed order.

3.07.1435 Major Amendments - Expedited Procedures

- A. The COO may file an application at any time to add land to the UGB for industrial use, pursuant to section 3.07.460, by major amendment following the expedited procedures in this section. The application under this section remains subject to subsections C, D, H, M and Q of section 3.07.1430.
- B. Within 10 days after receipt of a complete application, the Council President will:
 - Set the matter for a public hearing before the Council for a date no later than 55 days following receipt of a complete application; and
 - 2. Notify the public of the public hearing as prescribed in section 3.07.1465.

- C. The COO shall submit a report and recommendation on the application to the Council not less than 15 days before the hearing and send copies to those who have requested copies. Any subsequent report by the COO to be used at the hearing shall be available to the public at least seven days prior to the hearing.
- D. Participants at the hearing need not be represented by an attorney. If a person wishes to represent an organization orally or in writing, the person must show the date of the meeting at which the organization adopted the position presented and authorized the person to represent it.
- E. The Council President shall provide the following information to participants at the beginning of the hearing:
 - The criteria applicable to major amendments and the procedures for the hearing;
 - A statement that testimony and evidence must be directed toward the applicable criteria or other criteria the person believes apply to the proposal.
- F. The Council President may grant a request to continue the hearing or to leave the record open for presentation of additional evidence upon a demonstration that the evidence could not have been presented during the hearing. If the Council President grants a continuance, the hearing shall be continued to a date, time and place certain at least seven days from the date of the initial evidentiary hearing. A reasonable opportunity shall be provided at the continued hearing for persons to present and rebut new evidence.
- G. If new evidence is submitted at the continued hearing, the Council President may grant a request, made prior to the conclusion of the continued hearing, to leave the record open to respond to the new evidence. If the Council President grants the request, the record shall be left open for at least seven days. Any participant may respond to new evidence during the period the record is left open.
- H. The Council President may set reasonable time limits for oral testimony and may exclude or limit cumulative, repetitive, or immaterial testimony.
- Page 9 Exhibit L to Capacity Ordinance.010810 m:\attorney\confidential\Richard\Capacity Ord Ex L.010710 OMA/RPB/kvw (01/08/10)

- I. Within 15 days following the close of the record, the Council shall adopt:
 - An ordinance, with findings of fact and conclusions of law, that amends the UGB to add all or a portion of the territory described in the application; or
 - 2. A resolution adopting an order, with findings of fact and conclusions of law, that denies the application.

3.07.1440 Major Amendments - Criteria

- A. The purpose of the major amendment process is to provide a mechanism to address needs for land that cannot wait until the next analysis of buildable land supply under ORS 197.299. Land may be added to the UGB under sections 3.07.1430 and 3.07.1440 only for public facilities and services, public schools, natural areas and other non-housing needs and as part of a land trade under subsection D. An applicant under section 3.07.1430 must demonstrate compliance with this purpose and these limitations.
- B. The applicant shall demonstrate that the proposed amendment to the UGB will provide for an orderly and efficient transition from rural to urban land use and complies with the criteria and factors in subsections B, C, D, E, F and G of section 3.07.1425. The applicant shall also demonstrate that:
 - The proposed uses of the subject land would be compatible, or through measures can be made compatible, with uses of adjacent land;
 - If the amendment would add land for public school facilities, a conceptual school plan as described in subsection C(5) of section 3.07.1120 of this chapter has been completed; and
 - 3. If the amendment would add land for industrial use pursuant to section 3.07.1435, a large site or sites cannot reasonably be created by land assembly or reclamation of a brownfield site.
- C. If the application was filed under section 3.07.1435, the applicant shall demonstrate that the amendment is consistent with any Concept Plan for the area developed pursuant to section 3.07.1110 of this chapter.

Page 10 - Exhibit L to Capacity Ordinance.010810 m:\attorney\confidential\Richard\Capacity Ord Ex L.010710 OMA/RPB/kvw (01/08/10)

D. To facilitate implementation of the Metropolitan Greenspaces Master Plan of 1992, the Council may add land to the UGB in a trade that removes a nearly equal amount of land from the UGB. If the Council designates the land to be added for housing, it shall designate an appropriate average density per net developable acre.

3.07.1445 Minor Adjustments - Procedures

- A. Minor adjustments make small changes to the UGB so that land within the UGB functions more efficiently and effectively. A city, a county, a special district, Metro or a property owner may initiate a minor adjustment to the UGB by filing an application on a form provided by Metro. The application shall include a list of the names and addresses of owners of property within 100 feet of the land involved in the application. The application shall also include the positions on the application of appropriate local governments and special districts, in the manner required by subsection D of section 3.07.1430.
- B. The COO will determine whether an application is complete and shall notify the applicant of the determination within ten working days after the filing of the application. If the application is not complete, the applicant shall complete it within 14 days of notice of incompleteness. The COO will dismiss an application and return application fees if a complete application is not received within 14 days of the notice of incompleteness.
- C. Notice to the public of a proposed minor adjustment of the UGB shall be provided as prescribed in section 3.07.1465.
- D. The COO shall review the application for compliance with the criteria in section 3.07.1450 and shall issue an order with analysis and conclusions within 90 days of receipt of a complete application. The COO shall send a copy of the order to the applicant, the city or county with jurisdiction over the land that is the subject of the application, to each member of the Council and any person who requests a copy.
- E. The applicant or any person who commented on the application may appeal the COO's order to the Council by filing an appeal on a form provided by Metro within 14 days after receipt of the order. A member of the Council may

request in writing within 14 days of receipt of the order that the decision be reviewed by the Council. The Council shall consider the appeal or Councilor referral at a public hearing held not more than 60 days following receipt of a timely appeal or referral.

- F. Notice to the public of a Council hearing on a proposed minor adjustment to the UGB shall be provided as prescribed in section 3.07.1465.
- G. Following the hearing, the Council shall uphold, deny or modify the COO's order. The Council shall issue an order with its analysis and conclusions and send a copy to the appellant, the city or county with jurisdiction over the land that is the subject of the application and any person who requests a copy.

3.07.1450 Minor Adjustments - Criteria

- A. The purpose of this section is to provide a mechanism to make small changes to the UGB in order to make land within it function more efficiently and effectively. It is not the purpose of this section to add land to the UGB to satisfy a need for housing or employment. This section establishes criteria that embody state law and Regional Framework Plan policies applicable to minor adjustments.
- B. Metro may adjust the UGB under this section only for the following reasons: (1) to site roads and lines for public facilities and services; (2) to trade land outside the UGB for land inside the UGB; or (3) to make the UGB coterminous with nearby property lines or natural or built features.
- C. To make a minor adjustment to site a public facility line or road, or to facilitate a trade, Metro shall find that:
 - The adjustment will result in the addition to the UGB of no more than two net acres for a public facility line or road and no more than 20 net acres in a trade;
 - Adjustment of the UGB will make the provision of public facilities and services easier or more efficient;
 - 3. Urbanization of the land added by the adjustment would have no more adverse environmental, energy, economic

or social consequences than urbanization of land within the existing UGB;

- Urbanization of the land added by the adjustment would have no more adverse effect upon agriculture or forestry than urbanization of land within the existing UGB;
- The adjustment will help achieve the 2040 Growth Concept;
- The adjustment will not result in an island of urban land outside the UGB or an island of rural land inside the UGB; and
- 7. If the adjustment is to facilitate a trade, the adjustment would not add land to the UGB that is designated rural reserve or for agriculture or forestry pursuant to a statewide planning goal.
- D. To approve a minor adjustment to make the UGB coterminous with property lines, natural or built features, Metro shall find that:
 - The adjustment will result in the addition of no more than two net acres to the UGB;
 - Urbanization of the land added by the adjustment would have no more adverse environmental, energy, economic or social consequences than urbanization of land within the existing UGB;
 - 3. Urbanization of the land added by the adjustment would have no more adverse effect upon agriculture or forestry than urbanization of land within the existing UGB;
 - 4. The adjustment will help achieve the 2040 Growth Concept; and
 - 5. The adjustment will not result in an island of urban land outside the UGB or an island of rural land inside the UGB.
- E. Where the UGB is intended to be coterminous with the 100year floodplain, as indicated on the map of the UGB maintained by Metro's Data Resource Center, Metro may

adjust the UGB in order to conform it to a more recent delineation of the floodplain. To approve such an adjustment, Metro shall find that:

- The delineation was done by a professional engineer registered by the State of Oregon;
- The adjustment will result in the addition of no more than 20 net acres to the UGB;
- 3. The adjustment will help achieve the 2040 Growth Concept; and
- 4. The adjustment will not result in an island of urban land outside the UGB or an island of rural land inside the UGB.
- F. If a minor adjustment adds more than two acres of land available for housing to the UGB, Metro shall designate an appropriate average density per net developable acre for the area.
- G. The COO shall submit a report to the Council at the end of each calendar year with an analysis of all minor adjustments made during the year. The report shall demonstrate how the adjustments, when considered cumulatively, are consistent with and help achieve the 2040 Growth Concept.

3.07.1455 Conditions of Approval

- A. Land added to the UGB pursuant to sections 3.07.1420, 3.07.1430 or 3.07.1435 shall be subject to the requirements of sections 3.07.1120 and 3.07.1130 of this chapter.
- B. If the Council amends the UGB pursuant to sections 3.07.1420, 3.07.1430 or 3.07.1435, it shall:
 - 1. In consultation with affected local governments, designate the city or county responsible for adoption of amendments to comprehensive plans and land use regulations to allow urbanization of each area added to the UGB, pursuant to Title 11. If local governments have an agreement in a concept plan developed pursuant to Title 11 that establishes responsibility for adoption of amendments to comprehensive plans and land

use regulations for the area, the Council shall assign responsibility according to the agreement.

- 2. Establish the 2040 Growth Concept design type designations applicable to the land added to the UGB, including the specific land need, if any, that is the basis for the amendment. If the design type designation authorizes housing, the Council shall designate an appropriate average density per net developable acre consistent with the need for which the UGB is expanded.
- 3. Establish the boundaries of the area that shall be included in the planning required by Title 11. A planning area boundary may include territory designated urban reserve, outside the UGB.
- 4. Establish the time period for city or county compliance with the requirements of Title 11, which shall be two years following the effective date of the ordinance adding the area to the UGB unless otherwise specified.
- C. If the Council amends the UGB pursuant to sections 3.07.1420, 3.07.1430 or 3.07.1435, it may establish other conditions it deems necessary to ensure the addition of land complies with state planning laws and the Regional Framework Plan. If a city or county fails to satisfy a condition, the Council may enforce the condition after following the notice and hearing process set forth in section 3.07.870 of this chapter.

3.07.1460 Fees

- A. Each application submitted by a property owner or group of property owners pursuant to this title shall be accompanied by a filing fee in an amount to be established by the Council. Such fee shall not exceed Metro's actual cost to process an application. The fee may include administrative costs, the cost of a hearings officer and of public notice.
- B. The fee for costs shall be charged from the time an application is filed through mailing of the notice of adoption or denial to the Department of Land Conservation and Development and other interested persons.

- C. Before a hearing is scheduled, an applicant shall submit a fee deposit. In the case of an application for a minor adjustment pursuant to section 3.07.1445, the applicant shall submit the fee deposit with the application.
- D. The unexpended portion of an applicant's deposit, if any, shall be returned to the applicant at the time of final disposition of the application. If hearings costs exceed the amount of the deposit, the applicant shall pay to Metro an amount equal to the costs in excess of the deposit prior to final action by the Council.
- E. The Council may, by resolution, reduce, refund or waive the fee, or portion thereof, if it finds that the fee would create an undue hardship for the applicant.

3.07.1465 Notice Requirements

- A. For a proposed legislative amendment under section 3.07.1420, the COO shall provide notice of the public hearing in the following manner:
 - 1. In writing to the Department of Land Conservation and Development and local governments of the Metro region at least 45 days before the first public hearing on the proposal; and
 - To the general public at least 45 days before the first public hearing by an advertisement no smaller than 1/8-page in a newspaper of general circulation in the Metro area and by posting notice on the Metro website.
- B. For a proposed major amendment under sections 3.07.1430 or 3.07.1435, the COO shall provide notice of the hearing in the following manner:
 - 1. In writing at least 45 days before the first public hearing on the proposal to:
 - a. The applicant;
 - b. The director of the Department of Land Conservation and Development;
 - c. The owners of property that is being considered for addition to the UGB; and

- d. The owners of property within 250 feet of property that is being considered for addition to the UGB, or within 500 feet of the property if it is designated for agriculture or forestry pursuant to a statewide planning goal;
- In writing at least 30 days before the first public hearing on the proposal to:
 - a. The local governments of the Metro area;
 - b. A neighborhood association, community planning organization, or other organization for citizen involvement whose geographic area of interest includes or is adjacent to the subject property and which is officially recognized as entitled to participate in land use decisions by the cities and counties whose jurisdictional boundaries include or are adjacent to the site, and to any other person who requests notice of amendments to the UGB; and
- 3. To the general public by posting notice on the Metro website at least 30 days before the first public hearing on the proposal.
- C. The notice required by subsections A and B of this section shall include:
 - A map showing the location of the area subject to the proposed amendment;
 - 2. The time, date and place of the hearing;
 - 3. A description of the property reasonably calculated to give notice as to its actual location, with street address or other easily understood geographical reference if available;
 - A statement that interested persons may testify and submit written comments at the hearing;
 - 5. The name of the Metro staff to contact and telephone number for more information;

- 6. A statement that a copy of the written report and recommendation of the COO on the proposed amendment will be available at reasonable cost 20 days prior to the hearing; and
- A general explanation of the criteria for the amendment, the requirements for submission of testimony and the procedure for conduct of hearings;
- 8. For proposed major amendments only:
 - a. An explanation of the proposed boundary change;
 - A list of the applicable criteria for the proposal; and
 - c. A statement that failure to raise an issue at the hearing, orally or in writing, or failure to provide sufficient specificity to afford the decision maker an opportunity to respond to the issue precludes an appeal based on the issue.
- 9. For the owners of property described in subsection B(1)(c) of this section, the information required by ORS 268.393(3).
- D. For a proposed minor adjustment under section 3.07.1445, the COO shall provide notice in the following manner:
 - In writing to the director of the Department of Land Conservation and Development at least 45 days before the issuance of an order on the proposal;
 - In writing at least 20 days before the issuance of an order on the proposal to:
 - a. The applicant and the owners of property subject to the proposed adjustment;
 - The owners of property within 500 feet of the property subject to the proposed adjustment;
 - c. The local governments in whose planning jurisdiction the subject property lies or whose planning jurisdiction lies adjacent to the subject property;

- d. Any neighborhood association, community planning organization, or other organization for citizen involvement whose geographic area of interest includes the area subject to the proposed amendment and which is officially recognized as entitled to participate in land use decisions by the city or county whose jurisdictional boundary includes the subject property; and
- e. Any other person requesting notification of UGB changes.
- E. The notice required by subsection D of this section shall include:
 - A map showing the location of the area subject to the proposed amendment;
 - A description of the property reasonably calculated to give notice as to its actual location, with street address or other easily understood geographical reference if available;
 - 3. A statement that interested persons may submit written comments and the deadline for the comments;
 - 4. The name of the Metro staff to contact and telephone number for more information; and
 - 5. A list of the applicable criteria for the proposal.

F. The COO shall notify each county and city in the district of each amendment of the UGB.

Exhibit N to Ordinance No. 10-1244

CHAPTER 3.09 LOCAL GOVERNMENT BOUNDARY CHANGES

3.09.010 Purpose and Applicability

The purpose of this chapter is to carry out the provisions of ORS 268.354. This chapter applies to all boundary changes within the boundaries of Metro or of urban reserves designated by Metro and any annexation of territory to the Metro boundary. Nothing in this chapter affects the jurisdiction of the Metro Council to amend the region's Urban Growth Boundary (UGB).

3.09.020 Definitions

As used in this chapter, unless the context requires otherwise:

(a) "Adequate level of urban services" means a level of urban services adequate to support the numbers of dwelling units and jobs specified in the ordinance adopted by the Metro Council that added the area to be incorporated, or any portion of it, to the UGB.

(b) "Affected entity" means a county, city or district for which a boundary change is proposed or is ordered.

(c) "Affected territory" means territory described in a petition.

(d) "Boundary change" means a major or minor boundary change involving affected territory lying within the jurisdictional boundaries of Metro or the boundaries of the urban reserves designated by Metro prior to June 30, 1997.

(e) "Deliberations" means discussion among members of a reviewing entity leading to a decision on a proposed boundary change at a public meeting for which notice was given under this chapter.

(f) "District" means a district defined by ORS 198.710 or any district subject to Metro boundary procedure act under state law.

(g) "Final decision" means the action by a reviewing entity whether adopted by ordinance, resolution or other means which is the determination of compliance of the proposed boundary change with applicable criteria and which requires no further discretionary decision or action by the reviewing entity other than any required referral to electors. "Final decision" does not include resolutions, ordinances or other actions whose sole purpose is to refer the boundary change to electors or to declare the results of an election, or any action to defer or continue deliberations on a proposed boundary change.

(h) "Major boundary change" means the formation, merger, consolidation or dissolution of a city or district.

(i) "Minor boundary change" means an annexation or withdrawal of territory to or from a city or district or from a city-county to a city. "Minor boundary change" also means an extra-territorial extension of water or sewer service by a city or district. "Minor boundary change" does not mean withdrawal of territory from a district under ORS 222.520.

(j) "Necessary party" means any county; city; district whose jurisdictional boundary or adopted urban service area includes any part of the affected territory or who provides any urban service to any portion of the affected territory; Metro; or any other unit of local government, as defined in ORS 190.003, that is a party to any agreement for provision of an urban service to the affected territory.

(k) "Petition" means any form of action that initiates a boundary change.

(1) "Reviewing entity" means the governing body of a city, county or Metro, or its designee.

(m) "Urban reserve" means land designated by Metro pursuant to ORS 195.137 et seq. for possible addition to the UGB in the long term.

(n) "Urban services" means sanitary sewers, water, fire protection, parks, open space, recreation and streets, roads and mass transit.

3.09.030 Notice Requirements

(a) The notice requirements in this section apply to all boundary change decisions by a reviewing entity except expedited decisions made pursuant to section 3.09.045. These requirements apply in addition to, and do not supersede, applicable requirements of ORS Chapters 197, 198, 221 and 222 and any city or county charter provision on boundary changes.

(b) Within 45 days after a reviewing entity determines that a petition is complete, the entity shall set a time for deliberations on a boundary change. The reviewing entity shall give notice of its proposed deliberations by mailing notice to all necessary parties, by weatherproof posting of the notice in the general vicinity of the affected territory, and by publishing notice in a newspaper of general circulation in the affected territory. Notice shall be mailed and posted at least 20 days prior to the date of deliberations. Notice shall be published as required by state law.

- (c) The notice required by subsection (b) shall:
 - Describe the affected territory in a manner that allows certainty;
 - (2) State the date, time and place where the reviewing entity will consider the boundary change; and
 - (3) State the means by which any person may obtain a copy of the reviewing entity's report on the proposal.

(d) A reviewing entity may adjourn or continue its final deliberations on a proposed boundary change to another time. For a continuance later than 28 days after the time stated in the original notice, notice shall be reissued in the form required by subsection (b) of this section at least five days prior to the continued date of decision.

(e) A reviewing entity's final decision shall be written and authenticated as its official act within 30 days following the decision and mailed or delivered to Metro and to all necessary parties. The mailing or delivery to Metro shall include payment to Metro of the filing fee required pursuant to section 3.09.060.

3.09.040 Requirements for Petitions

(a) A petition for a boundary change must contain the following information:

3

- The jurisdiction of the reviewing entity to act on the petition;
- (2) A map and a legal description of the affected territory in the form prescribed by the reviewing entity;
- (3) For minor boundary changes, the names and mailing addresses of all persons owning property and all electors within the affected territory as shown in the records of the tax assessor and county clerk; and
- (4) For boundary changes under ORS 198.855(3), 198.857, 222.125 or 222.170, statements of consent to the annexation signed by the requisite number of owners or electors.

(b) A city, county and Metro may charge a fee to recover its reasonable costs to carry out its duties and responsibilities under this chapter.

3.09.045 Expedited Decisions

(a) The governing body of a city or Metro may use the process set forth in this section for minor boundary changes for which the petition is accompanied by the written consents of one hundred percent of property owners and at least fifty percent of the electors, if any, within the affected territory. No public hearing is required.

(b) The expedited process must provide for a minimum of 20 days' notice prior to the date set for decision to all necessary parties and other persons entitled to notice by the laws of the city or Metro. The notice shall state that the petition is subject to the expedited process unless a necessary party gives written notice of its objection to the boundary change.

(c) At least seven days prior to the date of decision the city or Metro shall make available to the public a report that includes the following information:

 The extent to which urban services are available to serve the affected territory, including any extra-territorial extensions of service;

- (2) Whether the proposed boundary change will result in the withdrawal of the affected territory from the legal boundary of any necessary party; and
- (3) The proposed effective date of the boundary change.

(d) To approve a boundary change through an expedited process, the city shall:

- (1) Find that the change is consistent with expressly applicable provisions in:
 - (A) Any applicable urban service agreement adopted pursuant to ORS 195.065;
 - (B) Any applicable annexation plan adopted pursuant to ORS 195.205;
 - (C) Any applicable cooperative planning agreement adopted pursuant to ORS 195.020(2) between the affected entity and a necessary party;
 - (D) Any applicable public facility plan adopted pursuant to a statewide planning goal on public facilities and services;
 - (E) Any applicable comprehensive plan; and
 - (F) Any applicable concept plan; and
- (2) Consider whether the boundary change would:
 - (A) Promote the timely, orderly and economic provision of public facilities and services;
 - (B) Affect the quality and quantity of urban services; and
 - (C) Eliminate or avoid unnecessary duplication of facilities or services.

(e) A city may not annex territory that lies outside the UGB, except it may annex a lot or parcel that lies partially within and partially outside the UGB. Neither a city nor a

district may extend water or sewer services from inside a UGB to territory that lies outside the UGB.

<u>3.09.050</u> Hearing and Decision Requirements for Decisions Other Than Expedited Decisions

(a) The following requirements for hearings on petitions operate in addition to requirements for boundary changes in ORS Chapters 198, 221 and 222 and the reviewing entity's charter, ordinances or resolutions.

(b) Not later than 15 days prior to the date set for a hearing the reviewing entity shall make available to the public a report that addresses the criteria in subsection (d) and includes the following information:

- The extent to which urban services are available to serve the affected territory, including any extra territorial extensions of service;
- (2) Whether the proposed boundary change will result in the withdrawal of the affected territory from the legal boundary of any necessary party; and
- (3) The proposed effective date of the boundary change.

(c) The person or entity proposing the boundary change has the burden to demonstrate that the proposed boundary change meets the applicable criteria.

(d) To approve a boundary change, the reviewing entity shall apply the criteria and consider the factors set forth in subsections (d) and (e) of section 3.09.045.

3.09.060 Ministerial Functions of Metro

(a) Metro shall create and keep current maps of all service provider service areas and the jurisdictional boundaries of all cities, counties and special districts within Metro. The maps shall be made available to the public at a price that reimburses Metro for its costs. Additional information requested of Metro related to boundary changes shall be provided subject to applicable fees.

(b) The Metro Chief Operating Officer (COO) shall cause notice of all final boundary change decisions to be sent to the

appropriate county assessor and elections officer, the Oregon Secretary of State and the Oregon Department of Revenue. Notification of public utilities shall be accomplished as provided in ORS 222.005(1).

(c) The COO shall establish a fee structure establishing the amounts to be paid upon filing notice of city or county adoption of boundary changes, and for related services. The fee schedule shall be filed with the Council Clerk and distributed to all cities, counties and special districts within the Metro region.

3.09.070 Changes to Metro's Boundary

(a) Changes to Metro's boundary may be initiated by Metro or the county responsible for land use planning for the affected territory, property owners and electors in the territory to be annexed, or other public agencies if allowed by ORS 198.850(3). Petitions shall meet the requirements of section 3.09.040 above. The COO shall establish a filing fee schedule for petitions that shall reimburse Metro for the expense of processing and considering petitions. The fee schedule shall be filed with the Council.

(b) Notice of proposed changes to the Metro boundary shall be given as required pursuant to section 3.09.030.

(c) Hearings shall be conducted consistent with the requirements of section 3.09.050.

(d) Changes to the Metro boundary may be made pursuant to the expedited process set forth in section 3.09.045.

(e) The following criteria shall apply in lieu of the criteria set forth in subsection (d) of section 3.09.050. The Metro Council's final decision on a boundary change shall include findings and conclusions to demonstrate that:

- (1) The affected territory lies within the UGB;
- (2) The territory is subject to measures that prevent urbanization until the territory is annexed to a city or to service districts that will provide necessary urban services; and
- (3) The proposed change is consistent with any applicable cooperative or urban service

agreements adopted pursuant to ORS Chapter 195 and any concept plan.

(f) Changes to the Metro boundary that occur by operation of law pursuant to ORS 268.390(3)(b)are not subject to the procedures or criteria set forth in this section.

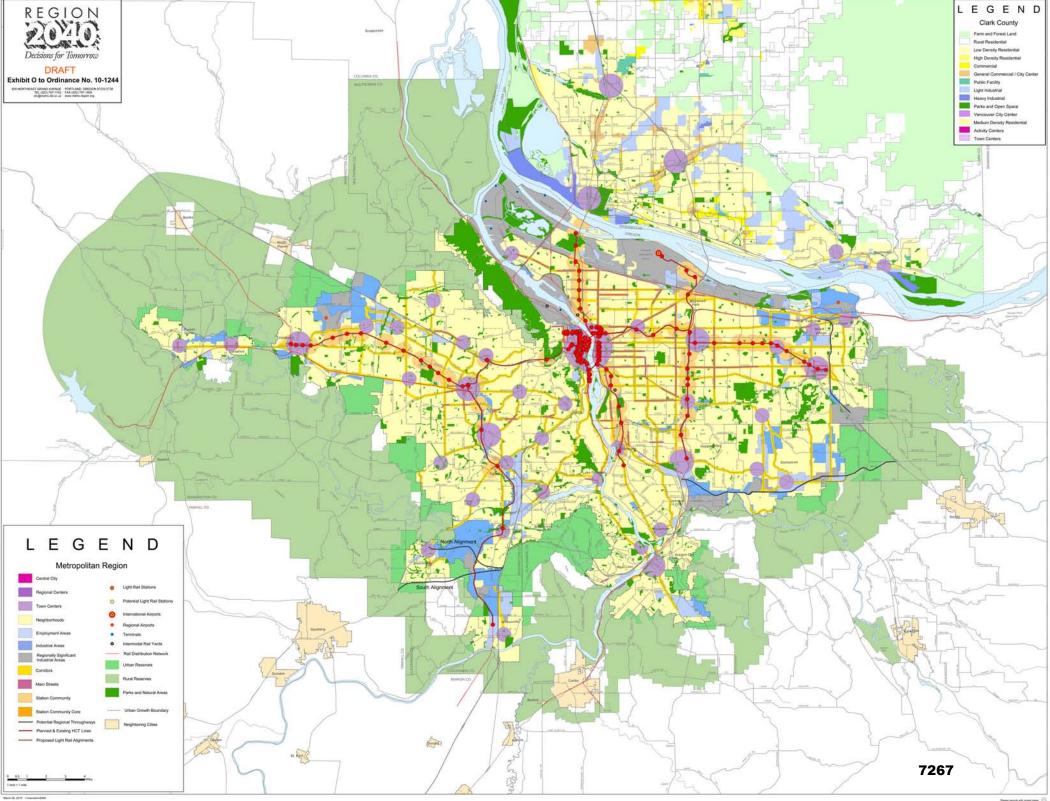
<u>3.09.080</u> Incorporation of a City that Includes Territory Within Metro's Boundary

(a) A petition to incorporate a city that includes territory within Metro's boundary shall comply with the minimum notice requirements in section 3.09.030, the minimum requirements for a petition in section 3.09.040, and the hearing and decision requirements in subsections (a), (c), and(e) of section 3.09.050, except that the legal description of the affected territory required by section 3.09.040(a)(1) need not be provided until after the Board of County Commissioners establishes the final boundary for the proposed city.

(b) A petition to incorporate a city that includes territory within Metro's jurisdictional boundary may include territory that lies outside Metro's UGB. However, incorporation of a city with such territory shall not authorize urbanization of that territory until the Metro Council includes the territory in the UGB pursuant to Metro Code Chapter 3.01.

(c) The following criteria shall apply in lieu of the criteria set forth in section 3.09.050(d). An approving entity shall demonstrate that:

- (1) Incorporation of the new city complies with applicable requirements of ORS 221.020, 221.031, 221.034 and 221.035;
- (2) The petitioner's economic feasibility statement must demonstrate that the city's proposed permanent rate limit would generate sufficient operating tax revenues to support an adequate level of urban services, as required by ORS 221.031; and
- (3) Any city whose approval of the incorporation is required by ORS 221.031(4) has given its approval or has failed to act within the time specified in that statute.



www.oregonmetro.gov

Appendix 8 – Preliminary Analysis of Potential UGB Expansion Areas

August 2010

Metro | People places. Open spaces.

TABLE OF CONTENTS

Introduction	1
Methodology	3
Results	19
Figures and Attachments	22

ANALYSIS OF POTENTIAL UGB EXPANSION AREAS

INTRODUCTION

As part of an integrated community investment strategy, the Metro Council will be considering how to accommodate the region's forecasted 20-year population and employment growth while supporting the region's six desired outcomes, listed below.

- **Vibrant communities** People live and work in vibrant communities where they can choose to walk for pleasure and to meet their everyday needs.
- **Economic prosperity** Current and future residents benefit from the region's sustained economic competiveness and prosperity.
- **Safe and reliable transportation** People have safe and reliable transportation choices that enhance their quality of life.
- Leadership on climate change The region is a leader in minimizing contributions to global warming.
- **Clean air and water** Current and future generations enjoy clean air, clean water, and healthy ecosystems
- **Equity** The benefits and burdens of growth and change are distributed equitably.

The urban growth report (UGR), endorsed by the Metro Policy Advisory Committee (MPAC) and accepted by the Metro Council in December 2009, identified the capacity of the region's UGB to accommodate the next 20 years of expected population and employment growth. The 2009 UGR was intended to foster the development of an outcomes-based approach to growth management decision-making by discussing tradeoffs among various policy and investment choices. The UGR identified a gap between the forecast demand and the amount of zoned capacity that is likely to be developed in the next 20 years for residential and large-site industrial parcels that support the traded-sector. No gap was identified in the middle third of the demand forecast for non-industrial and general industrial employment.

The region can fill the identified capacity gap through actions that promote more efficient use of zoned capacity inside the current UGB, or by expanding the UGB, or a combination of both. Metro has been working with local governments individually and through the Metro Technical Advisory Committee (MTAC) and MPAC to identify and adopt local and regional actions that will achieve greater efficiencies within the existing UGB and minimize the need for UGB expansion at the end of the year.

As part of the process to maintain a 20-year land supply for residential and employment uses, Metro completed an assessment of approximately 8,298 acres of urban reserve land adjacent to the current UGB. These 8,289 acres are a subset of the 28,615 acres of urban reserves that Metro, in conjunction with Clackamas, Multnomah and Washington Counties adopted in June 2010 (Attachment 1). The designation of these areas as urban reserves is essentially the first filter in determining that the areas are suitable for urbanization. Metro staff, utilizing information from past studies such as the Great Communities Report and the findings from the urban and rural reserve process, as well as local jurisdiction input and Metro policies that call for equity and balance in UGB expansions and to consider lands in all parts of the region, narrowed down the urban reserve lands to the 8,298 acres of analysis areas evaluated in this report.

Metro's Chief Operating Officer, Michael Jordan, issued a letter to the mayors and county commission chairs on August 2, 2010, inviting them to submit any additional urban reserve areas that they would like considered as part of the policy discussions in the fall 2010. All additional areas for consideration must be sponsored by local governments, as their support is critical for provision of infrastructure, governance, planning, and more. The additional areas will be considered by MPAC and the Metro Council prior to a final recommendation in October and subsequent public hearings in November.

The purpose of this analysis is to inform the Metro COO Recommendation, 2010 Growth Management Assessment (August 2010), and assist the Metro Council in evaluating the potential expansion areas to meet any identified residential and large-site industrial land need that they determine cannot be met through efficiencies on land inside the UGB. The information in this analysis will help the Metro Council determine which of the selected analysis areas merit further consideration as candidates for inclusion in the UGB. Finally, additional information regarding the effect of the final proposed UGB amendments on existing residential neighborhoods will be developed and sent to all households within one mile of the proposed UGB amendment areas, consistent with Metro Code Section 3.01.015. Figure 1 provides an overview of the UGB analysis area process.

It is beyond the scope of the analysis to provide a detailed, site planning level of analysis for each of the 18 areas. Furthermore, it is not possible to evaluate each potential sequence of urbanization, and the likely effects on surrounding areas under each sequence. This analysis does not compare the results of the UGB amendment factors for the potential expansion areas with the potential for refill or redevelopment of locations that are currently in the UGB.

The structure of this report is based on Metro's UGB Legislative Amendment factors located in Metro Code Section 3.01.020, which implement the boundary locational factors of Statewide Planning Goal 14. The following list identifies the Goal 14 and Metro UGB amendment factors:

- *Metro UGB Amendment Factor & Statewide Planning Goal 14 Factor 1 Efficient accommodation of identified land needs.*
- *Metro UGB Amendment Factor & Statewide Planning Goal 14 Factor 2 Orderly and economic provision of public facilities and services.*
- *Metro UGB Amendment Factor & Statewide planning Goal 14 Factor 3 Comparative environmental, energy, economic and social consequences.*

• Metro UGB Amendment Factor & Statewide Planning Goal 14 Factor 4 – Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

In addition, Metro Code Section 3.01.020 provides five additional factors that must be considered when evaluating land for inclusion in the UGB:

- Equitable and efficient distribution of housing and employment opportunities throughout the region;
- Contribution to the purposes of Centers;
- Protection of farmland that is most important for the continuation of commercial agriculture in the region;
- Avoidance of conflict with regionally significant fish and wildlife habitat; and
- Clear transition between urban and rural lands, using natural and built features to mark the transition.

The essence of the six desired outcomes is embodied in these urban growth boundary (UGB) assessment factors and the state legislation and administrative rules which enabled the region to pursue urban and rural reserves.

The report begins with an explanation of the methodology used to evaluate each analysis area for the factors listed above. Please note that Statewide Planning Goal Factor 1 and the first additional Metro factor, are not evaluated for each analysis area, but findings for these two factors are made on the final UGB expansion decision. Following the methodology section is a brief summary of the results, including a table indicating the ratings applied to most of the factors noted above. The individual analysis area summaries that include basic quantitative information for each area, as well as descriptive information about site characteristics, development patterns, physical attributes, environmental features and the feasibility of providing urban services are found in Attachment 2.

METHODOLOGY

PRODUCTIVITY ASSESSMENT

The productivity assessments conducted for this study follow general procedures used for most buildable lands studies. Vacant areas are first identified. Areas that are unbuildable such as power line easements and environmentally sensitive areas are then removed from vacant lands. Specific categories of tax-exempt lands are also considered unbuildable. The inventory of vacant land is then reduced to account for future streets and public facilities needed to accommodate urbanization. The majority of tabular data used in this analysis has been generated from Geographic Information Systems (GIS). In GIS, digital, coordinate-based spatial data layers are used to represent real world features such as tax lots, wetlands and floodplains, and zoning areas. All of the GIS data used in this analysis are from Metro's Research Center.

Of course, electronic data representing real world features are rarely perfect. Data representing features like floodplains and tax lots will have some positional inaccuracies, which, in turn, will be reflected in numbers representing them. In addition, much of the assessment information that is included in Metro's Regional Land Information System (RLIS) database comes directly from county assessment offices, where local updates may be conducted at different intervals. For a variety of reasons such as these, the study helps to point out general patterns, but is not intended to be accurate at extremely small levels of geography.

Step 1: Determine which lands within the study areas are vacant

For this study all of the land in the analysis areas was assumed to be "vacant", meaning all of the non-public land area that is not constrained by environmental resources or other constraints such as power line easements or parks is available for development. This determination is based on a comparison of land value to improvement value completed by Metro Economic & Land Use Forecasting staff that indicated the existing rural residences would most likely redevelop due to a substantial increase in land value as the rural lands are added to the UGB. In addition, Metro Planning staff's experience with concept planning of new urban areas generally validates this assumption. It is understood however, that some high valued residences will remain as rural lands are urbanized, but it is beyond the scope of this project to complete a more detailed economic analysis of all the parcels under evaluation to determine this small amount of land that would remain in the future. Metro's most recent vacant lands analysis, completed for the land inside the UGB, does not extend to the urban reserve areas.

Step 2: Remove environmentally constrained areas from vacant areas

Lands that are considered vacant may not necessarily be buildable. Therefore, the next step in a buildable lands study is to subtract those areas that are environmentally constrained. The following environmentally constrained areas are removed from vacant lands.

• Urban Growth Management Functional Plan Title 3 Water Quality and Flood Management Areas, consisting of:

Flood Hazard Areas

FEMA 100-year floodplains and 1996 flood inundation areas

Wetlands - From an enhanced National Wetlands Inventory and local wetlands inventories

Wetland Areas - 50 feet from the edge of wetland or up to 200 feet from the edge of wetland located adjacent to steep sloped areas (slopes > 25 percent).

Vegetated Corridor - A vegetated corridor between 15 feet and 200 feet depending upon the area drained by the water feature and the slope of the land adjacent to the water feature.

• Functional Plan Title 13 Nature in Neighborhoods Areas consisting of:

Riparian habitat class I & II and upland habitat class A & B - Riparian habitat class I & II and upland habitat class A & B as identified on the Metro Regionally Significant Fish and Wildlife Habitat Inventory Map.

• Slopes greater than 25%

Metro maintains GIS data files representing the features described above. Data layers representing environmentally constrained areas are "clipped" out of the data layer representing vacant areas, leaving only those areas that are vacant and buildable.

Functional Plan Title 3 and Title 13 regulations apply only to areas within the Metro jurisdictional boundary. As some of the area under study extends beyond this boundary, Metro has constructed a supplemental data layer representing Title 3 protections for the areas outside the jurisdictional boundary. The Regionally Significant Fish and Wildlife Habitat Inventory, adopted September 29, 2005, extended beyond the jurisdictional boundary. If and when any of these analysis areas are added to the urban growth boundary, they would also be annexed to the Metro jurisdictional boundary, making Title 3 and Title 13 effective. Title 13 regulations apply to both riparian and upland habitats for UGB expansions. In almost all circumstances, the identified Title 13 significant riparian and fish habitats encompass the Title 3 Water Quality and Flood Management Areas. Metro's Title 13 regulations do provide for limited development impacts to the habitat areas, thus under step 7 below some additional capacity is added back into the process for determining overall residential capacity of the analysis areas. It is assumed that large site industrial development is more flexible in terms of its footprint on the ground, resulting in the ability to better avoid significant habitat. Thus additional capacity for large site industrial uses is not added back. In addition, the definition for large site industrial is 50 acres of buildable land, essentially assuming that environmental constraints have already been removed from the calculation. However, as development occurs in the future it is expected that some impact to environmental resources may occur.

Step 3: Remove some categories of tax-exempt parcels

Some categories of tax-exempt lands, consisting of Federal, State, County or City-owned properties, schools and cemeteries are identified from the assessment database and removed from consideration.

Step 4: Remove parks and open spaces, power line, natural gas and petroleum easements

There are a number of other land categories that are considered unbuildable and need to be removed from the vacant land supply. All park types are removed, including developed parks with amenities, open space or natural areas, common areas of subdivisions, cemeteries, golf courses, school grounds, pool, tennis courts, fairgrounds, community centers, trails and paths, and community gardens. In addition, utility easements are removed from the vacant land supply.

The following table shows the amount of constrained land identified in steps 2-4 that have been removed from the vacant lands supply of the analysis areas. This represents the amount of gross vacant buildable land.

Land Type	Acres
Total Vacant Land	8,298
Constrained Land	2,266
Gross Vacant Buildable	6,032
Land	

Table -1 Gross Vacant Buildable Land

Step 5: Remove future land needed for streets, parks, schools and churches/fraternal organizations

As urbanization proceeds, some additional land will be necessary to accommodate different types of public facilities. In particular, future streets, parks and schools should be expected to absorb some of the vacant land supply. In this analysis an estimate of future land needed to accommodate these uses is applied to analysis area as a whole. The reduction estimates are consistent with the percentage reductions used in Metro's 2002 UGB Alternatives Analysis. Refined acreage needs based will be developed through the planning requirements of Functional Plan Title 11: Planning for New Urban Areas.

- *Future Streets:* A global estimate of 18.5 percent is removed from all areas to account for future streets.
- *Future Parks*: A global estimate of 2.2 percent is removed from all areas to account for future park needs, except those areas being evaluated for large-site industrial use.
- *Future Schools:* A global estimate of 2.9 percent is removed from all areas to account for future school land needs, except those areas being evaluated for large-site industrial use.
- *Future Churches/Fraternal Organizations:* A global estimate of 1.8 percent is removed from all areas to account for future land needs for churches and fraternal organizations, except those areas being evaluated for large-site industrial use

The following table represents the net vacant buildable land.

Table -2 Net Vacant Buildable Land

	Acres Removed	Total Acres
Gross Vacant Buildable Land		6,032
Future Streets	1,116	4,916
Future Parks	86	4,830
Future Schools	111	4,719
Future Churches & Fraternal	71	4,648
Organizations		
Net Vacant Buildable Land		4,648

Step 6: Estimate residential build out on net vacant buildable acres

The Metro Chief Operating Officer's Urban Reserve Recommendation (September 15, 2009) indicated that over the life of the urban reserves, an average density of 15 dwelling units per net buildable acre should be achieved. Based on this expectation, staff has applied 15 dwelling units per net buildable acre for the analysis areas, except for two areas that are small and geographically limited (Beaver Creek Bluffs and Sherwood South) which had 10 dwelling units per net buildable acre allocated to them.

The following table represents the preliminary number of dwelling units expected from the residential analysis areas.

Expected Density	Net Buildable Acreage	Expected Dwelling Units
10 units/net buildable acre	259	2,590
15 units/net buildable acre	3,393	50,895
Total dwelling units		53,485

Table -3 Residential Dwelling Units

Step 7: Estimate dwelling units occurring in environmentally constrained areas or from possible density transfers out of environmentally constrained areas

Metro's Title 13: Nature in Neighborhoods program is intended to conserve, protect and restore a continuous ecologically viable streamside corridor system that is integrated with upland wildlife habitat and the surrounding urban landscape. The program balances and integrates goals of protecting and enhancing fish and wildlife, building livable Region 2040 communities and supporting a strong economy. Provisions within Title 13 do allow for limited impacts to identified fish and wildlife habitat from urban development through both clear and objective and discretionary development standards. Any impact to the habitat is expected to be mitigated for onsite, which could inhibit the amount of impact that occurs.

Title 13 also requires local jurisdictions to provide for the opportunity for the transfer of development rights on-site for identified habitat areas. However, it is assumed that not all of the potential development would be transferred due to the expected inability of the real estate market to absorb a higher density housing product on many of these lands at the edge of the UGB as a result of the transfer of development rights.

As noted previously Metro's Regionally Significant Fish and Wildlife Habitat Inventory Map extended to the urban reserve analysis areas. This mapping occurred at a regional scale based on 2002 aerial photos and is intended to be a guide for more detailed analysis as protection programs are developed. A review of the mapped habitat inventories on these rural lands reveals inconsistencies on how areas were mapped. Based on the potential for mapping inaccuracies and the fact that Title 13 does allow for some impacts to the habitat areas, it is assumed that some development will occur within the habitat areas that were identified through the regional mapping process. It is expected that this development will be at a much reduced density due to on-site mitigation requirements and real estate market realities. Therefore, for those Title 13 habitat areas that are outside of other constraints, such as Title 3 vegetative corridors, floodplains and utility easements, a reduced density of 3 dwelling units per net buildable acre is assumed. The total number of dwelling units on environmentally constrained land is 2,116.

Table -4 Total Estimated Dwelling Units

Land Type	Total Estimated Dwelling Units
Dwelling units from	2,116
environmentally constrained land	
Vacant Land	53,485
Total dwelling units	55,601

WATER, SEWER, STORMWATER, PARKS & SCHOOL SERVICES FEASIBILITY

This analysis is a preliminary study for developing cost estimates for providing specific public infrastructure components to the analysis areas. This work was completed by Group MacKenzie, under contract to Metro, and focuses on three topic areas: public utilities, parks, and schools. For this analysis, public utilities means sanitary sewer, water and storm sewer services and the review focuses on trunk lines, main lines, and other large components of the systems. This analysis assumes the vast majority of smaller laterals and individual service lines will be paid for by development. System component sizing and costs are derived from review of adjacent and similar sites with equivalent land use and development patterns.

Using the buildable acreage and estimated dwelling units calculated for the analysis areas, pipe lengths and sizes are translated from adjacent or similar sites of development to determine a large component system for each utility. Unit costs are based on recent industry-wide construction data and recent project estimates. Each area is reviewed, assuming the service will be provided by adjacent cities and/or service districts, for likely points of connection and any supply, downstream capacity or treatment issues. This work is completed primarily through review of existing master plans, and existing system capacity is reviewed for general availability to the proposed expansion area – both in terms of access and any limitation due to prior commitment of service to other areas already within the UGB. The review of public utilities is similar for both residential and industrial uses.

For residential uses, an analysis of park and school services was also completed. Again, comparable development types are reviewed, and master plans and planned expansions by the park provider and school district are noted. For parks, the comparison is done on a developable acreage basis for each area, while schools are considered and compared on both an acreage and dwelling unit basis. See Attachment 3 for the Group Mackenzie report. Attachment 4 contains a summary of the costs for all of the analysis areas.

This analysis does not include an evaluation of electrical power. Power companies such as Portland General Electric (PGE) have an obligation to serve and power rates are monitored by the Oregon Public Utility Commission; therefore the rate differences between the different analysis areas, especially for residential use will not be considerable. One exception is the City of Forest Grove Light and Power Company, which is a preferred company of the Bonneville Power Administration. This preferred company status allows Forest Grove Light and Power to purchase power at a lower rate, thereby resulting in a lower base power rate for their customers.

The main cost of serving an area is the extension of the line and whether or not any specific equipment is necessary to provide power for specialized uses. That level of detail regarding specialized uses is not available at this time. The greatest challenge for PGE is community resistance to siting of new substations, power lines and other power system infrastructure.

TRANSPORTATION SERVICES FEASIBILITY

This analysis is a preliminary study for developing total cost estimates (public and privte) for a road network consisting of an arterial/collector level system for the analysis areas, using the connectivity standards in the Regional Transportation Plan (RTP). The cost estimates reflect a RTP consistent network necessary for the complete build-out of the analysis area, which would take a number of years to complete. It is not intended to depict the level of investment necessary at the onset of development. In addition, a RTP consistent network would serve a larger area beyond just the UGB amendment area, resulting in the potential for a range of funding options.

Using GIS-level data, a rough cost comparison can be made among analysis areas. The analysis is not meant to depict an actual complete urban roadway network or reflect detailed costs for construction of such a system, but rather provide preliminary information on how certain analysis areas compare relative to other analysis areas. More detailed cost estimating will be necessary to determine exact costs and phasing of construction. The analysis does not include the local road network as this is assumed to be paid for by development.

To facilitate the analysis, the following GIS data was used:

- Analysis area boundaries
- Existing rural and urban road network
- Existing railroad lines
- Topographical information
- Floodplains, streams, significant riparian and upland habitat, & wetlands
- Proposed High Capacity Transit corridors

An arterial and collector level system was developed for each analysis area using the connectivity standards in the RTP. The ideal spacing for arterials is one mile apart, and the ideal spacing for collectors is one-half mile from another collector or arterial. This spacing reflects the evidence outlined in the RTP that such a connected system best accommodates an urban-level development pattern including vehicular, transit, bicycle and pedestrian travel.

The road network was digitized and a database was created to query the number of lane miles, both existing and added, number of intersections and distance to existing network. This information was used to develop a rough capital cost estimate of the improved network for each analysis area. The proposed road network for each analysis area can be found in the Analysis Area Summary Sheets. A summary of the transportation costs for all of the analysis areas can be found in Attachment 5.

The cost estimating approach was derived from the ODOT Highway Economic Requirements System (HERS), which is used for planning-level capital costs for roadway projects. The approach includes assigning higher roadway costs to major bridge crossings, floodplains, wetlands and steep slope areas. It includes a standard right of way cost factor and is expressed as a unit cost per lane mile for a complete street section that includes bike lanes, sidewalk, curb and gutter. The cost estimates were completed using 2007 dollars, consistent with the RTP. Additional information on the HERS cost estimating approach can be found at

http://www.fhwa.dot.gov/infrastructure/asstmgmt/hersindex.cfm

Tri-Met, the regional transit agency is currently completing a preliminary transit evaluation of the analysis areas. The results of this analysis will be available in August 2010.

ESEE ANALYSIS

Environmental, Social, Energy and Economic Consequences of adding land to the Urban Growth Boundary

Purpose of the ESEE Analysis

The purpose of this analysis is to assess the long-term environmental, social, energy and economic consequences that would result from urbanization of land considered for inclusion within the UGB and to guide the selection of lands from among those considered. The analysis must find that urbanization may occur in a manner consistent with any special protection of resources or hazards,

as identified in a local comprehensive plan and implemented by land use regulations. Any complimentary and adverse economic impacts must also be identified. Evaluation of these factors, on balance, must demonstrate that the lands being considered are no worse than other areas under consideration for urbanization. Each of the ESEE factors (Environmental, Social, Energy & Economic) must be evaluated for each study area or groups of study areas under consideration

Evaluation of ESEE Factors

Statewide Planning Goal 2: Land Use Planning, Part II Exceptions, suggests that when considering the conversion of land from rural to urban uses that the evaluation be based on the "Positive/Negative Effects" of the impacts of urbanization on the study areas and the "Advantages/Disadvantages" of a particular site versus another site.

ESEE Analysis Process

The environmental factor of the ESEE analysis was completed separately as the elements of this factor are easily quantified (stream length, acreage of wetlands, floodplain size) and there are specific regulatory programs in place to ensure that urbanization will occur in a manner consistent with the regulatory programs. Each of the environmental elements described below was evaluated to determine an overall environmental consequence rating that considered the individual element ratings equally. The overall environmental consequence rating for each analysis area can be found in Table 6. A summary of the environmental consequences for each analysis area can be found on the Analysis Area Summary Sheets.

The energy, social and economic factors were analyzed together. This was done to better understand and evaluate the components of these three factors, as they are not easily quantified and their consequences extend beyond the boundary. A summary of the energy, social and economic consequences can be found on the Analysis Area Summary Sheets.

Outlined below are general descriptions of the elements of each of the ESEE analysis factors and the expected consequences to each factor as a result of urbanization.

General Description of Factors

Environmental

Urbanization may impact natural resources through the degradation of water quality and wildlife habitat, the loss of floodplain functions and through increased instability of steep slopes. One way to maintain water quality is to protect the vegetated corridors adjacent to streams and wetlands. Urbanization can affect the function of these areas through either direct removal of vegetation or by increasing nearby impervious surface. This increase in impervious surface generates additional storm sewer run-off that in turn increases natural stream flows, which can impact the water quality of streams by washing sediments and impurities from impervious surfaces into the natural waterways. Additional stream flow may also prevent ground water infiltration and re-charge as well as scour streambeds due to the increased volume and velocity of the flow. Increased stream flows and associated transport of sediments and impurities reduce the ability of the vegetated corridor to provide important functions, such as stream bank stability and regulation of water temperature.

A properly functioning floodplain allows for the storage and conveyance of natural floodwaters, thereby reducing the risk of flooding and preventing or reducing risk to human life and property. Floodplains impacted by urbanization through the placement of structures will have less storage and conveyance capacity for flood events, thereby increasing the likelihood of downstream flooding and health, welfare and safety issues. Attachment 6 contains a summary of the environmental factors for each analysis area.

Metro's Title 3 program as Functional Plan provides performance standards to protect and improve water quality and reduce the risk of flooding. Land added to the UGB is subject to the requirements of Title 3 through the concept planning requirements of Title 11 of the Functional Plan.

Metro's Title 13 program as defined in the Functional Plan provides performance standards to protect, maintain, enhance and restore significant fish and wildlife habitat through a comprehensive approach that includes voluntary, incentive based, educational and regulatory elements. Land brought into the UGB is subject to the requirements of Title 13 through the concept planning requirements of Title 11 of the Functional Plan.

The Metro UGB Amendment factor relating to the avoidance of regionally significant fish and wildlife was evaluated simultaneously with the environmental consequences factor. As noted previously the adopted Regionally Significant Fish and Wildlife Habitat Inventory extended beyond the jurisdictional boundary, allowing for the evaluation of whether urbanization could occur in an area in way that avoided the identified habitat.

Inclusion of land into the UGB does not necessarily mean a negative impact to inventoried natural resources. Often the existing rural uses impact the resource in a way that is not allowed in an urban setting. For instance, in many places agricultural activities occur right up to the edge of a stream corridor, effectively providing no riparian habitat. In an urban context, the same stream would have a required vegetative corridor along it, where development could not occur, thereby resulting in a positive impact on the resource. As part of the required planning of new urban areas, a concept plan shall identify water quality resource areas and habitat conservation areas that will be subject to performance standards under Titles 3 & 13 of the Functional Plan, effectively providing more protection of the resource.

Social

The social consequences of urbanization relate to changes to the built environment, the natural landscape, demographics and an influx of population, which can impact those living both inside and outside the UGB. As the character of an area changes from rural to urban the natural landscape is impacted by a denser built environment. Through the required planning of new urban areas an efficient and compact urban form can be created that will provide additional social, commercial, recreational and educational opportunities to serve both current and new residents of the area and nearby established residential communities inside the UGB. Mixed-use areas that are part of a

planned complete community have the greatest potential to provide social gathering places and community centers, or become the focus point for a neighborhood. The closer proximity to services, jobs and recreational opportunities due to an efficient and compact urban form will result in shorter trips by residents and provide opportunities for other modes of transportation such as transit, bicycling and walking.

Numerous national studies indicate there are several health impacts attributed to development of communities that are dependent on the automobile. These impacts range from air pollution and related illnesses to automobile accidents and a sedentary lifestyle, all based on increased vehicle miles traveled and commuting time. However, urbanization utilizing a compact urban form can help alleviate some of these health impacts and contribute in a positive nature to the overall health of the community by providing transportation options, nearby services, and opportunities for exercise that can reduce the time spent in an automobile.

As noted, urbanization will affect the rural character of the area, which is a negative social impact for those residents who desire such a lifestyle and rural environment. Residents within the UGB may also be negatively affected by the loss of nearby rural landscapes, the loss of the perception of easy access to open spaces and the perceived loss of protection of natural resources. Those individuals currently engaged in farming nearby land may feel pressure from encroaching urbanization to curtail farming activities.

Affordable Housing

The region functions as one housing market as people may live in one area, work in another and shop in yet another part of the region. In many areas there are few affordable housing options for the people who work there, resulting in long commute distances and times, while increasing congestion and pollution. This also leads people to purchase or rent more expensive homes than they can afford. The social factors of having an affordable home – shelter, safety and security – are fundamental to the livability of the region. The availability of a range of affordable homes throughout the region helps provide the stability needed to develop and maintain complete communities. A population that has access to housing choices near employment and services will spend less time traveling and may quite possibly be more aware of and involved in their immediate community. Title 11 of the Functional Plan requires that the planning for areas brought into the UGB demonstrate measures that will provide a diversity of housing stock that will fulfill needed housing requirements as defined by ORS 197.303. The intent of this requirement is to provide affordable housing options throughout the region.

Archeological Sites

State and federal laws prohibit the disturbance of Native American burial sites. Approximately six percent of the state has been formally surveyed for the presence of Native American artifacts, most often having to do with federally funded projects. As long as state and federal laws are observed during the planning and development processes there would not be any social consequences realized. Based on known settlement patterns and the level of disturbance that has already

occurred due to farming and rural development, it is unlikely that many significant archeological resources remain.

Historic Sites

The analysis study areas may contain historic resources that have been listed as a historic resource of statewide significance or on the National Register of Historic Places. Non-surveyed historic resources are best addressed through the local jurisdiction's Goal 5 survey, inventory and protection ordinances. As an area urbanizes the local government assuming governance will be responsible for the protection of all historic resources.

Clackamas County has identified a number of historic properties that are designated as historic landmarks in the rural portion of the county. Multnomah County's West of Sandy River Plan has identified a number of properties that could be designated as historic resources. Washington County has identified historic resources in the rural area as part of the county's Rural/Natural Resource Plan. The presence of historic resources identified or inventoried in any of the above referenced documents is noted on the appropriate Analysis Area Summary Sheet.

Aggregate Resources

The vast majority of mining sites in Oregon are aggregate mines. Aggregate is the main ingredient in concrete and asphalt pavement and is used as a base on which roads and buildings are placed. Other important uses include gravel roads, dams, landscaping, drainage control, landfills, sanding icy roads, and railroad ballast.

Due to the generally finite nature of these resources and the limited supply of aggregate mines located in the region, its value is expected to increase. Because of high transportation costs it is most economical for the construction industry to use resources that are closest to the region. The relationship between the value of the aggregate resource, the importance to the construction industry and the costs involved with extraction and transportation makes it important to preserve these uses. Furthermore, aggregate resource extraction uses are temporary in nature due to the limited supply of the resource within a mining site. Once a site is no longer economically viable it can be reclaimed for a number of uses including recreational, open space or general development.

Aggregate resource sites in the analysis areas were identified utilizing the State of Oregon Department of Geology and Mineral industries (DOGAMI) Special Paper 3 "Rock Material Resources of Clackamas, Columbia, Multnomah and Washington Counties, Oregon". In addition, Washington County identifies mineral and aggregate resources in the rural area through the use of two district overlays contained in the Rural/Natural Resource Plan. The District A overlay designation applies only to sites upon which extraction, processing, and stockpiling activities are currently undertaken and to sites which may be utilized for such activities in the future. The District B overlay designation applies to land within 1000 feet of District A with the intent to regulate the establishment of new noise sensitive uses to help reduce conflicting land uses. Clackamas County has inventoried significant mineral and aggregate resource sites, based on the DOGAMI report in their comprehensive plan. The presence of mineral and aggregate resource sites identified or inventoried in any of the above referenced documents is noted on the appropriate Analysis Area Summary Sheet.

Energy

Statewide Planning Goal 13: Energy Conservation, states that "Priority consideration in land use planning should be given to methods of analysis and implementation measures that will assure achievement of maximum efficiency in energy utilization". Energy impacts are related to additional consumption of fossil fuels to heat and cool buildings and power motor vehicles. As an area urbanizes the number of buildings increases, resulting in an increase in natural gas, electricity and heating oil use.

The addition of residential dwelling units and non-residential uses in a new urban area also increases the number of vehicles in that area. Increased vehicle miles traveled (VMT) increases gasoline consumption and emissions output associated with internal combustion engines. The total increase in vehicular trips is based on the productivity of the individual study areas in terms of the number of dwelling units or the amount of employment that the area is expected to create through urbanization. Although an increase in energy consumption is inevitable, the urbanization of some study areas may improve transportation connectivity and efficiency for areas inside of the existing UGB. Furthermore, maintaining a compact urban form, providing both service and employment opportunities and increasing density along high capacity transportation corridors will result in smaller increases in energy consumption than disjointed unplanned large lot development.

ORS 660-23-190(1) states that energy sources may include naturally occurring locations, accumulations, or deposits of one or more of the following resources used for the generation of energy: natural gas, surface water (i.e., dam sites), geothermal, solar and wind areas. Energy sources applied for or approved through the Oregon Energy Facility Siting Council (EFSC) or the Federal Energy Regulatory Commission (FERC) are deemed to be significant energy sources that could be impacted by urbanization of the surrounding area. Protection of energy sources means to adopt plan and land use regulations that limit new conflicting uses within the impact area of the site and authorize future development or use of the energy source of the site. There are no known sources of energy in the study areas as defined in the ORS 660-23-109(1), although some of the areas contain easements for electric power, petroleum and natural gas transmission facilities.

Economic

The land in the analysis areas is currently in rural uses that include large lot residential, farm and forest activities, and limited commercial and industrial uses. Permitted commercial uses are generally confined to wholesale and retail sales of farm and forest products and other incidental uses including convenience stores or service based businesses under prescribed conditions. Industrial uses are mainly related to resource based industries such as sand and gravel, mineral extraction, and equipment storage.

Urbanization allows for a concentration of residential, industrial, commercial and office uses that benefit from economies of scale. As land is brought into the UGB, the range of uses and

development types increase. As land values increase activities that are land intensive such as agriculture, forestry and equipment storage may become less economical. The resulting diversified urban economy will serve both the current and new residents that will locate there as well as the nearby established residential communities inside the UGB.

The addition of public facilities and infrastructure increases the value of rural residential land by providing the opportunity to divide property into smaller lots for higher density residential use or by converting rural residential uses to either commercial or industrial uses. These development options would not be available without inclusion of the land in the UGB and the subsequent urban services that are provided.

Although there is economic value in converting land from rural to urban uses as noted above, there also is a cost associated with protecting natural resources in terms of lost development productivity and/or replacement or mitigation of development impacts on natural resources. The cost of lost development productivity from the protection of natural resources must be balanced with the immeasurable value of lost open spaces and the degradation of wildlife habitat. Metro's Goal 5 Phase 1 ESEE Analysis explains in detail how the ecological functions of fish and wildlife habitat provide ecosystem services that have economic value and benefit society. Based on this information it seems to be cost effective to concentrate development in areas where impacts to natural resources can be minimized and to avoid impacts that would require restoration and mitigation.

The Oregon Department of Agriculture reported that in 2008, two of the top five agriculture producing counties were in urban Oregon. Clackamas and Washington counties ranked fourth (\$364 million) and fifth (\$302 million), respectively, in gross farm and ranch sales. The top commodity in 2008 was greenhouse and nursery products, with an \$808 million value. Three of the top five counties producing greenhouse and nursery products are Clackamas (first), Washington (third) and Multnomah (fifth). In addition all three counties are also in the top five for cane berry production. Urbanization of land that is currently in agricultural production, particularly in the nursery stock and cane berry production could have a significant effect on the regional economy, especially if they are part of a larger block of agricultural activity.

AGRICULTURAL/FOREST COMPATIBILITY ANALYSIS

The basic methodology for this compatibility analysis is similar to the analysis that accompanied the legislative amendments to the UGB in 2002. However, the adoption of rural reserves by Clackamas, Multnomah and Washington counties shifts the focus of the analysis away from the protection of farmland that is most important for the continuation of commercial agriculture in the region, to the compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB and whether or not there is a clear transition area, utilizing natural and built features, between urban and rural lands. It is assumed that the rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Certainly some high value farm land was designated as urban reserves; however the balancing of the urban and rural

reserve factors resulted in the determination that the farm land was more suitable for an urban reserve designation.

The Oregon Department of Agriculture's 2007 Study, Identification and Assessment of the Longterm Commercial Viability of Metro Region Agricultural Lands expands on the needs for edges and buffers to protect and moderate adverse impacts between agriculture and other non-compatible land uses and is useful in helping to identify those transition areas between urban and rural uses.

Data Sources - Zoning

Zoning data was obtained from regularly updated county records from Metro's RLIS. Counties designate land as resource land or exception land through the comprehensive planning process, which must be acknowledged by Oregon Department of Land Conservation and Development (DLCD). Counties must go through an exception process to remove resource land from protected status. Metro is required to utilize this local zoning that has been acknowledged by the State when completing an agricultural compatibility analysis.

The zoning within each county that qualifies as resource land and exception land is somewhat different. The exception land and resource land zone designations shown below were used for the agricultural compatibility analysis.

County	Resource Land Designation	Exception Land Designation
Clackamas	EFU Exclusive Farm Use AGF Agriculture/Forest District TBR Timber District	RA1 Rural Residential RA2 Rural Residential RRFF5 Rural Residential/Farm Forest 5 Acre FF 10 Farm Forest 10 Acre RC Rural Commercial RTC Rural Tourist Commercial
Multnomah	EFU Exclusive Farm Use MUF Multiple Use Forest CFU-1, CFU-2, CFU-3, CFU-4 and CFU-5 Commercial Forest Use districts	RR Rural Residential RC Rural Center MUA 20 Multiple Use Agriculture
Washington	EFU Exclusive Farm Use AF20 Agriculture/Forest 20 Acre EFC Exclusive Forest and Conservation	RR 5 Rural Residential 5 Acre AF 5 Agriculture & Forest District 5 Acre AF 10 Agriculture & Forest District 10 Acre RC Rural Commercial RI Rural Industrial

Table -5 County Resource & Exception Land Designations

Agricultural and Forest Activities

Agricultural and forest activities occurring on nearby farm and forest land outside the UGB were interpreted from computerized aerial photographs taken in the year 2009. Aerial photos are generally taken in June or July; thus many crops may be young and difficult to identify at the time the photo was taken. Crops were grouped into general categories of nursery stock, orchards, row crops (corn, vineyards, cane berries, etc) and field crops (grasses and grains). Forest activities are basically impossible to detect based on aerial photos that represent a snap shot in time due to the very long harvest cycle. Metro staff recognizes that this evaluation may not precisely identify all crops being cultivated or whether forest harvesting is expected to occur.

Compatibility Factors

Compatibility considerations include:

- Increased traffic resulting from urbanization may impede the movement of farm or forest equipment and hinder the transport of agricultural goods to market.
- Urbanization may result in the isolation of certain agricultural areas from the greater farming community. This may hinder normal practices of sharing equipment and knowledge among farmers.
- Conflicts due to dust, noise, odor and chemical spray resulting from urban development being located in close proximity to active farming.
- An increase in impervious surface generates additional storm water run-off that can impact the water quality of streams, prevent ground water infiltration and re-charge, and scour streambeds that nearby agricultural activities are dependent upon.

The agricultural practices used in the production of the identified crop categories vary somewhat in the levels of pesticide use, noise produced, etc., which may conflict with urban development in close proximity. In addition, one of the strengths of agriculture is its ability to change crops over time to reflect current market conditions. For these reasons, the intensity of the agricultural uses occurring within the surrounding areas and the degree to which active farming of these crops may be hindered by nearby urban development was not ranked. Metro staff simply noted when the potential for such conflicts existed. The base assumption was that areas that support intensive and uninterrupted agricultural uses would be most impacted by the proximity of new urban development.

Clear Transition between Urban and Rural Lands

Finally, the presence of buffers or transitions areas in the form of natural and man-made features such as rivers, steep slopes, highways and golf courses may serve to limit impacts of urbanization on agricultural practices were identified.

Each of the compatibility factors and the presence or not of natural and man-made buffers or transition areas was evaluated for each analysis area. The starting point for the analysis was whether or not any agricultural activities were occurring on adjacent land. The size or extent of the

adjacent agricultural activity, the number of streams that flowed from the study area through active farming areas and local traffic patterns were additional factors in consideration of the overall compatibility determination. A summary of the compatibility factor and the urban to rural transition factor can be found on the Analysis Area Summary Sheets.

CONTRIBUTION TO THE PURPOSES OF CENTERS

The Metro 2040 Growth Concept was adopted as a vision to guide growth and development over the coming decades. A key component of the Growth Concept is concentrating growth in the 37 designated Centers across the region with a focus on redevelopment, multi-modal transportation and concentrations of households and employment. Centers vary greatly in geographic size, urban form and transportation access, making each center truly unique. Metro completed a State of the Centers Report, January 2009, which was intended to help communities understand their current conditions and develop their aspirations for the future.

Using the information from the State of the Centers Report, along with the numerous locally adopted plans and visions for the designated Centers and downtown areas, staff evaluated whether or not the addition of residential or large site industrial land to the UGB would support, negatively impact or have no effect on the identified local and regional visions for the Centers. Additional information for those Centers that are near the MAX Light Rail Line was obtained from Metro's Transit Oriented Development (TOD) Group's forthcoming strategic plan that is expected to be finalized in September 2010.

RESULTS

Individual ratings were determined for the following Goal 14 Factors: ESEE analysis, Significant Fish and Wildlife Habitat, Agricultural Analysis and Contribution to Centers and can be found in Table 6 below. The preliminary cost estimations developed for providing sanitary sewer, water, storm sewer, parks, schools and transportation services are intended to provide additional information and are found in Attachment 4. These cost estimates were made using very general assumptions on future growth expectations. Detailed concept plans, consistent with the requirements of Metro's Functional Plan Title 11 will be necessary to develop more refined cost estimates that better reflect the expected development pattern and uses, and take into consideration more current costs for infrastructure materials at the expected time of construction as some of these areas may not urbanize for a number of years.

An additional consideration that should be included in determining the best places for potential expansion of the UGB is the current level of local jurisdiction support for including the area in the UGB. Staff feels that this is a key ingredient in determining the appropriate locations for expansion, given the results of the 2007 Great Communities study that highlighted the need for governance, the focus of the reserves analysis on the efficient use of existing and future public and private infrastructure investments, and the results of the recent Washington County Urbanization Forum that concluded new urban areas would be governed by cities. In addition, Functional Plan Title 11: Planning for New Urban Areas requires provision for annexation to a city and to any necessary service district prior to, or simultaneously with, application of city land use regulations. If a new

urban area has local support, there is accountability and buy in from the local government that the area will develop into a great community that supports the vision of the 2040 Growth Concept. A new urban area that lacks local willingness for governance and providing urban services will result in the land remaining in its rural condition, thereby reducing the overall expected capacity of the UGB in future growth management decisions.

Summary of results for each Analysis Area

Analysis Area	Environmental Consequences	Energy, Economic, Social Consequences	Impact to Significant Habitat	Agricultural Compatibility	Natural Transition/Buffer	<i>Contribution to Centers</i>
1C - East Gresham	Low	Moderate	Low	Compatible*	Partial	No
3D - Maplelane	Moderate	Low	Low*	Compatible	Yes	No
3G - Beaver Creek Bluffs	Moderate	Low	Low	Compatible	Yes	No
4D - Norwood	Low	Moderate	Low*	Mitigation Required	Partial	No
4E - I-5 East	Moderate	Moderate	Substantial	Mitigation Required	No	No
4F/G - Elligsen	Moderate	Moderate	Low*	Mitigation Required	Limited	No
4H - Advance	Low	Low	Low	Partially Compatible	Partial	No
5B - Sherwood West	Low	Low	Low	Compatible	Yes	No
5D - Sherwood South	Moderate	Moderate	Moderate	Compatible	Yes	No
5F - Tonquin	Low*	Low	Low	Compatible	Yes	No
5G - Grahams Ferry	Low	Moderate	Moderate	Compatible	Partial	No
6A - South Hillsboro	Low*	High	Low*	Not Compatible	Partial	New Center**
6C - Roy Rogers West	Low`	Low	Low	Not Compatible	No	No
7B - Forest Grove North	Low	Low	Low	Not Compatible	No	No
7D - Cornelius South	Low	Low	Low	Partially Compatible	Partial	New Center**
71 - Cornelius North	Low	Low	Low*	Not Compatible	No	New Center**
8A - Hillsboro North	Low	Moderate	Moderate	Partially Compatible	Partial	No
8B - Shute Road Interchange	Low	Low	Low	Not Compatible	No	No

*Area is generally compatible or impact is minimal, with potential exceptions. See summary for specific details.

**A new center had been proposed as part of the South Hillsboro Community Plan and the City of Cornelius is proposing a center designation for their downtown.

FIGURES AND ATTACHMENTS

FIGURES

Figure 1: Process for Evaluating Urban Reserve Analysis Areas for Inclusion in the Urban Growth Boundary

ATTACHMENTS

Attachment 1: Urban Growth Boundary Alternatives Analysis Areas Map

Attachment 2: Analysis Area Summary Sheets

- East Gresham 1C
- Maplelane 3D
- Beaver Creek Bluffs 3G
- Norwood 4D
- I-5 East 4E
- Elligsen 4F/G
- Advance 4H
- Sherwood West 5B
- Sherwood South 5D
- Tonquin 5F
- Grahams Ferry 5G
- South Hillsboro 6A
- Roy Rogers West 6C
- Forest Grove North 7B
- Cornelius South 7D
- Cornelius North 7I
- Hillsboro North 8A
- Shute Road Interchange 8B

Attachment 3: Group MacKenzie Report – Assessment of Potential Urban Growth Boundary Expansion Areas

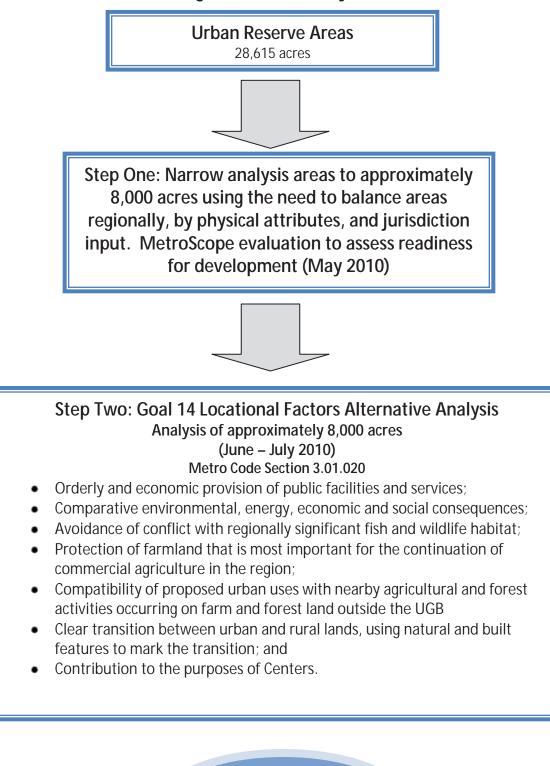
Attachment 4: Public Facilities and Services Cost Summary

Attachment 5: Transportation Analysis Cost Summary

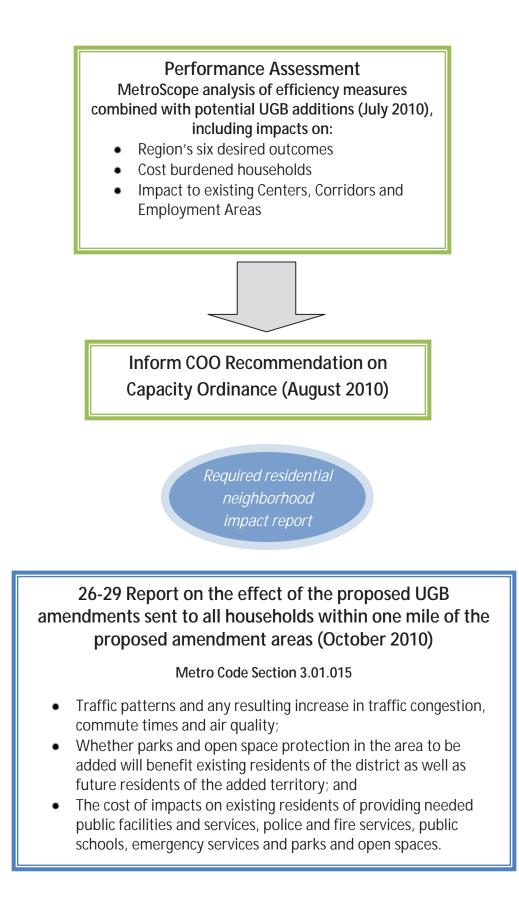
Attachment 6: Environmental Analysis Summary

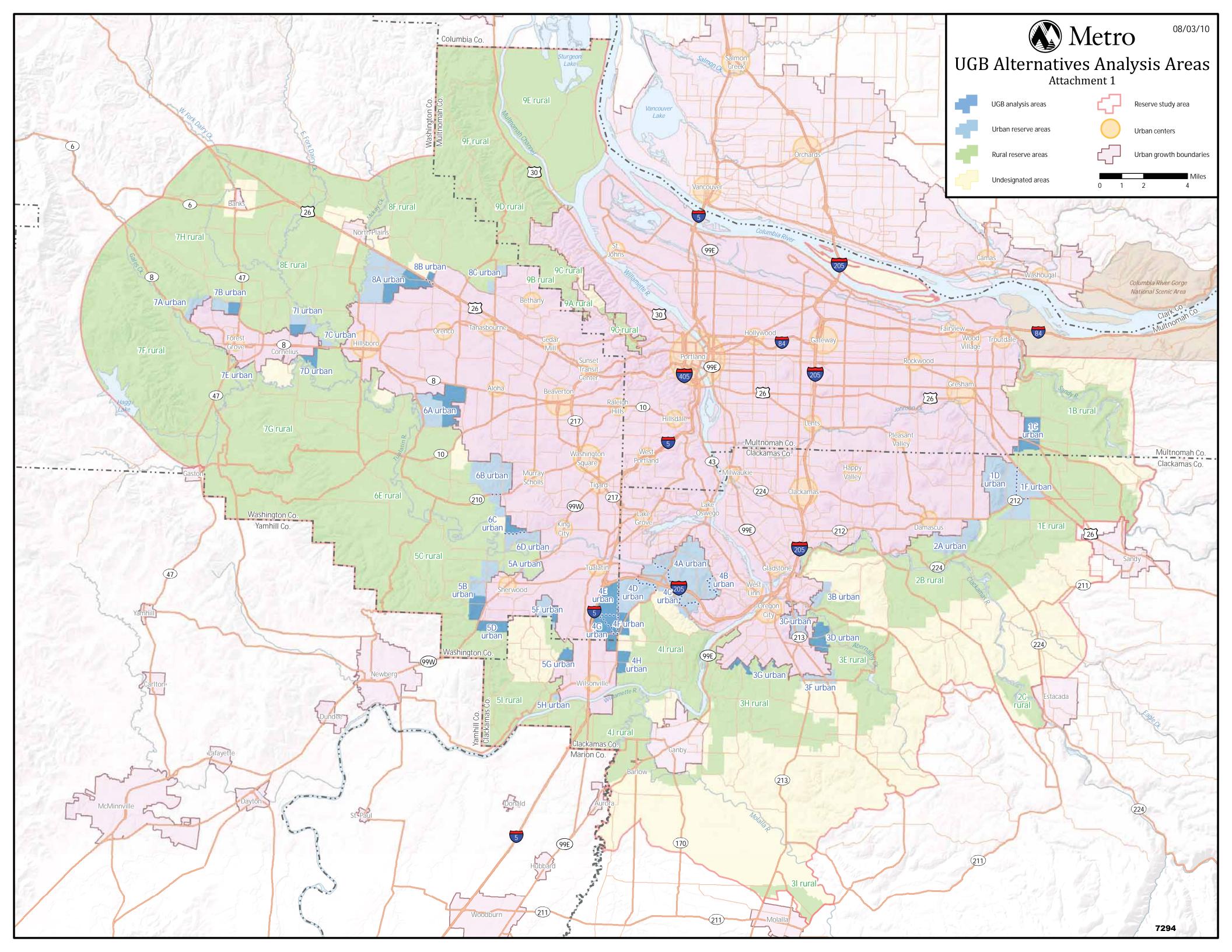
Figure 1

Process for evaluating urban reserve analysis areas for inclusion in the urban growth boundary



UGB Analysis results included in performance assessment





GRESHAM EAST ANALYSIS AREA (1C)

Gresham East Analysis Area		Total Acres	857
Gross Vacant Buildable Acres	688	Total Constrained Acres	169
Estimated Dwelling Unit Capacity	7,980	Title 13 Significant Habitat	117
Estimated Employment Acres		Public Land	62

General Description (see attached map)

The Gresham East Analysis Area is a boot-shaped rectangular area in east Multnomah County, with 857 total acres. The area is generally bounded by SE Lusted Road to the north and extends out to SE 302nd Avenue to the east. Metro's current UGB forms the western edge, and the entire area lies north of Johnson Creek. The area is served by SE Lusted Road in the north, SE 282nd and SE 302nd Avenues running north-south and by SE Orient Drive in the southern portion of the area. It is primarily flat, with all slopes over 25% occurring in riparian areas surrounding the three drainages running through the area.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

The analysis area contains 222 tax lots, 187 with improvements. There are two school sites within the area that contain three schools: Sam Barlow High School in the northeastern corner of the area and East Orient Elementary School and West Orient Middle School in the southeast, totaling about 62 acres. Excluding the school parcels, the median value of improvements is over \$100,000. Thirty-seven properties have improvements valued above \$250,000. The area is predominantly in agriculture use, but has some rural residential and commercial land uses primarily along SE Dodge Park and SE Orient Drive. Available data does not suggest the existence of power lines or other public easements within this area.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, medium suitability for water services and medium suitability for transportation connectivity. As part of Multnomah County's urban and rural reserve designation process, the City of Gresham indicated its ability and desire to provide services to this area in the long term.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential or large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$15,272,000

Water Distribution Services - \$3,240,000

Storm Sewer Services - \$2,858,500

Transportation - \$260,050,000

Parks - \$43,560,000

Schools - \$60,000,000 (New Elementary and Middle Schools)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Kelly Creek bisects the area, and two other unnamed streams, north and south of Kelley Creek, flow west through the area. Kelly Creek eventually meets with Beaver Creek, as does the small tributary in the northern portion of the analysis area, ultimately flowing into the Sandy River. The second small tributary in the southern part of the area flows into Johnson Creek which travels through Portland to the Willamette River. No 100-yr floodplains are identified within the study area. There is one small wetland of approximately ¼ acre, just south of SE Orient Drive and along the Johnson

Creek tributary. The proximity of flat, developable land surrounding all three streams within the analysis area indicates potential impact from urbanization of this area. However, current agricultural development covers most of the analysis area including some headwater stages of the three creeks, thereby minimizing the additional impact future development will have on the streams and wetlands. Preservation of existing riparian and upland habitat and restoration of degraded stream edges will further protect the streams from urbanization.

Johnson Creek flows along the southern boundary of the study area, separated by a strip of rural land. The 100-yr flood plain lies just outside of the analysis area boundary, so the existing farmland and undeveloped land could provide a buffer between the creek and urban development. Attachment 6 contains a breakdown of the environmental factors.

Energy, Economic & Social

The vast majority of the parcels in this large analysis area are less than five acres in size and 84% have improvements, reflecting the numerous rural residences dispersed throughout the area, mainly along the major roadways. Of the three schools located in the analysis area, the elementary and middle schools serve the rural area while the third, Sam Barlow High School serves the urban and rural area. Urbanization may enhance the opportunity for Sam Barlow High School to become more of a community focal point, while the elementary and middle schools may be negatively impacted as they are not sized to serve an urban population. At the same time, urbanization may provide the opportunity for these two older school facilities to be enhanced. As this area is relatively developed and close to downtown Gresham, urbanization would be less of an impact on the rural way of life for the current residents compared to areas that are farther away from a center. The increased VMT from urbanization of the area would be significantly larger than current levels, although the direct access to the Gresham Regional Center, the Springwater Industrial area and the Max line may reduce the impact compared to other areas that have limited transportation connections to centers or employment areas. There are two main pockets of nursery activity, each approximately 150 acres in size. The loss of the economic impact from these agricultural uses may be considerable; however the potential economic impact of urbanization on these relatively flat lands will outweigh this loss. Approximately 10% of the land is identified as containing environmental resources, mainly in three locations along the stream corridors that traverse the area. The costs for protecting these linear resources will be small in contrast to the potential economic impact of urbanizing the larger areas in between. Overall this analysis area has medium economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

A total of 91 acres adjacent to the three streams in the area are identified as regionally significant riparian habitat, although much of that acreage is currently impacted by active agriculture or development. Regionally significant upland habitat covers an additional 26 acres, almost all of which occurs around the northern-most stream corridor and partially within the Barlow High School property. The proximity of this identified habitat to flat, easily developable land throughout the analysis area could create a conflict between future urbanization and regionally significant fish and wildlife habitat. The City of Gresham, the nearest and expected governing body, has adopted a

habitat conservation area overlay district plan that is compliant with Metro's Title 13 program, which should protect habitat and stream areas from the impacts of urbanization. Given the city's habitat protection program, the level of habitat currently impacted by agricultural activities and the overall limited amount of riparian areas surrounding Kelly Creek and the other streams within the analysis area, urbanization could occur with minimal additional impacts to regionally significant fish and wildlife habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

There are three separate locations where farm and/or forest land is contiguous to the analysis area (see attached resource land map). The first location fronts SE 302nd Avenue for approximately ½ mile and extends east and north of SE Lusted Road all the way to the Sandy River. The area is generally zoned exclusive farm use (EFU) near the analysis area and commercial forest use (CFU) the closer you get to the Sandy River. This area is a large, intact block of land that is actively being farmed, mainly with nursery and field crops but also some dispersed orchard uses. The South Fork of Beaver Creek flows in a northwesterly direction through the area and is about half mile east of 302nd Avenue. This stream corridor, which is a few hundred feet in width, provides a buffer to the agricultural activities further east and thereby makes the proposed urban uses compatible with the outlying areas. The proposed urban uses would not be compatible with the agricultural activities that occur between 302nd Avenue and the South Fork of Beaver Creek as there is no edge or buffer between the two uses. However, mitigation measures could reduce conflicts between urban uses inside the UGB and resource uses outside the UGB.

The farm and/or forest land north of the analysis area, north of SE Lusted Road, is buffered by the South Fork of Beaver Creek ravine and the rural residences along the north side of SE Lusted Road. Thus, the proposed urban uses will be separated from the agricultural activities in this area further to the north.

The second area is a small, isolated pocket (45 acres) of EFU land north of SE Stone Road in the vicinity of SE Short Road that is adjacent to the analysis area. One 14-acre parcel is currently being farmed with nursery and field crops while the remainder of the area is in rural residential use. Johnson Creek flows in an east-west direction through this resource land area, although most of the area that is actively being farmed is between Johnson Creek and the analysis area. As there is

minimal agricultural activity occurring in this pocket of EFU land and Johnson Creek provides a buffer to the remaining agricultural activities, the proposed urban uses will generally be separated from the nearby agricultural activities.

The third area is a 97acre block of EFU land that is north and south of SE Stone Road in the vicinity of Highway 26 and is adjacent to the analysis area and the UGB. This entire area is actively being farmed with nursery crops and all but approximately 18 acres is owned by one family. Johnson Creek flows in an east-west direction through the north portion of the resource land area, on the north side of SE Stone Road. The vast majority of the agricultural activity occurs south of Johnson Creek and north of Highway 26. Since most of the agricultural activity in the EFU area is south of Johnson Creek, it will not be directly impacted by urban uses in the analysis area. Increased traffic along SE Stone Road will probably have some adverse affect, as SE Stone Road provides access to Highway 26. SE 282nd Avenue, which runs along the eastern edge of the EFU area does not provide access to Highway 26 and therefore will most likely not see as much increase in traffic from new urban uses in the analysis area. Highway 26 provides an effective edge on the southwest side of this EFU area, reducing any impacts by urbanization of the analysis area.

Overall the proposed urban uses are compatible with the nearby agricultural and forest activities occurring on farm and forest land outside the UGB with the exception of the portion of area 1 directly adjacent to 302nd Avenue as noted above.

Clear transition between urban and rural lands, using natural and built features to mark the transition

The South Fork of Beaver Creek is located just north of the analysis area and provides a clear transition area between the urban reserve and adjacent rural lands. The rural residences along the north side of SE Lusted Road combined with the 100-foot drop in elevation to Beaver Creek reinforce this transition area. Johnson Creek is located just south of the analysis area. While Johnson Creek itself is not within a ravine, the stream corridor combined with a hill south of SE Stone Road do provide a clear transition area between the analysis area and adjacent rural lands to the south. There are no natural or built features to mark a transition between urban and rural lands east of SE 302nd Avenue beyond the road itself. Even assuming that 302nd Avenue becomes a collector level road in the future, the road itself will still not provide a clear transition area between future urban and rural uses. Additional buffers will need to be incorporated into the planning of the urban reserve area to provide a clear transition from urban to rural uses along this east edge.

Overall, just over half of the analysis area edge has a natural or built feature that provides a clear transition between urban and rural lands.

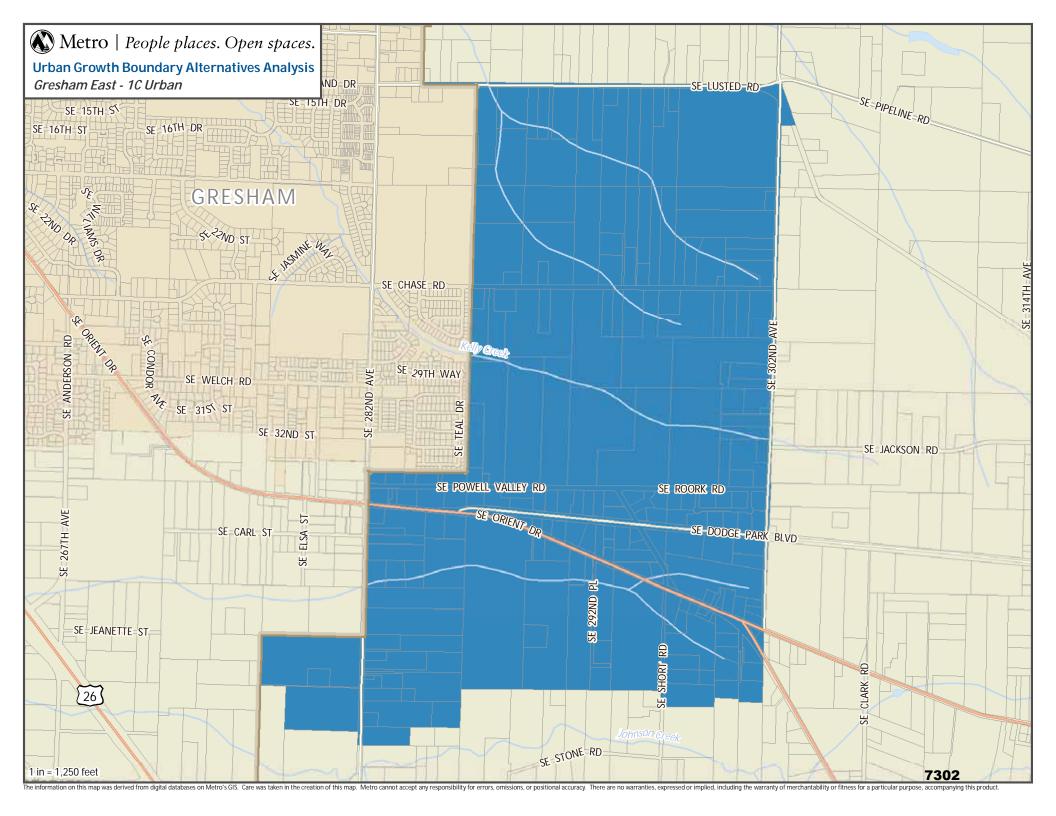
2040 Growth Concept

Contribution to the purposes of Centers

The Gresham Regional Center is the closest regional center to the Gresham East analysis area. It is 387 acres in size, serves all of eastern Multnomah County and is the eastern terminus of the MAX Blue Line. The regional center is linked to the analysis area by Highway 26/SE Orient Drive (3 miles) and SE Powell Valley Road/SE Lusted Road (2.6 miles). Tri-Met line 84 connects the analysis area to the regional center.

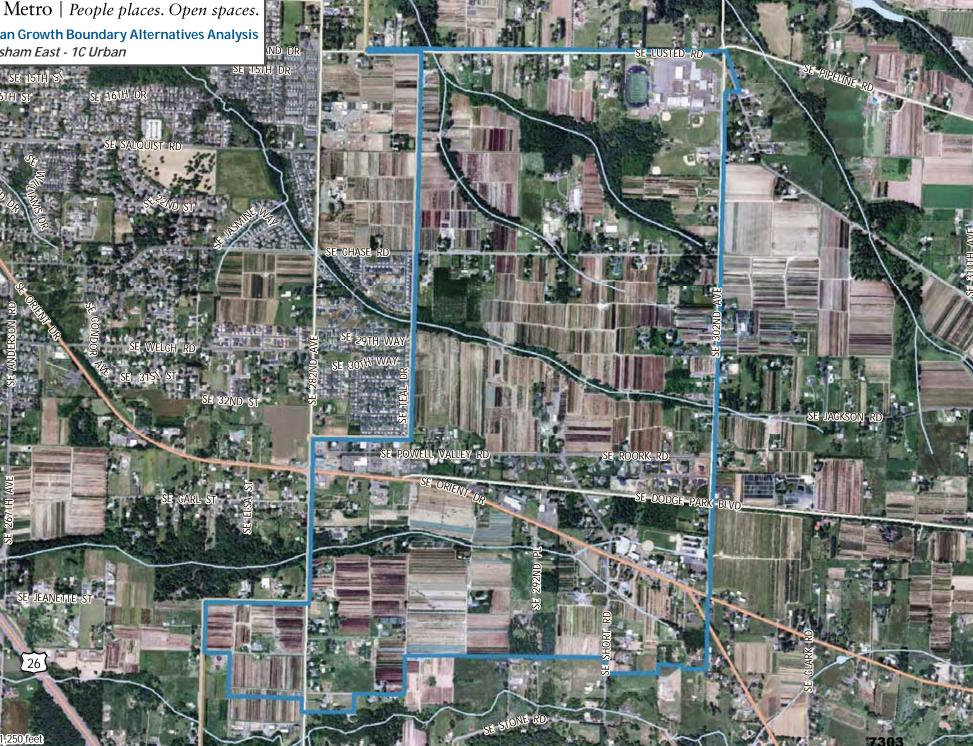
Gresham's Downtown Plan, which includes a significant portion of the regional center, is envisioned to include most significant civic and governmental functions, including public parks and the Center for the Arts. It will also include large numbers of professional sector jobs, medium- and high-density residential development and a thriving and unique entertainment, nightlife and shopping district. According to Metro's State of the Centers Report, January 2009, the Gresham Regional Center's jobs to housing ratio is higher than ideal and the total number of people per acre is low, indicating that the regional center needs to attract more housing to meet the vision in the Downtown Plan. The Gresham Regional Center is considered a strong emerging market that is ripe for infill and enhancement, based on research completed by Metro's Development Center for the TOD Strategic Plan.

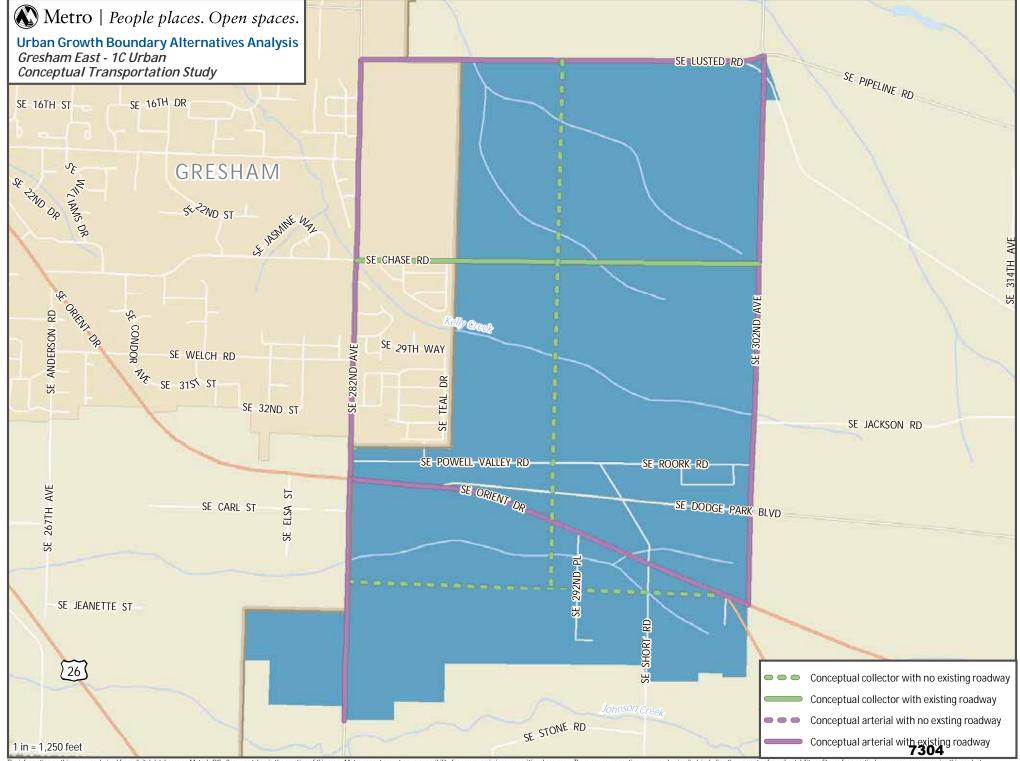
Currently the City of Gresham foresees the analysis area urbanizing with a mixture of industrial uses in the south close to Highway 26, to complement the Springwater Industrial Area and mixed use/residential complimenting the three schools in the analysis area. Urbanization of the Gresham East analysis area will not contribute to the vision or purpose of the Gresham Regional Center. While the area may provide some job opportunities for future residents of the center, the undeveloped Springwater Industrial Area is a better fit due to its proximity and more direct transportation connections. In addition, the availability of housing opportunities in the analysis area could impact the emerging market for infill and enhancement and hinder the city's desire for medium and high density residential development in the center.

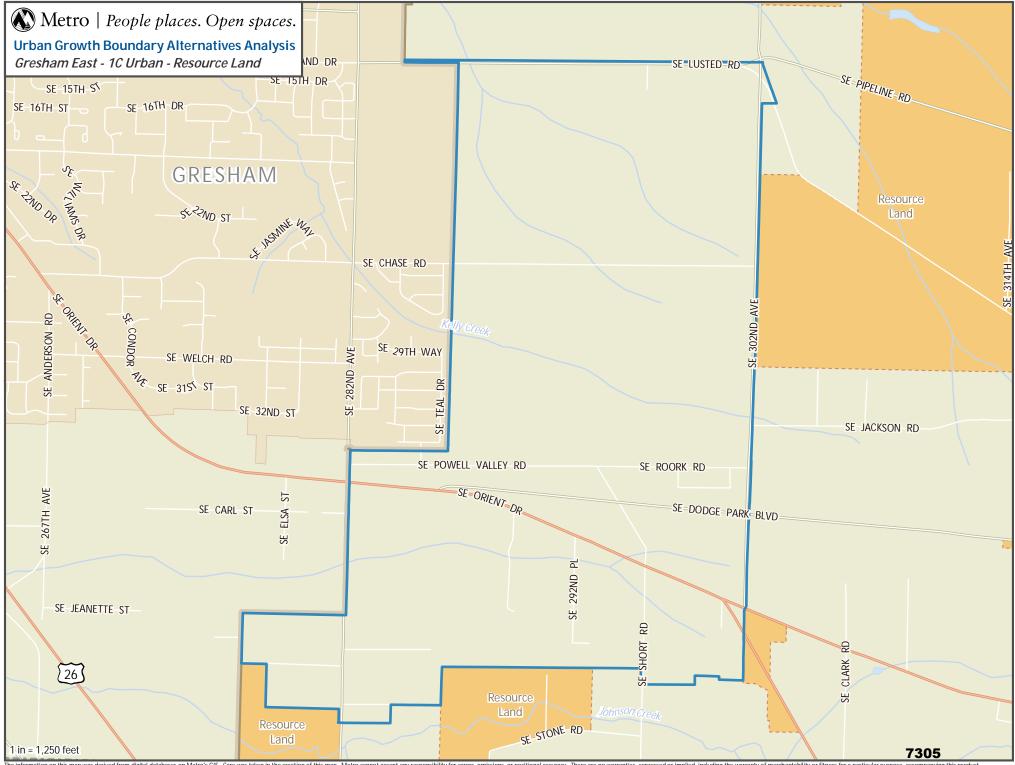


Metro | People places. Open spaces. Urban Growth Boundary Alternatives Analysis Gresham East - 1C Urban

16TH







The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.

MAPLELANE ANALYSIS AREA (3D)

Maplelane Analysis Area		Total Acres	573
Gross Vacant Buildable Acres	331	Total Constrained Acres	242
Estimated Dwelling Unit Capacity	3,970	Title 13 Significant Habitat	181
Estimated Employment Acres		Public Land	69

General Description (see attached map)

The Maplelane Analysis Area is located to the east of Oregon City and covers 573 acres. The current UGB forms the western and southern edges of the area; the eastern and northern boundaries follow tax lot lines and are within 1000-1500 feet of Abernathy Creek. S Maplelane Road forms part of the eastern edge of the area. The area is primarily flat, with the exception of two tributary riparian areas flowing into Abernathy Creek to the east and a small forested area of steep slopes in the northeastern corner of the analysis area.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

The analysis area contains a total of 168 parcels, four of which are in public ownership. Of the private parcels, 33 are larger than five acres comprising 376 of the 573 total acres. The remaining 196 acres fall within 135 parcels. A total of 147 parcels have improvements, with an average value of \$160,000 and 12 improvements valued over \$250,000. One tax lot, in the northwest along S Waldo Road, is cut in half by the analysis area boundary. Rural and single-family residential land uses make up a majority of the area, with a mix of agricultural and forested parcels scattered throughout. Smaller lot single family residential lies primarily along S Maplelane Road and within a development around S Forest Grove Loop (off of S Thayer Road). There is an 18 acre manufactured home development in the center of the study area, off of S Maplelane Road.

There is a power line running north-south through the area, from south of S Thayer Road to a substation just north of S Maplelane Road owned by Portland General Electric (PGE). In addition to the power line easement, a PGE substation sits on a 35 acre parcel adjacent to the current UGB. A natural gas line easement runs in a northeast-southwest direction through the southern portion of the analysis area. There is a 55 acre publicly-owned parcel belonging to the Oregon City School District in the northern portion of the study area

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, medium suitability for water services and low suitability for transportation connectivity. As part of Clackamas County's urban and rural reserve designation process, the City of Oregon City indicated both a willingness and capability to provide service to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential or large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Appendix 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$8,028,000

Water Distribution Services - \$6,600,000

Storm Sewer Services - \$6,914,500

Transportation Services - \$142,760,000

Parks - \$33,200,000

Schools - \$20,000,000 (New Elementary School)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

There are three small wetland areas, totaling 2 acres mostly along an unnamed tributary of Abernathy Creek, just north of S Maplelane Road. A second stream flows eastward, along S Thayer Road into Abernathy Creek just east of the analysis area. Steep slopes along the streams and particularly in the northeast corner of the analysis area may inhibit development and minimize the impact of future urbanization. Urbanization may impact wetland areas and those portions of the streams that lie near the flatter developable land, outside of the steep sloped areas. Abernathy Creek flows along the eastern and northern edges of the study area, although the 100year floodplain does not overlap into the area due to topography. There is approximately a 1,500 foot difference in elevation between the analysis area boundary and Abernathy Creek, providing a buffer of agricultural and forested land between potential future development and the stream corridor. Based on this buffer area, future urbanization would not significantly impact Abernathy Creek or its surrounding environmentally sensitive land. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

The majority of the parcels in this medium sized analysis area are less than five acres in size and 88% have improvements, reflecting the numerous rural residences that include two main clusters of half-acre parcels. The area also contains an 18 acre manufactured home park, adding to the developed nature of the analysis area. There is very little agricultural activities occurring in the area and much of the natural resources are located on slopes near the edges of the area, away from the flatter more developable portions. The minimal agricultural activities combined with the locations of the natural resources will reduce the potential negative economic impacts of a lost farming economy and costs for protecting natural resources. The area contains a 55-acre school site, which when developed could provide a community focus point, reducing impacts of the loss of the rural lifestyle for current residents. Much of the land to the west inside the UGB is currently undeveloped. This area is envisioned as a mixture of employment and residential uses that may help reduce the VMT for future residents by providing nearby job opportunities. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

The Newell and Abernathy Creek significant natural landscape feature borders the analysis area to the east. Regionally significant riparian habitat exists along both small stream corridors in the analysis area, totaling 35 acres. There is an additional 146 acres of upland habitat, extending out of the riparian areas, the majority of which is in the northeast corner of the analysis area on the Oregon City School District property. Portions of both riparian and upland habitat acreage currently lie within areas of active agricultural activities, particularly along the small stream in the north portion of the analysis area. Oregon City, the expected governing body for the area, has adopted a habitat protection program that is compliant with Metro's Title 13 Nature in Neighborhoods. Based on the location of the majority of the significant habitat along ravines and within publicly owned land, and Oregon City's habitat conservation program, future urbanization could occur with minimal impacts to regionally significant habitat throughout most of the central and western portions of the analysis area. Development in the northeast and southern-most portions of the area may have a higher impact on significant habitat unless it is protected through a conservation program or other preservation option.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. This analysis area is an urban reserve thus the farmland that is most important for the continuation of commercial agriculture in the region is protected.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

There are two separate locations where farm and/or forest land is contiguous to the urban reserve area (see attached resource land map). The first location is on the north edge of the analysis area and is composed of three timber zoned (TBR) parcels (one single parcel and two contiguous parcels) totaling 36 acres. The single parcel is directly adjacent to the anlaysis area, is partially forested and contains a single family home. Since this timber zoned parcel contains a rural residence and does not appear to be in a commercial forest use, the proposed urban uses of the reserve area would be compatible with this adjacent forest land parcel.

The two contiguous parcels, which are vacant, share a 160-foot edge with the analysis area and have a number of rural residences between them and the main portion of the analysis area. Abernethy Creek cuts through the very southern portion of the area, continuing along the western edge of the two contiguous timber zoned parcels. A steeply forested slope, that is part of the analysis area, lies between the two contiguous timber zoned parcels and the flatter main portion of the analysis area. Since the two contiguous timber zoned parcels are separated from the flat developable portion of the analysis area by a 1,600-foot forested slope, Abernethy Creek and a rural subdivision, the proposed urban uses would be compatible with the forest activities occurring on these forest land parcels.

The second larger resource land area is adjacent to the analysis area in the vicinity of S Forest Grove Loop/S Thayer Road and contains 168 acres of TBR zoned land and 437 acres of land zoned agriculture/forest (AGF). Abernethy Creek flows north through the middle of the TBR zoned land area. The TBR zoned block of resource land has a minimal connection point to the analysis area along the edges of three parcels; otherwise it is separated from the analysis area by rural residential land and a change in elevation of approximately 100 feet. The TBR zoned land contains six rural residences on large acreage with mixed forest and open lands in between. The AGF zoned block of land is separated from the analysis area by rural residences and Thimble Creek. Two parallel power line easements run in an east-west direction through the center of the AGF zoned block of land that contains numerous rural residences on a mixture of forested and open land. It appears that there are minimal active agriculture or forestry activities occurring on the land. Since this large block of resource zoned land is mostly separated from the analysis area by rural residences or a stream corridor and as minimal agricultural or forestry activities are currently

occurring on the land, the proposed urban uses would be compatible with the forest and agricultural activities occurring on these resource land parcels.

Clear transition between urban and rural lands, using natural and built features to mark the transition

Thimble Creek, portions of Abernethy Creek, and extensive forested slopes, some of which occur on the analysis area land provide natural features that mark a clear transition between urban and rural lands.

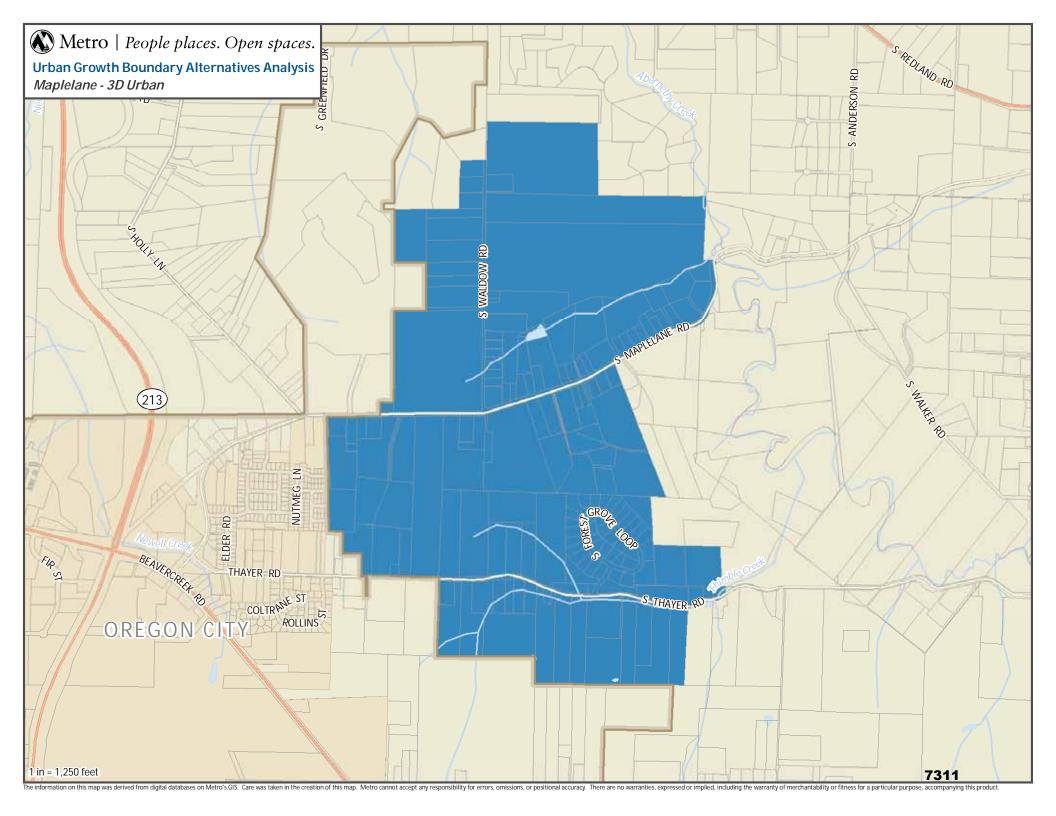
2040 Growth Concept

Contribution to the purposes of Centers

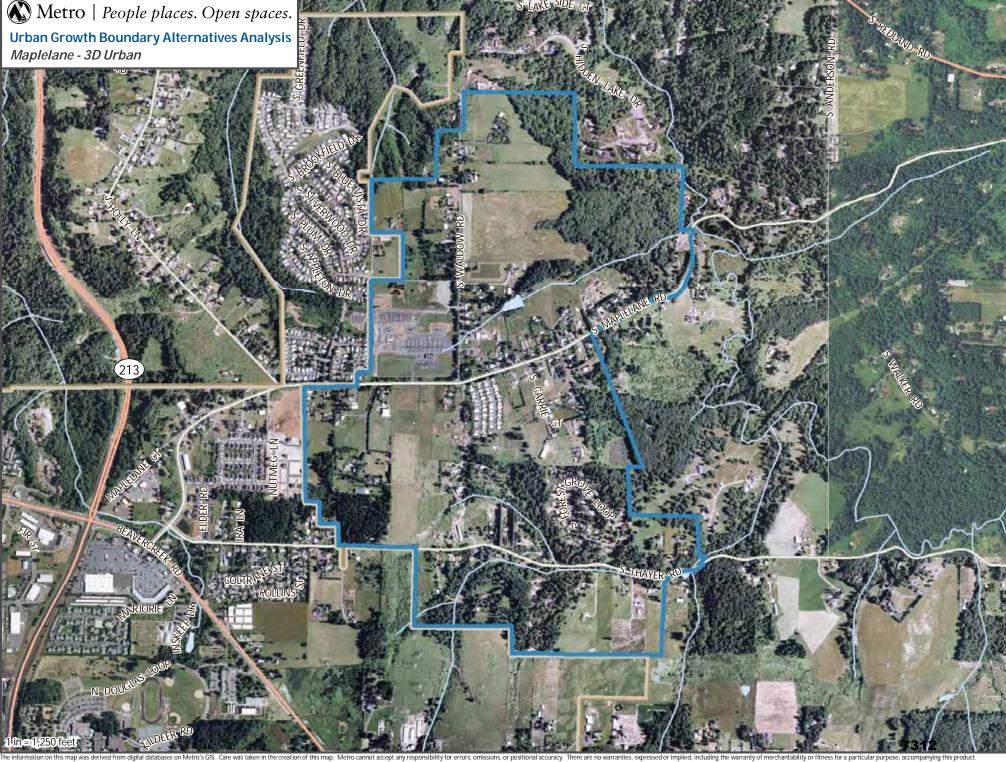
The Oregon City Regional Center is the closest regional center to the Maplelane analysis area. It is 414 acres in size, serves Clackamas County and some neighboring cities to the south. The regional center is linked to the analysis area by Highway 213/S Maplelane Road (3.2 miles). Tri-Met lines 32 & 33 run from the regional center to Clackamas Community College, approximately one mile from the analysis area.

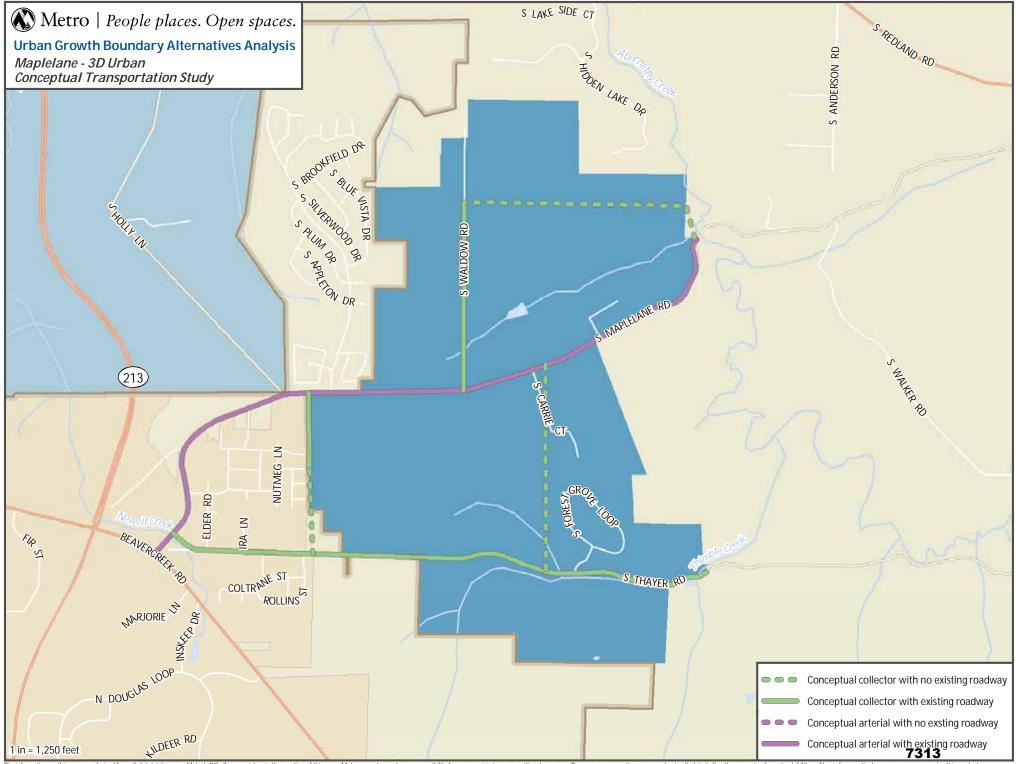
The Oregon City Downtown Community Plan envisions a community that celebrates Oregon City's historic past while promoting a positive change for the future. The plan emphasizes the creation of pedestrian-friendly places, varied mixed use developments, new open space and civic amenities. It also strives to reestablish Oregon City's historical prominence by protecting and strengthening historic themes and features unique to Oregon City. According to Metro's State of the Centers Report, January 2009, the Oregon City Regional Center's jobs to housing ratio is very high and the total number of people per acre is low, indicating that the regional center needs to attract more housing to meet the city's vision for a pedestrian friendly environment.

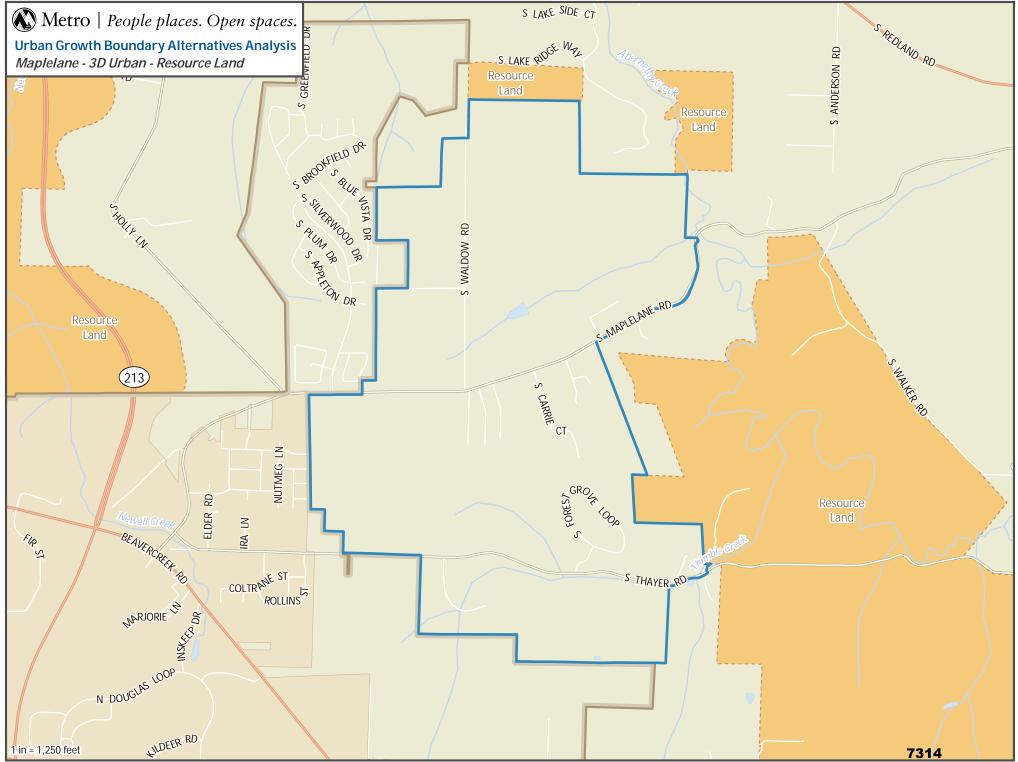
Urbanization of the Maplelane analysis area will not contribute to the vision or the purpose of the Oregon City Regional Center. The analysis area is too isolated from to the center to help support the need for more people to meet a higher level of activity. In addition, the availability of housing opportunities in the analysis area could detract from the city's desire for mixed use development in the center.











BEAVER CREEK BLUFFS ANALYSIS AREA (3G)

Beaver Creek Bluffs Analysis Area		Total Acres	227
Gross Vacant Buildable Acres	124	Total Constrained Acres	103
Estimated Dwelling Unit Capacity	1,052	Title 13 Significant Habitat	83
Estimated Employment Acres		Public Land	

General Description (see attached map)

The Beaver Creek Bluffs Analysis Area is composed of 3 sub-areas along the bluffs to the south of Oregon City. The eastern sub-area, bounded by the current UGB to the northeast and Mud and Caufield Creek drainages to the southeast and west, has two parts separated by the UGB boundary. The second, central sub-area sits between Mud Creek and another tributary of Beaver Creek, bounded by S Leland Road to the east, bluffs to the south and west, and the UGB to the north. The third western sub-area extends across S Center Point Road, sitting between the bluffs overlooking Beaver Creek and the current UGB to the north. There are a total of 227 acres within these three areas, although 22 of those acres are constrained by steep slopes over 25% along the bluffs. The rest of the areas are generally flat, and form a logical extension of the current UGB up to the edge of the bluffs.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

The area contains 34 parcels, although three of those within the central sub-area extend out over the bluffs and beyond the boundary of the analysis area. The eastern sub-area contains three parcels ranging from four to ten acres. The central sub-area contains 17 parcels that are mostly less than five acres. The western sub-area contains 14 parcels, ranging from less than one to 40 acres. Overall, 26 of the 34 tax lots have improvements, with a median value of \$161,930. Only five of those improvements are valued over \$250,000. Thirteen of the tax lots are greater than five acres in size, and 21 are smaller than five acres. Given the location between urban development within the UGB and steep bluffs, there is minimal agricultural activity in the area. Most land uses are rural residential, although a few of the larger parcels do appear to have minor agricultural uses.

There is a power line running through the western sub-area, crossing through five parcels, and covering approximately 16 acres of land within the study area. The Nature Conservancy owns a large parcel that is being preserved as open space immediately adjacent to the eastern edge of the western sub-area. There is no other evidence of public easements.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had low suitability for sanitary sewer services, high suitability for water services and low suitability for transportation connectivity. It should be noted that the transportation and sewer suitability analyses included this small analysis area in with the much larger area south of Oregon City that is located below the bluff. As part of Clackamas County's urban and rural reserve designation process, the City of Oregon City indicated both a willingness and capability to provide service to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential or large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation system is attached to this summary.

Sanitary Sewer Services - \$4,116,000 Water Distribution Services - \$3,290,000 Storm Sewer Services - \$2,587,500 Transportation Services - \$64,140,000

Parks - \$5,960,000

Schools - \$250,000 (No new schools needed)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Approximately 327 feet of Mud Creek flows through a ravine on the edge of the eastern sub-area and about 3,200 feet of an unnamed stream flows south through the western sub-area. A 1,200 foot segment of this stream, including an associated 1.5 acre wetland is located on the flat portion of the area above the bluff. Beaver Creek lies below the analysis area, approximately 2,000 ft south of the bluffs that form the southern edge. Urbanization of this area may impact the steam and wetland on

the flatter portion of the western sub-area, but the remainder of the stream is located down the bluff and would be minimally impacted. The eastern sub-area stream would not be impacted by urbanization as it is located over 200 feet from the flat portion of the area. Overall urbanization of the area could occur with some impacts to the stream corridor in the western sub-area along the flat portions where development would be easier. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This area is made up of three very small land areas, half of which are adjacent to urban subdivisions and the other half adjacent to undeveloped urban land zoned single family residential. The main use in the area is rural residential and 76% of the parcels have improvements. Existing urban streets provide the majority of the access points to these parcels. Urbanization of this area will not negatively impact the general activity of the residents as these small isolated areas are in effect more urban than rural due to their location. There are minimal agricultural activities occurring in this area and the majority of the natural resources are located on slopes near the edges of the area. The lack of agricultural activities combined with the locations of the natural resources will greatly reduce the potential negative economic impacts of a lost farming economy and costs for protecting natural resources. The additional VMT generated through urbanization of this very small area will be minimal. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

A very limited amount of regionally significant riparian habitat has been identified on 20 acres within the analysis area, along both Mud Creek and the small tributary flowing into Beaver Creek from the western sub-area. Regionally significant upland habitat, covering an additional 63 acres, occurs primarily along the steeper slopes of the bluffs that form the southern boundary of the analysis area, away from the flatter developable portion of the area. Oregon City, the expected governing body for the area, has adopted a habitat protection program that is compliant with Metro's Title 13 Nature in Neighborhoods. Based on the limited amount of riparian habitat, the upland habitat being generally located away from the developable portion of the analysis area, and Oregon City's habitat protection program, urbanization can take place with minimal disturbance of the regionally significant fish and wildlife habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The entire edge of the Beaver Creek Bluffs analysis area borders resource zoned land (see attached resource land map). The vast majority of the resource land is zoned timber (TBR) except for a small portion of exclusive farm use (EFU) zoned land in the vicinity of S Central Point Road and S Geiger Road. There are significant slopes along almost the entire edge of the analysis area, most of which are forested except in those areas where the reserve abuts an approximate 250-foot power line easement.

The small portion of EFU zoned land that is located between the analysis area and Beaver Creek is being farmed, although there are significant pockets of forest land and some rural residences intermixed. This small area of agricultural activity is mainly in the form of field crops and pasture land. Beaver Creek provides an edge to the larger block of EFU land to the south that also includes nursery stock. The majority of the adjacent TBR zoned land drops steeply to the south from the analysis area. Most of these parcels include rural residences and streams, including Mud and Canfield Creeks.

Due to the very limited nature of the nearby agricultural and forest activities, the relatively small area between the analysis area and Beaver Creek that potentially could be impacted, the significant change in elevation between the analysis area and the resource lands, and the number of rural residences spread throughout, the proposed urban uses would be compatible with the nearby agricultural and forest activities occurring on farm and forest land.

Clear transition between urban and rural lands, using natural and built features to mark the transition

The forested slope south of the analysis area along with Beaver Creek and its tributaries, including Mud and Canfield Creeks, provide a clear transition between urban and rural lands.

2040 Growth Concept

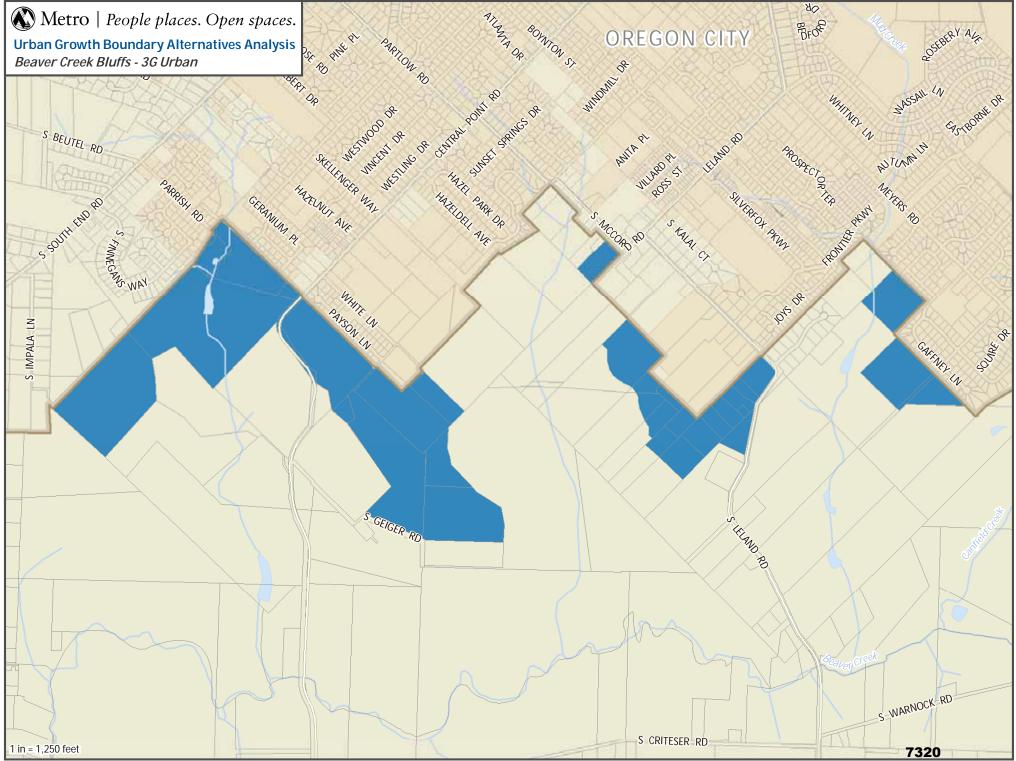
Contribution to the purposes of Centers

The Oregon City Regional Center is the closest regional center to the Beaver Creek Bluffs analysis area. It is 414 acres in size, serves Clackamas County and some neighboring cities to the south. The regional center is linked to the analysis area by S Central Point Road/S Linn Road (3.1 miles) and S Leland Rd/S Linn Rd (3.1 miles). Tri-Met lines 32 & 33 run from the regional center to Clackamas Community College, approximately two miles from the analysis area.

The Oregon City Downtown Community Plan envisions a community that celebrates Oregon City's historic past while promoting a positive change for the future. The plan emphasizes the creation of pedestrian-friendly places, varied mixed use developments, new open space and civic amenities. It also strives to reestablish Oregon City's historical prominence by protecting and strengthening historic themes and features unique to Oregon City. According to Metro's State of the Centers

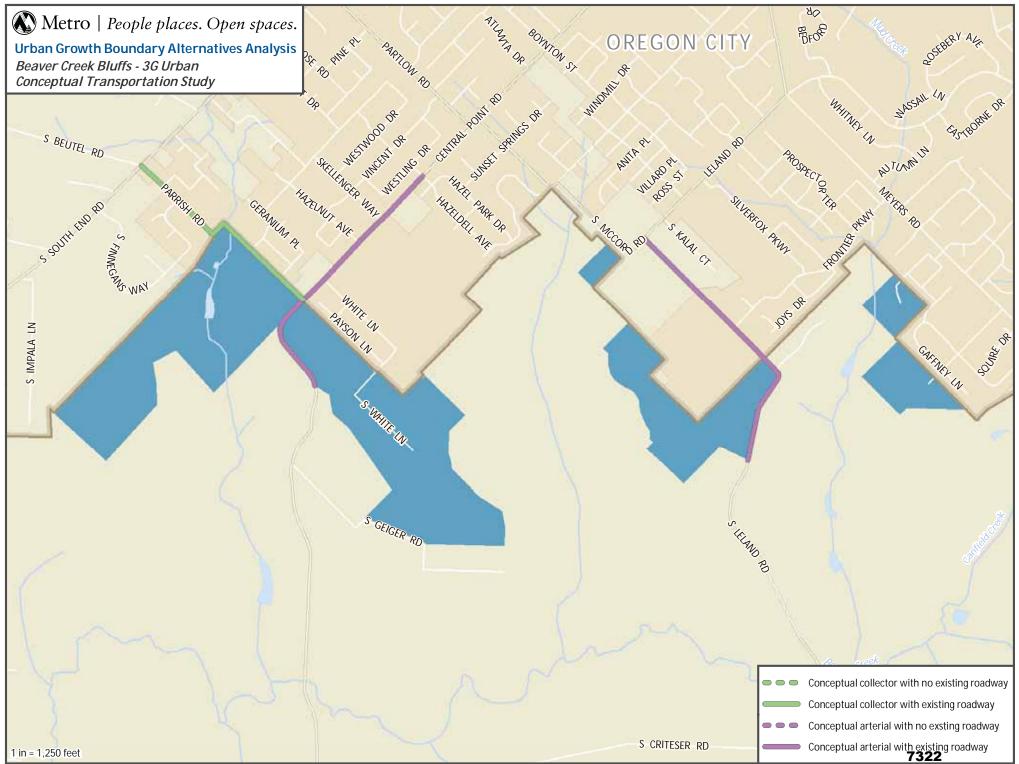
Report, January 2009, the Oregon City Regional Center's jobs to housing ratio is very high and the total number of people per acre is low, indicating that the regional center needs to attract more housing to meet the city's vision for a pedestrian friendly environment.

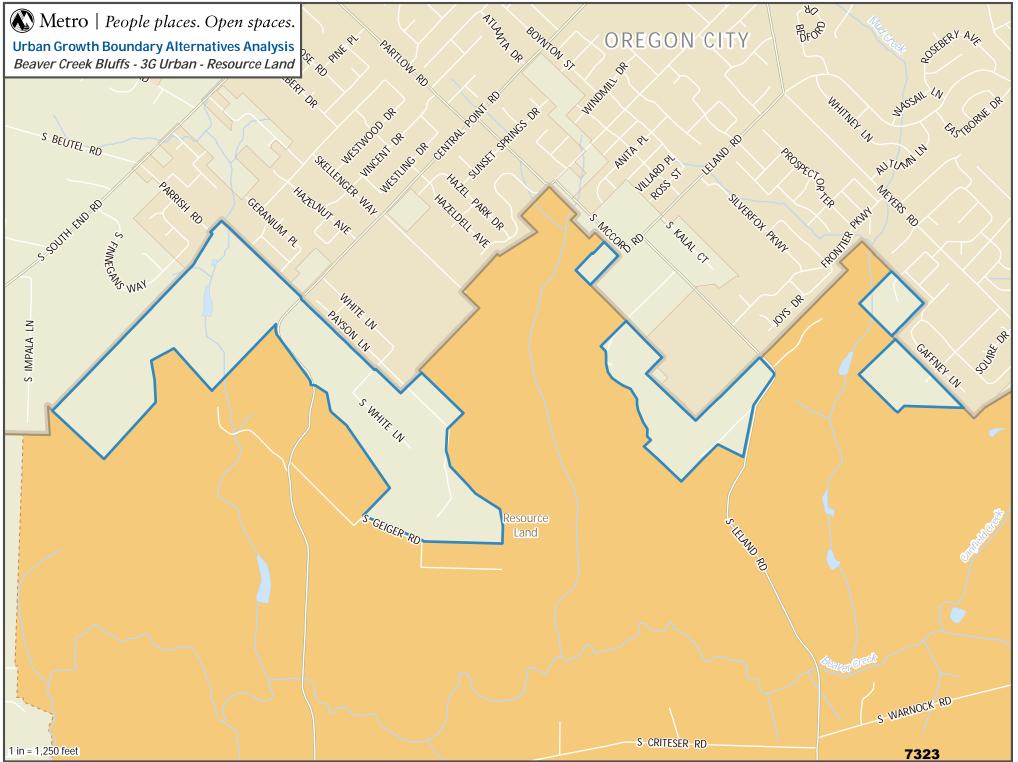
Urbanization of the Beaver Creek Bluffs analysis area will not contribute to the vision or the purpose of the Oregon City Regional Center. The analysis area is too isolated from the center to support the need for more people to meet a higher level of activity.



Metro | People places. Open spaces.







NORWOOD ANALYSIS AREA (4D PARTIAL)

Norwood Analysis Area		Total Acres	337
Gross Vacant Buildable Acres	286	Total Constrained Acres	51
Estimated Dwelling Unit Capacity	3,331	Title 13 Significant Habitat	46
Estimated Employment Acres		Public Land	0

General Description (see attached map)

The Norwood Analysis Area, a portion of the larger Norwood Urban Reserve Area, is a rectangular area that lies to the east of I-5, in the vicinity of SW Stafford Road. The area is 337 acres in size and is not adjacent to the current UGB. The Clackamas-Washington County line and SW 65th Avenue form the western boundary, with the remaining three edges defined by tax lot lines. The southern edge extends ½ mile east from the intersection of SW 65th Avenue and SW Stafford Road, then extends north for approximately one mile to form the eastern edge. SW Stafford Road bisects the area diagonally from the northeast corner to the southwest. I-5 is easily accessible via SW Elligsen Road, just over one mile to the west.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

The analysis area contains a total of 64 tax lots, 54 of which have improvements. The median value of improvements on these lots is \$273,085, and 31 have building values over \$250,000. Parcel sizes range from 0.4 acres to 30 acres, with a median size of 4.5 acres and 31 parcels at least five acres in size. Most of the smaller parcels lie along and between SW Stafford Road and SW Gage Road. Land use within the analysis area is a mix of agriculture, forest and rural residential. Agricultural and forest uses include field crops, christmas tree farms, and nurseries. This analysis area is primarily characterized by larger lot rural residential, consistent with the surrounding development pattern to the north, east and west.

There is no evidence of power lines or other public easements, and there is no identified public land within the study area.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, medium suitability for water services and low suitability for transportation connectivity.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential or large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation system is attached to this summary.

Sanitary Sewer Services - \$13,170,000

Water Distribution Services - \$5,990,000

Storm Sewer Services - \$6,303,000

Transportation Services - \$80,580,000

Parks - \$35,920,000

Schools - \$15,000,000 (New Elementary School)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

There are two identified streams, Boeckman and Newland Creeks that total 1.3 miles in length, although it appears from aerial photography that the upper headwaters remain dry for much of the year. The topography of the area is predominantly flat, with less than three percent of the area having slopes greater than 25%. Given that much of the identified streams and wetlands are already impacted by rural development and the absence of significant riparian areas, future development would have minimal impact on these environmental resources within the analysis area. Attachment 6 contains a breakdown of the environmental factors.

Energy, Economic & Social

About half of the parcels in this small analysis area that is not adjacent to the current UGB are less than five acres in size and 84% have improvements, reflecting the rural residential nature of the area. There are very few agricultural activities occurring in the area. The minimal level of agricultural activity will reduce the potential negative economic impacts of a lost farming economy. Ten percent of the area has been identified as riparian habitat, mainly along Boeckman Creek that flows through the center of the area near SW Stafford Road. Due to the location of these resources in the center of the area, the costs for protecting them will be considerable in contrast to the potential economic impact of urbanizing some of the small areas in between the resources. Urbanization will negatively impact the rural lifestyle for current residents as the area contains the highest median building value and the median size of the parcels is 4.5 acres, which is representative of the many large homes on fairly sizeable sites. In addition, as this area is not directly adjacent to the UGB, additional land to the west will also need to be added to the UGB, resulting in a much larger negative impact on the rural nature of the area. Additional VMT will be generated through urbanization of this small sized area as its average commute distance is larger than the existing average commute distance for the region. Overall this analysis area has medium economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

There are 34 acres of identified riparian habitat surrounding the streams in the area, and a small 0.12 acre wetland in the northwest portion of the study area. Another 12 acres of upland habitat surrounds riparian areas and extends outward in the northwest quadrant of the analysis area. However, much of the identified habitat occurs on parcels currently in active agriculture or developed as single-family residential. The consistently flat topography within the area creates some threat to existing riparian and upland habitat. It is not immediately clear who will act as the governing entity for this analysis area, although Wilsonville and Tualatin, the two nearest cities capable of serving the area, currently have adopted natural resource protection and habitat conservation policies or overlay districts that are in compliance with Metro's Title 13 Nature in Neighborhoods program. Based on these factors there may be some risk to regionally significant riparian and upland habitat, but impacts of urbanization can be mitigated through habitat conservation programs established by the governing body.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

There are two locations where farm land is adjacent to the analysis area (see attached resource land map). The first area is located at the northwest corner of the analysis area and is a 446 acre block of exclusive farm use (EFU) zoned land that connects to the area at SW Frobase Road. This farm land area is a mixture of forested and open parcels that contain a few rural residences, two domestic water storage tanks and field crops. The agricultural activities are concentrated near SW Elligsen Road in the south and SW Frobase Road in the north. The majority of this resource land area is separated from the analysis area by topography and the rural residences along SW 65th Avenue, with the exception of the farm land near the intersection of SW Frobase Road and SW 65th Avenue. SW 65th Avenue provides a western edge to the analysis area and, in combination with the rural residences along the roadway and the change in topography, would make the proposed urban uses compatible with the adjacent agricultural activities occurring on farm land to the west. Increased traffic along SW Frobase Road due to new urban uses within the analysis area may impact agricultural activities on the resource lands fronting the roadway; however it is unlikely that there would be a great increase in traffic as SW Frobase Road does not connect to the regional system. The proposed urban uses would not be compatible with the agricultural activities that occur on the one small section of farm land north of SW Frobase Road. However mitigation measures could reduce conflicts between the proposed urban uses and agricultural activities occurring outside the UGB in this location. As noted previously, this area is not directly adjacent to the UGB, so some of the farm land that is located west of the analysis area will also be added to the UGB to connect this area to the current UGB.

The second location of farm land is south of the analysis area, extending to the Willamette River. This very large block of farm land contains numerous agricultural activities, bisected by forested stream corridors and pockets of rural residences. Newland Creek and its associated riparian corridor provides a buffer to the extensive agricultural activities occurring east of SW 45th Drive, but there is no edge or buffer for the agricultural activities occurring near SW Homesteader Road, SW Briar Patch Lane and SW Kahle Road. Increased traffic along SW Stafford Road due to new urban uses within the analysis area may impact agricultural activities on the resource lands in this area, but the majority of increased traffic would most likely head towards I-205 or I-5, bypassing this farm land. The proposed urban uses would not be compatible with the agricultural activities that occur on this pocket of farm land to the south. However mitigation measures could reduce conflicts between the proposed urban uses and agricultural activities occurring outside the UGB in this location.

There is a third area of farm land located east of SW Newland Road. This farm land area is separated from the analysis area by a significant hill that essentially isolates the agricultural activities from the analysis area, thus the proposed urban uses would be compatible with the agricultural activities occurring on farm land in this location.

Clear transition between urban and rural lands, using natural and built features to mark the transition

Newland Creek provides a clear transition area for the rural lands southeast of the analysis area, however there are no natural or built features to mark the transition for the rural lands directly south of the analysis area. To the east, the change in topography that occurs between the analysis area and SW Newland Road provides a transition area between urban and rural lands. There are no natural or built features that mark a clear transition between urban and rural lands to the south or north. SW 65th Avenue provides an edge between urban and rural land to the west. Even assuming SW 65th Avenue develops as a connector in the future, the road itself will not provide a clear transition area between future urban and rural uses in this location. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area for the rural lands to the north, west and south. The rural lands west of SW 65th Avenue and to the north of the analysis area are included in the 4G/4F and 4D urban reserve areas and may be included in the UGB in the future. Thus, any buffers that are incorporated into the planning study for the analysis area should consider the potential for making urban form connections in these locations in the future.

2040 Growth Concept

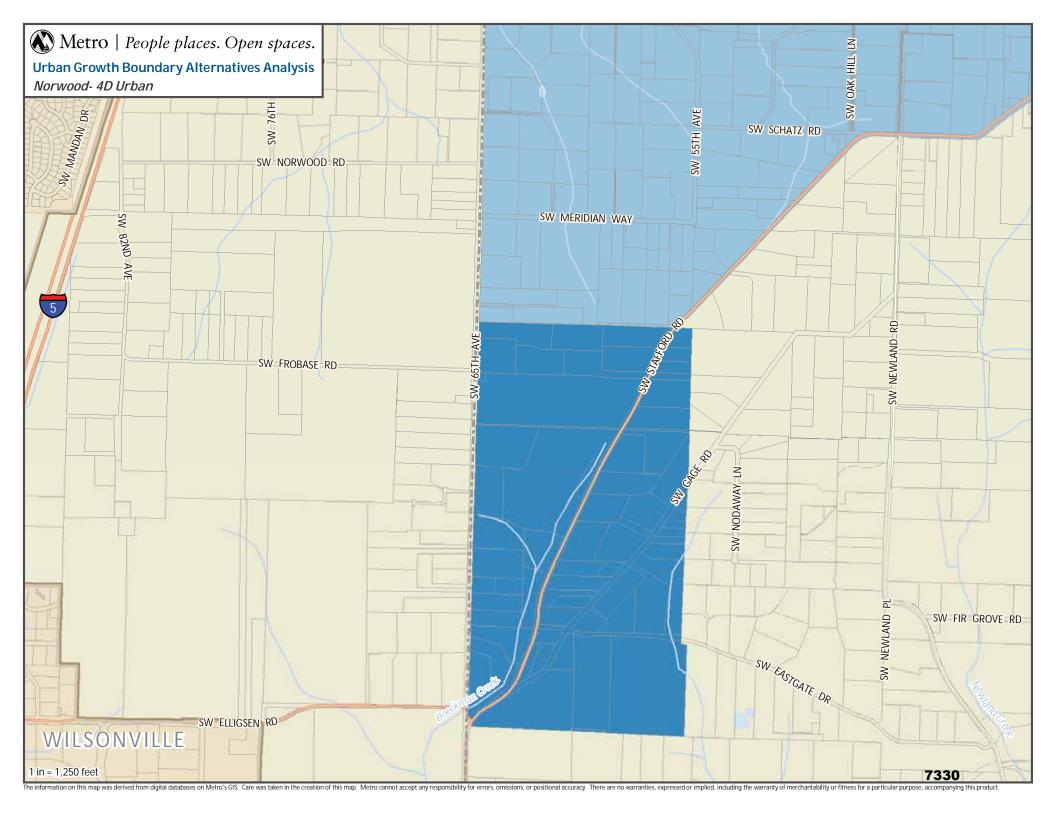
Contribution to the purposes of Centers

The Norwood analysis area is located equidistant between the Wilsonville Town Center to the southwest and the Tualatin Town Center to the northwest. Wilsonville's center is 166 acres in size, and serves primarily the City of Wilsonville, and is linked to the analysis area by SW Stafford Road/SW Wilsonville Road (2.6 miles). No Tri-Met services connect the analysis area to this center. The City of Wilsonville's bus system, SMART, also does not connect the analysis area to the center. Tualatin's center is approximately 325 acres in size, and primarily serves the surrounding residential areas in the City of Tualatin. The analysis area is connected to Tualatin via SW 65th Avenue to SW Nyberg Road (3.2 miles). There is no Tri-Met service connecting Tualatin and the Norwood Analysis Area, although the line 96 bus stops at SW Commerce Circle, just west of I-5. Both Wilsonville and Tualatin centers can also be accessed via I-5 (3.4 and 5 miles respectively).

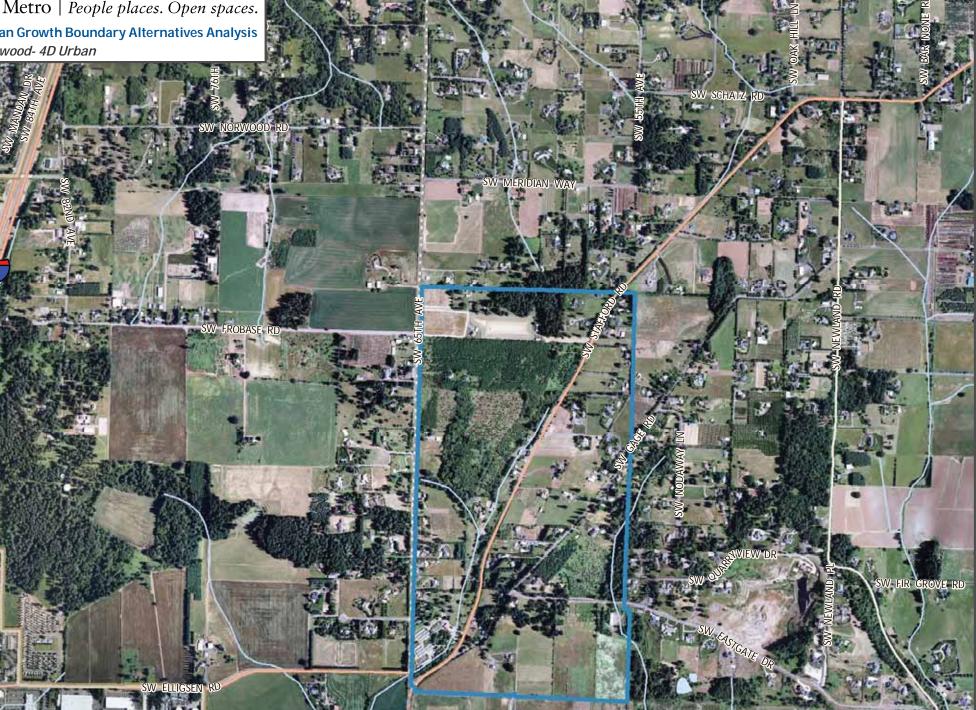
Tualatin's Town Center Plan envisions a mixed use live, work and play center that integrates natural resources like the Tualatin River and incorporates civic, social, economic and cultural functions in a walkable destination community. According to Metro's State of the Centers Report, January 2009, the Tualatin Town Center has a lower than ideal number of people per acre and slightly below average number of dwellings per acre. Wilsonville's Town Center, which includes an area just east of I-5, is envisioned to be a dense, mixed used community that creates a walkable, pedestrian-oriented environment. Metro's State of the Centers Report shows a higher than average jobs to housing ratio, and fewer people and dwellings per acre than desired and needing more infill and redevelopment to boost urban densities.

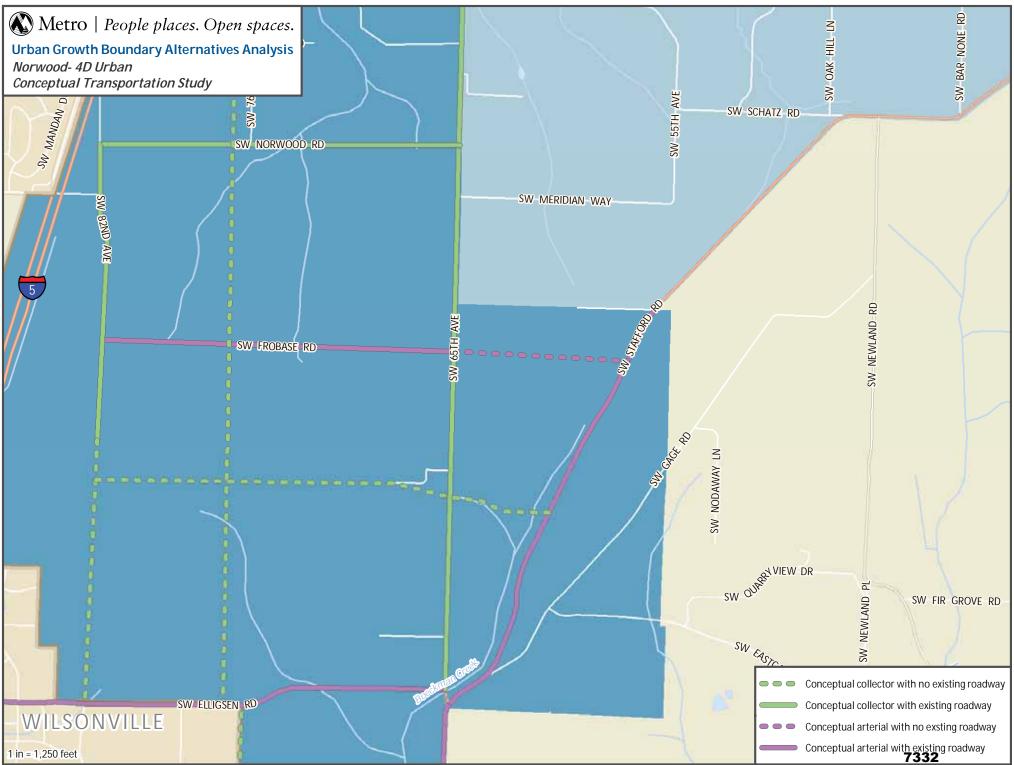
Urbanization of the Norwood analysis area will not contribute to the vision or purpose of either the Wilsonville or Tualatin Town Center. In order to support either center, additional urban reserve

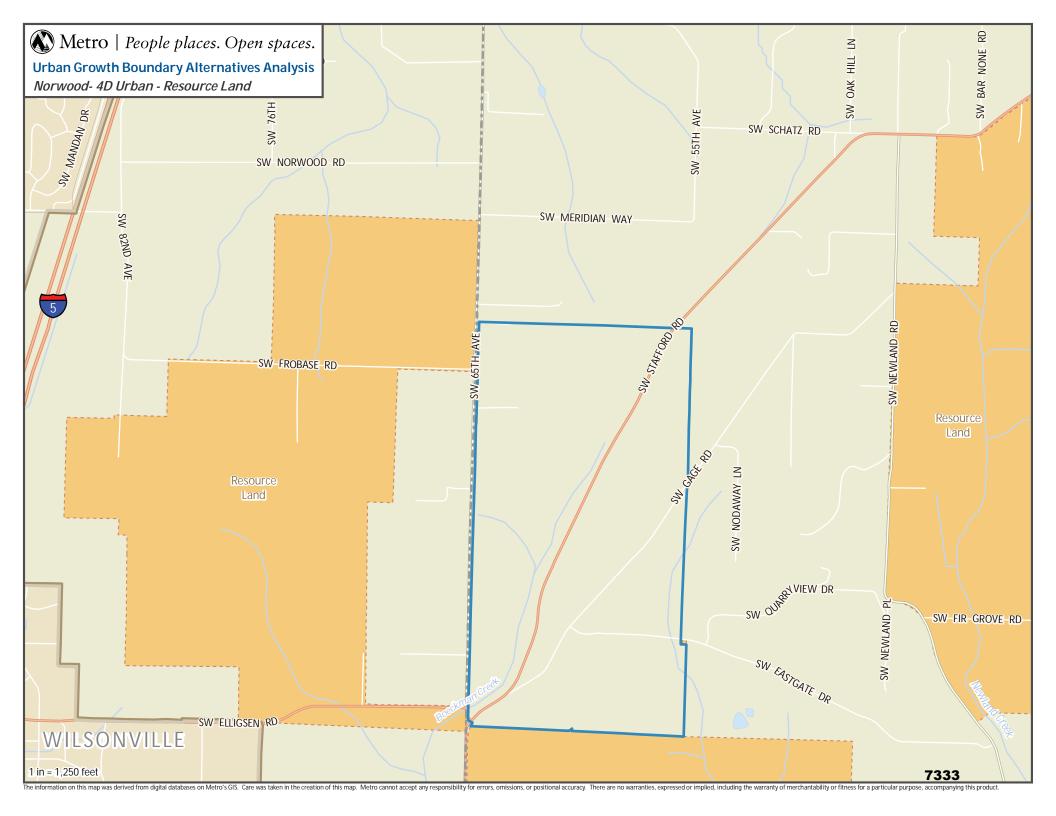
land would have to be added to create continuous urban development. In addition, the potential for housing development in the analysis area could negatively impact the desire for both town centers to create more infill development and housing to create a more balanced jobs housing ratio.



Metro | People places. Open spaces. Urban Growth Boundary Alternatives Analysis Norwood- 4D Urban







I-5 EAST ANALYSIS AREA (4E)

I-5 East (1) Analysis Area		Total Acres	848
Gross Vacant Buildable Acres	558	Total Constrained Acres	290
Estimated Dwelling Unit Capacity	6,795	• Title 13 Significant Habitat	281
Estimated Employment Acres		Public Land	0

General Description (see attached map)

The I-5 East Analysis Area is located immediately to the north of the Elligsen Analysis Area and completely within unincorporated Washington County. The total area is 848 acres, and is bounded by I-5 to the west, I-205 to the north, the Clackamas/Washington County line and SW 65th Avenue to the east, and SW Frobase Road to the south. The area is served by primarily by SW 65th Avenue, with access to I-5 to the south via SW Elligsen Road and access to I-205 via SW Stafford Road. Travel across I-5 and I-205 from the study area is limited to SW Norwood Road and SW 65th Avenue respectively. The area contains numerous flat sections located between riparian corridors along Saum Creek and its tributaries. A map of the analysis area is attached.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

This analysis area contains 158 total parcels. About one-third of the parcels are over five acres, and the median lot size is three acres. More than 85% of tax lots have improvements, though only 30 lots have improvement values over \$250,000. The median improvement value is \$145,580. Land use in the study area is primarily rural residential, with some agricultural uses along the southern edge and in the northeast that appear to include several lots in active crop production. The development pattern to the east of the study area is almost exclusively large-lot rural residential.

There is no evidence of power lines or other public easements, and there is no identified public land within the study area. An aerial photo of the analysis area is attached.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, medium suitability for water services and low suitability for transportation connectivity. The City of Tualatin's Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city is interested in providing urban services to this area in the long-term.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential or large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation system is attached to this summary.

Sanitary Sewer Services - \$15,852,000

Water Distribution Services - \$3,605,000

Storm Sewer Services - \$2,652,500

Transportation - \$124,290,000

Parks - \$70,920,000

Schools - \$20,000,000 (New Elementary School)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

More than five miles of streams run through the area, including Saum Creek and several of its unnamed tributaries. These stream corridors and their associated steeper slopes create a divided landscape in the northern portion of the analysis area, with flatter developable land extending in between the steeper fingers of ravines. Topography across the area, other than ravines, is generally flat, with only 50 acres of land with slopes greater than 25%. Of those 50 acres, 18 lie along stream corridors. These conditions create a fractured development area in the northern half of the analysis

area, limiting the connectivity potential of future urbanization and increasing the pressure on existing environmental resources. Steeper slopes surrounding much of the riparian area could reduce the impact of urbanization; however the associated riparian and upland habitat on the flatter areas may be at risk. There are no identified parks or open space within the study area. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This large analysis area, with 70% of the parcels less than five acres in size, is almost entirely composed of rural residences. Eighty-seven percent of the 158 parcels have improvements. The area is somewhat isolated from the urban area by I-5 and I-205, adding to the rural feel of the area. Urbanization will negatively impact the rural lifestyle for the many current residents. The minimal level of agricultural activities will reduce the potential negative economic impacts of a lost farming economy. The area contains 5.6 miles of streams, the most of any analysis area. There are 280 acres of riparian and upland habitat associated with Saum Creek, flowing north through the center of the area, and its tributaries that divide this large area into much smaller portions of developable land. The costs for protecting these large environmental resource areas will be considerable in contrast to the potential economic impact of urbanizing the developable lands in between in a well connected manner. Additional VMT will be generated through urbanization of this large sized area as the average commute distance for this area is somewhat larger than the existing average commute distance for the region. Overall this analysis area has medium economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

There are 140 acres of regionally significant riparian habitat along Saum Creek and tributary stream corridors, with five acres of wetlands scattered throughout. Overall there are 281 acres of regionally significant fish and wildlife habitat throughout the study area. A portion of this habitat is currently impacted by active agricultural production in the southern portion of the analysis area. Future urbanization poses a higher risk to the upland habitat, which occurs generally on gentler slopes. The riparian habitat is mostly confined to steeper slopes, however development along stream areas or crossings to provide connectivity could threaten the riparian habitat, mainly in the northern portion of the analysis area. The City of Tualatin, the expected governing body for this area, has adopted habitat protection measures in compliance with Metro's Title 13 program through the Tualatin Basin Natural Resource Coordinating Committee's protection, which could help protect these regionally significant habitat areas and mitigate some of the impact from future urbanization. Overall, urbanization of the analysis area in a well connected manner could substantially impact the regionally significant fish and wildlife habitat that is found throughout the area.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The UGB borders the I-5 East analysis area on the north and west. To the east is a significant segment of rural residential zoned land. A 331 acre block of resource land zoned exclusive farm use (EFU) directly borders the analysis area on the south, extending to SW Elligsen Road (see attached resource land map). The area is a mixture of forested and open parcels that contain a few rural residences, two domestic water storage tanks and field crops. The agricultural activities are concentrated near SW Elligsen Road in the south and SW Frobase Road in the north, adjacent to the analysis area. SW Frobase Road provides a southern edge to the analysis area; however the road itself would not make the proposed urban uses compatible with the adjacent agricultural activities occurring on farm land to the south. In addition, increased traffic along SW Frobase Road due to new urban uses within the analysis area may impact agricultural activities on these resource lands to the south. The proposed urban uses would not be compatible with the agricultural activities that occur on this one section of farm land outside the UGB. However mitigation measures could reduce conflicts between urban uses inside the UGB and resource uses outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

There are no natural or built features that mark a clear transition between urban and rural lands. SW Frobase Road and SW 65th Avenue provide the two edges between urban and rural land. Even assuming these two roads develop as arterial roadways in the future, the roads themselves will not provide a clear transition area between future urban and rural uses. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area. The rural lands east of SW 65th Avenue and to the south of SW Frobase Road are included in the Norwood (4E) and Elligsen (4G/4F) urban reserve areas and may be included in the UGB in the future. Thus, any buffers that are incorporated into the planning study for the analysis area should consider the potential for making urban form connections in these locations in the future.

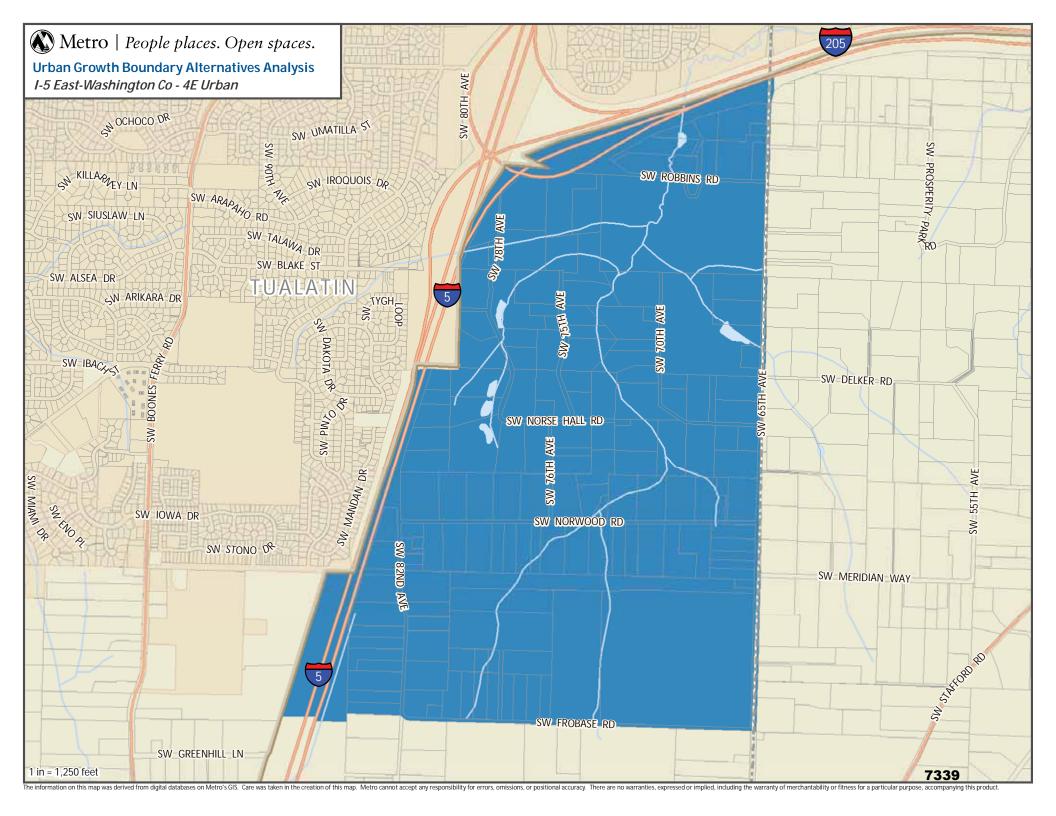
2040 Growth Concept

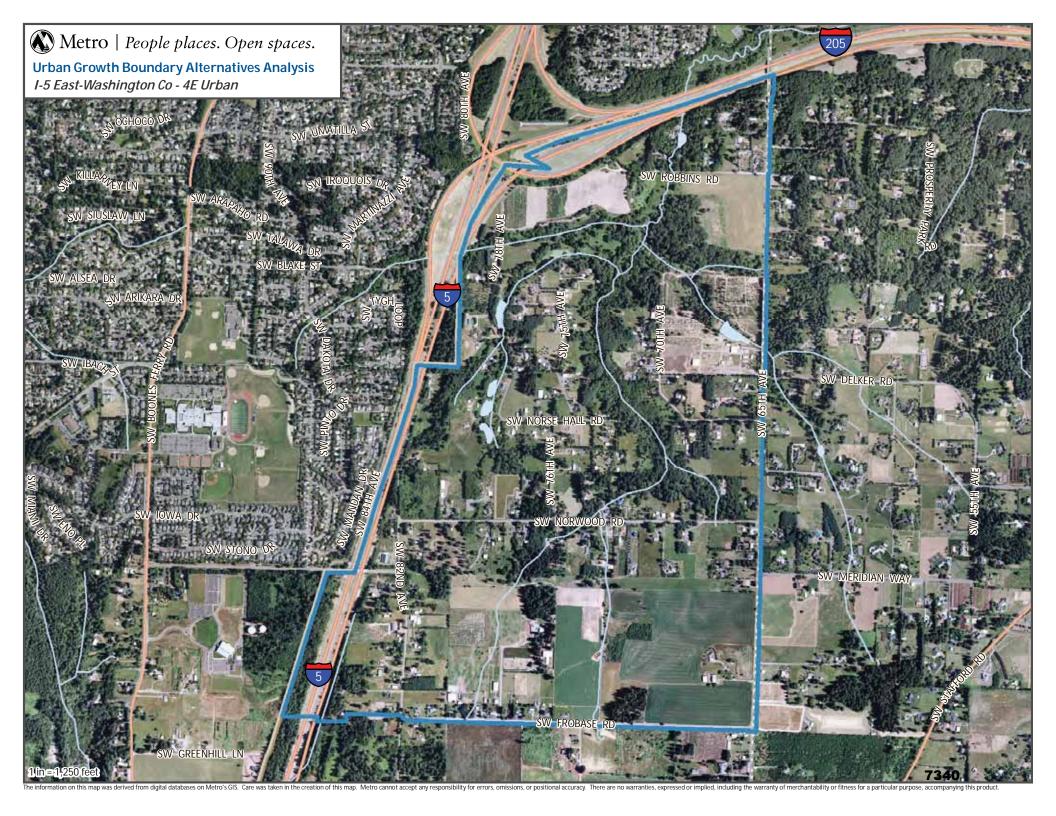
Contribution to the purposes of Centers

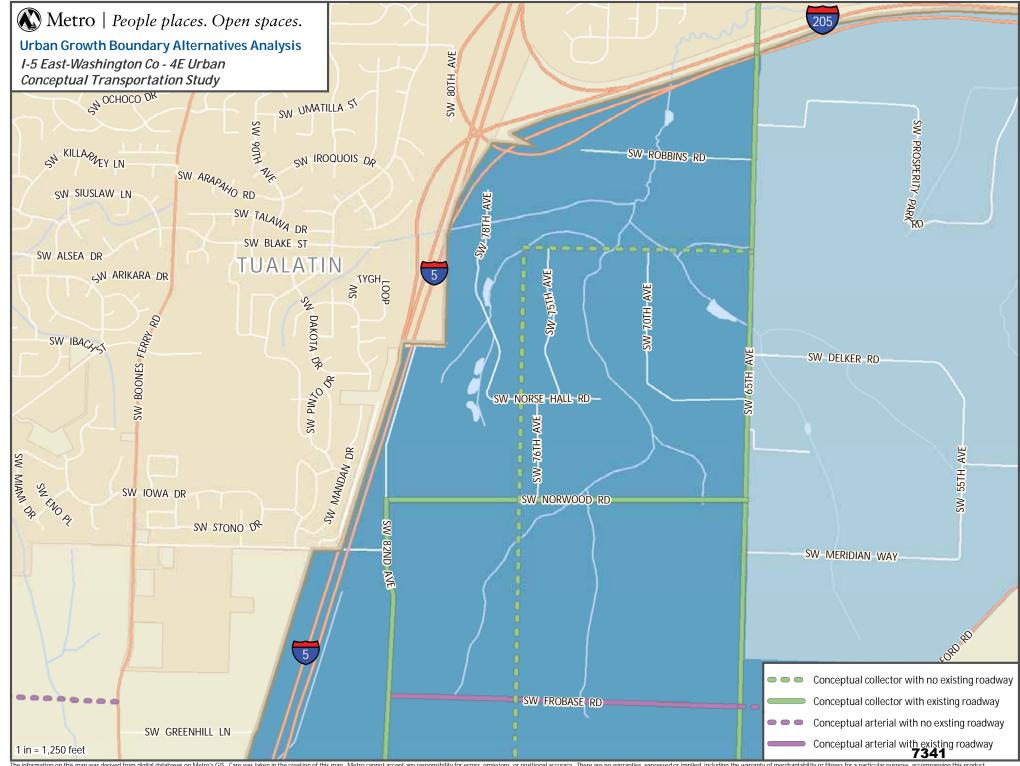
The Tualatin Town Center is the nearest 2040 Growth Concept center to the I-5 East analysis area. It is approximately 325 acres in size, and primarily serves the surrounding residential and commercial areas in the City of Tualatin. The analysis area is connected to the Tualatin Town Center via SW 65th Avenue to SW Sagert Road and SW Nyberg Road (1.5 miles), although I-5 and I-205 present significant visual barriers between the two locations. There is no Tri-Met service connecting the town center and the analysis area directly, although line 76 stops at SW 65th Avenue and SW Sagert Road, just north of I-205 from the analysis area.

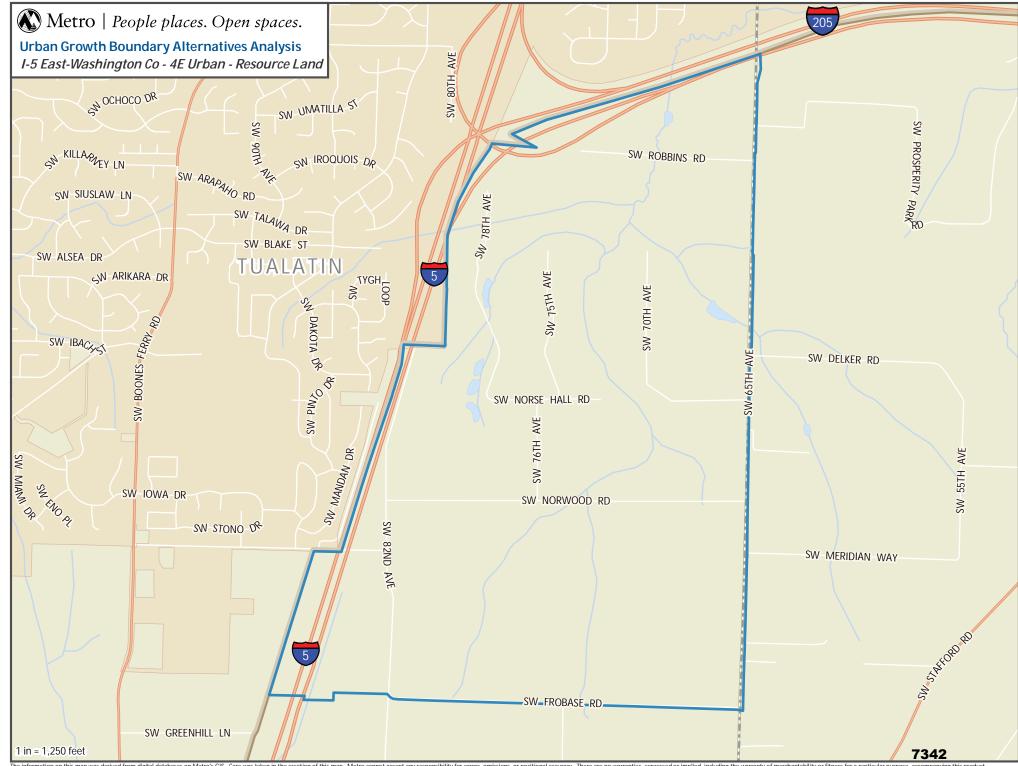
Tualatin's Town Center Plan, envisions a mixed use live, work and play center that integrates natural resources like the Tualatin River with civic, social, economic and cultural functions in a walkable community. According to Metro's State of the Centers Report, January 2009, the Tualatin Town Center has a lower than ideal number of people per acre and slightly below average number of dwellings per acre. The Tualatin center has an average jobs to housing ratio, but density is somewhat lower than average for both housing and businesses.

Pre-qualified concept planning by Tualatin indicates that the city foresees primarily residential development in the analysis area with a small amount of employment land and significant protection of parks and open spaces. They also envision new school sites to support the increased residential population. Urbanization of the analysis area will not support the vision or purpose of the Tualatin Town Center, as it may draw residential development away from the center by creating a large market for single family residential units. The analysis area's isolated location across both I-5 and I-205 would not contribute to the compact, pedestrian-oriented environment envisioned for the center.









ELLIGSEN ANALYSIS AREA (4F/4G)

I-5 East (2 & 3) Analysis Area		Total Acres	891
Gross Vacant Buildable Acres	637	Total Constrained Acres	254
Estimated Dwelling Unit Capacity	7,578	Title 13 Significant Habitat	203
Estimated Employment Acres		Public Land	4

General Description (see attached map)

The Elligsen Analysis Area is located east of I-5, straddling SW Elligsen Road. It is irregular in shape and is located directly south of the I-5 East Analysis Area. It is bordered by the UGB on the west and south and SW 65th Avenue and SW Stafford Road on the east. The majority of the area is in Washington County with a small portion in Clackamas County. SW Stafford Road, SW 65th Avenue and SW Elligsen Road are the primary routes serving this area, with access to I-5 from SW Elligsen Road. The area is a mixture of farm land, rural residences and forested parcels on rolling hills with Boeckman Creek running through the southern portion.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

This analysis area contains 67 tax lots, and a total of 891 acres. The median parcel size is five acres, and approximately half of the parcels are at least five acres in size. Improvements are present on 52 of the 67 parcels, with a median value of \$313,090. Agriculture and forest are the predominant uses in this study area, with most of the active farming occurring in the southeast and forest covering most of the west and northwest. The northeast portion of the area, along SW 65th Avenue, has a cluster of rural residential development.

This area has a power line easement that runs through the southern end and one small open space owned by the Meridian United Church of Christ Cemetery. The City of Wilsonville owns two parcels in the northwest portion of the area with a water reservoir located on one of the parcels. The analysis area is adjacent to Canyon Creek Park, maintained by the City of Wilsonville. The Pheasant Ridge Recreational Vehicle Resort has developed a large RV lot just off of SW Elligsen Road, in the west side of the analysis area, which includes a large piece of forest land to the north.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, medium suitability for water services and low suitability for transportation connectivity. As part of Clackamas County's urban and rural reserve designation process, the City of Wilsonville indicated that the area represented by Urban Reserve Area 4G can be efficiently and cost-effectively provided with public facilities necessary to support urban development in the long term. The City of Wilsonville did not comment on the portion of the analysis area that is composed of Urban Reserve Area 4F.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential or large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation system is attached to this summary.

Sanitary Sewer Services - \$27,886,000 Water Distribution Services - \$12,150,000 Storm Sewer Services - \$14,064,000 Transportation - \$238,260,000 Parks - \$81,160,000 Schools - \$20,000,000

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Two tributaries marking the origin of Boeckman Creek flow together in the southeastern portion of the analysis area, and then continue on to the Willamette River south of Wilsonville. There are a couple of small wetlands associated with this stream corridor, although most of the northernmost reaches appear to be either under active agriculture activities or little more than seasonal

drainages. There are 42 acres of slopes greater than 25%, with most of these steep slopes in the forested portion of the area. Fourteen of the steep slope acres occur along the riparian corridor of Boeckman Creek. Based on this analysis, urbanization may pose some risk to environmental resources, particularly the forested land east of I-5 and the area along Boeckman Creek as it evenly divides the southern portion of the analysis area, potentially making connectivity difficult. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This large analysis area, with 50% of the parcels less than five acres in size, is a mixture of forested parcels, some significant agricultural sections and rural residences, mainly along SW 65th Avenue, including a RV Park on SW Elligsen Road. Boeckman Creek flows south through the center of the southern portion of the area, south of SW Elligsen Road. Sixty-nine percent of the 67 parcels have improvements. Urbanization will negatively impact the rural lifestyle, mainly for the current residents along SW 65th Avenue as they are located further away from the urban area than the RV Park that is across the street from the current UGB. The loss of the economic impact from the agricultural uses may be considerable; however the potential economic impact of urbanization on these lands will outweigh this loss. Approximately 23% of the land is identified as containing riparian or upland habitat, much of which is in the northwestern portion of the analysis area. The riparian habitat associated with Boeckman Creek divides the southern portion of the area in half. The costs for protecting these large resource areas will be considerable in contrast to the potential economic impact of urbanizing the remaining developable lands in a well connected manner. Additional VMT will be generated through urbanization of this large sized area as the average commute distance for this area is somewhat larger than the existing average commute distance for the region. Overall this analysis area has medium economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

Regionally significant riparian habitat covers 70 acres along the stream corridors, although much of this has already been developed or is currently impacted by active agricultural use. A large concentration of upland habitat, primarily forest, covers 133 acres of land in the northwest portion of the analysis area and remains mostly undeveloped. Much of this habitat is on the relatively flat top portions of the hills land and could easily be impacted by future development. In the south half of the analysis area, Boeckman Creek contains a small amount of significant riparian habitat, although steep slopes forming a ravine around the creek would prevent development up to the stream's banks. The City of Wilsonville, the most likely governing body for this area, has adopted a habitat protection program that is in substantial compliance with Metro's Title 13 Nature in Neighborhoods regulations. As the majority of the riparian habitat is away from the flatter developable portions, combined with the expected natural resource protection programs that will be in place prior to development, future urbanization could occur with only minimal to moderate disturbance to regionally significant fish and wildlife habitat, mostly depending on the level of impact to the upland habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The UGB borders the Elligsen analysis area on the west and south. A 115 acre block of resource land zoned exclusive farm use (EFU) is adjacent to the analysis area on the north side of SW Frobase Road and contains three rural residences (see attached resource land map). Agricultural activities are mainly field crops with a very small amount of orchards. Increased traffic along SW Frobase Road due to new urban uses within the analysis area may impact agricultural activities on this small segment of resource land. The proposed urban uses would not be compatible with the agricultural activities that occur on this pocket of farm land to the north. However mitigation measures could reduce conflicts between the proposed urban uses and the small amount of agricultural activities occurring outside the UGB in this location.

A much larger area of farm land is adjacent to the southeast portion of the analysis area, south and east of SW Stafford Road. This area extends south and east to the Willamette River and includes extensive agricultural activities. A number of stream corridors bisect the farm land in a north/south direction. Newland Creek, the closest stream to the analysis area, provides a buffer for the farm land to the east and to a lesser extent for the farm land to the south of SW Kahle Road. There is no edge or buffer for the agricultural activities occurring near SW Homesteader Road, SW Briar Patch Lane and SW Kahle Road. SW Stafford Road provides an edge for this portion of the analysis area, but the road itself would not make the proposed urban uses compatible with the agricultural activities occurring on the farm land to the east. Increased traffic along SW Stafford Road due to new urban uses within the analysis area may also impact agricultural activities on these resource lands to the east. The proposed urban uses would not be compatible with the agricultural activities that occur between SW Stafford Road and Newland Creek riparian area. However mitigation measures could reduce conflicts between the proposed urban uses and agricultural activities occurring outside the UGB in this location.

Clear transition between urban and rural lands, using natural and built features to mark the transition

The up and down change in elevation between SW 65th Avenue and SW Gage Road, east of the analysis area, provides a transition area between urban and rural lands for the portion of the analysis area that is north of SW Elligsen Road. There are no natural or built features that mark a clear transition between the analysis area and the rural lands to the north of SW Frobase Road.

Similarly, there are no natural or built features that mark a clear transition between the analysis area and the rural lands to the east of SW Stafford Road, south of SW Elligsen Road. Even assuming both SW Frobase Road and SW Stafford Road develop as arterials in the future, the roads themselves will not provide a clear transition area between future urban and rural uses. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area. The rural lands north of SW Frobase Road are included in the I-5 East Urban Reserve and may be included in the UGB in the future. Thus, any buffers that are incorporated into the planning study for the analysis area should consider the potential for making urban form connections in this location in the future.

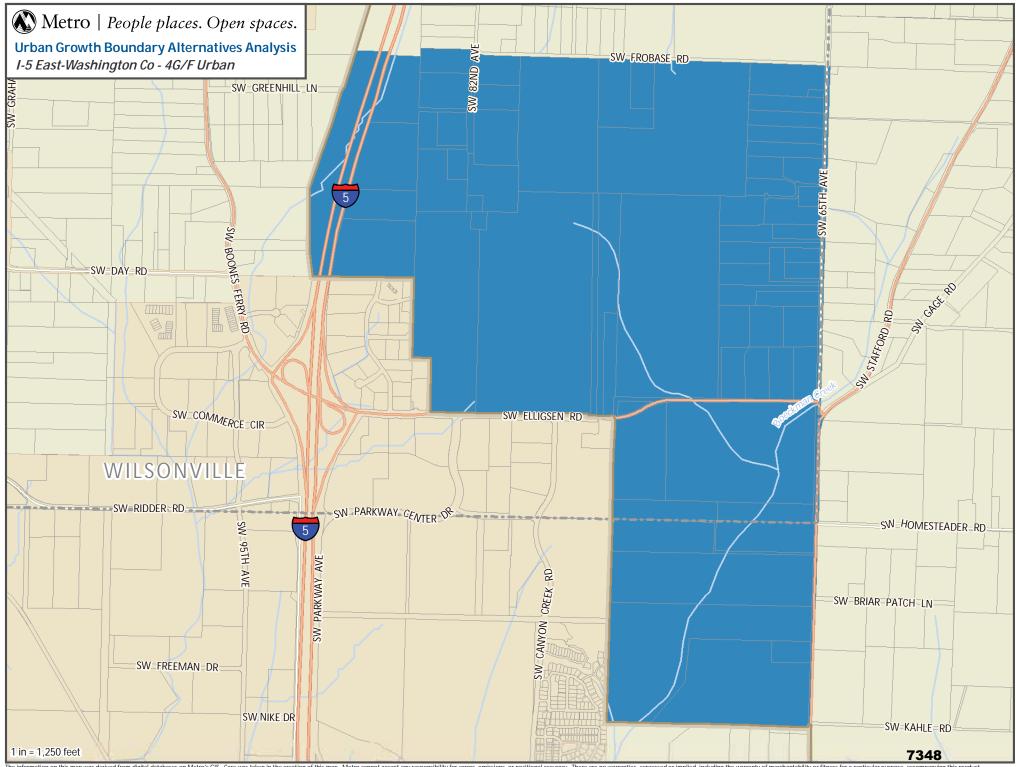
2040 Growth Concept

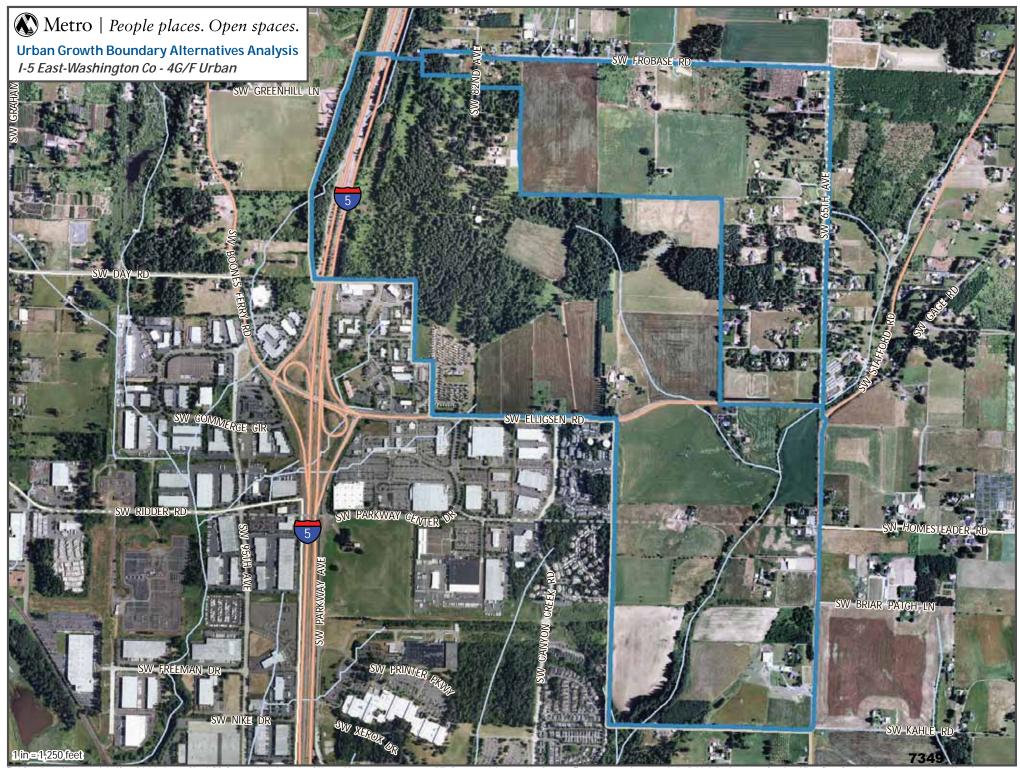
Contribution to the purposes of Centers

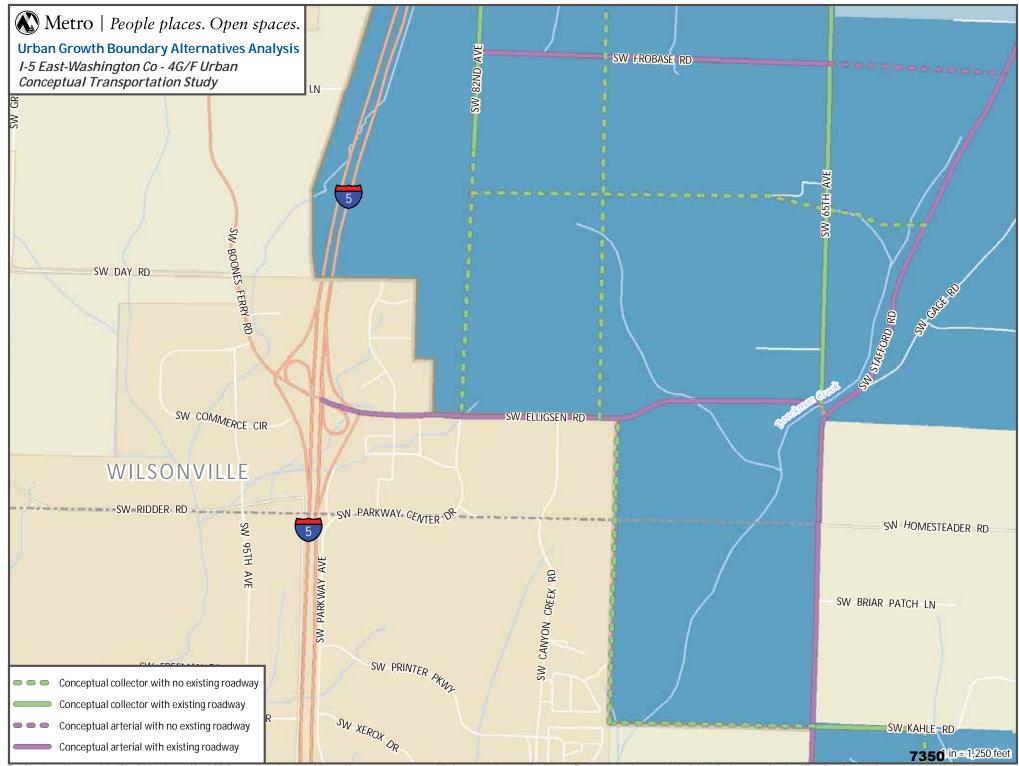
The Wilsonville Town Center is the nearest center, located to the south of the Elligsen Analysis Area. Wilsonville's center is 166 acres in size, and serves primarily the City of Wilsonville in this southern-most extent of the region. The town center is linked to the analysis area by SW Stafford Rd/SW Wilsonville Rd (2 miles) or by I-5 from the SW Elligsen Rd interchange (2.3 miles). No Tri-Met services currently connect the analysis area to the center. Route 6, Canyon Creek of SMART, the City of Wilsonville's bus service does provide service adjacent to a small portion of the analysis area on SW Elligsen Road.

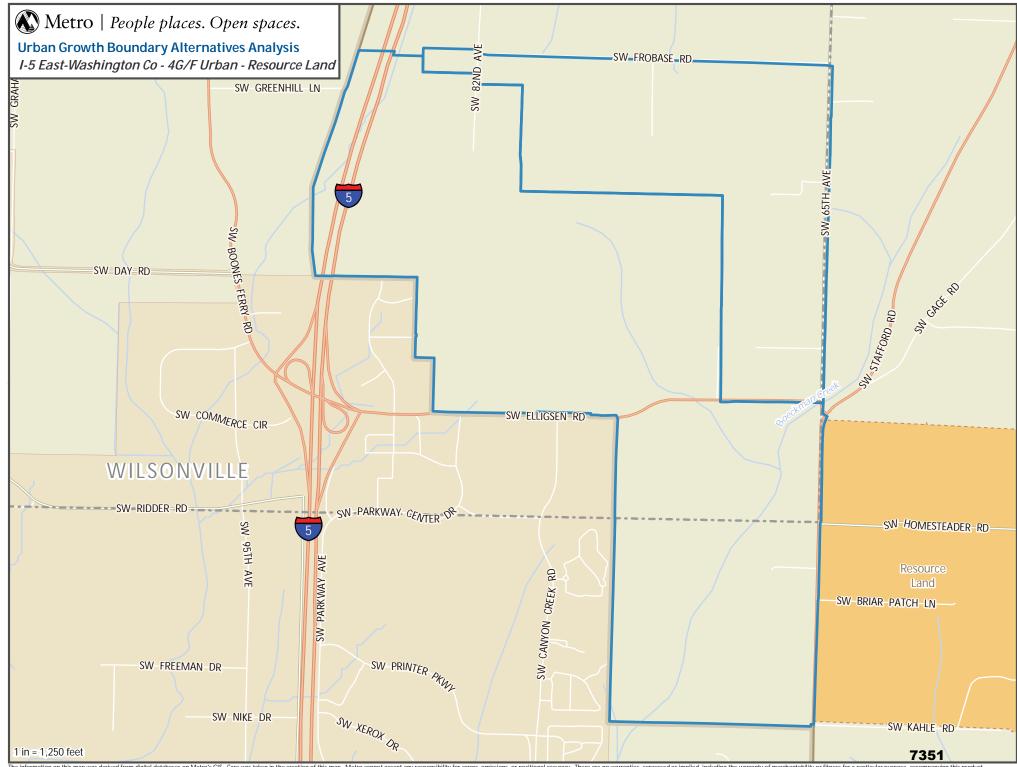
Wilsonville's Town Center, which is east of I-5, is envisioned to be a dense, mixed used community that creates a walkable, pedestrian-oriented environment. The center is located a short distance from the terminus of the WES Commuter Rail line. Metro's State of the Centers Report shows a higher than average jobs to housing ratio, fewer people and dwellings per acre than desired, and needing more infill and redevelopment to boost urban densities.

The Elligsen Analysis Area was identified by Wilsonville as a site for long-term future urbanization. The city's 20 Year Look process identified this area as a potential mixture for employment and residential use north of SW Elligsen Road and residential use south of SW Elligsen Road. The portion of the analysis area that is made up of Urban Reserve Area 4F has not been identified by a city as a location for future development. Urbanization of the analysis area will not contribute to the purpose and vision of the Wilsonville Town Center as a dense mixed-used environment due to the distance between the two areas and the potential to negatively impact residential markets for developing density within the center by providing an alternative housing market.









ADVANCE ANALYSIS AREA (4H)

Advance Analysis Area		Total Acres	316
Gross Vacant Buildable Acres	181	Total Constrained Acres	135
Estimated Dwelling Unit Capacity	2,133	Title 13 Significant Habitat	73
Estimated Employment Acres		Public Land	40

General Description (see attached map)

The Advance Analysis Area is a rectangular shaped mostly flat area located between the current UGB to the west and Newland Creek to the east and contains a total of 316 acres. It lies just to the east of SW Stafford Road, and straddles SW Advance Road. The area extends as far north as SW Kahle Road, and as far south as SW Kruse Road. The area is directly to the southeast of the Elligsen analysis area (4F/4G). The Advance analysis area is served primarily by SW Advance Road (east/west) and SW Stafford/Wilsonville Road (north/south).

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

The Advance area contains 36 tax lots. Of those 36 lots, ten are at least five acres and account for approximately 259 of the 317 total acres. Median parcel size is 1.75 acres. There is one lot at the north edge of the area that is bisected by the analysis area boundary, at Newland Creek. A majority of the parcels smaller than five acres are clustered in the southeastern quarter of the study area, south of SW Advance Road and east of SW 60th Avenue. At least 21 properties have recorded improvements with a median value of \$169,520, although only three have values greater than \$250,000. Although there are some improvements present on a few tax lots, the area remains largely undeveloped and in agricultural use, primarily field crops and tree farms.

There is a substantial BPA power line easement running through the northern half of the analysis area that is around 560 ft wide and covers 44 acres. The West Linn-Wilsonville School District also owns four parcels, totaling approximately 40 acres just south of SW Advance Road.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, medium suitability for water services and low suitability for transportation connectivity. As part of Clackamas County's urban and rural reserve designation process, the City of Wilsonville indicated that the area can be efficiently and cost-effectively provided with public facilities necessary to support urban development.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential or large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation system is attached to this summary.

Sanitary Sewer Services - \$9,788,000

Water Distribution Services - \$4,570,000

Storm Sewer Services - \$4,513,000

Transportation Services - \$107,520,000

Parks - \$25,600,000

Schools - \$20,000,000 (New Elementary School)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

No significant wetlands or floodplains are present in the area, although there is about 1 mile of stream corridor and 35 acres of surrounding riparian areas. There are no parks or open spaces within the area, but there is some private commonly-owned open space adjacent to the analysis area inside the UGB to the west. Only 18 acres of land are constrained by steep slopes (>25%), all but three acres of which are within riparian corridors. Future development may impact a small portion of riparian habitat in the far northeast corner of the analysis area, but the majority of this

area can be developed without impacting important environmental resources due to their isolated nature. Attachment 6 contains a breakdown of the environmental factors.

Energy, Economic & Social

This small area is a mixture of limited agricultural activities and rural residences. Fifty-eight percent of the parcels have improvements and 72% of the parcels are less than five acres in size. There are two large parcels each greater than 80 acres in size; however a power line easement cuts through these parcels, limiting developable acreage. The limited agricultural activities combined with most of the natural resources being located on or near the edges of the area, away from the flatter more developable portions, will reduce the potential negative economic impacts of a lost farming economy and costs for protective natural resources. The West Linn-Wilsonville School District owns a 40 acre site that abuts the current UGB and is very close to the existing Wilsonville High School and Boeckman Creek Elementary School, providing the opportunity to connect the analysis area to the existing urban neighborhoods through a significant school campus. In addition, the analysis area is adjacent to the Frog Pond expansion area that was included in the UGB in 2002, providing for additional opportunities to knit the two areas into the urban fabric of Wilsonville, thereby reducing some of the impact of the loss of the rural lifestyle for current residents. The additional VMT generated through urbanization of this small area will be minimal as the average commute distance is similar to the existing commute distance for the region. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

Total regionally significant fish and wildlife habitat covers 73 acres mainly concentrated in the northeast corner of the analysis area, all within or along riparian zones, including 38 acres of upland habitat that is contiguous with the riparian areas. In addition, the BPA power line easement runs diagonally adjacent to the main segment of habitat area, providing an additional buffer for the habitat. The City of Wilsonville has adopted a habitat protection program that is in substantial compliance with Metro's Title 13 Nature in Neighborhoods regulations. Based on the limited amount of significant habitat that is adjacent to the flatter developable areas, the overlap of the habitat area with the power line easement and Wilsonville's habitat conservation policies, urbanization of this area can occur with minimal impacts to regionally significant fish and wildlife habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

All but the western edge of the Advance analysis area borders exclusive farm use (EFU) zoned resource land (see attached resource land map). Directly north, between the analysis area and the Elligsen analysis area is an approximately 310-acre block of farm land in field crop and nursery production. There is no edge or buffer between the analysis area and this block of farm land beyond SW Kahle Road which extends almost the entire length of the northern edge. Increased traffic along SW Kahle Road as well as along SW Stafford Road as a result of urbanization will impact the agricultural activities occurring in this location.

Directly east, north of Advance Road, Newland Creek flows south in a wooded ravine about 70-feet below the elevation of the analysis area. The riparian area associated with Newland Creek fluctuates between 1,000 – 1,500 feet wide in this vicinity, effectively providing a buffer to the widespread agricultural activities occurring further east.

South of Advance Road there is a pocket of farm land approximately 200 acres in size located between the analysis area and Newland Creek. This pocket of agricultural land extends south across SW Kruse Road to the Willamette River and is mostly composed of field crops. Directly south of the analysis area is another pocket of farm land approximately 38 acres in size that is located between two small unnamed streams. Increased traffic along SW Kruse Road as well as along SW 53rd Avenue as a result of urbanization will impact the agricultural activities occurring in this location.

Overall, the proposed urban uses for the Advance analysis area would not be compatible with the agricultural activities occurring on the farm land to the north and southeast. The proposed urban uses for the analysis area would be compatible with the agricultural activities that are occurring on farm land to the east due to the wide riparian corridor of Newland Creek.

Clear transition between urban and rural lands, using natural and built features to mark the transition

Newland Creek provides a clear transition between urban and rural lands on the east side of the analysis area. There are no natural or built features to provide a transition on the north and south sides of the analysis area. Additional buffers will need to be incorporated into the planning of the analysis area to provide a clear transition from urban to rural uses along these two edges.

2040 Growth Concept

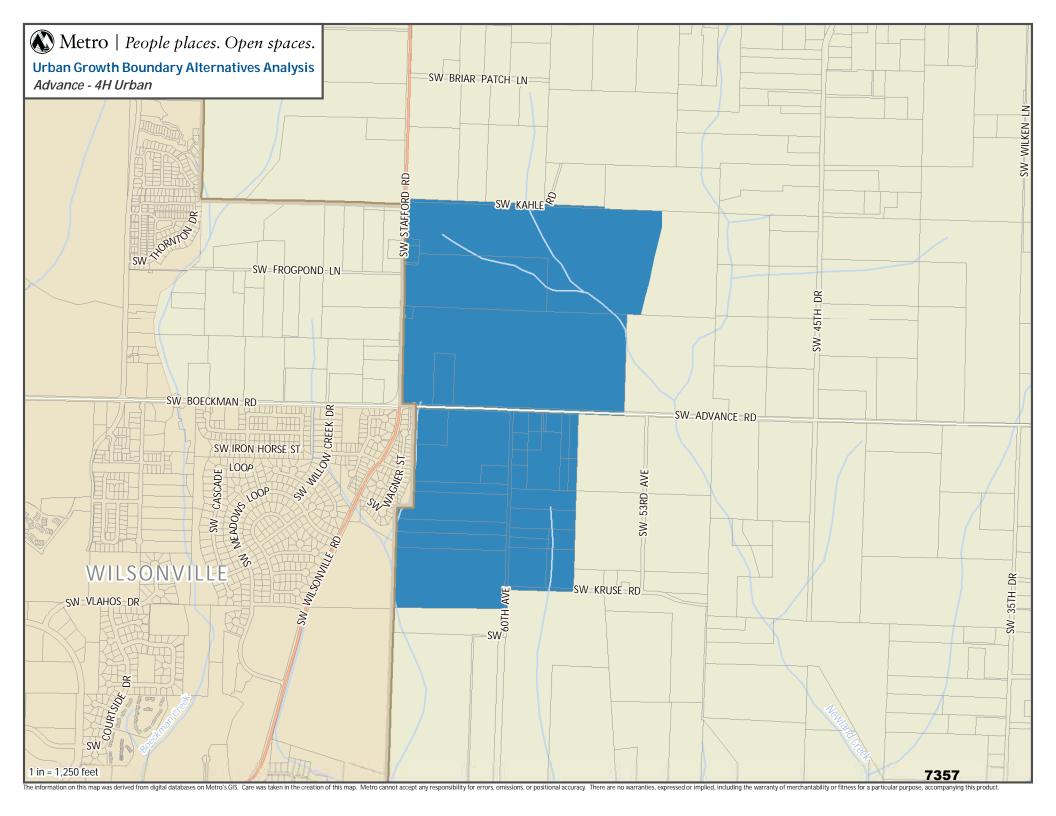
Contribution to the purposes of Centers

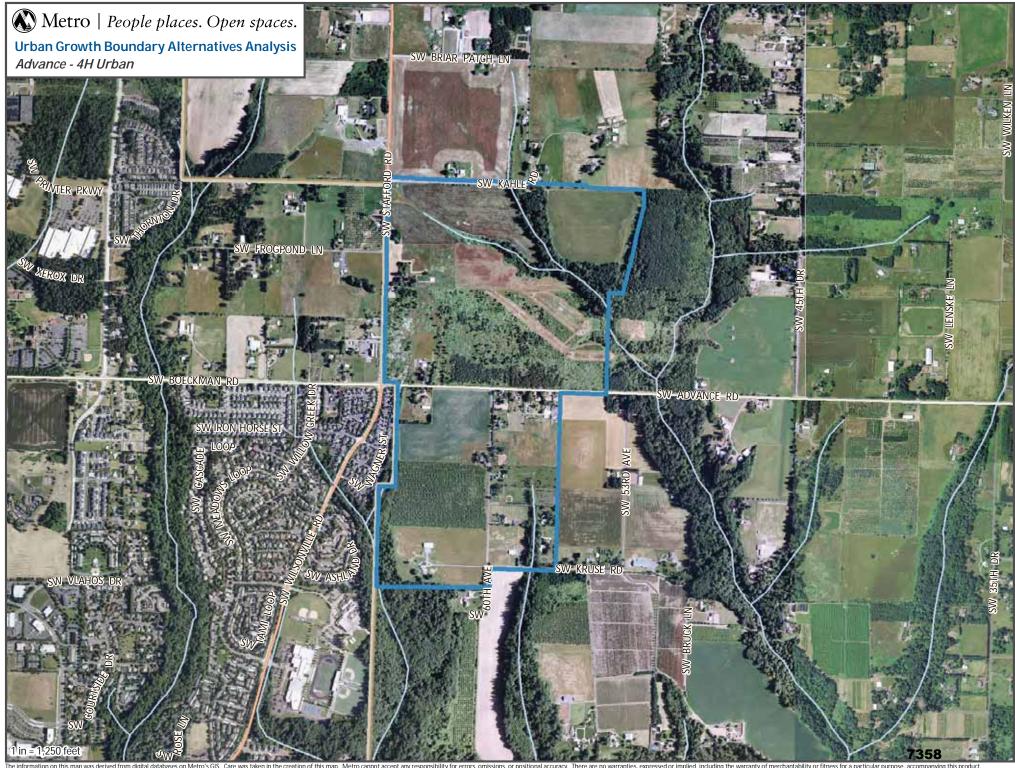
The Wilsonville Town Center is the nearest center, located to the southwest of the Advance analysis area. Wilsonville's Town Center is 166 acres in size, and serves primarily the City of Wilsonville in this southern-most extent of the current UGB. The town center is linked to the analysis area by SW Wilsonville Rd (1.5 miles). No Tri-Met services currently connect the analysis area to the center.

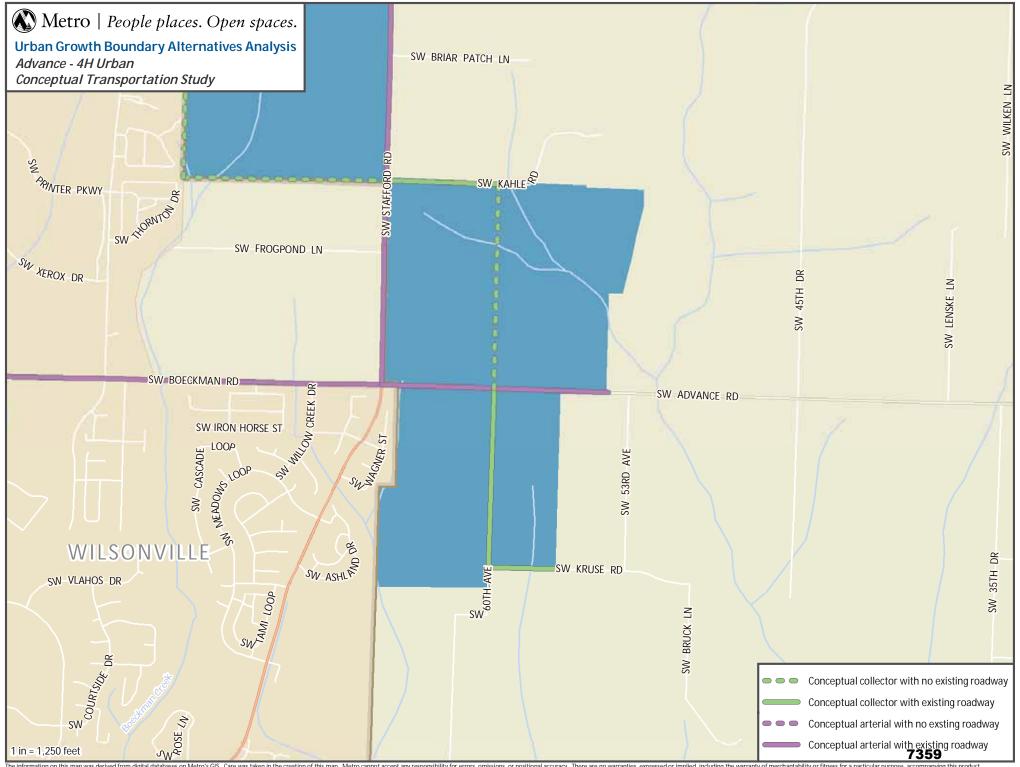
SMART, the City of Wilsonville's bus service does provide limited service adjacent to the analysis area.

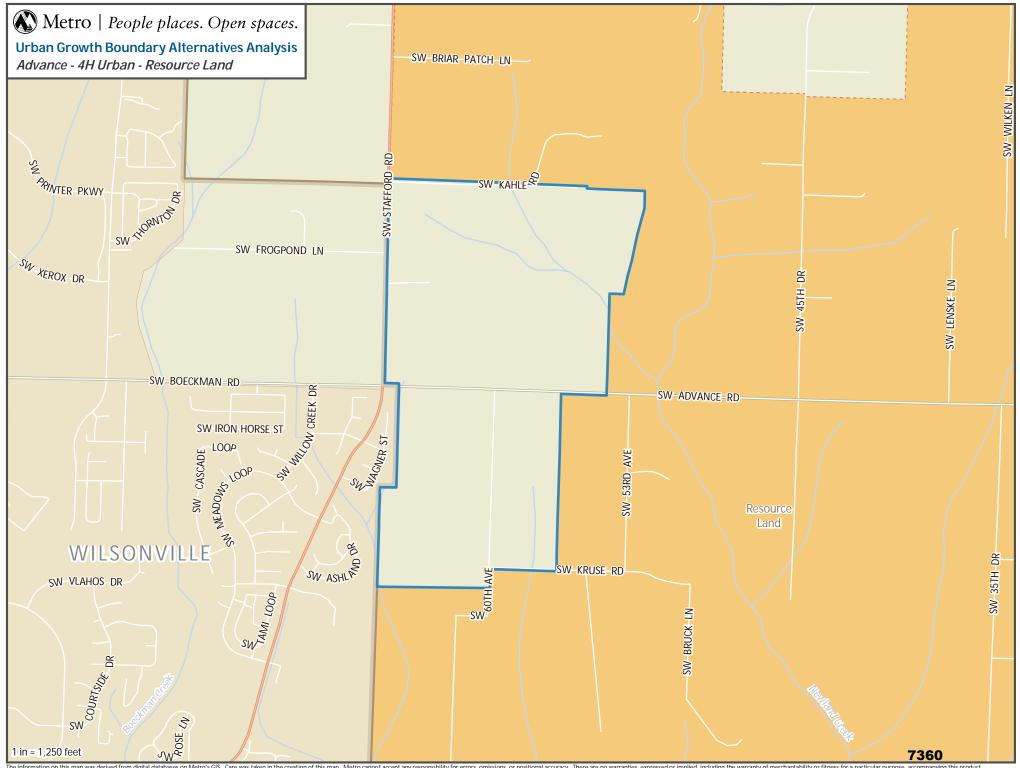
Wilsonville's Town Center, which is east of I-5, is envisioned to be a dense, mixed used community that creates a walkable, pedestrian-oriented environment. The center is located a short distance from the terminus of the WES Commuter Rail line. Metro's State of the Centers Report shows a higher than average jobs to housing ratio, fewer people and dwellings per acre than desired, and needing more infill and redevelopment to boost urban densities.

The Advance analysis area is identified in Wilsonville's 20 Year Look process as a site for long-term future urbanization that is expected to provide primarily residential land to help balance the jobs to housing ratio for the city and a new school site. Urbanization of the analysis area is unlikely to contribute to the purpose and vision of the Wilsonville Town Center due to its distance and potential to negatively impact the market for increasing residential density within the center. Although the added residential development the Advance area would help even out the jobs to housing ratio for the entire city of Wilsonville, the distance of this area from the Town Center would more likely increase the imbalance at the center and impede development of a compact, pedestrian-oriented community.









SHERWOOD WEST ANALYSIS AREA (5B)

Sherwood West Analysis Area		Total Acres	496
Gross Vacant Buildable Acres	432	Total Constrained Acres	64
Estimated Dwelling Unit Capacity	4,981	Title 13 Significant Habitat	45
Estimated Employment Acres		Public Land	5

General Description (see attached map)

The Sherwood West Analysis Area, a portion of the larger Sherwood West Urban Reserve, is located west of the city of Sherwood, along Highway 99W. The area sits between the Pacific Highway (99W) and SW Elwert Road on the east, SW Haide Road to the north, Chicken Creek to the west and SW Chapman Road to the south. SW Kruger Road runs east/west through the center of the study area. The area covers approximately 496 acres, entirely within unincorporated Washington County. Slopes are generally flat, and the landscape is a mix of farm and forested parcels.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

There are a total of 52 parcels within this area, with 32 parcels of at least five acres accounting for 85% of the total analysis area. The median parcel size is 6.17 acres and no lots are split by the study area boundary. A majority, 33 out of the 52 parcels, have improvements, 13 of which are valued over \$250,000. The median improvement value is \$214,440. The primary land uses in this area are a mix of agriculture and forested parcels, with rural residences scattered throughout. Agricultural activities include field crops, tree farms and orchards.

There is no evidence of power line easements within the analysis area. The City of Sherwood owns five acres that contains a water reservoir, and Metro owns 40 acres of natural area land just outside of the analysis area to the west (just south of SW Kruger Road).

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had medium/high suitability for sanitary sewer services, medium suitability for water services and high suitability for transportation connectivity for the northern portion of the analysis area. The southern portion was not evaluated for transportation connectivity. The City of Sherwood's Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city has the ability and willingness to provide urban services to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$18,760,000 Water Distribution Services - \$8,935,000 Storm Sewer Services - \$8,949,500 Transportation Services - \$145,460,000 Parks - \$69,240,000 Schools - \$80,000,000 (New Elementary School)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Chicken Creek flows along the northwest corner of the area, and a small wetland of less than one acre forms the start of Goose Creek in the southeast portion of the study area. These two creeks have a total of eight acres of associated riparian habitat and several acres of steeper slopes (>25%) within the analysis area boundary. There are an additional 36 acres of upland habitat concentrated

in the northwest and just south of SW Kruger Rd, and a total of 23 acres of steep slopes occurring within much of the habitat. With the exception of the ravine along Goose Creek and the small wetland that marks its origin, the analysis area is either in active agricultural use or does not contain important environmental features. Current conditions therefore indicate that future urbanization can occur throughout much of the analysis area along Goose Creek is isolated near the edge of the area and can be protected, reducing the potential risk from development. Attachment 6 contains the breakdown of the environmental factors.

Energy, Social & Economic

This medium sized area, with 62% of the parcels larger than five acres in size, is a mixture of agricultural activities and rural residences on larger parcels. Sixty-three percent of the parcels have improvements. Urbanization will impact the rural lifestyle for current residents as the median size of the parcels is 6.17 acres, which represents fairly large home sites. There are a few significant pockets of agricultural activities, ranging in size from 40-80 acres. The loss of the economic impact from these agricultural uses may be considerable; however the potential economic impact of urbanization on these relatively flat lands will outweigh this loss. Approximately eight percent of the land is identified as containing riparian habitat located near the edges of the analysis area. The costs for protecting these smaller isolated resources will be small in contrast to the potential economic impact of through urbanization of this medium sized area as the average commute distance for this area on the southwestern edge of the region is larger than the existing commute distance for the region. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

A finger of significant riparian and upland habitat extends into the area along Goose Creek. With the exception of this habitat area and a small area of significant riparian habitat in the far northwest corner near Chicken Creek, there is a minimal amount of regionally significant habitat within the analysis area. The small block of upland habitat occurring in the northern-most portion of the area is characterized by steeper slopes that will prevent pressure from development, but the riparian and upland habitat surrounding Goose Creek could be impacted by urbanization as the adjacent area is flat and near Highway 99W. The City of Sherwood, the expected governing body, has adopted habitat protection measures that are in compliance with Metro's Title 13 requirements as part of the Tualatin Basin Natural Resource Coordinating Committee's protection program. Given that the pockets of habitat area are isolated and the expected protection measures that will be in place prior to urbanization, development could occur in a manner with minimal impact to the regionally significant habitat areas.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

A block of resource land zoned AF-20 is located west of the urban reserve between SW Chapman Road and SW Kruger Road, and extends just over 1 mile to the Washington County line (see attached resource land map). Chicken Creek flows north through the resource land area that is a mixture of forested and open parcels that includes some rural residences and a small amount of agricultural activities, including a vineyard. Two unnamed tributaries to Chicken Creek flow in an easterly direction through the area. The rural residences along SW Delanos Place in combination with the Chicken Creek riparian area provide a buffer for the limited agricultural activities that occur to the west; therefore the proposed urban uses are generally compatible with the nearby agricultural activities occurring on this block of farm and forest land.

A second block of resource land zoned AF-20 shares a 1/3 mile edge with the analysis area to the south. This is the same AF-20 zoned land that is west of the Sherwood South analysis area, on the west side of Highway 99W. There is a small amount of field crops and an equestrian center within the resource land area just to the south of the analysis area. A pocket of rural residential zoned land adjacent to Chicken Creek provides a buffer to the remaining AF-20 zoned land to the west. The location of the large equestrian center, the pocket of rural residential zoned land and to a lesser extent Chicken Creek combine to provide separation between the analysis area and the majority of the agricultural activities that are occurring on the nearby farm land.

Overall, proposed urban uses in the Sherwood West analysis area would generally be compatible with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

The UGB borders this analysis area on the east side. The Chicken Creek riparian corridor provides a transition on the west and northern edges and to a lesser extent on the southern edge of the analysis area. The equestrian center functions as a transition area between urban and rural uses as this large facility is more developed than a typical rural use, while at the same time focusing on a rural use. Therefore, there is a clear transition between urban and rural lands using both natural and built features/specialized uses.

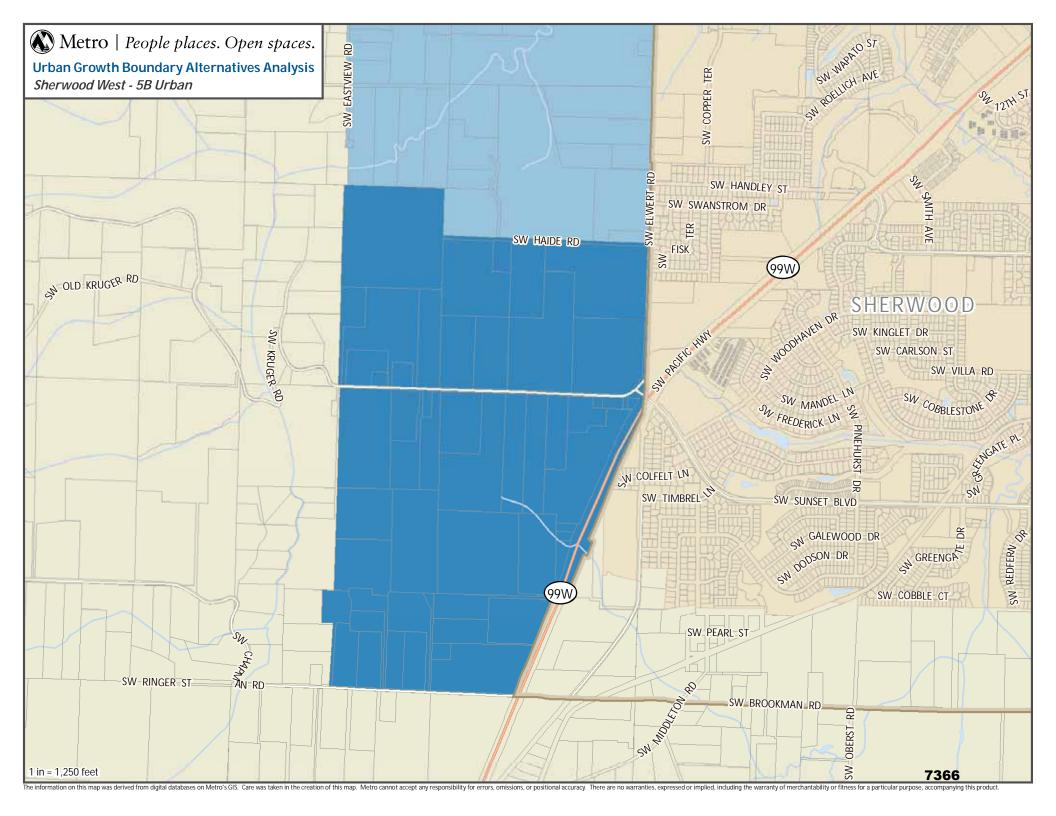
2040 Growth Concept

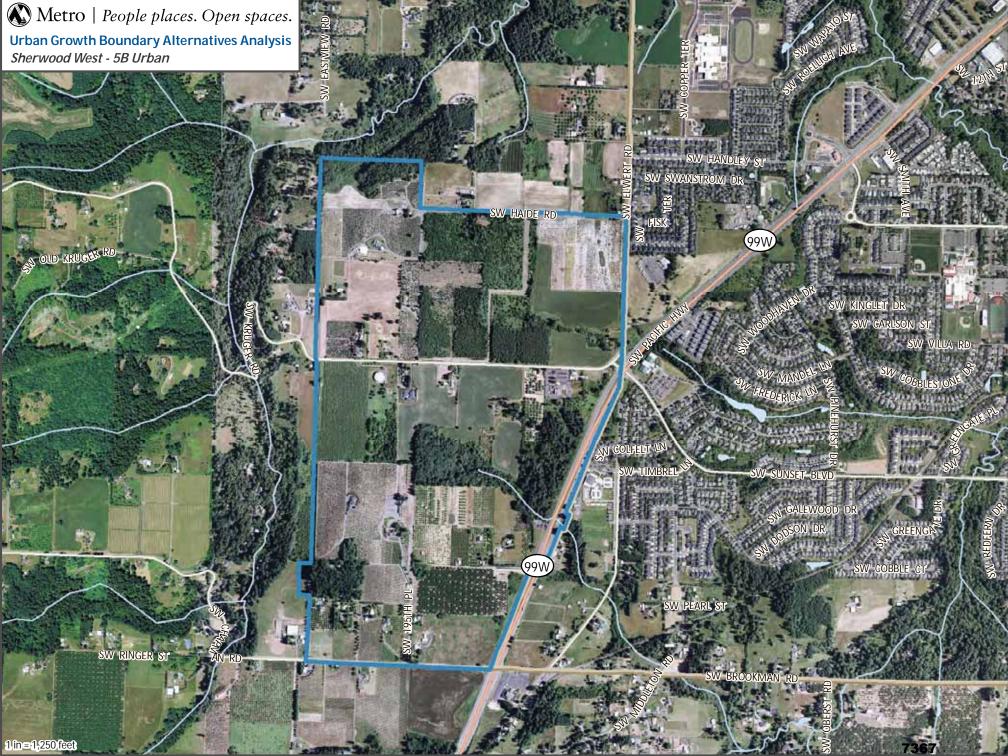
Contribution to the purposes of Centers

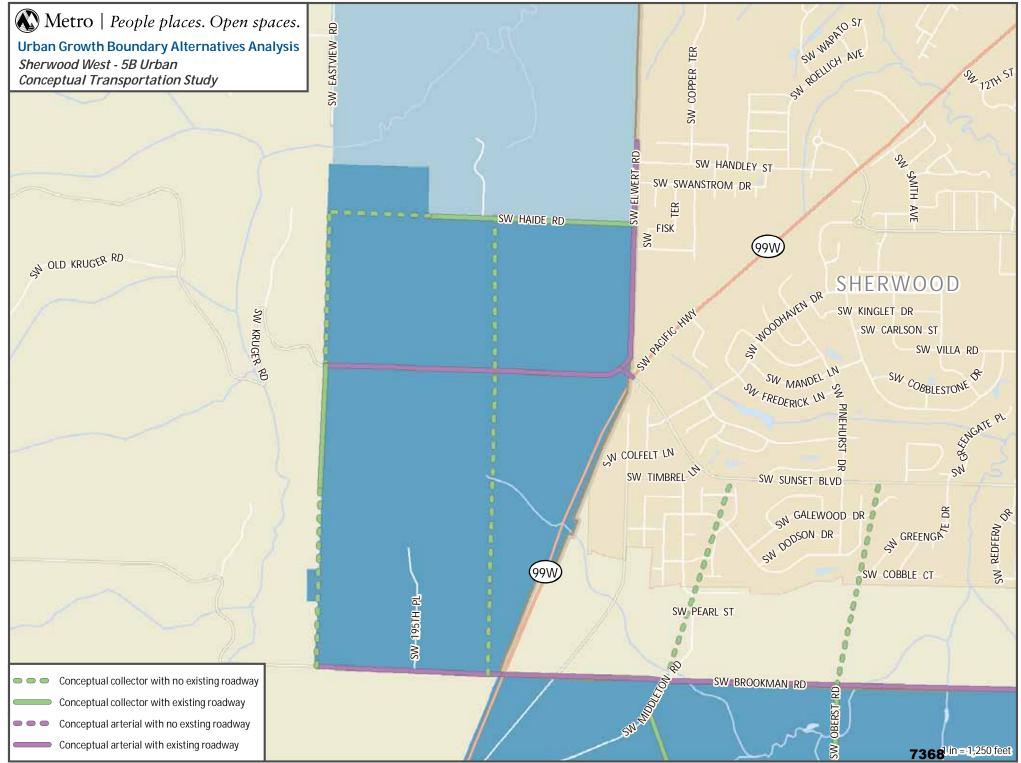
The Sherwood Town Center is the only center near the Sherwood West analysis area. It is a small town center of 88 acres, located to the northeast of the analysis area at the intersection of the SW Pacific Hwy (99W) and SW Tualatin-Sherwood Road. The center serves the community of Sherwood and the surrounding rural areas at the southwest edge of the region. Sherwood West is connected to the center via Highway 99W (approximately 1 mile) and there are currently no transit connections between the two locations. Tri-Met does have two bus routes serving the Sherwood Town Center, lines 12 and 94.

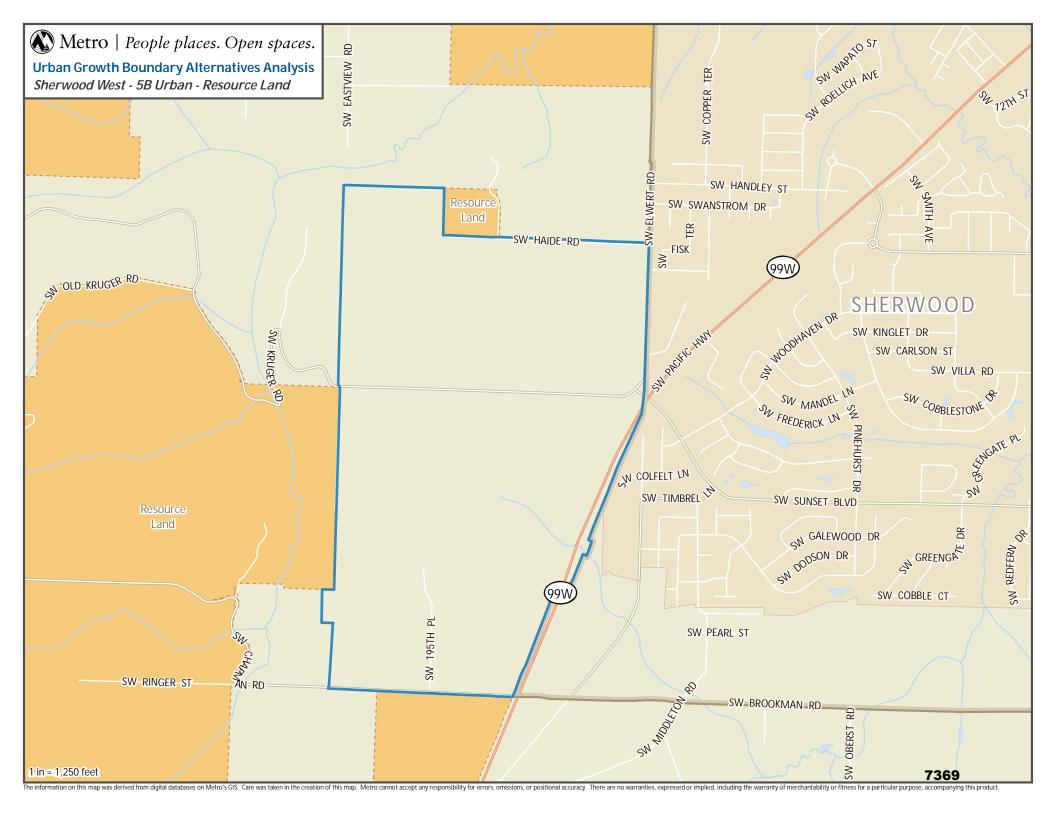
According to Metro's State of the Centers Report, January 2009, the Sherwood Town Center's jobs to housing ratio is higher than ideal and the total number of people per acre is low, indicating that there may be a need to attract and develop more housing within the center. The center also has a much lower than average number of dwellings per acre than other town centers. Based on the prequalified concept plans that were developed as part of the urban and rural reserve designation process, the City of Sherwood envisions the analysis area developing with a mix of limited commercial and residential uses. Urbanization of the Sherwood West area will not support developing increased residential units or employment opportunities within the center and ultimately may impede the creation of a compact, walkable community the city desires for the town center.

Sherwood foresees the potential need for a new station community in the southwest edge of the city to accommodate planned transportation system improvements such as a light rail or other public transit options for the area. As part of the city's pre-qualified concept planning, a portion of the analysis area was identified as a potential site for a new station center in Sherwood. The development of a new high capacity transit line along with the urbanization of the greater urban reserve areas adjacent to the city may support a new center in this location in the long term.









SHERWOOD SOUTH ANALYSIS AREA (5D)

Sherwood South Analysis Area		Total Acres	447
Gross Vacant Buildable Acres	216	Total Constrained Acres	231
Estimated Dwelling Unit Capacity	1,902	Title 13 Significant Habitat	204
Estimated Employment Acres		Public Land	4

General Description (see attached map)

The Sherwood South Analysis Area, is a medium sized rectangular area just south of the City of Sherwood with a total area of 447 acres. The area is a mixture of flat plateaus intermixed with stream corridors in ravines and forested areas. The area contains the confluence of Goose and Cedar Creeks. Southwest Brookman Road and the current UGB form the north boundary, Pacific Highway (99W) forms the western edge, and tax lot lines define the south edge and the Clackamas-Washington County line forms the east edge. There is one lot that is split by the study area boundary along its southern edge. The area is served by SW Brookman Road, Highway 99W, and SW Middleton Road. The entire area is within unincorporated Washington County.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

The South Sherwood Analysis Area contains 82 parcels, one of which is only partially within the study area (28 out of 67 acres of that parcel lie within the study area). There are 36 parcels of at least five acres, and a median parcel size of 4.32 acres. Of the 447 total acres, 367 are accounted for by parcels of five acres or more. Improvements are recorded for 68 of the 82 tax lots, with a median value of \$130,795. Only 11 of those lots have improvements valued over \$250,000. Land use is composed of primarily rural residential in the western half, and a mix of agriculture and forested parcels in the eastern half. It appears that a large portion of the agricultural use is for tree farms and orchards, and minimal use for crop cultivation.

Available data does not suggest the existence of power lines within the analysis area. The State of Oregon owns one small 4 acre parcel in the north central part of the area, along SW Labrousse Road.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had medium suitability for sanitary sewer services and water services. This location was not evaluated for transportation connectivity. The City of Sherwood's Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city has the ability and willingness to provide urban services to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$9,988,000 Water Distribution Services - \$4,925,000 Storm Sewer Services - \$4,483,500 Transportation Services - \$178,120,000 Parks - \$35,000,000

Schools - \$300,000 (Increased maintenance costs, no new schools)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Two creeks flow through the area: Cedar Creek from the southwest and Goose Creek from the northwest. The two creeks join together near the center of the analysis area, and continue north through the city of Sherwood to ultimately flow into the Tualatin River. Two additional unnamed creeks flow through the east side of the area, joining Cedar Creek to the north of the analysis area boundary. There are 45 acres of constrained steep slopes over 25%, 20 of those acres occurring within riparian corridors. A floodplain area along both Cedar and Goose Creeks covers 44 acres.

No parks or open space areas are identified within or adjacent to this study area. The locations of the streams result in the analysis area being broken up into small segments of non-constrained land. As a result of this fragmented landscape, urbanization of the area in a well connected manner could highly impact the natural resources. If urbanization occurs in a more segmented manner impacts to significant environmental resources can be reduced. Overall, urbanization of this area will impact the natural resources to some degree, depending on the urban form. Additionally, it should be noted that the City of Sherwood has preserved the Cedar Creek riparian area that currently is within the city limits by integrating the stream corridor into the urban form and as a result creating an amenity for its citizens. Attachment 6 contains the breakdown of the environmental factors.

Energy, Social & Economic

This medium sized area is divided into 82 parcels with 56% of the parcels less than five acres in size. The area contains limited agricultural activities and numerous rural residences, evident by improvements on 83% of the parcels. The minimal level of agricultural activities will reduce the potential negative economic impacts of a lost farming economy. There are 2.87 miles of streams and approximately 45% of the land is identified as containing habitat areas, which are dispersed throughout the analysis area. The costs for protecting these large resource areas will be considerable in contrast to the potential economic impact of urbanizing the developable lands in between in a well connected manner. Directly to the north is an area that was brought into the UGB in 2002, but is currently undeveloped. Once this area is developed to urban levels, the loss of the rural lifestyle for the current residents of the analysis area may be less, as they will be closer to urban amenities. Development of the two areas together may provide efficiencies in infrastructure financing and delivery of services. Additional VMT will be generated through urbanization of this medium sized area as the average commute distance for the region. Overall this analysis area has medium economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

A total of 4.5 acres of wetlands are scattered throughout the area, along with 98.6 acres of regionally significant riparian habitat along Cedar and Goose Creeks as well as the smaller drainages. An additional 105 acres of regionally significant upland habitat extend beyond the riparian corridors in the area, with a large cluster located along the south edge of the analysis area between Cedar and Goose Creeks. Future development opportunities will be limited due to the dispersed locations of significant habitat protection measures that are in compliance with Metro's Title 13 requirements as part of the Tualatin Basin Natural Resource Coordinating Committee's protection program. The expected protection measures that will be in place prior to urbanization will help protect much of the habitat, however the need for connecting the dispersed developable areas together will result in impacts to some significant habitat areas.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

There is a 127 acre block of resource land zoned agriculture forest 20 (AF-20) directly south of the analysis area between SW Ladd Hill Road and SW Labrousee Road (see attached resource land map). The majority of the resource land is forested with one rural residence and a very limited amount of agricultural activities occurring. Two unnamed tributaries to Cedar Creek flow north through the forested portion of the resource land area in ravines up to 200-feet deep. As there is a very limited amount of agricultural activities and no indication of forest activities occurring in this resource land area, the proposed urban uses are generally compatible with the nearby agricultural and forest activities occurring on this farm and forest land.

A second block of resource land zoned AF-20 is located west of the analysis area, on the west side of Highway 99W between SW Chapman Road and SW Gimm Lane, and extends approximately 1 ½ miles to the Washington County line. Agricultural activities near Highway 99W include a small amount of orchard and field crops and a 44-acre equestrian center. The Highway 99W right-of-way, which is approximately 150-feet in width, provides a good edge to the analysis area in this location. In addition, the equestrian center is essentially a developed use that supplements the buffer of the highway for the majority of the agricultural activities that occur to the west. Due to the fairly wide highway right-of-way and the location of the equestrian center, the proposed urban uses are generally compatible with the nearby agricultural activities occurring on this farm and forest land.

There is a third 438 acre block of resource land zoned AF-20 located approximately ¼ mile south of the analysis area along SW Rein Road. This resource land area is approximately 100-feet higher in elevation and is separated by a number of rural residences. As this block of resource land is not directly adjacent to the analysis area, and there are a number of rural residences located on the slope between the two areas, the proposed urban uses would be compatible with nearby agricultural or forest activities occurring on this farm or forest land.

Overall, proposed urban uses in the Sherwood South analysis area would generally be compatible with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

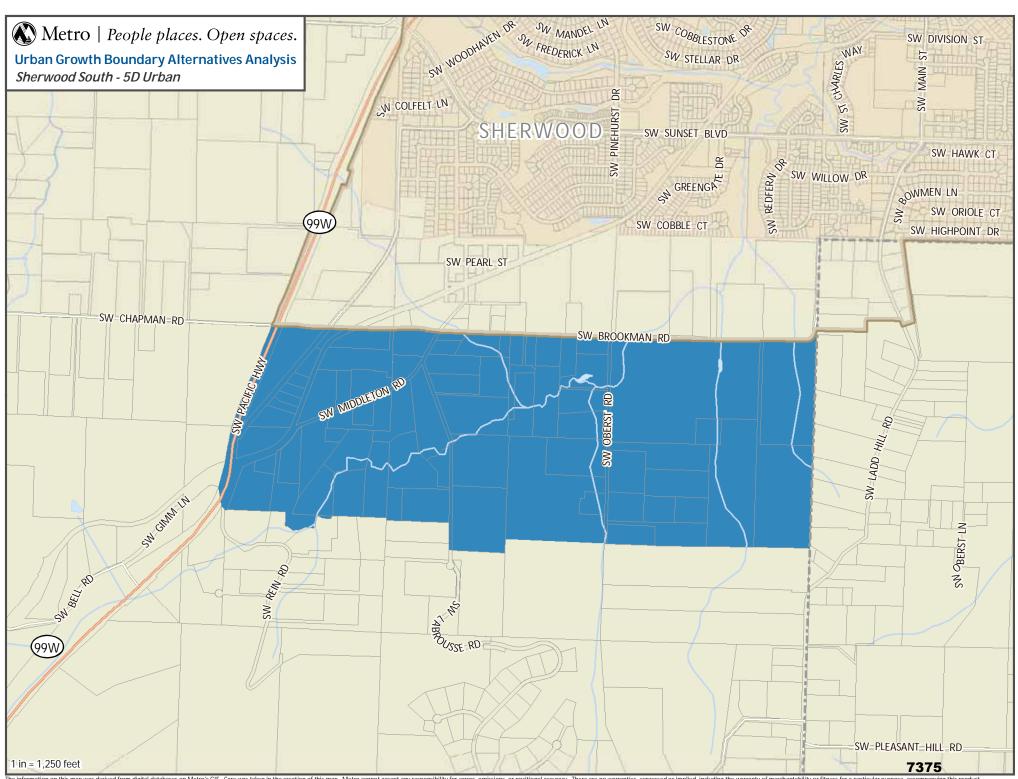
The UGB borders this analysis area on the north side. Along the short eastern edge of the area there is a change in elevation of around 100-feet up to SW Ladd Hill Road, resulting in a small natural feature that provides some transition area between the urban and rural lands. This strip of land includes rural residences on mostly forested lots and the headwaters of a small tributary to Cedar Creek that flows within the analysis area. Along the southern edge of the analysis area is a significant change in elevation of approximately 800-feet up to SW Parrett Mt. Road that provides a transition area between the urban and rural lands. There are a number of rural residences located in this area as well as a significant amount of private open space associated with Parrett Mountain View Estates. The combination of change in elevation and private open space provides a transition between urban and rural lands using a natural feature. Highway 99W provides a built feature transition area between urban and rural uses along the western edge of the urban reserve area. Therefore, there is a clear transition between urban and rural lands using both natural and built features.

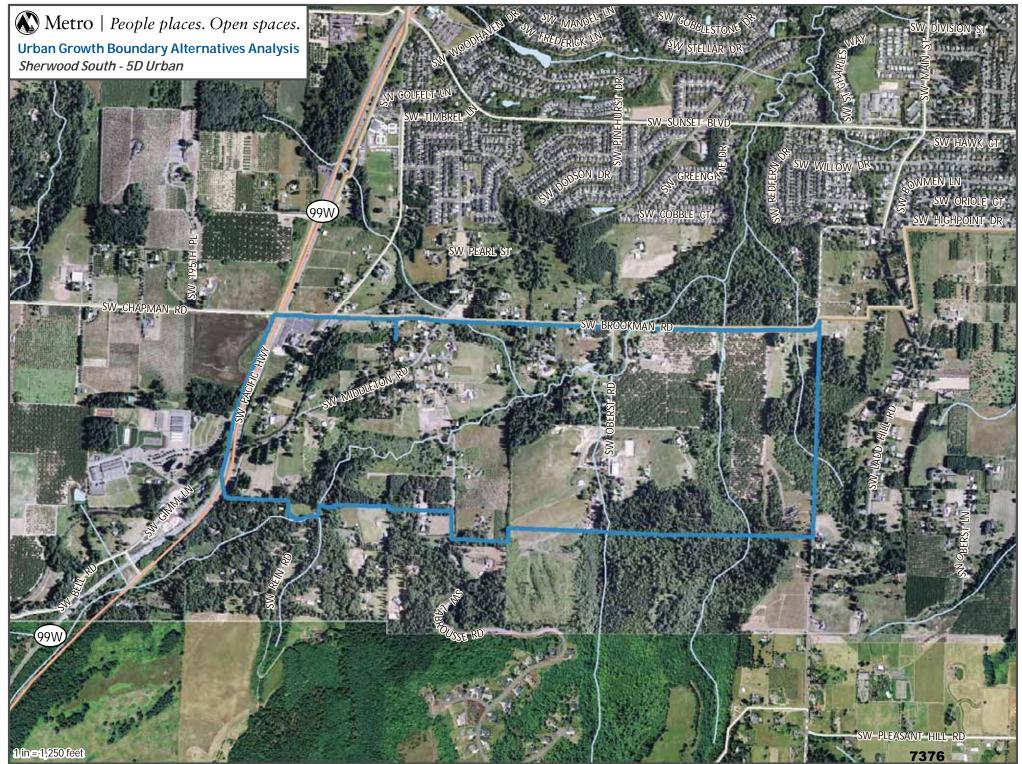
2040 Growth Concept

Contribution to the purposes of Centers

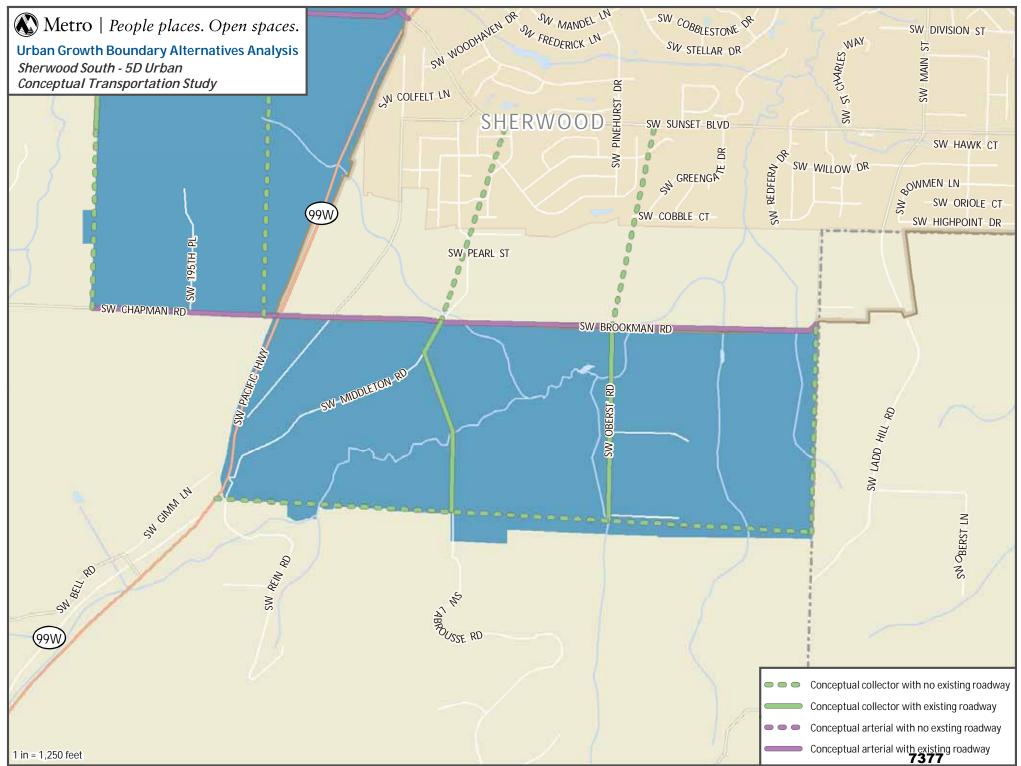
The Sherwood Town Center is the nearest center to the Sherwood South analysis area. It is a small town center of 88 acres, located to the north of the analysis area at the intersection of the SW Pacific Hwy (99W) and SW Tualatin-Sherwood Road. The center primarily serves the community of Sherwood and the surrounding rural area located in the southwest edge of the region. The analysis area is connected to the center via Highway 99W (approximately 1 mile) and there are currently no transit connections. Tri-Met does have two bus routes serving the Sherwood Town Center, lines 12 and 94.

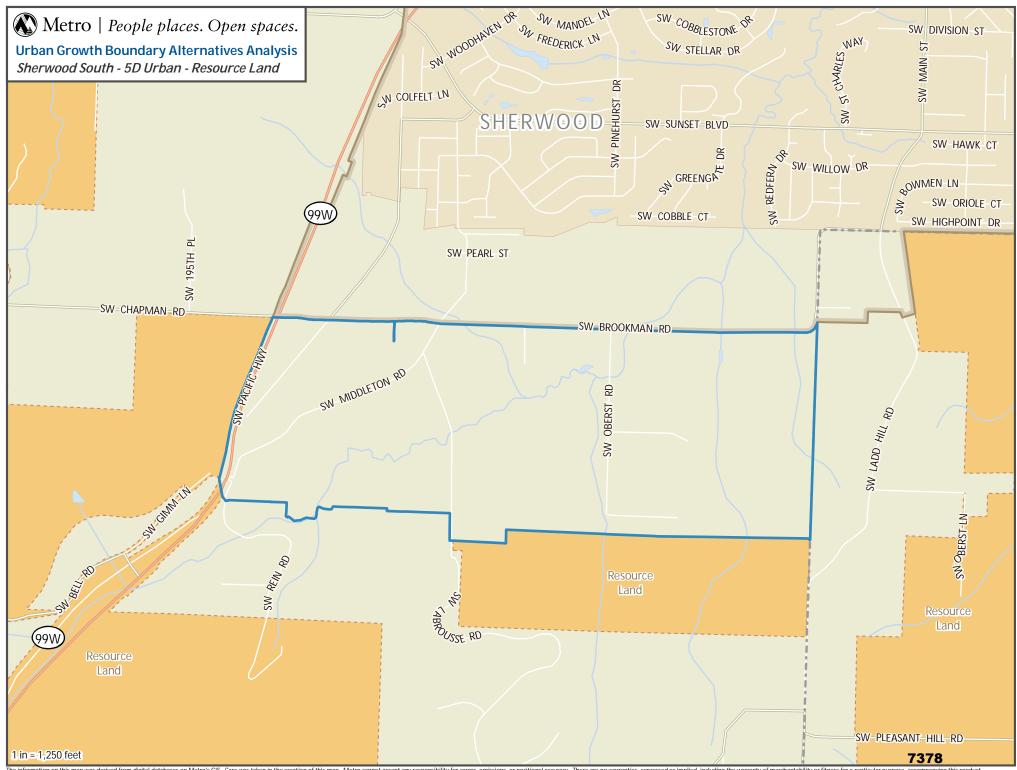
According to Metro's State of the Centers Report, January 2009, the Sherwood Town Center's jobs to housing ratio is higher than ideal and the total number of people per acre is low, indicating that there may be a need to attract and develop more housing within the center. The center also has a much lower than average number of dwellings per acre. Currently the City of Sherwood envisions the analysis area developing primarily as residential, with a limited amount of commercial use while preserving a large area of riparian habitat. Urbanization of the Sherwood South area is unlikely to support developing increased residential units or employment opportunities within the center and ultimately may impede the creation of a compact, walkable community the city desires for the town center by providing alternative housing options.





The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.





TONQUIN ANALYSIS AREA (5F)

Tonquin Analysis Area		Total Acres	120
Gross Vacant Buildable Acres	57	Total Constrained Acres	63
Estimated Dwelling Unit Capacity	0	Title 13 Significant Habitat	36
Estimated Employment Acres	46	Public Land	0

General Description (see attached map)

The Tonquin Analysis Area is a rectangular shaped area located to the southwest of Tualatin, in unincorporated Washington County, and consists of 120 total acres of land. The current UGB forms the north and east edges, and the west edge is formed by extending a line north from the intersection of SW Morgan Rd and SW Tonquin Road. The area is served primarily by SW Tonquin Road, but otherwise lacks major transportation connectors. This analysis area and much of the surrounding landscape is characterized by large quarries and other mineral extraction enterprises.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

This analysis area contains only 12 parcels within the study area boundary, half of which are more than five acres. The median parcel size is 7.5 acres. There are structural improvements built on five of the 12 parcels, with a median value of \$119,320. One of the larger parcels, on the south side of SW Tonquin Road, is owned by Tualatin Valley Fire & Rescue and houses their Regional Training Center. The remainder of the study area, to the north of SW Tonquin Road, is dominated by the Coffee Lake Quarry. Land uses in the area are designated as primarily industrial, commercial or vacant.

A small corner of a power line easement exists in the northeast corner, but only covers 1.4 acres. Available data do not suggest the existence of other public easements within this area.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services and medium suitability for water services and transportation connectivity. The City of Tualatin's Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city is interested in providing urban services to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential or large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation system is attached to this summary.

Sanitary Sewer Services - \$592,000 Water Distribution Services - \$630,000 Storm Sewer Services - \$476,500 Transportation Services - \$75,840,000

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

The Coffee Lake Creek stream corridor flows through the center of the area from north to south, although its actual path is obscured by the presence of the large rock quarry and widespread landscape modification. Wetlands cover 13.4 acres of the study area, however 5 of those acres lie within rock quarries and are subject to the same landscape modification that obscures the Coffee Lake Creek corridor. Steep slopes occur on 27 of the total 120 acres, again mainly as a result of the quarries. The large wetlands in that southeast corner are also within the 100-year flood plain, limiting the development potential there. Once a quarry is no-longer being actively mined, a reclamation plan must be implemented. As the majority of the environmental features identified are within the existing mining operation, it is difficult to assess the impacts urbanization may have on the resources prior to the reclamation plan being implemented, thus urbanization will have

minimal impact on the environmental resources in the area. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

The vast majority of this small area is currently being used as a quarry. The Tualatin Valley Fire & Rescue Training Facility encompasses the next largest site within the analysis area. There is one rural residence and the remaining parcel is constrained with natural resources. It is expected that the ultimate reuse of the quarry site will provide future industrial uses that will replace the quarry operation, thereby negating any economic loss from the quarry. The fire training facility is expected to continue operating. Urbanization will have minimal impact on the lone residence in the area, assuming that the expected reuse of the quarry will provide a less degraded environment. As the natural landscape is severely manipulated by the quarry operations, the required mitigation plan once the extraction operations cease will provide the opportunity to restore a critical habitat link. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

There is approximately 36 acres of identified regionally significant habitat, 33 acres of which are within riparian zones. The significant habitat is mostly concentrated in the undeveloped and undisturbed parcel in the southeast corner of the study area, 12.6 acres of which is also within the 100-year flood plain. The remainder of the identified habitat occurring along the Coffee Lake Creek is within the rock quarry and mineral extraction areas, and has already undergone significant disruption. The City of Tualatin, the expected governing body for this area, has adopted habitat protection measures in compliance with Metro's Title 13 program through the Tualatin Basin Natural Resource Coordinating Committee's protection program. Based on the edge location of the significant habitat areas that are outside the quarry operations and the fact that the quarry area will undergo a significant reclamation program prior to urbanization, it appears that urbanization in this area is unlikely to impact regionally significant fish and wildlife habitat, and may ultimately improve the habitat within the area.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

There is one block of resource land zoned Agriculture Forest 20 (AF-20) and Exclusive Forest and Conservation (EFC) zoned land directly west of the northern portion of the Tonquin analysis area that extends west to the City of Sherwood (see attached resource land map). The AF-20 zoned land totals 186-acres and is entirely owned by the Tualatin Valley Sportsmen Club. Of the remaining 221-acres zoned EFC, 58 acres are owned by the US Fish & Wildlife Service. There are two rural residences within the entire area and there appears to be no agricultural or forest activities occurring. Due to the fact there is no agricultural or forest activities occurring on the adjacent AF-20 and EFC zoned land, the proposed urban uses would be compatible with nearby agricultural or forest activities occurring on farm or forest land.

Clear transition between urban and rural lands, using natural and built features to mark the transition

The UGB borders this analysis area on the north and east sides and rural lands abut the western and southern edges. There are no natural or built features that mark a clear transition area between the proposed urban and rural lands. However, more than half of the west edge of the analysis area is bordered by the Tualatin Valley Sportsmen Club, which includes a firearms training facility that is used extensively by numerous law enforcement agencies. This facility encompasses 186 acres and a firearms training facility use is an allowed use in forest zones. The expectation is that the facility will continue to operate for the foreseeable future, thereby providing a buffer to the rural lands further west. Coffee Lake Creek and its associated floodplain also provide a transition area between urban and rural lands to the south. Therefore, there is a clear transition between urban and rural lands using both natural features and the existence of a specialized use.

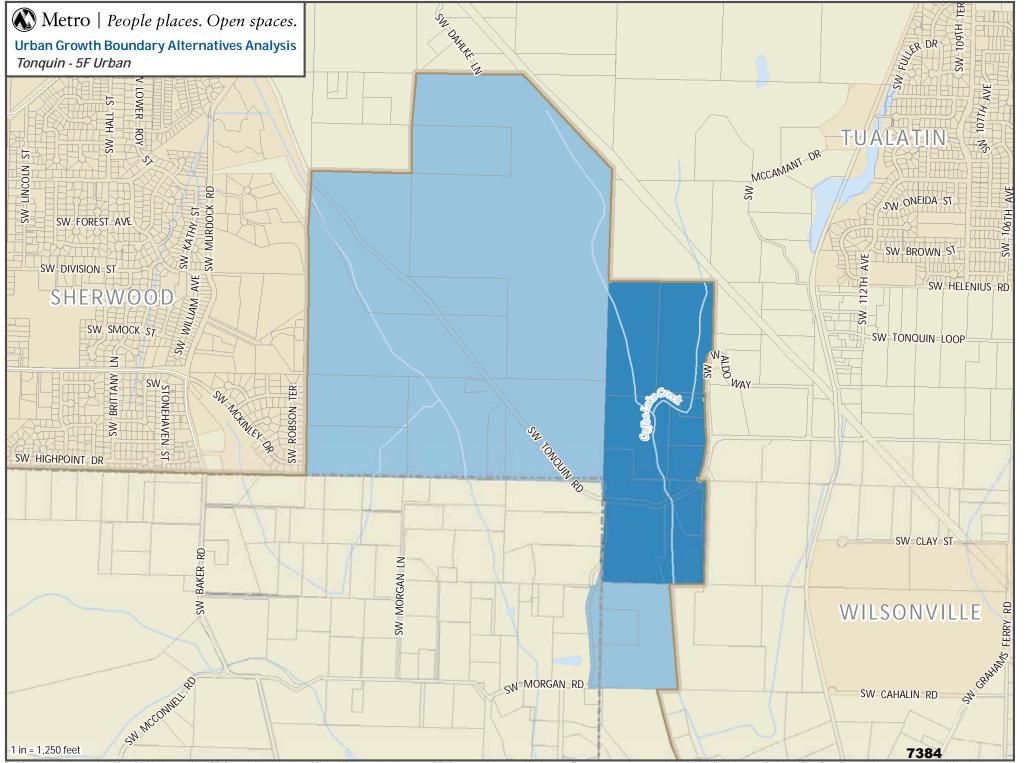
2040 Growth Concept

Contribution to the purposes of Centers

The Tualatin Town Center is the nearest center to the Tonquin analysis area. The Tualatin Town Center is approximately 325 acres in size, and primarily serves the surrounding residential and commercial areas in the City of Tualatin. The analysis area is connected to the town center via SW Tonquin Road, SW Grahams Ferry Road and SW Boones Ferry Road (3 miles). There is no Tri-Met service connecting the Tualatin Town Center and the Tonquin area directly. The WES Commuter Rail passes near the eastern border of the analysis area prior to stopping in the town center, although no station stops are near the analysis area.

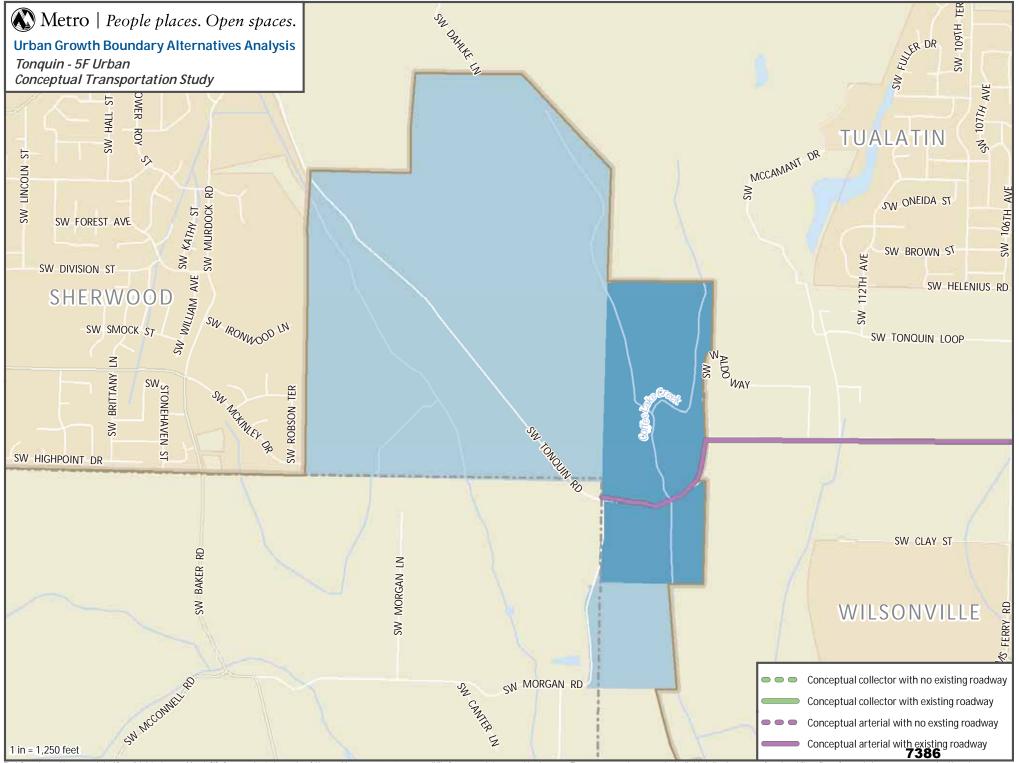
Tualatin's Town Center Plan, envisions a mixed use live, work and play center that integrates natural resources like the Tualatin River with civic, social, economic and cultural functions in a walkable community. According to Metro's State of the Centers Report, January 2009, the Tualatin Town Center has a lower than ideal number of people per acre and slightly below average number of dwellings per acre. The Tualatin center has an average jobs to housing ratio, but density is somewhat lower than average for both housing and businesses.

Pre-qualified concept planning by Tualatin indicates that the city foresees primarily industrial redevelopment for the analysis area (referred to as "Knife River"). Urbanization of the Tonquin analysis area will not support the vision or purpose of the Tualatin Town Center. The area's future as industrial uses combined with the distance from the town center will not contribute to creating a compact, pedestrian-oriented community within the Tualatin Town Center. The analysis area is of primary interest to the city for transportation connectivity, as it would serve to extend SW 124th Avenue to future east west arterial roads.

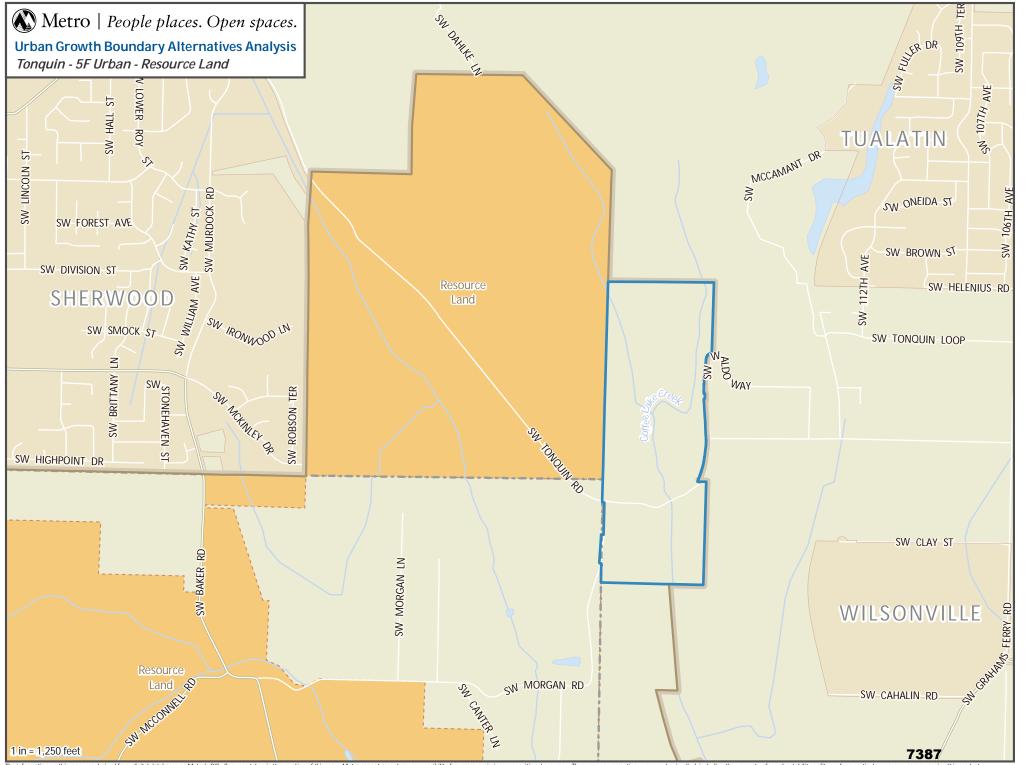




The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.



GRAHAMS FERRY ANALYSIS AREA (5G)

Grahams Ferry Analysis Area		Total Acres	203
Gross Vacant Buildable Acres	83	Total Constrained Acres	120
Estimated Dwelling Unit Capacity	1,094	Title 13 Significant Habitat	115
Estimated Employment Acres		Public Land	0

General Description (see attached map)

The Grahams Ferry Analysis Area is located to the west of Wilsonville, west of the Coffee Lake Wetlands natural area owned by Metro. The current UGB forms the eastern and southern edges. Access to the area includes SW Tooze Road, running along the south edge, and SW Grahams Ferry Road which forms the west edge. The area is flat, and is adjacent to significant natural features including the south end of the Tonquin Geologic Area.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

There are 24 parcels with this area, three-quarters of which are less than five acres in size. The median parcel size is 2.77 acres and approximately 170 of the 203 total acres are contained in the eight largest lots. Building improvements have been made on 19 of the 24 lots, with a median value of \$183,420 and four improvements are valued over \$250,000. There appears to be limited active farming or crop production. A small pocket of rural residences are clustered in the southwest corner of the analysis area, at the intersection of SW Tooze Road and SW Grahams Ferry Road.

Available data does not suggest the existence of power lines or public easements through this area. However, there is a large block of Metro-owned open space between the study area and the industrial uses to the east within the UGB.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, medium suitability for water services and medium suitability for transportation connectivity. As part of Clackamas County's urban and rural reserve designation process, the City of Wilsonville indicated that the area can be efficiently and cost-effectively provided with public facilities necessary to support urban development.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation system is attached to this summary.

Sanitary Sewer Services - \$3,188,000

Water Distribution Services - \$2,510,000

Storm Sewer Services - \$1,906,000

Transportation Services - \$127,780,000

Parks - \$15,360,000

Schools - \$300,000 (Increased maintenance costs, no new schools)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Coffee Lake Creek runs through the east side of the study area, and including other small unnamed tributaries totals 1.5 miles of stream corridor. A small irrigation channel runs north-south through the southeast corner of the analysis area. There are two ponds along this channel, one along the forested area along Coffee Lake Creek, and the other just south of the analysis area, along SW Boeckman Road. The Coffee Lake Wetlands natural area is along the eastern edge of the study area, and forms a large continuous area with the habitat surrounding Coffee Lake Creek.

Slopes are generally mild, with only a half acre over 25%, even within the riparian areas. A large 100-year flood plain cuts across the northeast portion of the analysis area, and extends throughout the Coffee Lake Wetlands area to the east. A portion of this flood plain area appears to be active farmland, and the rest is forested. Based on this analysis, urbanization throughout most of the area would have minimal environmental impacts. In the eastern portion that includes forest and wetland features, the 100-year flood plain will limit development opportunities, precluding the impact of urbanizing the area. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This small area, composed of 24 parcels is a mixture of limited agricultural activities and rural residences. Seventy-nine percent of the parcels have improvements and 66% of the parcels are less than five acres in size. Directly to the south is the Villebois area that is currently being developed to urban standards. Once the development of this area is completed, the loss of the rural lifestyle for the current residents of the analysis area may be less, as they will be closer to urban amenities. There is one 60-acre parcel and two other parcels in the same ownership that total more than 50 acres; however significant portions of these large areas are constrained by riparian habitat limiting developable acreage. The limited agricultural activity reduces the potential negative economic impacts of a lost farming economy and would be offset by the potential economic impact of urban development. The costs for protecting the significant habitat areas will be considerable in contrast to the potential economic impact of urbanizing the remaining land, although most of the habitat is at the edge, adjacent to other habitat patches that would reduce the overall cost impact of protection. Overall, this analysis area has medium economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

Regionally significant riparian habitat areas exist along the Coffee Lake Creek corridor, with 44.5 acres of wetland, 37 acres of floodplain, and a majority of the area's 83 acres identified as riparian habitat found in this location. Total regionally significant habitat in the study area includes an additional 32 acres of upland habitat, primarily connected with riparian habitat along the small stream corridor in the southwest corner of the analysis area, including a small pocket of forested land along SW Grahams Ferry Road. The Grahams Ferry Analysis Area is also adjacent to a large 200 acre block of natural area to the east, part of the Coffee Lake Wetlands land owned by Metro, and lies partially within the Tonquin Geologic Feature in the north and east portions of the analysis area.

The City of Wilsonville, the expected governing body, has adopted a habitat protection program that is in substantial compliance with Metro's Title 13 Nature in Neighborhoods regulations. This protection program, along with the limited development potential within the 100-year flood plain, creates a buffer that can minimize the impacts future urbanization will have on regionally significant fish and wildlife habitat in the area. The habitat in the southwest portion of the area is at a higher risk from urbanization due to its isolation, but is currently covered by active agriculture and rural residential developments that have removed much of the critical habitat. Redevelopment of this area will provide the opportunity to restore the habitat that is impacted. Overall, future urbanization will impact some of the regionally significant habitat within the analysis area.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

There is a 178-acre block of exclusive farm use (EFU) zoned land directly adjacent to the north edge of the Grahams Ferry analysis area that extends both east and west of SW Grahams Ferry Road (see attached resource land map). The resource land to the west of SW Grahams Ferry Road is forested with no agricultural activities and two of the four parcels contain rural residences. The resource land to the east of SW Grahams Ferry Road includes one parcel with minimal agricultural activities, two rural residences and an open space parcel owned by Metro. Coffee Lake Creek flows south through this area on its way to the Willamette River. Due to the very limited agricultural activities that are occurring on the adjacent EFU zoned land, the proposed urban uses would be compatible with nearby agricultural activities occurring on farm land.

One would expect that most of the additional traffic generated by urbanization of this analysis area would be directed into the City of Wilsonville to the east, thereby causing a minimal impact on the more intense level of agricultural activities occurring on EFU zoned land in the vicinity of SW Baker and SW Tooze Roads.

Clear transition between urban and rural lands, using natural and built features to mark the transition

Coffee Lake Creek, its associated floodplain and nearby forested areas provide a transition between the analysis area and the rural lands to the north and northwest. There are no natural or built features that provide a transition area for the rural residences to the west. Even assuming SW Grahams Ferry Road is built to a collector level roadway, the road itself will not provide the needed transition area between urban and rural lands. Additional buffers will need to be incorporated into the planning of the analysis area to provide a clear transition from urban to rural uses along this western edge. The remaining edges of the analysis area connect to the UGB. Overall, there is a transition area for approximately half of the Grahams Ferry analysis area edge.

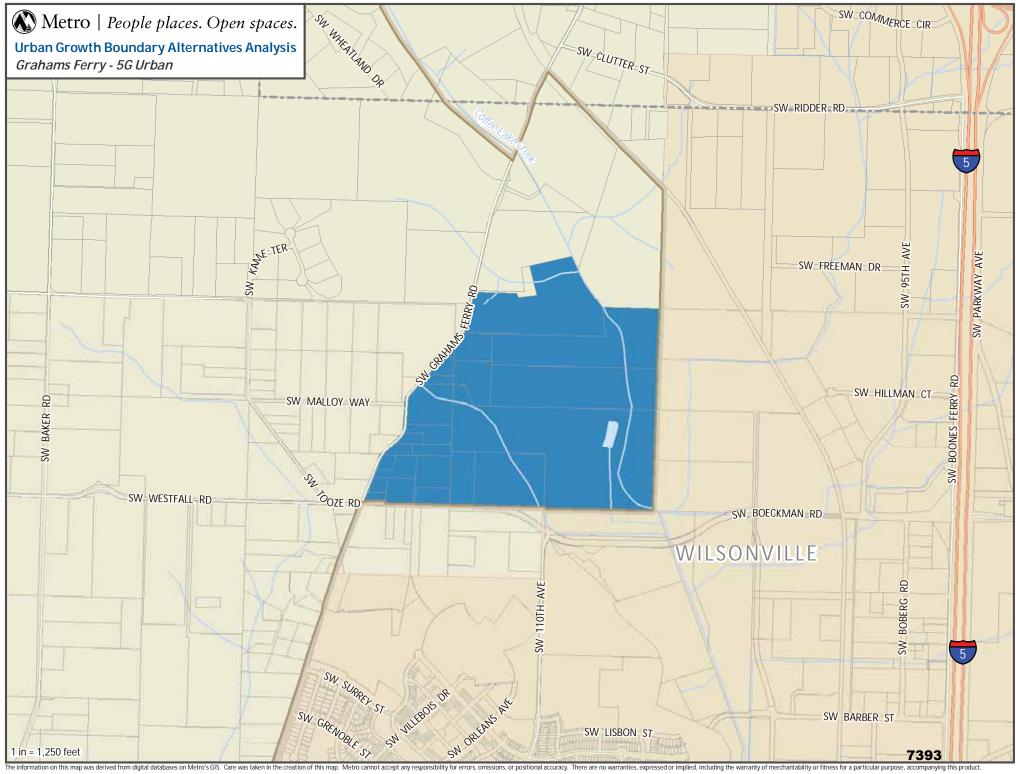
2040 Growth Concept

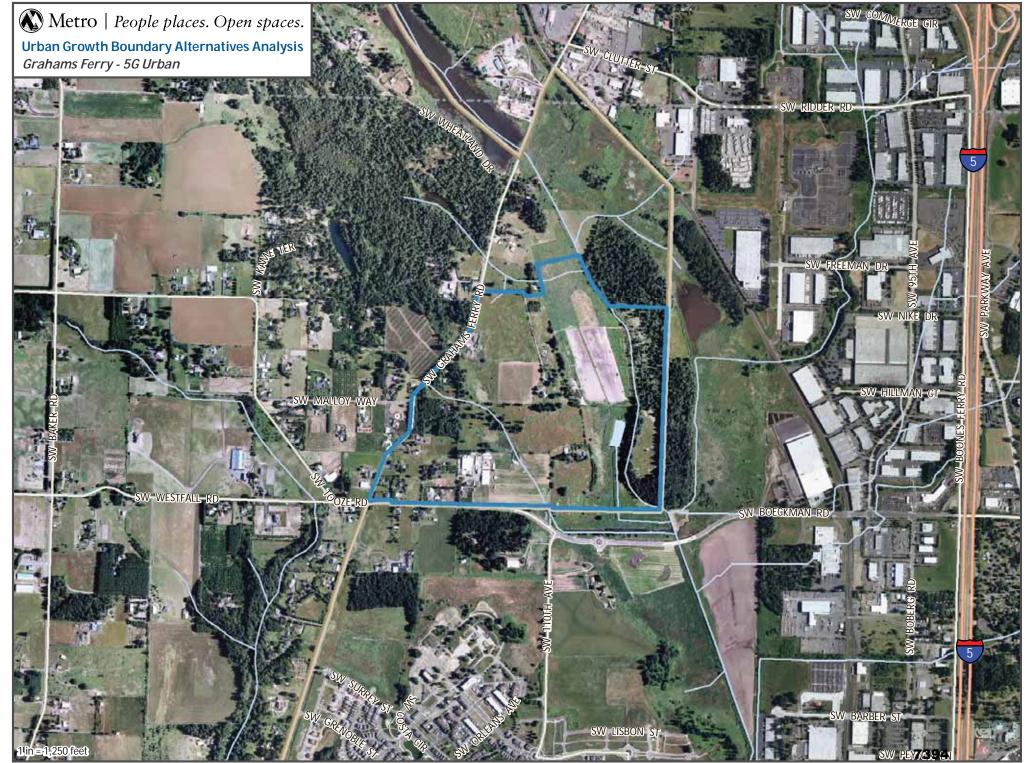
Contribution to the purposes of Centers

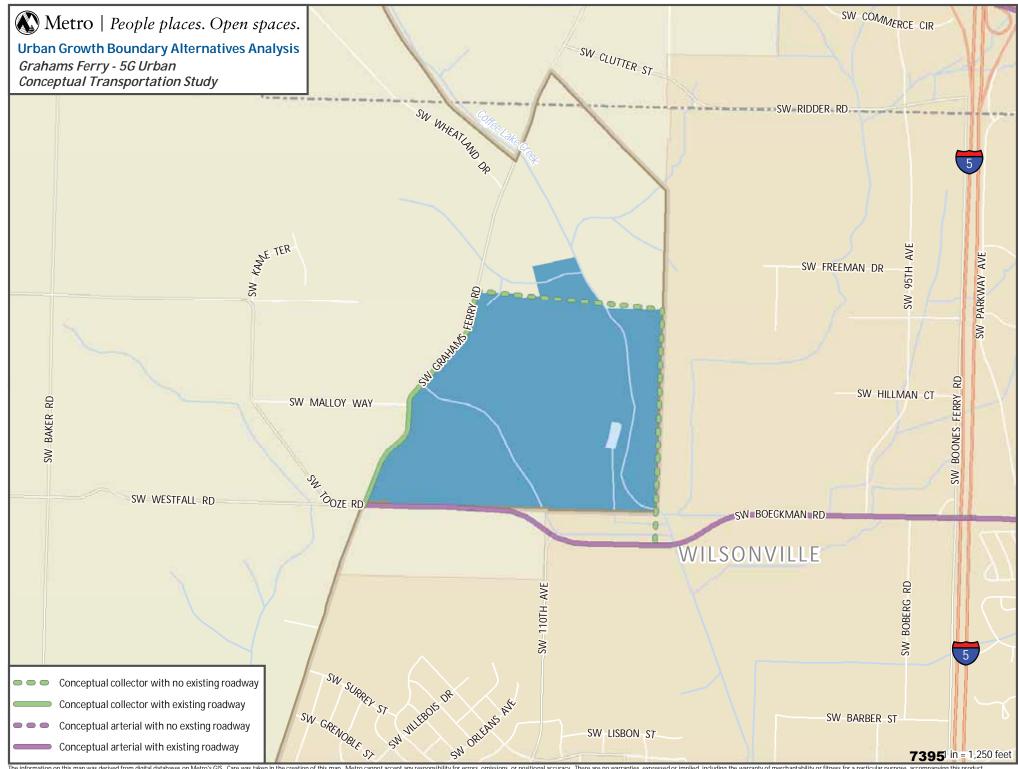
The Wilsonville Town Center is the nearest center, located to the southeast of the Grahams Ferry analysis area. Wilsonville's center is 166 acres in size, and serves primarily the City of Wilsonville in this southern-most extent of the region. The town center is only indirectly linked to the analysis area by a series of arterial roads (1.5 miles). No Tri-Met services currently connect the analysis area to Wilsonville's Town Center, nor does SMART, the City of Wilsonville's bus service. The WES Commuter Rail's southern terminus stop is approximately half way between the center and analysis area.

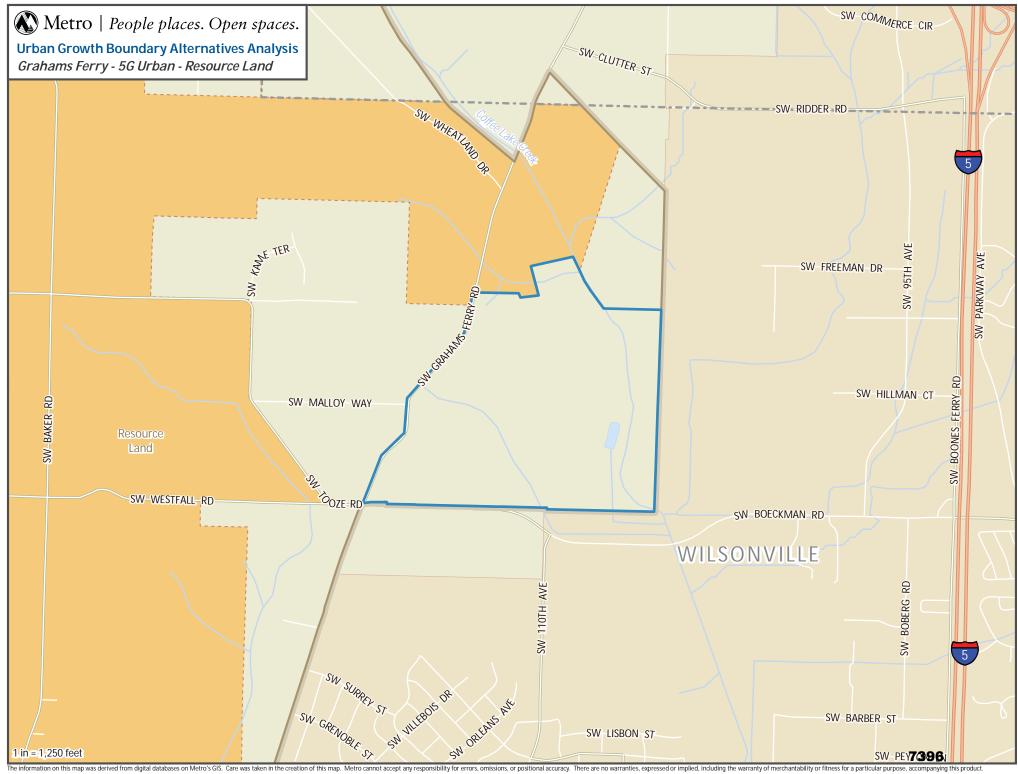
Wilsonville's Town Center is envisioned to be a dense, mixed used community that creates a walkable, pedestrian-oriented environment. The town center is located a short distance from the terminus of the WES Commuter Rail line. Metro's State of the Centers Report shows a higher than average jobs to housing ratio, fewer people and dwellings per acre than desired, and needing more infill and redevelopment to boost urban densities.

The Grahams Ferry analysis area was identified by Wilsonville's 20 Year Look process as a site for long-term future urbanization, and expected to provide primarily industrial land to build on development within the Coffee Creek industrial area. Urbanization of the analysis area is unlikely to contribute to the purpose and vision of the Wilsonville Town Center due to its distance from the center and its potential industrial use. Although the added industrial development here could provide jobs for the area, the Grahams Ferry analysis area is too distant and disconnected to support the town center. There is currently a block of additional undeveloped land zoned for industrial use adjacent to the east of the analysis area, within the current UGB.









SOUTH HILLSBORO ANALYSIS AREA (6A)

Hillsboro South Analysis Area		Total Acres	1,063
Gross Vacant Buildable Acres	878	Total Constrained Acres	184
Estimated Dwelling Unit Capacity	10,172	Title 13 Significant Habitat	132
Estimated Employment Acres		Public Land	0

General Description (see attached map)

The South Hillsboro Analysis Area, a portion of the larger South Hillsboro Urban Reserve, is a large irregular shaped area totaling 1,063 acres south of the Tualatin Valley Highway. The area is bounded by the UGB to the east and north, SW 229th Avenue to the west and SW Rosedale Road to the south. South Hillsboro is primarily served by the Tualatin Valley Highway, SW 209th Avenue, SW 229th Avenue and SW Rosedale Road. The Reserve Vineyard and Golf Course is directly west of the analysis area, west of SW 229th Avenue.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

The South Hillsboro area contains a total of 49 tax lots with a median size of five acres. The largest lot is 203 acres, and the three largest parcels cover just over half of the total study area. Improvements are recorded on 35 of the 49 parcels, with a median value of \$104,260, and four parcels have an improvement value over \$250,000. The northeast portion of the area, which is almost completely surrounded by the current UGB, has two parcels that total almost 480 acres with no improvements. Within the rest of the area 23 parcels are less than five acres primarily in two clusters, one in the center of the area along SW 229th Avenue and the other in the south along SW Rosedale Road. Land use is almost exclusively agriculture, although some of the land is not utilized due to wetland/stream corridor locations. Agricultural activities include field crops, orchards and nursery stock.

A power line easement runs north-south through the area, covering 45 acres. There is no evidence of other public easements within the analysis area.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, water services and transportation connectivity. The City of Hillsboro's Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city has the ability and willingness to provide urban services to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$24,552,000

Water Distribution Services - \$5,230,000

Storm Sewer Services - \$4,357,500

Transportation Services (public & private) - \$329,340,000

The South Hillsboro area has undergone numerous planning studies over the years, culminating in the development of the South Hillsboro Community Plan. The overview of the community plan, Spring 2010, identifies the "public" portion of the funding for the transportation plan as \$95,088,200. This includes only those improvements deemed to be "public", meaning those that serve a larger area for which developers will be entitled to a proportionate credit if they build the improvement or any portion of it. For more information on the South Hillsboro Community Plan efforts see http://www.ci.hillsboro.or.us/Planning/South_Hillsboro.aspx?g1dd=8&g2dd=5

Parks - \$59,840,000

Schools - \$70,000,000 (New Elementary and Middle Schools)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Butternut Creek flows through the center of the area, from the east, and enters the Tualatin River just over a mile to the west of the study area. Three other small streams cross through the area, Gordon Creek in the north, a small tributary drainage of Butternut Creek, and a third stream at the southern edge of the area. Gordon Creek has almost no riparian corridor and it exists primarily as a drainage way through the cultivated farm land. The tributary to Butternut Creek includes some significant riparian corridor areas as does the third unnamed stream that flows across the southern edge of the area.

Wetlands cover 36 acres, concentrated around the various stream corridors, with the largest block along Butternut Creek in the middle of the study area. The same stretch of Butternut Creek also has a small area of 100-year flood plain, extending between 50-150 feet along either side of the stream. The creek along the southern edge of the analysis area and the early stages of Gordon Creek in the northwest corner of the area also have small flood plains, although Gordon Creek is completely under cropland at this stage of its length. There are 37 total acres in the area that fall within the 100-year flood plain.

Slopes are mild, as the area is generally flat. Only 2.6 acres have slopes over 25%. Although developable land coincides with many of the environmental features in the analysis area, those features are largely within actively farmed agricultural land. With the exception of the riparian areas surrounding Butternut Creek and the two smaller creeks to the south, urbanization would have little impact on current environmental resources in the area. For those streams not under agricultural development, protection of the riparian and upland habitat would minimize the environmental impacts of future urbanization of the area. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This large analysis area is divided into 49 parcels with 53% of the parcels greater than five acres in size. Seventy-one percent of the parcels contain improvements and there are four very large parcels that total 635 acres that contain no improvements. Agricultural activities dominate significant portions of the area with pockets of rural residences along SW 229th Avenue and SW Murphy Lane. Urbanization will negatively impact the current residents who are located further away from the UGB through the loss of the rural lifestyle, especially for those residences that are not associated with the large parcels and will realize less of a positive economic impact. However the Reserve Vineyard and Golf Course, which is directly west of the analysis area, represents more of an urban use and thus already impacts some of the residents. The loss of the economic impact from these significant agricultural uses may be considerable; however the potential economic impact of urbanization on these large flat parcels will reduce or outweigh this loss. Only the agricultural activities in the southern portion of the analysis area are connected to the agricultural

activities to the south, thus reducing any impact on the greater farming community. Approximately 11% of the land is identified as containing environmental resources, mainly in three locations along the 3.3 miles of stream corridors that flow east to west through the area. The costs for protecting these linear resources will be small in contrast to the potential economic impact of urbanizing the larger areas in between. Additional VMT will be generated through urbanization of this large area as the average commute distance for this area is greater than the existing average commute distance for the region. Overall this analysis area has high economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

There are 115 acres of identified regionally significant riparian habitat, and an additional 17 acres of significant upland habitat along the 3.25 miles of streams. However, almost the entire riparian habitat area along Gordon Creek in the north and some surrounding the small tributary along the southern edge of the analysis area are currently impacted by active cultivation. The most significant habitat appears to occur around Butternut Creek, cutting through the center of the analysis area, and along the small tributary just to its south.

There are limited natural buffers present to protect the identified regionally significant fish and wildlife habitat in this area. The existing habitat that has not been cleared for agriculture is on relatively flat, easily developable land, and could be threatened by future urbanization. The City of Hillsboro, the expected governing body, has adopted habitat protection measures that are in compliance with Metro's Title 13 requirements as part of the Tualatin Basin Natural Resource Coordinating Committee's protection program. Based on habitat location and Hillsboro's protection programs that will provide protection for the stream segments that currently have no buffers, future urbanization could be accommodated throughout the majority of this area with minimal additional impact to regionally significant fish and wildlife habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The UGB borders the Hillsboro South analysis area on the north, east and a portion of the south boundary. Resource land zoned exclusive farm use (EFU) borders the west and south edges of this urban reserve analysis area, with the exception of a very small amount of agriculture forest 20 (AF-

20) zoned lands south of SW Rosedale Road (see attached resource land map). This extensive block of farm land extends for a number of miles to the west and south of the analysis areas. There is a 77-acre island of non-farm land on the west side of SW River Road in the vicinity of SW Rosa Road. The Reserve Vineyards & Golf Club borders the northern portion of the western edge of the analysis area. Adjacent to the golf course are forested parcels with rural residences and some agricultural activities, mainly to the north in the vicinity of Gordon Creek. The west side of SW River Road contains rural residences that front on to the Tualatin River. Southwest of the golf course is a mixture of rural residences along SW Rosa Road and SW River Road, forested parcels along Butternut Creek and a tributary to Butternut Creek and limited agricultural activities. The proposed urban uses for the Hillsboro South analysis area would be compatible with these areas as there is a very limited agricultural activity occurring on the nearby farm land, and those activities that do occur are buffered by the golf course or the two riparian corridors.

The main location of agricultural activities near the analysis area occurs south of the tributary to Butternut Creek to an unnamed stream south of SW Rosedale Road and includes nursery, orchard, and field crops. There is no buffer between these agricultural activities and the analysis area. In addition, any increased traffic along SW Rosedale Road due to new urban uses may also impact the agricultural activities in this area. Therefore the proposed urban uses would not be compatible with the agricultural activities that occur in this area near SW Rosedale Road. However mitigation measures could reduce conflicts between urban uses inside the UGB and resource uses outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

The Reserve Vineyards & Golf Course, Butternut Creek and a tributary to Butternut Creek provide a clear transition area between urban and rural lands for more than half of the analysis area. South of the tributary to Butternut Creek, south of SW Rosedale Road there is no natural or built feature to mark a transition between urban and rural lands. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area to provide a clear transition from urban to rural uses. The rural lands between SW Rosedale Road and the tributary to Butternut Creek are part of the larger Hillsboro South urban reserve area and may be included in the UGB in the future. Thus, any buffers that are incorporated into the planning study for this analysis area should consider the potential for connecting these two areas in the future.

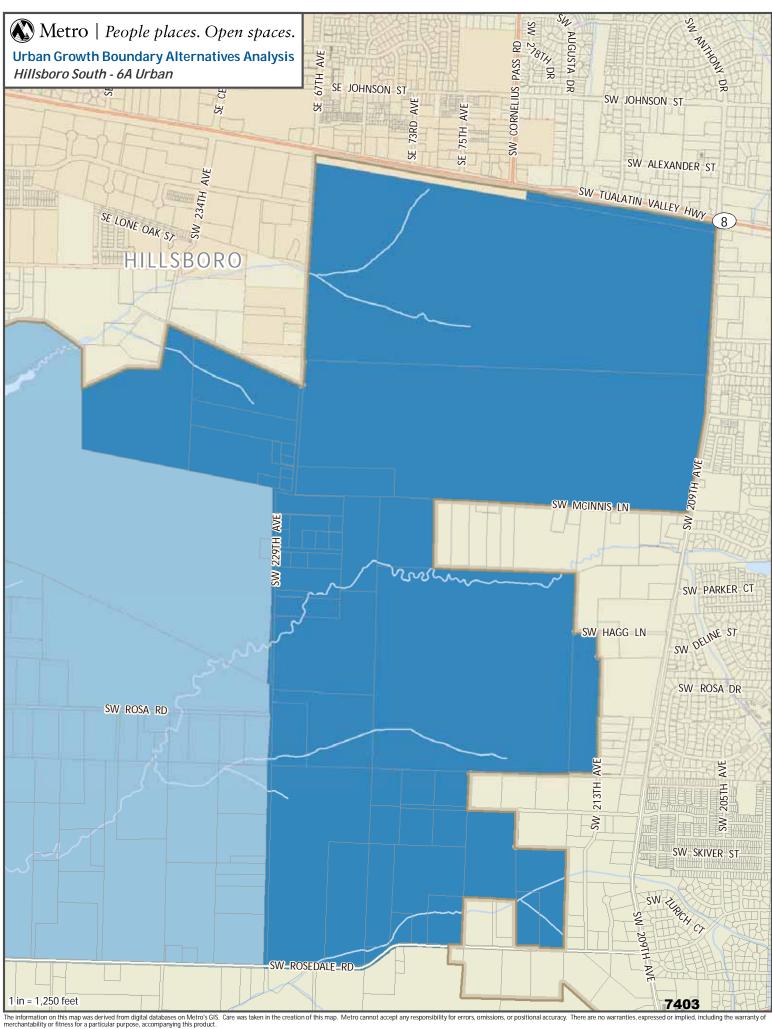
2040 Growth Concept

Contribution to the purposes of Centers

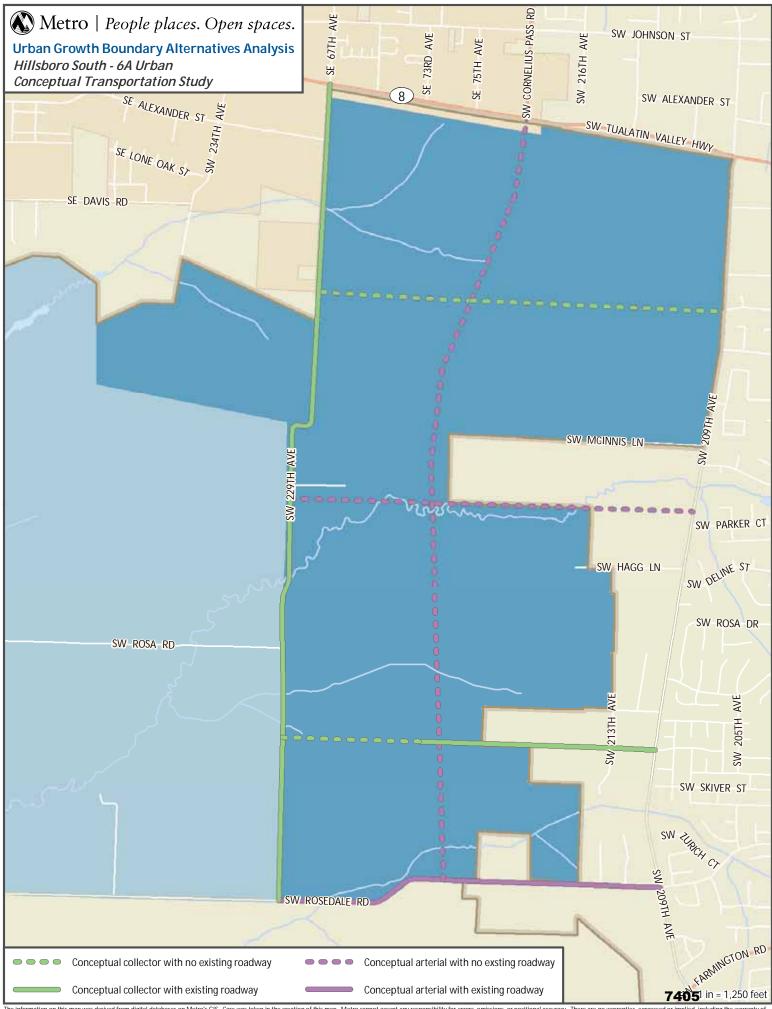
The Aloha Town Center is the closest 2040 designated center to the South Hillsboro analysis area. It is one of the largest town centers, at 405 acres in size, and primarily serves the local unincorporated community. The Aloha Town Center connects to the South Hillsboro area by the Tualatin Valley Highway (1.2 miles) and Tri-Met line 57 establishes a transit connection between

the two areas. The Hillsboro Regional Center is approximately 4 miles west of the analysis area and is also connected by the Tualatin Valley Highway and Tri-Met line 57.

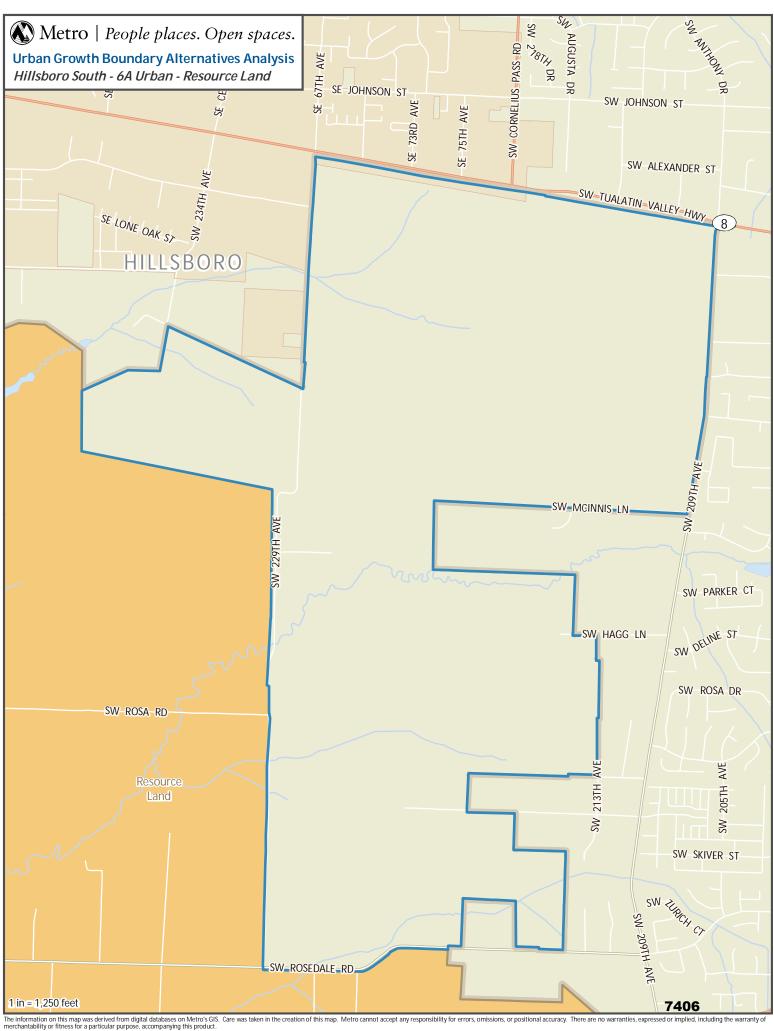
According to Metro's State of the Centers Report, January 2009, the Aloha Town Center currently has some mixed retail providing services to the surrounding community, but overall has one of the lowest jobs to housing ratios in the region. This center located in unincorporated Washington County lacks an overall vision or plan for future development. Urbanization of South Hillsboro will not contribute to balancing the jobs to housing ratio, or promoting walkability and a compact urban form desired of centers, as any commercial or residential development in the analysis area will detract from development within the Aloha Town Center due to the relatively close proximity of the two areas. The Hillsboro Regional Center, the historic downtown for the city, is located quite some distance from the analysis area and would not be affected by new development in the analysis area. Finally, the City of Hillsboro, has envisioned a new town center in the northern portion of the analysis area, supported by an urban pattern of a compact neighborhood and single-family residential development. A new town center in the analysis area would not support the purpose or vision of the nearby Aloha Town Center, but could conceivably develop into a new center to serve the surrounding community.







The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty o merchantability or fitness for a particular purpose, accompanying this product.



ROY ROGERS WEST ANALYSIS AREA (6C)

Roy Rogers West Analysis Area		Total Acres	256
Gross Vacant Buildable Acres	206	Total Constrained Acres	50
Estimated Dwelling Unit Capacity	2,424	Title 13 Significant Habitat	43
Estimated Employment Acres		Public Land	0

General Description (see attached map)

The Roy Rogers West Analysis Area is L-shaped, and located at the intersection of SW Roy Rogers Road and SW Beef Bend Road, which form the west and south boundaries, respectively. Metro's current UGB forms the north and east edges. It has a total of 256 acres, sits at the base of Bull Mountain and is generally flat. The area is primarily served by SW Roy Rogers Road and SW Beef Bend Road, and is west of King City. The Tualatin River lies a short distance to the west and south.

Parcelization, Building Values, Development Pattern (see attached aerial photograph)

A total of 18 parcels are contained within the analysis area. The largest parcel is approximately 40 acres, the median size of tax lots is 13.5 acres and five of the 18 parcels within the area are less than five acres. All but two parcels have improvements, with a median value of \$182,600, and five parcels have a value over \$250,000. The area is primarily rural residential, with some agricultural activities occurring on a few parcels and several are forested. Adjacent to the north is the West Bull Mountain planning area that was added to the UGB in 2002. The Tualatin River National Wildlife Refuge provides an edge for development to the south and southwest of the analysis area.

Available data does not suggest the existence of power lines or other public easements through this area.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location

had medium suitability for sanitary sewer services and high suitability for water services and transportation connectivity. As part of the Washington County urban and rural reserve designation process, the City of Tigard submitted information that indicates the city has the ability and willingness to provide urban services to this area in the long term, noting that there are annexation issues that will need to be resolved.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$9,570,000 Water Distribution Services - \$4,670,000 Storm Sewer Services - \$4,224,500 Transportation Services - \$93,820,000 Parks - \$13,680,000 Schools - \$20,000,000 (New Elementary School)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

There is no indication of the presence of wetlands or flood plains within the analysis area, although there is approximately ³/₄ of a mile of small unnamed tributaries flowing across the area that ultimately reach the Tualatin River. The area does have some forested land, primarily along the riparian corridors and in two other clusters in the western half of the area. The Tualatin River National Wildlife Refuge lies to the south and southwest along the Tualatin River, but is outside of the analysis area and should not be significantly impacted by urban development within the analysis area. The very limited stream corridors and forested areas would not be significantly impacted by urbanization due to their limited size and being located in four small pockets of land, the amount of buildable land between the natural areas to allow for development. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & social

This small sized area, with 72% of the parcels larger than five acres in size, is a mixture of agricultural activities and rural residences on larger parcels. All but two of the 18 parcels have improvements. Urbanization will impact the rural lifestyle for current residents as the median size of the parcels is 13.5 acres, which represents large rural home sites. Directly to the north is the West Bull Mt. area that was brought into the UGB in 2002, but is currently undeveloped. Once this area is developed to urban levels, the loss of the rural lifestyle for the current residents of the analysis area may be less, as they will be closer to urban amenities. In addition, the combination of this area with the West Bull Mt. area provides opportunities to knit the two areas into one urban community and develop efficiencies in infrastructure financing and delivery of services. There are a few significant locations of agricultural activities dispersed within the rural residences. The potential economic impact of urbanizing this area adjacent to two well-traveled roadways will outweigh the loss of the economic impact from these agricultural uses. Approximately 21% of the land is identified as containing riparian habitat dispersed in four pockets throughout the analysis area. The costs for protecting these isolated resources will be small in contrast to the potential economic impact of urbanizing the larger areas in between. The additional VMT generated through urbanization of this small area will be minimal as the average commute distance is similar to the existing commute distance for the region. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

Regionally significant riparian habitat is identified on 24 acres along the three small stream segments, and another 19 acres of regionally significant upland habitat is located within two forested areas, one centrally located and the other in the northern segment of the analysis area. A portion of the identified habitat in the analysis area appears to be currently in agricultural use. The Tualatin River National Wildlife Refuge has a scattering of land to the south and southwest of this area, including a large tract of land directly diagonal across the intersection of SW Roy Rogers Road and SW Beef Bend Road. The City of Tigard, the expected governing body for this area, has adopted habitat protection measures in compliance with Metro's Title 13 program through the Tualatin Basin Natural Resource Coordinating Committee's protection program. Based on the location of the limited amounts of regionally significant habitat and the expected protection measures that will be in place prior to urbanization, this area could be urbanized with minimal impacts on regionally significant fish and wildlife habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves.

Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

Resource land zoned exclusive farm use (EFU) borders the entire Roy Rogers West analysis area (see attached resource land map). This extensive block of farm land extends beyond the Tualatin River to the west and south. The farm land to the west and south of SW Roy Rogers Road and SW Beef Bend Road is actively farmed with nursery, field and row crops. A retail nursery operation is located on SW Roy Rogers Road, just south of the analysis area and both roads are currently heavily traveled. Any additional traffic on these two roads as a result of urbanization of the analysis area may further impact the ability to move farm equipment and goods. SW Roy Rogers Road and SW Beef Bend Road do provide an edge to the analysis area; however the roads alone would not make the proposed urban uses compatible with the adjacent agricultural activities occurring on farm land. Mitigation measures could reduce conflicts between urban uses inside the UGB and resource uses outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

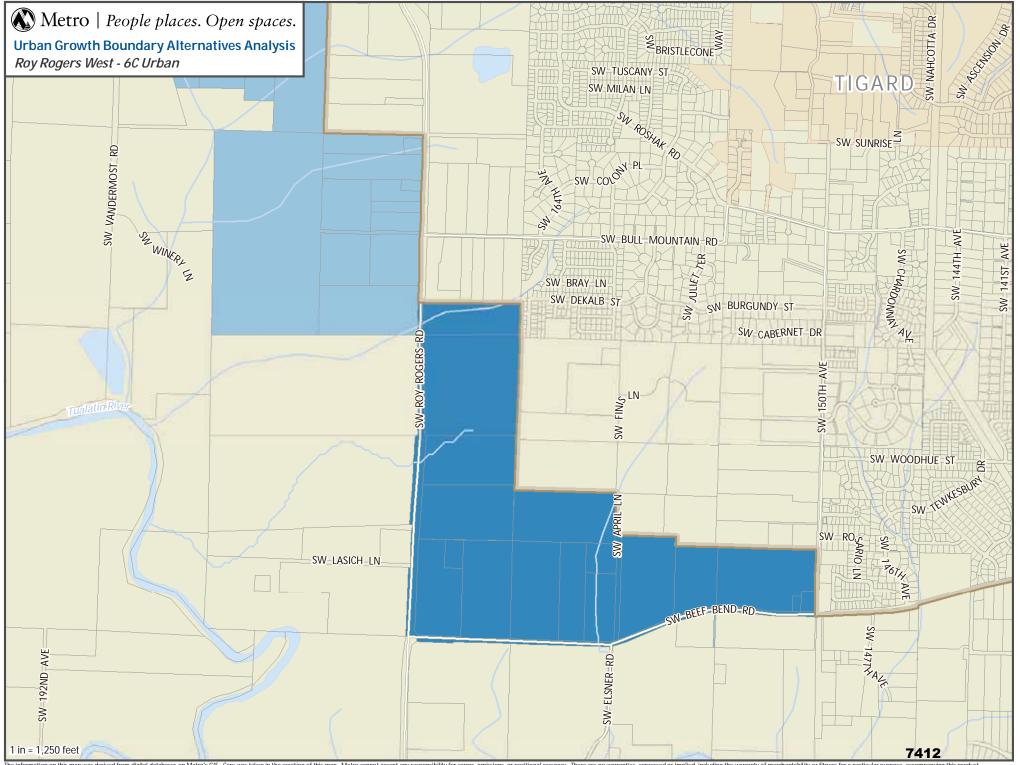
There are no natural or built features to mark the transition between urban and rural lands. Even assuming SW Roy Rogers Road and SW Beef Bend Road develop as arterial roadways in the future, the roads themselves will not provide a clear transition area between future urban and rural uses, especially given the level of traffic that may occur. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area to provide a clear transition from urban to rural uses. The rural lands south of SW Beef Bend Road are within the Beef Bend South Urban Reserve Area (Area 6D) and may be included in the UGB in the future. Thus, any buffers that are incorporated into the planning study for this analysis area should consider the potential for connecting these two areas in the future.

2040 Growth Concept

Contribution to the purposes of Centers

There are two 2040 designated centers that are in proximity to the Roy Rogers West analysis area, the Murray/Scholls Town Center and King City Town Center. Of the two, the King City Town Center is slightly closer and more directly connected to the analysis area via SW Beef Bend Road (1.5 miles). It is a 77 acre center that has the highest median age, 60, reflecting its origins as a retirement community. The Murray/Scholls Town Center is a little larger, at 123 acres, and is primarily a higher density residential center. The Murray/Scholls Town Center is linked to the Roy Rogers West analysis area by SW Roy Rogers Road/SW Scholls Ferry Road (2.5 miles). No transit lines connect the analysis area to either town center. The Sherwood Town Center is only slightly farther than the Murray/Scholls Town Center, and is accessible via SW Roy Rogers Road.

In pre-qualified concept planning, the City of Tigard identified the Roy Rogers West analysis area as a potential future development site, providing a location for additional residential development with a mix of local services and other small-scale employment opportunities. Urbanization of this area will not support the creation of compact, pedestrian-oriented communities in either of the two town centers, due mainly to the distance between the analysis area and the centers. Both King City and Murray/Scholls Town Centers already have low or average jobs to housing ratios, and additional residential units in the analysis area could have a negative impact on creating a more balanced ratio in the town centers. Employment development is not envisioned to be significant enough to support either center as well. It is also unlikely, given the small size of the analysis area that a new center will emerge in this location.





100

AVE 9

1 in = 1,250 feet





211177

















SW BULL MOUNTAIN RE





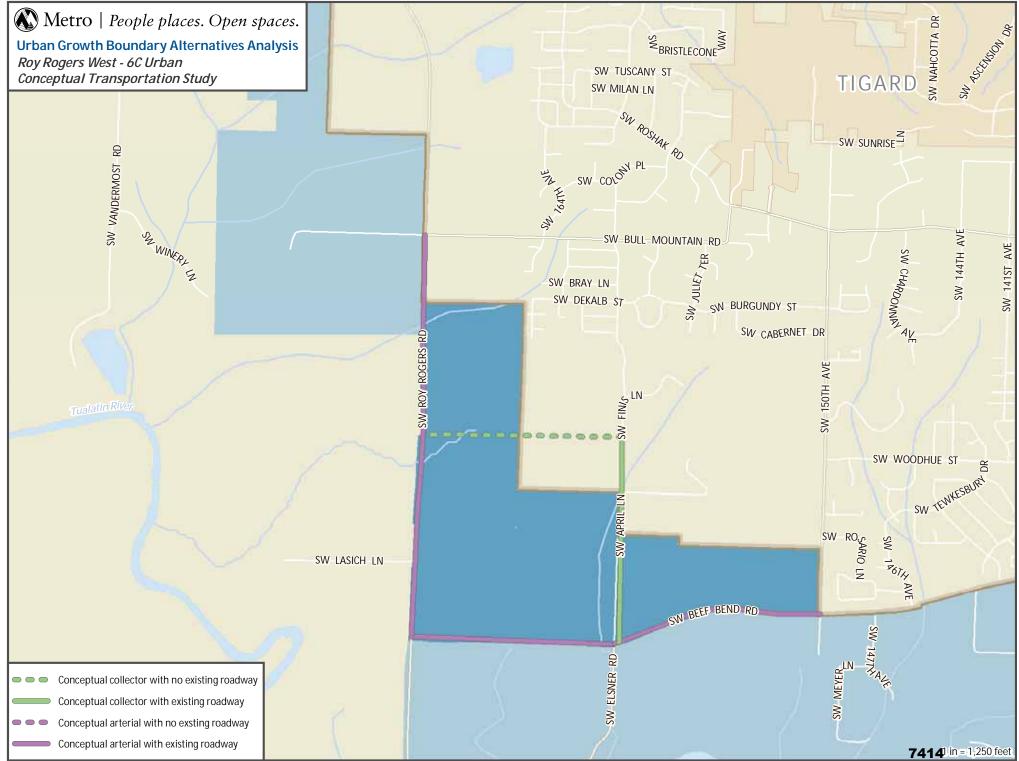


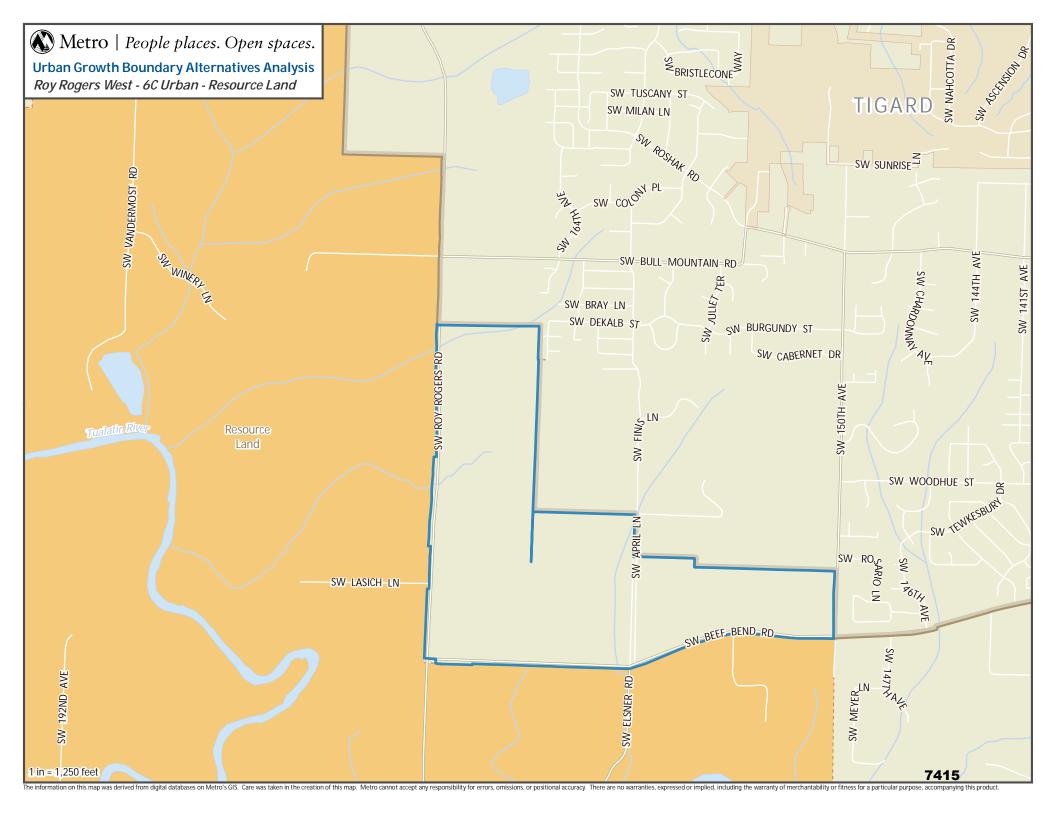


mai

RNET

was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this produc





FOREST GROVE NORTH ANALYSIS AREA (7B)

Forest Grove North Analysis Area		Total Acres	216
Gross Vacant Buildable Acres	175	Total Constrained Acres	41
Estimated Dwelling Unit Capacity	0	• Title 13 Significant Habitat	39
Estimated Employment Acres	143	Public Land	0

General Description (see attached map)

The Forest Grove North Analysis Area, a portion of the larger Forest Grove North Urban Reserve, is a small area located to the north of the current Forest Grove UGB, along Highway 47. The area extends from the UGB north to NW Purdin Road, and Highway 47 forms the eastern boundary. The Forest Grove North area contains a total of 216 acres and is generally flat. Council Creek flow south along the eastern edge near Highway 47.

Parcelization, Building Values, Development Pattern (see attached aerial photo)

The analysis area has only 11 parcels, the median size of which is 24 acres. Seven of the 11 parcels are greater than 20 acres, the largest being 40 acres. The remaining four lots are one acre or less. All but one parcel have improvements, with a median value of \$145,130. However, only two parcels have improvements valued over \$250,000. The entire study area appears to be in active agricultural land use, the majority of which is for cropland. There is a small cluster of rural residential, associated with surrounding farmland, on the east side along Hwy 47 which is also where all the building improvements are located.

Available data does not suggest the existence of power lines or other public easements through this area.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location

had high suitability for sanitary sewer services, water services and transportation connectivity. The City of Forest Grove's Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city has the ability and willingness to provide urban services to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$2,848,000 Water Distribution Services - \$1,590,000 Storm Sewer Services - \$1,429,500 Transportation Services - \$80,150,000

The City of Forest Grove is unique in that the city is the electrical power provider through its power and light department. Forest Grove Light and Power is a Bonneville Power Administration preferred company, as they have been purchasing power from BPA since 1939. Because of this status the city is able to purchase power from BPA at a lesser rate than other power providers. Based on information provided by the city, monthly charges for a typical large industrial load provided by Forest Grove Light and Power would be approximately 37% less than what Portland General Electric would charge for the same power.

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Council Creek runs along the eastern edge of the analysis area, near Highway 47. A small tributary of Council Creek flows through the center of the area. Along Council Creek there is a small 4 acre wetland and 36 acres of 100-year flood plain, some of which are currently under cropland cultivation. There are no steep slopes, and overall topography is very flat. Based on the current level of disturbance surrounding the two streams, the location of Council Creek near the edge of the analysis area and development limitations due to the 100-year flood plain, future urban development will not additionally impact these stream corridors beyond the current impact from the agricultural uses. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This small area, composed of 11 parcels is completely in agricultural production. Seven of the 11 parcels are greater than 20 acres, the largest being 38 acres. The loss of the economic impact from the significant agricultural uses in this small area may be considerable; however the potential economic impact of urbanization for industrial use on these large flat parcels will outweigh this loss. There are 39 acres of identified habitat in the area along Council Creek and a tributary. The costs for protecting these linear resources will be small in contrast to the potential economic impact of urbanizing the larger areas outside the stream corridors. Urbanization will impact the current residents of the area through the loss of the rural lifestyle, however since there are no residences that aren't associated with the adjacent agricultural activities, this impact will be less than if the area contained just rural residences on smaller lots. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

Regionally significant riparian habitat along the stream corridors totals 39 acres, and represents the only fish and wildlife habitat within the analysis area. Much of the habitat area is currently impacted by agricultural activities and limited habitat currently exists surrounding the streams. The City of Forest Grove, the expected governing body, has adopted habitat protection measures that are in compliance with Metro's Title 13 requirements as part of the Tualatin Basin Natural Resource Coordinating Committee's protection program. Given the level of agricultural activity, the protection measures that will be in place prior to urbanization and limitations of the flood plain on development, future urbanization in this area will not impact regionally significant fish and wildlife habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The UGB borders the Forest Grove North analysis area on the south. Resource land zoned exclusive farm use (EFU) directly borders the analysis area on the west, north and east (see attached resource land map). This extensive block of farm land extends for miles to the north and east and is intensely farmed for numerous agricultural products. To the west, the farm land extends approximately ³/₄ of a mile to the UGB along NW Thatcher Road. There are two islands of non-farm

land east of the analysis area centered on NW Verboort Road that are 15 acres and 49 acres in size and represent the community of Verboort. West of the analysis area there are two unnamed tributaries to Council Creek that flows east then through open farm fields and appear to be piped for some portions, but they do not act as an edge or buffer for the analysis area. Council Creek flows south through open farm fields paralleling Highway 47. It is possible that in some locations Council Creek in combination with the Highway 47 right-of-way could provide a buffer for the agricultural activities occurring east of the highway. NW Purdin Road provides a northern edge to the analysis area; however the road itself would not make the proposed urban uses compatible with the adjacent agricultural activities occurring on farm land. Increased traffic along NW Purdin Road due to new urban uses within the analysis area may impact agricultural activities on the resource land to the north. As there are no identifiable edges or buffers between the analysis area and the extensive farm lands to the north, the limited farm lands to the west and to a lesser degree to the east, the proposed urban uses would not be compatible with the agricultural activities that occur on farm land outside the UGB. However mitigation measures could reduce conflicts between urban uses inside the UGB and resource uses outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

There are no natural or built features to mark a clear transition between urban and rural lands, with the exception of some potential areas along Highway 47 where Council Creek flows close to the roadway. Even assuming NW Purdin Road develops as an arterial roadway in the future, the road itself will not provide a clear transition area between future urban and rural uses. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area to provide a clear transition from urban to rural uses. The rural lands west to NW Thatcher Road are part of the larger Forest Grove North urban reserve area and may be included in the UGB in the future. Thus, any buffers that are incorporated into the planning study for this analysis area should consider the potential for making urban form connections in this location in the future.

2040 Growth Concept

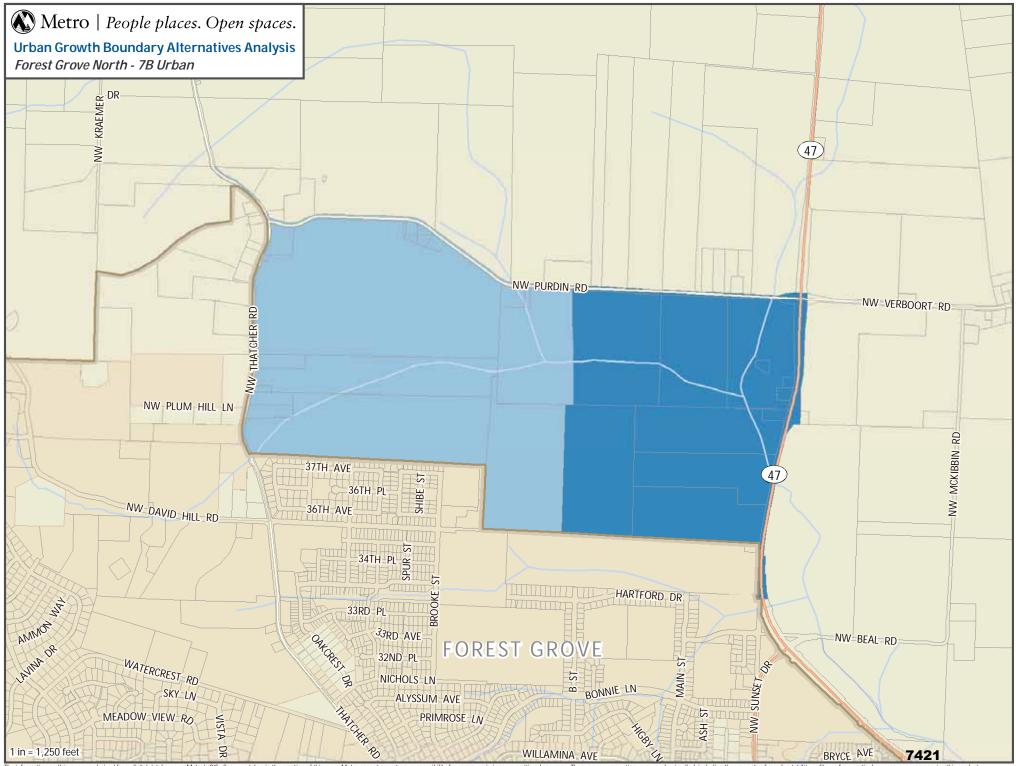
Contribution to the purposes of Centers

The Forest Grove Town Center is the closest center to the Forest Grove North analysis area. It is a smaller center, at only 56 acres in size, and serves as a cultural and commercial center for the city of Forest Grove. The town center is linked to the analysis area by Highway 47 and NW Sunset Drive (1.2 miles). There is currently no Tri-Met service connecting the analysis area to the town center, although the center is served by Tri-Met line 57 along Highway 8.

Over time Forest Grove has been undergoing a change away from being a complete community and toward becoming a bedroom community, due in part to increasing residential development trends. A component of the city's visioning process is to retain the vitality of the historic town center and surrounding neighborhoods through appropriate densities and development patterns and providing job opportunities close to homes. Metro's State of the Centers Report, January 2009,

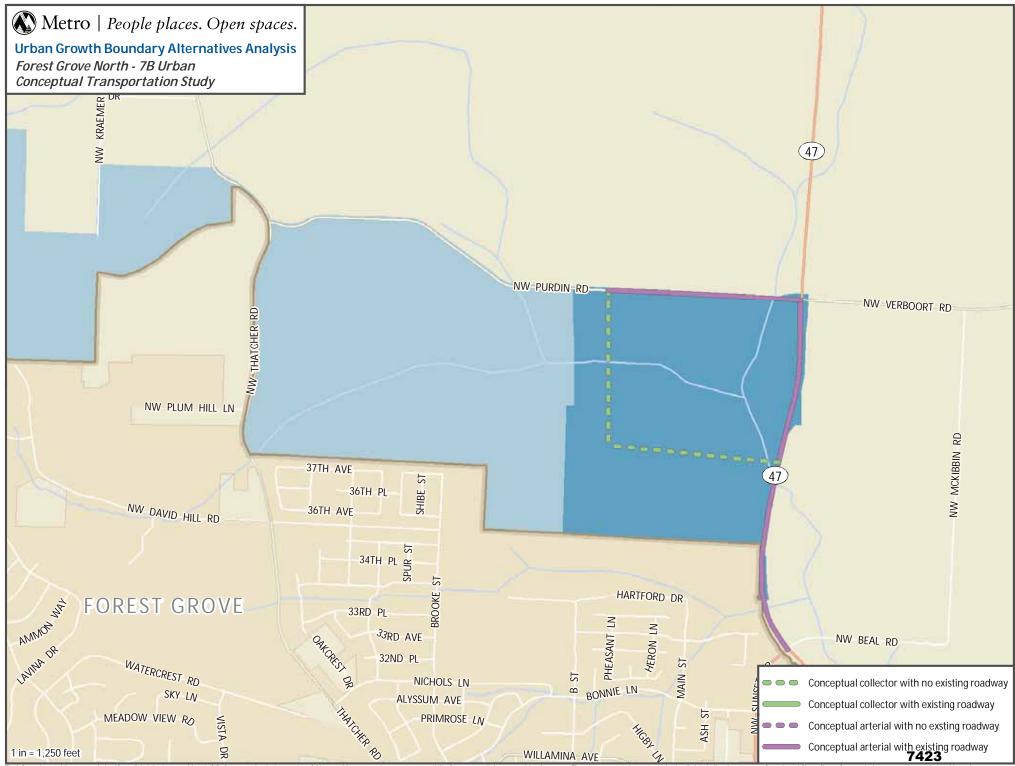
indicates that the town center has the highest median household size reflecting the Pacific University student population and high businesses per acre and jobs to housing ratios.

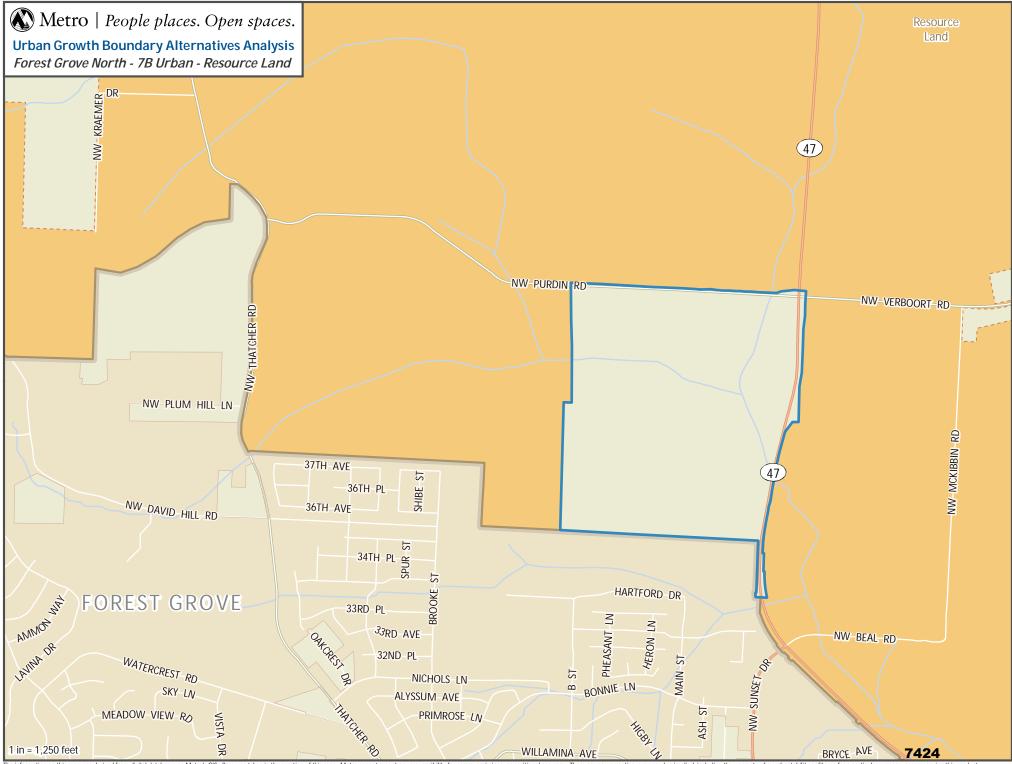
The City of Forest Grove currently envisions industrial development occurring within the analysis area. Urbanization of the Forest Grove North analysis area is unlikely to support the vision and purpose of the Forest Grove Town Center. Focusing on infill and redevelopment of underutilized land in other parts of the city may better support the continued success of the town center. However, additional employment opportunities in the analysis area would promote the city's other goals of job opportunities close to local residents and meeting industry needs.



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.







CORNELIUS SOUTH ANALYSIS AREA (7D)

Cornelius South Analysis Area		Total Acres	210
Gross Vacant Buildable Acres	189	Total Constrained Acres	21
Estimated Dwelling Unit Capacity	2,188	Title 13 Significant Habitat	21
Estimated Employment Acres		Public Land	0

General Description (see attached map)

The Cornelius South Analysis Area is a 210 acre area that lies to the southeast of Cornelius, between the city and the Tualatin River. SW 345th Avenue forms the eastern boundary, the Tualatin River floodplain the south edge, and the current UGB the west and north boundaries. The area is served primarily by Highway 8 to the north, accessed from the analysis area via SW 345th Avenue.

Parcelization, Building Values, Development Pattern (see attached aerial photo)

Cornelius South contains 15 parcels, eight of which are less than five acres in size. The seven parcels that are over five acres cover 185 acres and include four parcels that are only partially inside the study area boundary. Median size of all tax lots is 4.9 acres. One parcel is split by the analysis area boundary with 50 of the total 90 acres within the analysis area. Improvements have been made to eight parcels, only one of which is valued over \$250,000. The median improvement value is \$152,670. The entire study area appears to be in active agricultural use, including row crops, nursery and field crops. The development pattern is almost entirely composed of large, actively farmed parcels, with only a few small improvements or other development.

Available data does not suggest the existence of power lines or public easements through this area.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services and water services. This location was not analyzed for transportation connectivity. The City of Cornelius' Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city has the ability and willingness to provide urban services and all major infrastructure systems are either available or can be extended to serve this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of residential development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$9,320,000 Water Distribution Services - \$4,165,000 Storm Sewer Services - \$4,431,000 Transportation Services - \$68,350,000 Parks - \$6,800,000 Schools - \$500,000 (Increased maintenance costs, no new school needed)

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

A small tributary of the Tualatin River flows south across the triangular western section of the analysis area. The Tualatin River runs just outside the southwest boundary of the area. There are 11 acres of riparian and 10 acres of upland habitat along the tributary and the southwest edge of the analysis boundary that are not currently in agricultural use. The entire southwest half of the area is considered part of the Tualatin River Natural Landscape Feature, although most of that area is currently under active cultivation. The study area is very flat, with less than one acre of slopes over 25% concentrated primarily around stream areas. Although flat topography may increase the threat development poses to the Tualatin River and its small unnamed tributary, the amount of surface hydrology within the analysis area appears to be minimal. Therefore, future urban development will have minimal impact on environmental resources. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This small area, composed of 15 parcels is completely in agricultural production. Seven of the parcels are greater than five acres and eight of the parcels contain improvements. The loss of the economic impact from the significant agricultural uses in this small area may be considerable; however the potential economic impact of urbanization on these generally large flat parcels will outweigh this loss. There are only 21 acres of identified habitat in the area, mainly along the southern edge near the floodplain of the Tualatin River. The costs for protecting these linear resources will be small in contrast to the potential economic impact of urbanizing the larger internal locations, as their locations easily allow for preservation away from development. Urbanization will impact the current residents of the area through the loss of the rural lifestyle, however since there are no residences that aren't associated with the adjacent agricultural activities, this impact will be less than if the area contained just rural residences on smaller lots. The Hillsboro School District owns a 41-acre parcel in the northern portion of the area. Development of this site will provide the opportunity to connect the analysis area to the existing adjacent urban neighborhood through the school site, thereby integrating the new area into the city of Cornelius and potentially its new Town Center area. Additional VMT will be generated through urbanization of this small area as the average commute distance for this area is greater than the existing average commute distance for the region. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

A small amount of regionally significant riparian upland habitat lies inside the southwest edge of the analysis area, near the Tualatin River floodplain. Most of this habitat is currently being farmed. There is a larger block of regionally significant riparian habitat to the south and west of the analysis area that could be threatened by future urban development as there is no clear buffer between proposed urban uses and the habitat areas. The City of Cornelius, the expected governing body, has adopted habitat protection measures that are in compliance with Metro's Title 13 requirements as part of the Tualatin Basin Natural Resource Coordinating Committee's protection program. Based on the level of agricultural activity already impacting the limited habitat, the linear shape of the habitat area and the expected environmental protection measures that will be in place prior to urbanization, the proposed urban uses will have a minimal additional impact on regionally significant fish and wildlife habitat that is mostly outside the analysis area.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The UGB borders the Cornelius South urban reserve analysis area on the north. Resource land zoned exclusive farm use (EFU) borders the remainder of the analysis area (see attached resource land map). This extensive block of farm land extends south and east well beyond the Tualatin River and is intensely farmed for numerous agricultural products. There is a 128-acre island of non-farm land on the west side of SW River Road in the vicinity of SW Cook Road and SW 331st & 326th Avenues. The Tualatin River and its associated floodplain directly border the analysis area on the south. This extensive floodplain provides a buffer for the agricultural activities south of the river. Therefore, the proposed urban uses would be compatible with the agricultural activities occurring on the farm land to the south of the Tualatin River.

SW 345th Avenue forms the entire eastern edge of the analysis area. East of SW 345th Avenue is an unnamed stream that flows south through open farm fields and appears to be piped for significant portions as well as controlled to create storage ponds for irrigation. Neither SW 345th Avenue nor the unnamed stream provides an edge or buffer for the farm land to the east. Increased traffic along SW 345th Avenue, SW Cook Road and SW 331st Avenue due to new urban uses within the analysis area may impact agricultural activities in this area. Therefore the proposed urban uses would not be compatible with the agricultural activities that occur in this area east of SW 345th Avenue. However mitigation measures could reduce conflicts between urban uses inside the UGB and resource uses outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

The Tualatin River and its extensive floodplain provide a clear transition area between urban and rural lands for more than half of the analysis area. East of SW 345th Avenue there is no natural or built feature to mark a transition between urban and rural lands. Even assuming SW 345th Avenue develops as an arterial roadway in the future, the road itself will not provide a clear transition area between future urban and rural uses. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area to provide a clear transition from urban to rural uses.

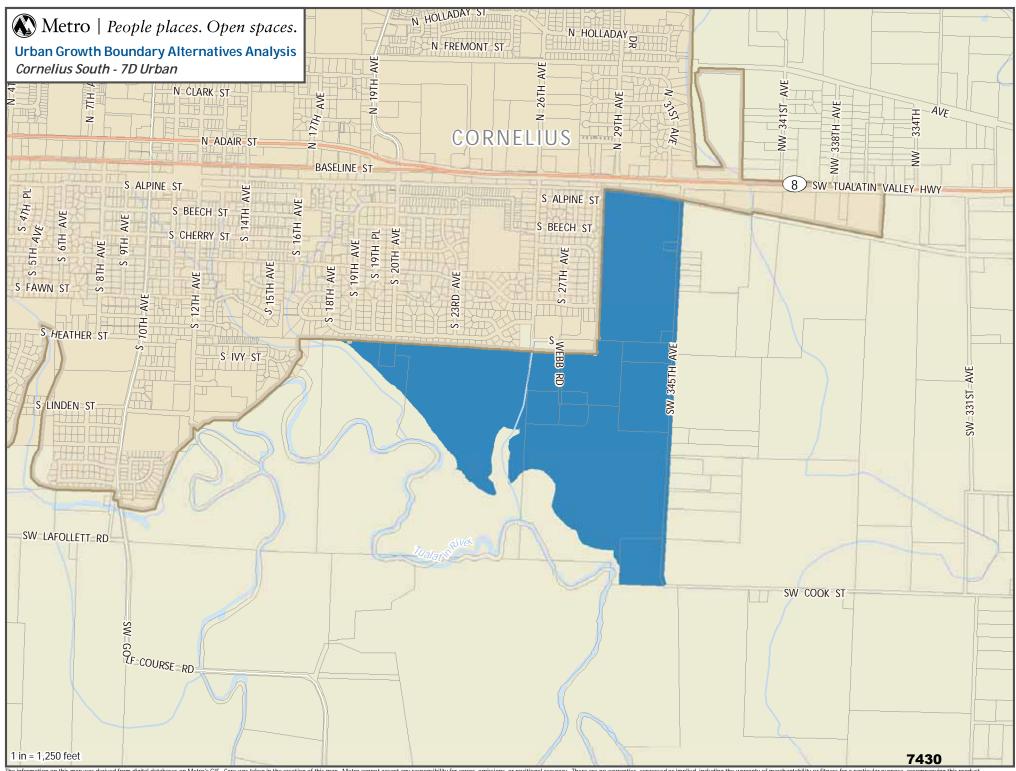
2040 Growth Concept

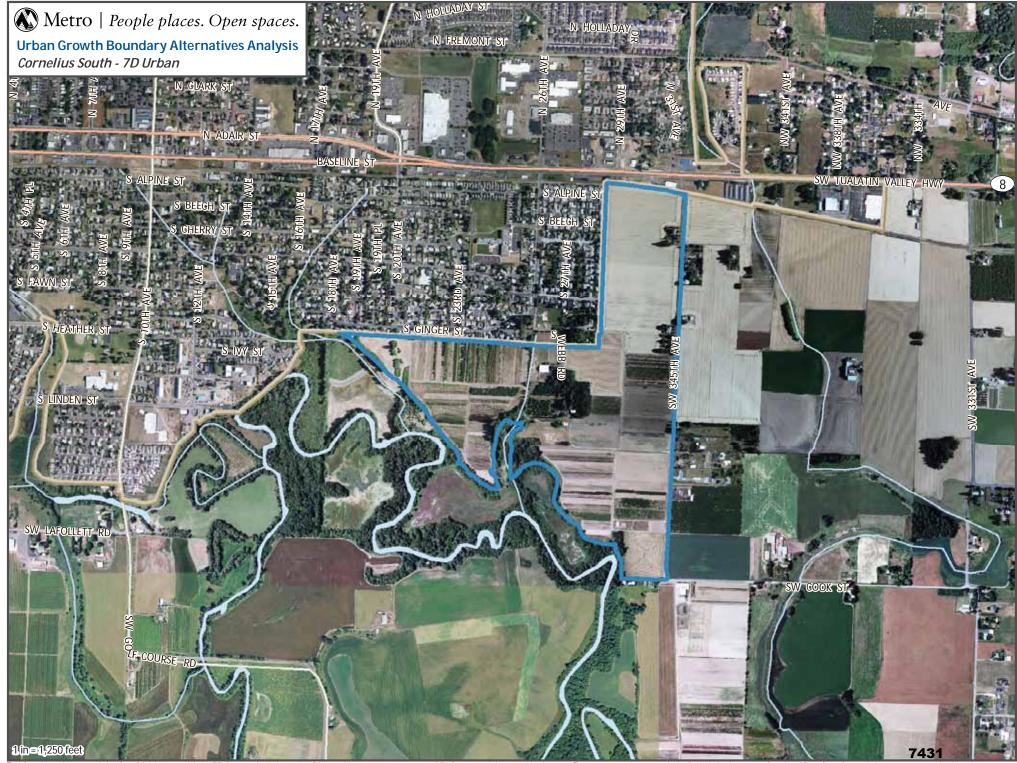
Contribution to the purposes of Centers

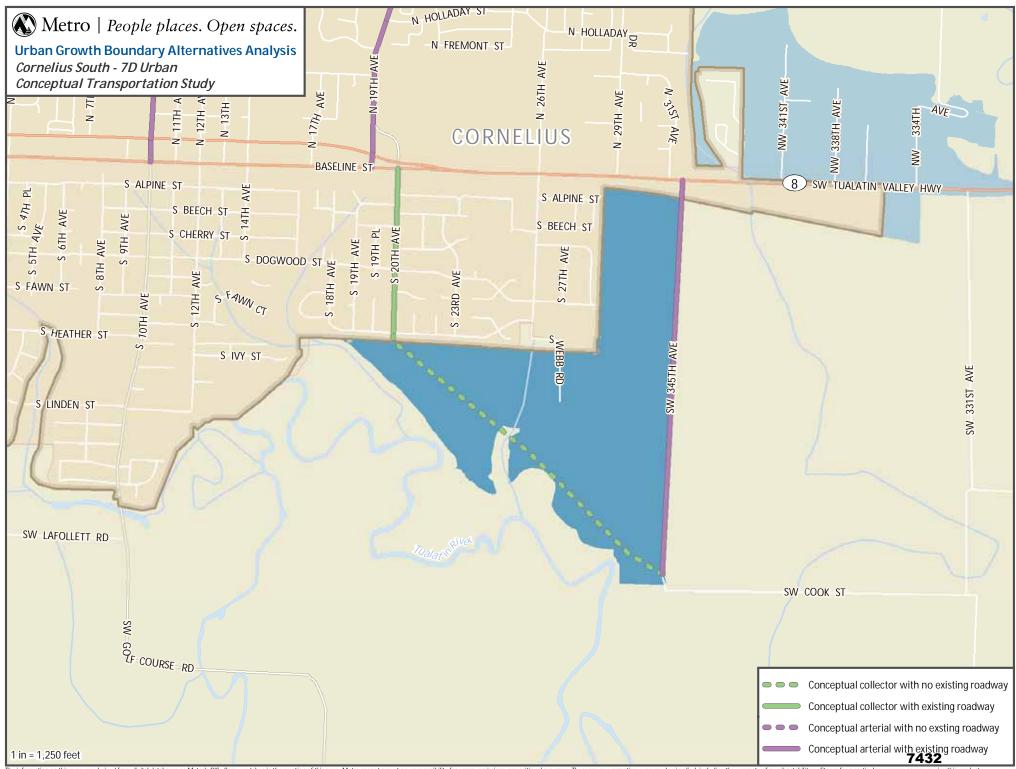
The nearest center to the Cornelius South analysis area is the Hillsboro Regional Center, located approximately two miles to the east along Highway 8. The analysis area is also linked to the regional center by TriMet's number 57 bus route. The Forest Grove Town Center is also nearby, approximately 3.5 miles to the west along Highway 8 and is also linked by TriMet's number 57 bus line.

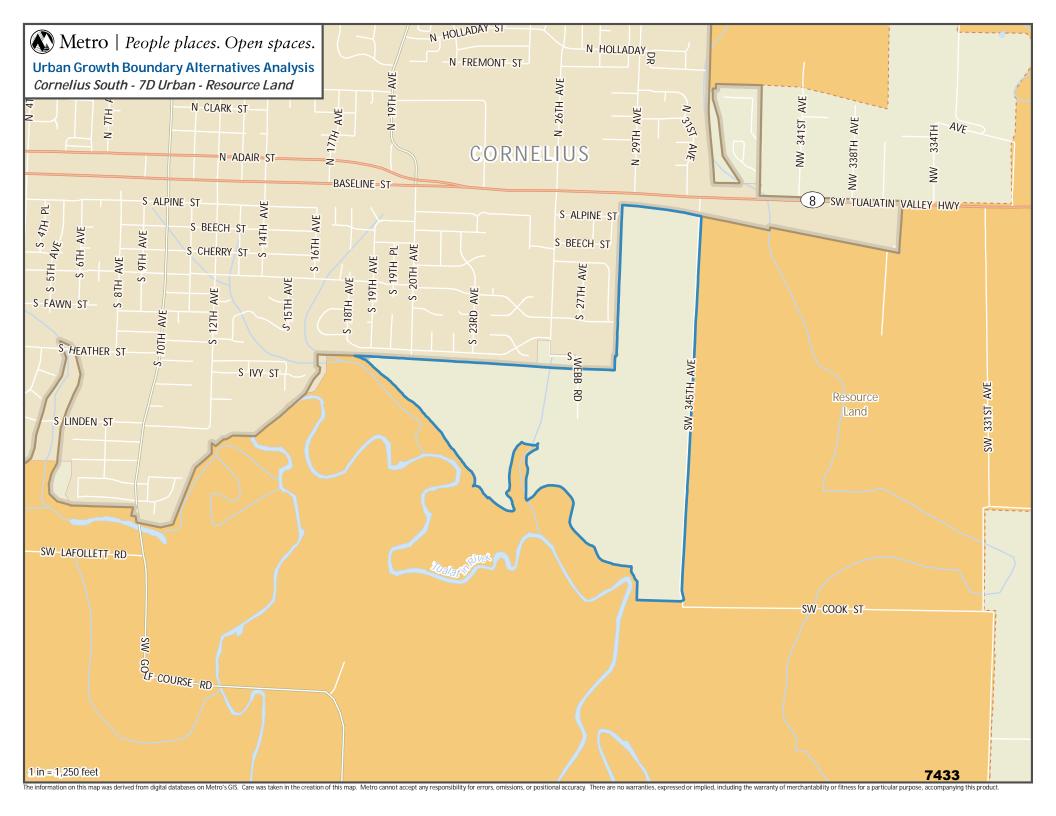
The Cornelius South analysis area is separated from the Hillsboro Regional Center by a band of agricultural land that includes the Dairy Creek floodplain and the only transportation connection is via Highway 8. Similarly, Forest Grove's Town Center is separated not only by distance from the analysis area, but also by other urban development within the City of Cornelius. Urbanization of Cornelius South will therefore not support the continued development of either center.

The City of Cornelius, as part of their pre-qualified concept planning for the Urban and Rural Reserves selection process, envision the creation of a new Town Center over the next 10-20 years. Due to the relatively close proximity of the analysis area (0.5 miles or less) to the center of Cornelius, there may be some opportunity to support the creation of a new center in the near future. The analysis area has potential to create good local connectors to a future town center in Cornelius, and currently has access via TriMet's route 57 bus line. Urbanization of this area may be able to support the vision and purpose of a town center in Cornelius that is compact, walkable, bikable, and has an appropriate jobs to housing balance.









CORNELIUS NORTH ANALYSIS AREA (7I)

Cornelius North Analysis Area		Total Acres	203
Gross Vacant Buildable Acres	166	Total Constrained Acres	37
Estimated Dwelling Unit Capacity	0	• Title 13 Significant Habitat	33
Estimated Employment Acres	135	Public Land	

General Description (see attached map)

The Cornelius North Analysis Area, a portion of the larger Cornelius North Urban Reserve, lies just to the north of the city of Cornelius, and totals 203 acres of land. The area is bounded by the UGB to the south, NW Susbauer Road to the east, NW Cornelius-Schefflin Road to the west, and tax lot lines to the north approximately halfway to NW Long Road. The area is served primarily by NW Susbauer Road and NW Cornelius-Schefflin Road running north-south, and is not directly served by east-west arterials although both north-south arterials connect with Highway 8 in Cornelius. Council Creek runs along the southern edge of the study area and it is generally flat outside of stream corridors.

Parcelization, Building Values, Development Pattern (see attached aerial)

Cornelius North contains 24 tax lots, all of which are completely within the study area boundary. There are five parcels that are larger than five acres, and all but two of the remaining lots are between one and five acres. Median parcel size is 4.1 acres, with a maximum of 45 acres. Improvements are recorded for 11 tax lots, with a median value of \$165,540 and only one lot with improvements valued over \$250,000. Land use is primarily agricultural, with a mix of rural residential development on smaller parcels in the south and southwest and one rural industrial use. Agricultural uses are predominantly for field crops, and are part of a large block of surrounding farmland to the north of Cornelius and Forest Grove. To the south, urban development extends up to edge of Council Creek, which separates the analysis area from the current UGB and Cornelius city limits.

Available data does not suggest the existence of power line easements. The Emanuel Lutheran Cemetery sits along NW Cornelius-Schefflin Road and covers just over four acres.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, water services and transportation connectivity. The City of Cornelius' Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city has the ability and willingness to provide urban services and all major infrastructure systems are either available or can be extended to serve this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$2,808,000 Water Distribution Services - \$1,455,000 Storm Sewer Services - \$1,343,500 Transportation Services - \$91,660,000

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

Council Creek forms the southern edge of the analysis area, constitutes the most significant natural feature in the area and contains 6.6 acres of wetlands and 18 acres of 100-year flood plain. A small tributary flows south into Council Creek through the west half of the analysis area, and another small stream flows out of the area on the east side, bordering NW Susbauer Road. There are few locations of steep slopes over 25% that total 1.5 acres and occur within stream riparian areas. Two natural area parks owned by Metro are adjacent to the analysis area to the southeast and east, along Council Creek and contain much of the natural resources in this location. Due to the overall limited amount of natural resources, their location along the edge of the analysis area, and the protective nature of publicly owned open space, future development could occur with minimal

impact to the natural resources. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This small area, composed of 24 parcels is almost completely in agricultural production. The area also includes a few rural residences, a cemetery and a rural industrial use. Nineteen of the 24 parcels are less than five acres. Four of the remaining five parcels are larger than 18 acres, the largest being 43 acres. The loss of the economic impact from the significant agricultural uses in this small area may be considerable; however the potential economic impact of urbanization for industrial use on these large flat parcels will outweigh this loss. There are 32 acres of identified habitat, most of which is along Council Creek on the southern edge of the analysis area. A tributary to Council Creek in the western portion of the area also contains some riparian habitat. The costs for protecting these linear resources will be small in contrast to the potential economic impact of urbanizing the larger internal locations, as their locations easily allow for the preservation of the area through the loss of the rural lifestyle, especially for those few residences that are not associated with the large parcels and will realize less of a positive economic impact. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

The area along the south edge of the analysis area, including Council Creek, is part of an identified significant natural landscape feature, and includes 33 acres of regionally significant wildlife habitat and several wetland areas. Two natural area parks owned by Metro are adjacent to the analysis area to the southeast and east, along Council Creek. These areas are directly adjacent to potential future urban development, and have no existing buffers with the exception of NW Susbauer Road for the eastern most open space parcel. The City of Cornelius, the expected governing body, has adopted habitat protection measures that are in compliance with Metro's Title 13 requirements as part of the Tualatin Basin Natural Resource Coordinating Committee's protection program. Existing development within the UGB adjacent to the analysis area has consistently maintained a clearly identified buffer between the stream and urban development. If this pattern continues north of the creek within the analysis area, impacts to regionally significant fish and wildlife habitat will be minimal. The identified habitat area is also buffered by the presence of a 100-year flood plain, limiting development opportunities and further protecting the important habitat areas.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves.

Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The UGB borders the Cornelius North urban reserve analysis area on the south. Resource land zoned exclusive farm use (EFU) directly borders the analysis area on the west and north; with the exception of one parcel zoned agriculture forest 20 (AF-20) west of NW Cornelius Schefflin Road adjacent to the UGB (see attached resource land map). This extensive block of farm land extends for miles to the north, west and east and is intensely farmed for numerous agricultural products. There is a 70-acre island of non-farm land north of the analysis area in the vicinity of NW Long Road and NW 366th Place. Adjacent to the east of the analysis area is a 96-acre pocket of non-farm land bounded by NW Hobbs Road and NW Susbauer Road. North of the analysis area there is an unnamed stream that flows east then south in an arc pattern through open farm fields and appears to be controlled to create storage ponds for irrigation, but does act as an edge or buffer. Increased traffic along NW Susbauer Road and NW Cornelius Schefflin Road due to new urban uses within the analysis area may impact agricultural activities in this resource land area. As there are no identifiable edges or buffers between the analysis area and the extensive farm lands to the west, north and east, the proposed urban uses would not be compatible with the agricultural activities that occur on farm land outside the UGB. However mitigation measures could reduce conflicts between urban uses inside the UGB and resource uses outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

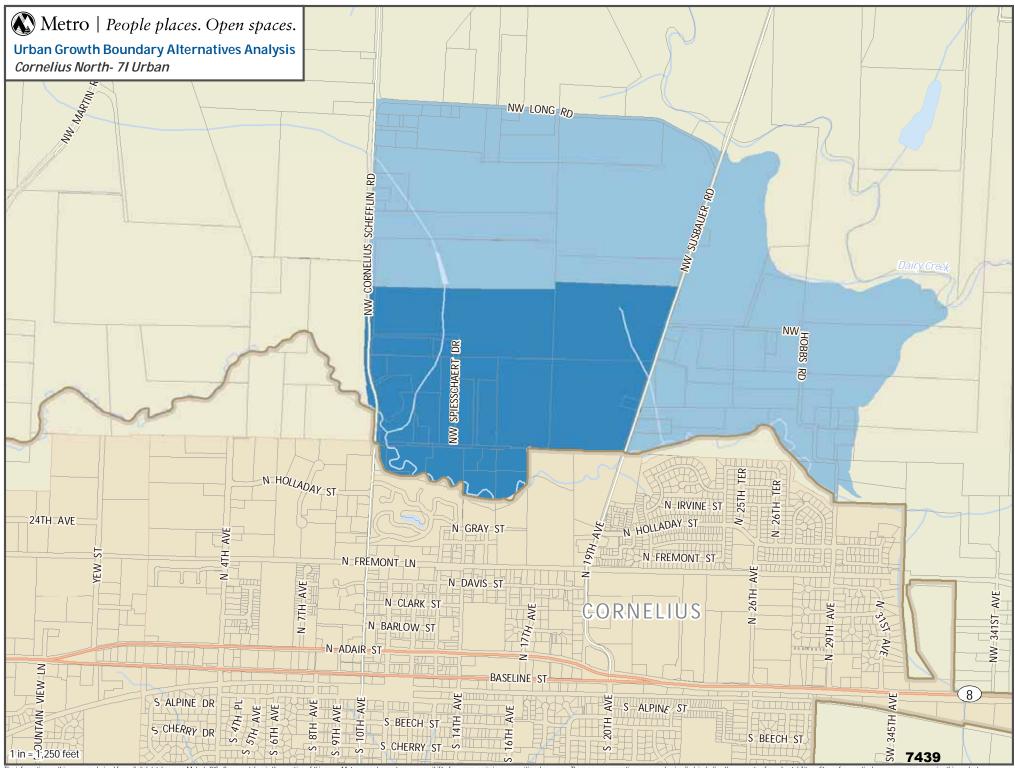
There are no natural or built features to mark a clear transition between urban and rural lands. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area to provide a clear transition from urban to rural uses. The rural lands north to NW Long Road and east to the Dairy Creek floodplain are part of the larger Cornelius North urban reserve area and may be included in the UGB in the future. Thus, any buffers that are incorporated into the planning study for this analysis area should consider the potential for connecting these two locations in the future.

2040 Growth Concept

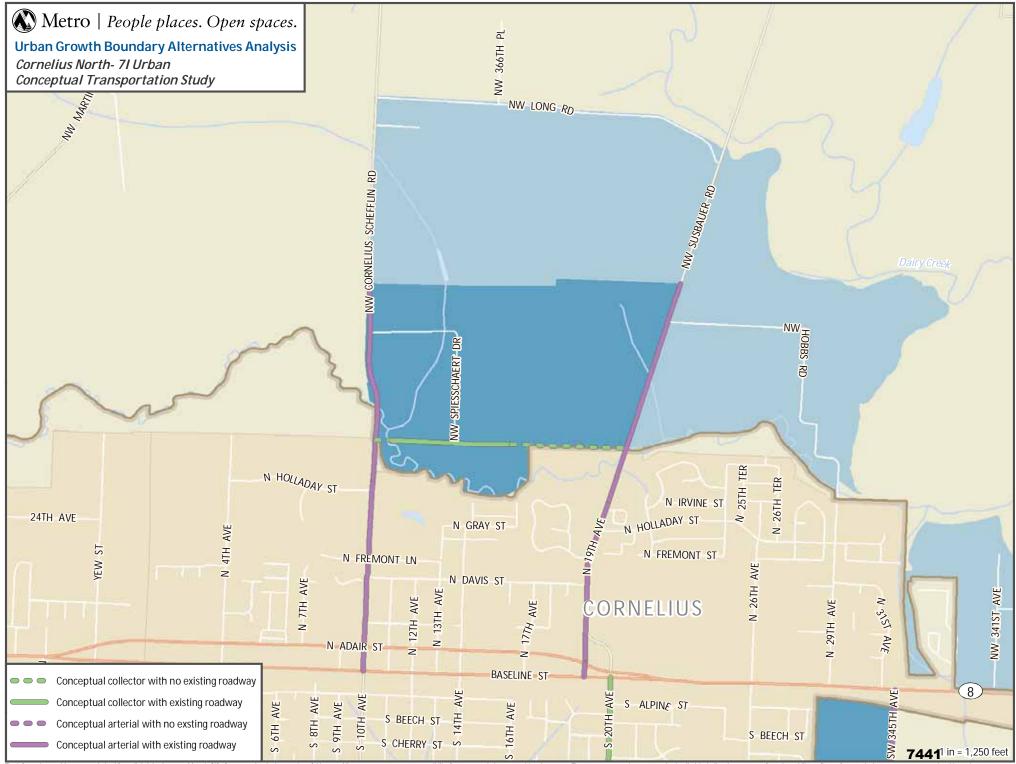
Contribution to the purposes of Centers

The Cornelius North analysis area is between two 2040 Growth Concept designated centers, the Hillsboro Regional Center and the Forest Grove Town Center. The area is not directly linked to either center, however, and is between 2.5 and 3 miles away along Highway respectively. Urbanization of Cornelius North will therefore not support the continued development of either center due to the distance between the areas and the focus for large site industrial uses in this analysis area.

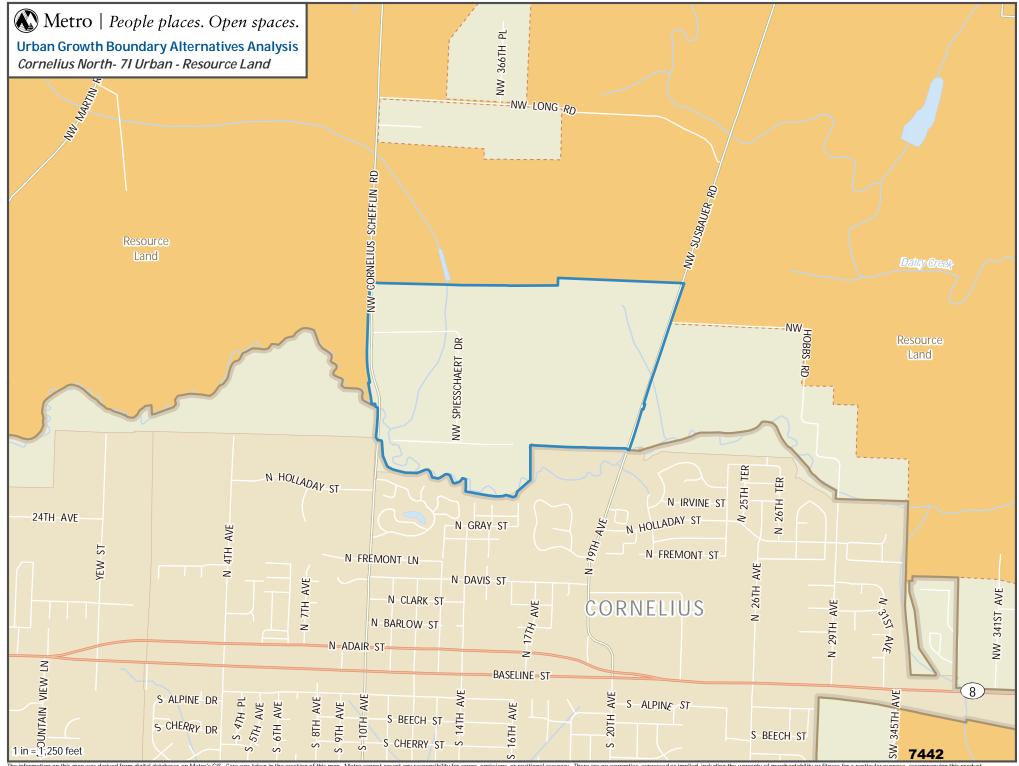
The City of Cornelius, as part of their pre-qualified concept planning for the Urban and Rural Reserves selection process, envision the creation of a new Town Center over the next 10-20 years. Due to the relatively close proximity of the analysis area (0.5-1.0 mile) to the center of Cornelius, there may be some opportunity to support the creation of a new center in the near future. Urbanization of this area may be able to support the vision and purpose of a town center in Cornelius that is compact, walkable, bikeable, and has an appropriate jobs to housing balance.







The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.

HILLSBORO NORTH ANALYSIS AREA (8A)

Hillsboro North Analysis Area		Total Acres	950
Gross Vacant Buildable Acres	767	Total Constrained Acres	183
Estimated Dwelling Unit Capacity	0	• Title 13 Significant Habitat	137
Estimated Employment Acres	625	Public Land	0

General Description (see attached map)

The Hillsboro North Analysis Area, a portion of the larger Hillsboro North Urban Reserve, is a wedge-shaped area north of Hillsboro, between the current UGB and Highway 26 and is 950 acres in size. The analysis boundary is defined by the UGB to the south and east, Highway 26 to the north. NW Jackson School Road is the western edge up to Waible Reservoir, after which Storey Creek generally marks the western boundary. The area is served by Highway 26 at both the NW Helvetia Road/NW Shute Road and NW Jackson School Road interchanges. NW Meek Road and NW Sewell Road serve the interior of the area.

Parcelization, Building Values, Development Pattern (see attached aerial photo)

The Hillsboro North Analysis Area contains 76 tax lots, with a median size of two acres. A total of 22 parcels have an area of at least five acres, and account for three-quarters of the total analysis area. Thirteen parcels have an area less than one acre. Improvements are recorded for 57 tax lots, with a median value of \$136,370. Improvements with values over \$250,000 occur on nine lots, with a maximum value of \$509,000. Uses within the study area include a mix of agriculture and rural residential. Agricultural uses are primarily for field crops and there forested parcels along Waible Gulch. There are two blocks of smaller lots, characterized by rural residential development patterns, one at the center of the analysis area around NW Meek Road, the other in the eastern corner near Highway 26 and NW Shute Road.

One power line easement runs east-west, passing through the southwest portion of the analysis area. The south-southwest portion of the analysis area is also adjacent to the Hillsboro airport, which could restrict certain uses in the area and be a source of significantly high air traffic noise.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, water services and transportation connectivity. The City of Hillsboro's Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city has the ability and willingness to provide urban services to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates. Attachment 5 contains the breakdown for the transportation cost estimates. A map of the proposed collector and arterial transportation network is attached to this summary.

Sanitary Sewer Services - \$6,835,000 Water Distribution Services - \$6,080,000 Storm Sewer Services - \$6,210,500 Transportation Services - \$463,670,000

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

One primary stream, Waible Gulch, runs through the area in an east-west direction. At some locations along the stream, agricultural activities occur right up to the stream bank. The area also includes the Waible Reservoir, just east of Jackson School Rd at the north end of the western half of the analysis area. There are two wetland areas, one along Waible Gulch and one along the south edge of the area, for a total of 24 acres. Waible Gulch also has 57 acres of 100-year flood plain along its length. There are minimal slopes, with only 1.5 acres steeper than 25%, concentrated along the riparian corridor. The limitations on development presented by the flood plain areas, the limited amount of environmental resources within the area and the current level of agricultural activity adjacent to the stream indicate that urbanization can occur in this area with minimal additional impacts to environmental resources due to required urban level protection measures. Attachment 6

contains a breakdown of the environmental factors. Attachment 6 contains the breakdown of the environmental factors.

Energy, Economic & Social

This large analysis area is divided into 76 parcels with 29% of the parcels greater than five acres in size. Seven parcels are greater than 40 acres, the largest being 157 acres. Seventy-five percent of the parcels contain improvements. Agricultural activities dominate significant portions of the area with pockets of rural residences along NW Meek Road and NW Sewell Road. The loss of the economic impact from the significant agricultural uses in this large area may be considerable; however the potential economic impact of urbanization for industrial use on these large flat parcels will reduce or outweigh the impact of this loss. There are 33 acres of identified habitat, mainly along Waible Gulch which runs along the southern edge of the eastern section and the northern edge of the western section of the analysis area. The costs for protecting these linear resources will be small in contrast to the potential economic impact of urbanizing the larger internal locations, as their locations easily allow for preservation away from development. Urbanization will negatively impact the current residents of the rural residential pockets through the loss of the rural lifestyle. Overall this analysis area has medium economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

Approximately 98 acres of regionally significant riparian habitat are identified within the area, although a significant amount is currently impacted by agriculture activities. Most of the habitat, including an additional 39 acres of upland forest, is concentrated around Waible Gulch at the northern edge of the western half of the analysis area. The City of Hillsboro, the expected governing body for this area, has adopted habitat protection measures in compliance with Metro's Title 13 program through the Tualatin Basin Natural Resource Coordinating Committee's protection program. Based on the development limitations provided by the 100-year flood plain, the location of the regionally significant habitat at the edges of the analysis area, and the expected protection measures that will be in place prior to urbanization, this area could be urbanized with some impacts on regionally significant fish and wildlife habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The UGB borders the Hillsboro North analysis area on the south and east. Resource land zoned exclusive farm use (EFU) directly borders the analysis area on the west and north, across highway 26, with the exception of a 51 acre block of non-farm land located NW Meek Road and NW 273rd Avenue (see attached resource land map). This extensive block of farm land extends for miles to the north and west beyond the city of North Plains and is intensely farmed for numerous agricultural products. There is a 122 acre island of non-farm land west of the analysis area centered on NW Glencoe Road and NW Evergreen Road. Waible Gulch flows west through the analysis area draining into Waible Reservoir, before continuing west as Waible Creek. Storey Creek flows south near the middle portion of the analysis area into Waible Reservoir. Waible Reservoir and Storey Creek, in combination with the rural residences near Storey Creek provide a buffer for the farm land to the northwest of the analysis area. Highway 26 provides a buffer for the farm land that is located on the north side of the Highway 26. NW Jackson School Road provides a western edge to the analysis area; however the road itself would not make the proposed urban uses compatible with the adjacent agricultural activities occurring on farm land south of Waible Creek. In addition, increased traffic along NW Jackson School Road due to new urban uses within the analysis area may impact agricultural activities on these resource lands to the west. The proposed urban uses would be compatible with agricultural activities in the areas where the highway or the stream corridors provide buffers. In the two areas where there are no identifiable edges or buffers between the analysis area and the nearby agricultural activities, the proposed urban uses would not be compatible with the agricultural activities that occur on farm land outside the UGB. However mitigation measures could reduce conflicts between urban uses inside the UGB and resource uses outside the UGB.

Clear transition between urban and rural lands, using natural and built features to mark the transition

There are both natural (Waible Gulch and Reservoir) and built (Highway 26) features that mark a clear transition between urban and rural lands, for a large portion of the analysis area. Even assuming NW Jackson School Road develops as an arterial roadway in the future, the road itself will not provide a clear transition area between future urban and rural uses for the land to the west. Additional buffers will need to be incorporated into the planning of the urban reserve analysis areas near NW Jackson School Road to provide a clear transition from urban to rural uses. The rural lands west of NW Jackson School Road are part of the larger Hillsboro North urban reserve area and may be included in the UGB in the future. Thus, any buffers that are incorporated into the planning study for the analysis area should consider the potential for making urban form connections in this location in the future.

2040 Growth Concept

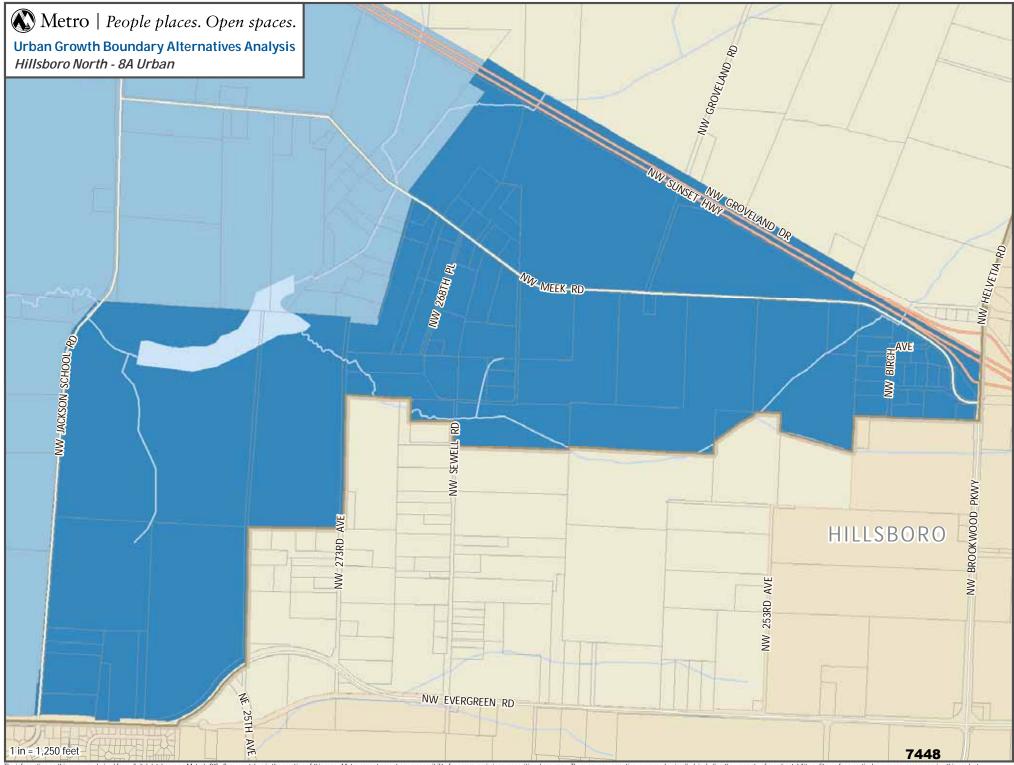
Contribution to the purposes of Centers

The Hillsboro North analysis area is located near the Hillsboro Regional Center and the Orenco Town Center. The Hillsboro Regional Center is 144 acres, serves all of western Washington County along with many rural areas outside of the urban growth boundary, and is the western terminus of the MAX Blue Line. It is linked to the analysis area by NE Jackson School Road/NE 5th Avenue (2 miles) and via TriMet's route 46. The Orenco Town Center is 174 acres, and primarily serves the surrounding transit-oriented development. Access to the analysis area is via NW Shute Rd (2.3 miles) and does not currently have Tri-Met transit service.

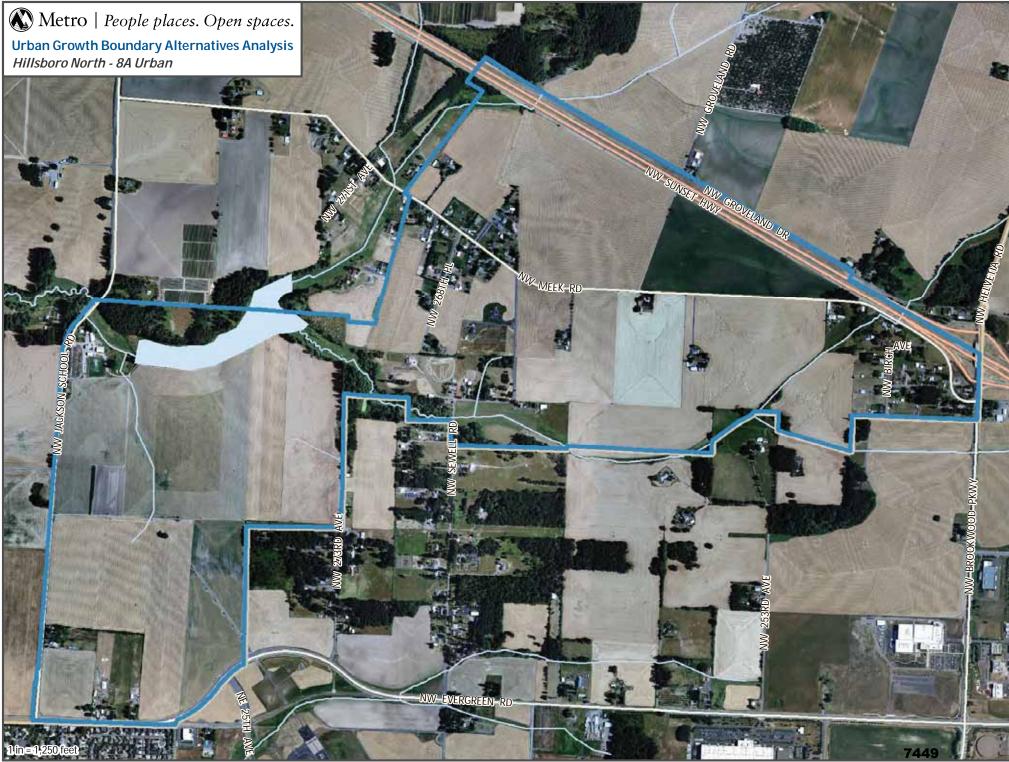
The City of Hillsboro, through the 2020 Vision and other initiatives, has identified the historic downtown as the heart of the Hillsboro community, serving as the primary civic and commercial center of the surrounding area. Despite recent investments in infrastructure, transit and civic resources, many parts of the center have been inactive and stagnant. The City recently completed a Downtown Urban Renewal Plan, indicating a commitment to increased development and revitalization of this important regional center, with higher density mixed use and a thriving unique character. Metro's State of the Centers Report, January 2009, indicates that currently the center has a much higher than average jobs to housing ratio, as well as a high number of people per acre, although it still maintains a small city feel through an active main street and grid street network. The Hillsboro Regional Center is considered a transit-oriented static market that may require catalyzing development opportunities, based on research completed by Metro's Development Center for the TOD Strategic Plan.

The Orenco Town Center is much more residential in character than the Hillsboro Regional Center. According to the State of the Centers report, it has low jobs to housing ratio, but a much higher than average number of dwelling units per acre. The center was built as a transit-oriented development surrounding Orenco Station, and has some mixed use residential and commercial. The Orenco Town Center is considered an emerging transit center that may be ripe for increased investment and development, based on research completed by Metro's Development Center for the TOD Strategic Plan.

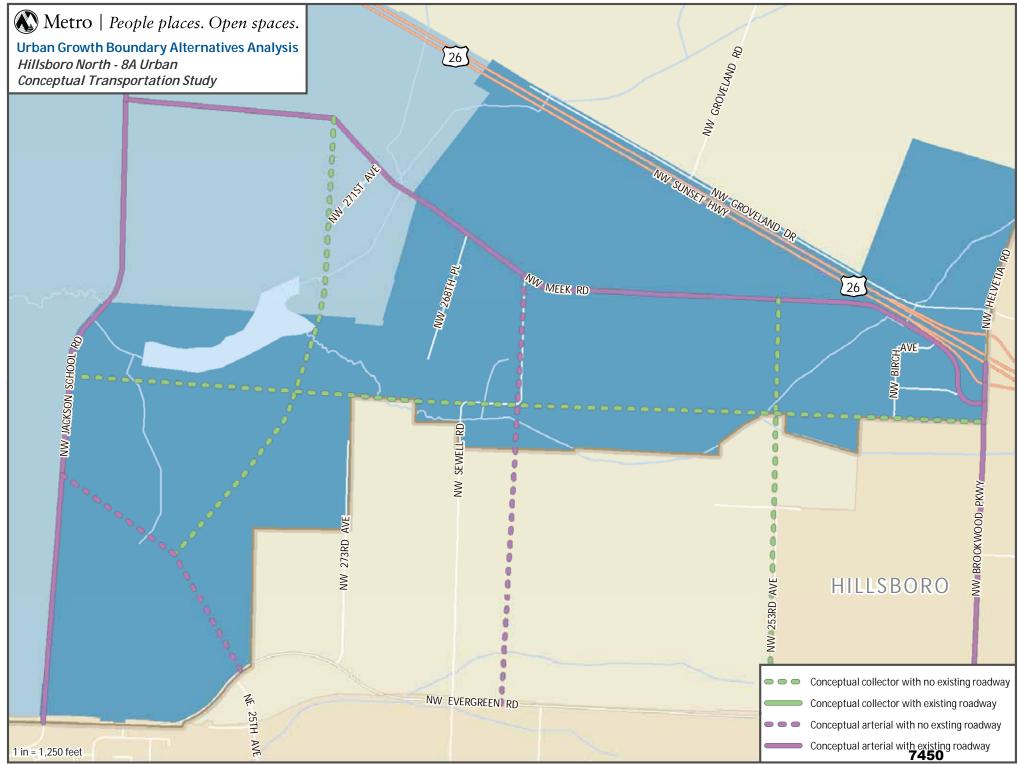
The Hillsboro North analysis area is being evaluated for large-site industrial use, consistent with the city's vision for the area. Urbanization of the Hillsboro North analysis area will not contribute to the vision and purpose of either the Hillsboro Regional Center or the Orenco Town Center. The distance of the analysis area from both centers reduces any impact that large-site industrial development might have, especially for enticing new housing opportunities to the Hillsboro Regional Center as there is other underutilized land located between the two areas. Even though the employment uses identified for the analysis area are not in direct conflict with the types of employment needs that the Orenco Town Center may need to help balance jobs to housing, the presence of a large site industrial user will not directly entice new employment opportunities in a town center over 2 miles away.



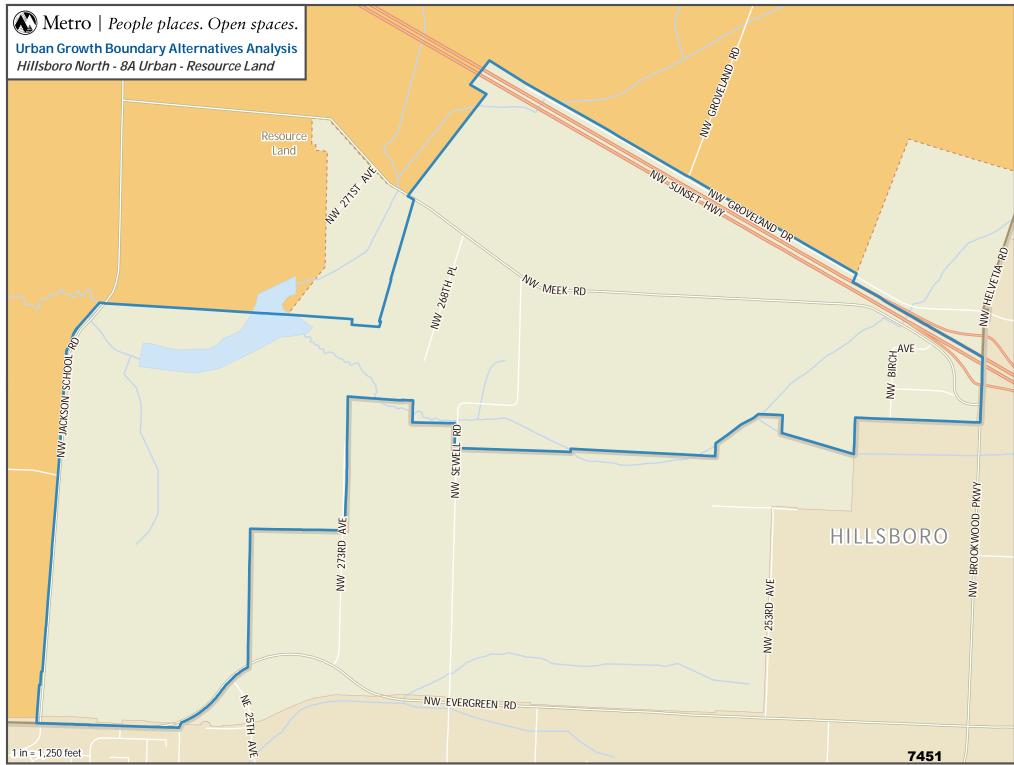
The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.



e information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.

SHUTE ROAD INTERCHANGE ANALYSIS AREA (8B)

Shute Rd. Interchange Analysis Area		Total Acres	86
Gross Vacant Buildable Acres	58	Total Constrained Acres	28
Estimated Dwelling Unit Capacity	0	• Title 13 Significant Habitat	24
Estimated Employment Acres	47	Public Land	0

General Description (see attached map)

This small area sits to the northwest of the Shute Rd interchange on Highway 26, just north of the Hillsboro North Analysis Area. It totals 86 acres and is bounded by NW Helvetia Road to the east and Highway 26 to the south. The west and north boundaries follow the two large tax lots that comprise the majority of the analysis area. Most of the area is actively cultivated farmland, with the exception of a small wooded area along the southern edge that contains a few rural residences.

Parcelization, Building Values, Development Pattern (see attached aerial photo)

The Shute Rd Interchange area has seven tax lots, although the two largest account for 73 of the 85 acres under analysis. All of the remaining five parcels are less than one acre in size. Five of the seven parcels have improvements, although only 2 have values over \$100,000. There is one parcel with an improvement valued at \$458,690. The entire analysis area is zoned as agricultural land; however active farming appears to only be occurring on the two larger parcels. The other five lots appear to be for residential use, and a large portion of one of the larger lots contains a stream and associated floodplain.

Available data does not suggest the existence of power lines or public easements within this area.

GOAL 14 LOCATIONAL FACTORS (METRO CODE SECTION 3.01.020)

Public Facilities and Services

Orderly and economic provision of public facilities and services

The preliminary sanitary sewer, water and transportation suitability analyses completed by the Core Four Technical Team for the urban and rural reserve study area indicated this general location had high suitability for sanitary sewer services, water services and transportation connectivity.

The City of Hillsboro's Pre-Qualifying Concept Plan, completed as part of the Washington County urban and rural reserve designation process, indicates that the city has the ability and willingness to provide urban services to this area.

The following cost estimates represent preliminary estimates for the major components of the individual systems. The estimates were generated using very general assumptions about the level of large site industrial development that could occur in the analysis area. More detailed concept plans, consistent with the requirements of Metro's Urban Growth Management Functional Plan Title 11 will be necessary to develop more refined cost estimates.

Sanitary Sewer Services – \$554,000

Water Distribution Services - \$525,000

Storm Sewer Services - \$476,500

Transportation Services – due to the very small size of the analysis area and its location directly adjacent to the NW Shute Road/Highway 26 interchange, no additional arterials or collectors are needed to serve the area.

ESEE Analysis

Comparative environmental, energy, economic and social consequences

Environmental

There are no wetlands, but there are 23 acres of 100-year flood plain along Waible Gulch running through the southeast corner of the area. The area is very flat, with almost no steep topographic features. There is no other evidence of significant natural resources or environmental features in the analysis area. Given the small amount of resources and their isolated nature in the southeast corner of the analysis area, future urbanization can occur with minimal impact to environmental resources. Attachment 6 contains a breakdown of the environmental factors.

Energy, Economic & Social

This very small area, composed of 7 parcels is mostly in agricultural production with a few rural residences along NW Groveland Drive near the Highway 26 interchange. The two parcels that are in agricultural production are greater than 30 acres and the remaining five parcels, four of which contain improvements are a half acre in size. The loss of the economic impact from the significant agricultural uses in this small area may be considerable; however the potential economic impact of urbanization for industrial use on these large flat parcels near the highway interchange will outweigh this loss. There are 33 acres of identified habitat associated with Waible Gulch which runs through the southern section of the analysis area. The costs for protecting this pocket of resources will be small in contrast to the potential economic impact of urbanizing the remaining northern portion, as its isolated location easily allows for preservation away from development.

Urbanization will negatively impact the few residents along NW Groveland Drive through the loss of the rural lifestyle, although they are currently impacted by urban level traffic. Overall this analysis area has low economic, social and energy consequences from urbanization.

Avoidance of conflict with regionally significant fish and wildlife habitat

There is one location of regionally significant riparian habitat in this analysis area comprised of a small 24 acre block of riparian habitat along the stream corridor in the southeast corner. The City of Hillsboro, the expected governing body for this area, has adopted habitat protection measures in compliance with Metro's Title 13 program through the Tualatin Basin Natural Resource Coordinating Committee's protection program. Due to the isolated location of the habitat and the expected protection measures that will be in place prior to development, urbanization can occur with minimal impact on the identified regionally significant fish and wildlife habitat.

Agricultural/Forest Compatibility

Protection of farmland that is most important for the continuation of commercial agriculture in the region

The urban and rural reserves process designated the most important land for commercial agriculture as rural reserves and the most suitable land for urbanization as urban reserves. Designation of this area as an urban reserve means farmland within this analysis area is not the most important for the continuation of commercial agriculture in the region.

Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB

The UGB borders the Shute Road urban reserve analysis area on the east. Resource land zoned exclusive farm use (EFU) directly borders the analysis area on the west and north (see attached resource land map). This extensive block of farm land extends for miles to the north and west and is intensely farmed for numerous agricultural products. There is an island of non-farm land zoned Agriculture Forest 10 (AF-10) a little over a mile to the north in the vicinity of NW Helvetia Road and NW Dierdorff Road. To the south across Highway 26 is a block of non-farm land zoned Agriculture Forest 5 (AF-5) that is centered on NW Oak Drive and NW Birch Avenue. Northwest of the analysis area, Storey Creek and a few tributaries flow south through open farm fields but do not act as an edge or buffer. Increased traffic along NW Helvetia Road and NW West Union Road due to new urban uses within the analysis area could impact agricultural activities in this resource land area, however given the analysis area's location next to Highway 26 little traffic would be expected to travel north. As there are no identifiable edges or buffers between the analysis area and the extensive farm lands to the west, the proposed urban uses would not be compatible with the agricultural activities that occur on farm land outside the UGB. However mitigation measures could

Clear transition between urban and rural lands, using natural and built features to mark the transition

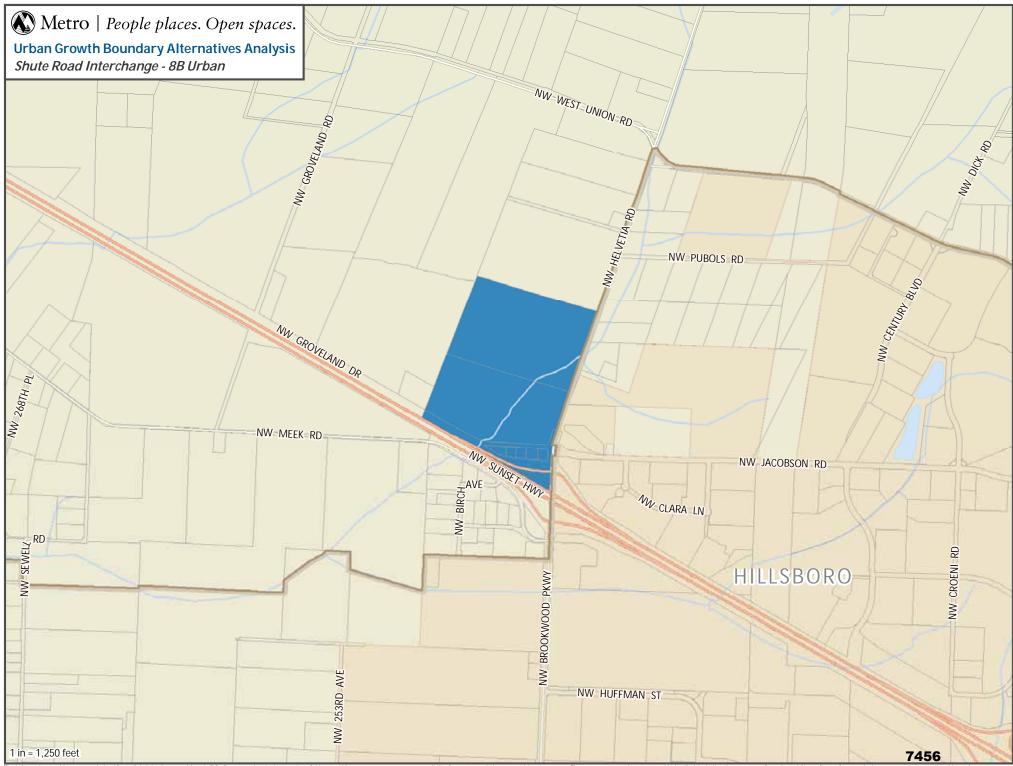
There are no natural or built features to mark a clear transition between urban and rural lands to the north or west. Highway 26 acts a buffer for the rural lands to the south. Additional buffers will need to be incorporated into the planning of the urban reserve analysis area to provide a clear transition from urban to rural uses.

2040 Growth Concept

Contribution to the purposes of Centers

The Shute Rd Interchange analysis area is approximately 2.5 miles north/northwest of the Orenco Town Center. The two areas are linked by NW Shute Road, but do not currently have any public transit connections. The Orenco Town Center is generally residential in character. The center was built as a transit-oriented development surrounding Orenco Station, and has some mixed use residential and commercial. According to the Metro State of the Centers report, it has a low job to housing ratio, but a much higher than average number of dwelling units per acre. The Orenco Town Center is considered an emerging transit center that may be ripe for increased investment and development, based on research completed by Metro's Development Center for the TOD Strategic Plan.

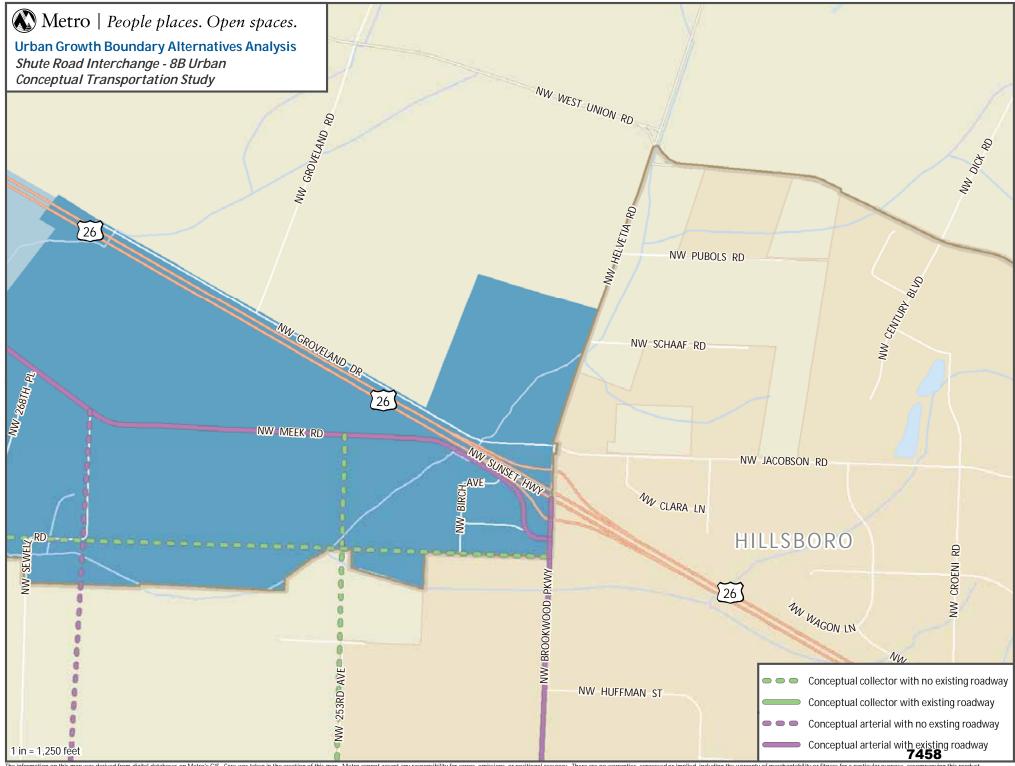
Currently, the City of Hillsboro envisions the analysis area urbanizing primarily with large site industrial uses. Urbanization of the Shute Road Interchange analysis area will not contribute to the vision and purpose of the Orenco Town Center due to the distance between the two areas and the focus of the analysis area on large site industrial development. The employment needs of the town center that would help to balance the jobs to housing ratio, is different than the large site industrial employment focus of the analysis area.



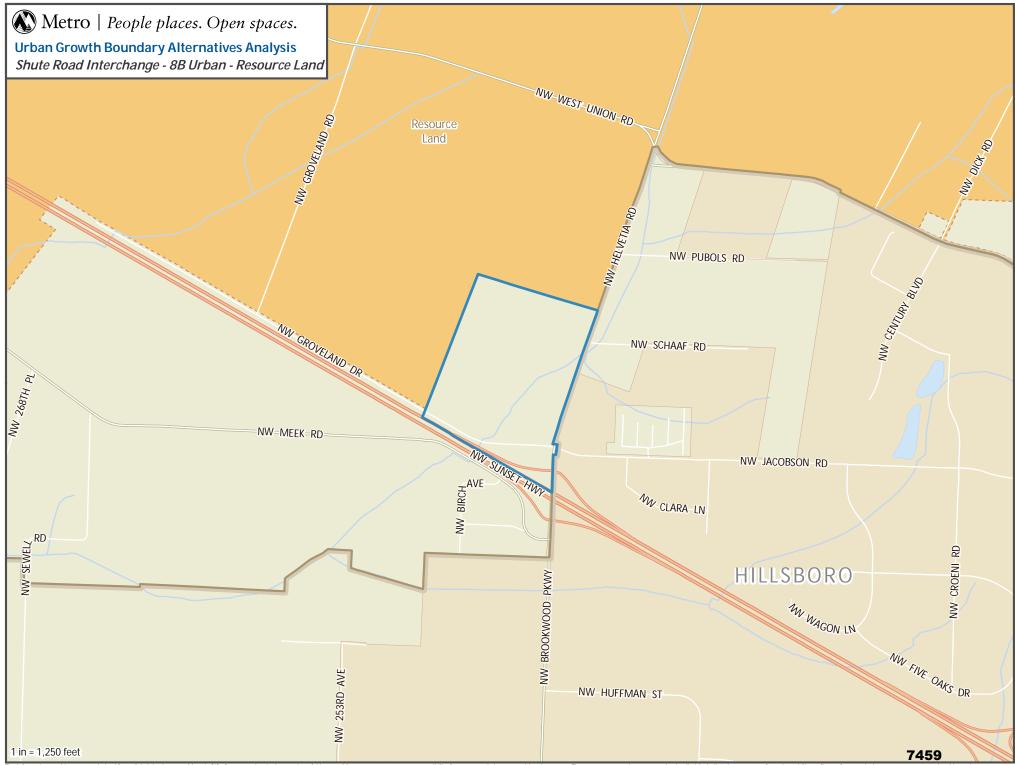
The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.



The information on this map was derived from digital databases on Metro's GIS. Care was taken in the creation of this map. Metro cannot accept any responsibility for errors, omissions, or positional accuracy. There are no warranties, expressed or implied, including the warranty of merchantability or fitness for a particular purpose, accompanying this product.



TABLE OF CONTENTS

Scope of Work	Page 1
Analysis Methodology	Page 1
Summary of Designated	
Reserve Areas	Page 4
Additional Considerations	Page 5

Appendix A - Residential Areas Analysis Summary Appendix B - Large-Lot Industrial Areas Analysis Summary Assessment of Potential Urban Growth Boundary Expansion Areas

To Metro

Submitted August 3, 2010

Project Number 2100103.00

GROUP MACKENZIE Since 1960



SCOPE OF WORK

The overall task taken on by the consultant team involves the analysis and general cost estimating of public infrastructure needed to serve designated urban reserve properties. Metro's Urban Growth Report (UGR) accepted by the Metro Council on December 10, 2009, found, due to a series of factors contained in the report, a potential need for additional residential capacity and a need for industrial lands in large site (greater than 50 buildable acres) configurations.

This analysis is specific to a set of properties proposed to meet this unmet demand for residential and large-site industrial uses. These properties together consist of approximately 8,298 acres of previously designated urban reserve lands. Based on the scope of work, discussions with Metro, and previous experience, our review focused on three topic areas: public utilities, parks, and schools.

The analysis properties were grouped by Metro into 18 areas based on geographic location and expected land use type (residential or large-lot industrial). Individual exhibits were developed for each area to summarize the results of the infrastructure development analysis. The following section presents the methodology used to analyze the 18 reserve areas.

ANALYSIS METHODOLOGY

Given the long-term (10 to 20 years) basis for development considered in this report, cost estimates are, by the scope, both preliminary and general in nature. The estimates have been completed in 2010 dollars and may not include all potential costs of construction. Items that could impact future costs include development densities and patterns within existing, adjacent Urban Growth Boundary (UGB) areas, more detailed analysis and data made available on the proposed areas, and other economic or technological changes.

Specific to each area and based on the data available from the individual service providers, the analysis assumed either the extension of the current level of service or the level of service projected within a 20-year timeframe. In each case, service or jurisdiction was assumed to be provided by the adjacent City or Service District, as noted on each exhibit.

PUBLIC UTILITIES

For public utilities, the review centers on trunk lines and mains as the larger components of the system. This assumes the vast majority of smaller laterals and individual service lines will be installed at the cost of private development. Our figures and costs are derived from review of adjacent and similar sites with the same land use and development pattern.

Using the buildable acreage of the proposed expansion areas assigned by Metro GIS, pipe lengths and sizes are translated from the existing sites to determine a large component system cost. Unit costs are based on recent industry-wide construction data and recent projects bid through our office.

1



Individual areas are then reviewed, assuming the jurisdiction of adjacent cities and service districts, for likely points of connection and any supply, downstream capacity or treatment issues. This work is completed primarily through review of existing master plans, and existing system capacity is reviewed for general availability to the proposed expansion area – both in terms of access and any limitation due to prior commitment of service to other areas already within the UGB.

The review of public utilities is similar for both residential and industrial uses.

PUBLIC SERVICES

For residential areas, additional consideration is given to an analysis of park and school services. Again, comparable areas are reviewed, and master plans and planned expansions are noted. For parks, the comparison is done on a developable acreage basis, while schools are considered and compared on both an acreage and dwelling unit basis.

PARKS

The development of parks associated with the residential areas in the analysis was based on comparisons with adjacent developed areas within the existing UGB. We recognize that the construction costs for parks can vary widely based on the type of park, location relative to other community public services such as schools, and park facilities expected to be installed. For example, a community park that utilizes athletic fields at an adjacent school property will require significantly different construction costs than a park featuring aquatic facilities, paved running trails, or artificial turf playing surfaces. Also, passive parks are part of community development: natural areas and open park space. The analysis accounts for this variability by providing high and low construction cost estimates based on park acreage, intended to reflect the higher costs associated with increased park features and complexity.

The acreage assigned to community parks versus passive parks was determined through review of National Recreation and Park Association (NRPA) standards for acreage per thousand population. We calculated the ratio, and applied that figure to the overall acreage count.

Cost estimates for parks were developed based on conversations with Metro parks staff as well as recent project bids through our office.

SCHOOLS

The development estimate for school construction in the residential UGB expansion areas was based on anticipated enrollment demand on the affected school districts. The district enrollment growth anticipated from each analysis area was estimated based on demographic projections provided by district long-range planning reports and school district staff. The estimated enrollment growth was compared with the school district's current enrollment and facility capacity to establish the need for new school construction. Enrollment projections were developed based on the expected number of new dwelling units for each area as provided by Metro. In general, the

2



expected development density corresponds to approximately 15 dwelling units per net buildable acre for most of the analysis areas.

School construction costs were developed based on conversations with facilities managers from several school districts.

TRANSPORTATION

On transportation costs, Metro staff provided cost estimates utilizing the Federal HERS-ST (Highway Economic Requirements System – State Version) software and methodology. This approach estimates initial costs of improvements, reconstructions, and widenings or realignments based on a number of physical considerations (including sensitive lands impact, topography, rail or waterway crossings, etc.) and a cost indexing by state.

Our team took the numbers under review and made comparisons to the expected road network, given analysis similar to those described above. While individual areas could be analyzed to a greater degree in terms of physical constraints, most are not yet included in an agency transportation system plan. For comparative purposes at this conceptual level, no significant differences or exceptions were adopted.

In the discussion of the roadway network and costs the following points were noted:

- Unit estimates were originally determined by ODOT, given their experience and as calculated through the HERS-ST methodology
- "High cost" areas were characterized by bridges over major rivers (Columbia, Willamette, Sandy, Clackamas and Tualatin, of which there are none in these study areas), tunnels (of which there are none in the study areas), wetland and floodplain crossings, rail yard crossings, and slopes greater than 25%. Only the sections of road that fell into these areas were classified as "high cost"
- The estimated cost is based on the number of lane miles and cost per lane mile. Also, the number of lanes for proposed arterials is 5 lanes while number of lanes for proposed collectors is 3 lanes. Almost exclusively, it was assumed that existing roadways in these study areas were 2 lanes each, needing expansion to either 3 or 5 lanes, depending on the designation.
- Unit costs include the bicycle and pedestrian improvements assumed within the typical standard.
- The transportation cost estimates are exclusive to the needs inside the individual expansion area. Impacts and improvements to the greater system outside of the proposed expansion areas were not considered within the HERS-ST framework.



SUMMARY OF DESIGNATED URBAN RESERVE AREAS

In the attachments that follow, each potential expansion area has been assessed to determine preliminary cost estimates for the services described above.

LIST OF INDUSTRIAL AREAS

URA	URA Local	URA Local	URA Total	URA Net
Designation	Name	Jurisdiction	Land Area	Buildable Land
5F	Tonquin	City of	120 ac	57 ac
		Tualatin		
7I	Cornelius	City of	203	166
	North	Cornelius		
7B	Forest Grove	City of Forest	216	175
	North	Grove		
8A	North	City of	950	767
	Hillsboro	Hillsboro		
8B	Shute Road	City of	86	58
	Interchange	Hillsboro		

LIST OF RESIDENTIAL AREAS

URA Designation	URA Local Name	URA Local Jurisdiction	URA Total Land Area	URA Net Buildable Land
1C	Gresham East	City of Gresham	857 ac	688 ac
3D	Maple Lane	City of Oregon City	573 ac	331 ac
3G	Beaver Creek Bluffs	City of Oregon City	227 ac	124 ac
4D	Norwood	City of Tualatin	337 ac	286 ac
4E	I-5 East Washington County	City of Tualatin	848 ac	558 ac
4F / 4G	Elligsen	City of Wilsonville	891 ac	638 ac
4H	Advance	City of Wilsonville	316 ac	181 ac
5B	Sherwood West	City of Sherwood	496 ac	432 ac
5D	Sherwood South	City of Sherwood	447 ac	216 ac
5G	Grahams Ferry	City of Wilsonville	203 ac	83 ac
6A	South Hillsboro	City of Hillsboro	1063 ac	879 ac
6C	Roy Rogers West	City of Tigard	256 ac	206 ac
7D	Cornelius South	City of Cornelius	210 ac	189 ac



ADDITIONAL CONSIDERATIONS

OPERATIONAL COSTS

In each case, operational costs were considered to be proportional to the expansion area and the related improvements. Where noted, certain new improvements will be accompanied by operational costs specific to the improvement (for example, pump stations). As able, cost items were estimated and provided on individual expansion areas.

Where described by master plans or other agency data, additions to operational costs due to expanded service areas without corresponding infrastructure improvements are listed. In all cases, it should be assumed operational costs of services will increase in relation to the addition of buildable acreage.

NEW TECHNOLOGIES

As part of the scope, the ability to incorporate new technologies for infrastructure services was considered. Given the timelines, it is difficult to apply cost estimating to ideas and inventions not yet developed.

No cost estimate was adjusted or revised in light of expected technology advancement, but in review of individual services, the one most available within the next 10-20 years may be the ability to better treat sanitary waste through more local means, saving the cost of delivery and treatment at a more distant facility. Several new technologies are in use on a limited basis, and as they move ahead, costs and public acceptance could make their use more competitive.

Additionally, certain areas may contain significant water rights available for use in addition to current jurisdictional water supply. While necessarily not a technology advancement, the ability to access and add water capacity locally could be a value to an expansion area and reduce the estimate offered for water supply.



SOURCE DATA

URBAN RESERVE AREAS

GIS mapping data provided by METRO on May 26, 2010, with updated information provided June 18, 2010 and July 28, 2010.

UTILITIES

Sanitary Sewer

Planning Document Title	<u>Service Provider or</u>	Date of Report
	<u>Jurisdiction</u>	
Sewer Master Plan Update	Clean Water Services	March 2009
Capital Improvement	City of Gresham	July 2008
Program 2008/09 to		
2012/13		
Sanitary Sewer Master Plan	City of Oregon City	December 2003
Clackamas County Service	Water Environment	June 2009
District No. 1 Sanitary	Services	
Master Plan		
Pre-Qualifying Concept	City of Tualatin	September 2009
Plan		_

Stormwater

Planning Document Title	<u>Service Provider or</u> Jurisdiction	Date of Report
Drainage Master Plan	City of Oregon City	January 1998
Capital Improvement Program 2008/09 to 2012/13	City of Gresham	July 2008
Storm Sewer Mapping	Clean Water Services	July 2010

Water

Planning Document Title	Service Provider or	Date of Report
	<u>Jurisdiction</u>	
Water Service Map	City of Beaverton	May 2004
Capital Improvement	City of Gresham	July 2008
Program 2008/09 to		
2012/13		
Water Master Plan	City of Oregon City	October 2004
Water System Master Plan	City of Wilsonville	January 2002



PARK SERVICES

Planning Document Title	<u>Service Provider or</u> Jurisdiction	Date of Report
Parks and Recreation	City of Oregon City	August 2007
Master Plan Update		
Parks and Recreation,	City of Gresham	September 2009
Trails, and Natural Areas	-	-
Master Plan		
Parkland Classification	National Recreation and	1983
System Guidelines	Park Association	

SCHOOL SERVICES

Planning Document Title	<u>Service Provider or</u> Jurisdiction	Date of Report
Facility Plan 2010	Beaverton School District	June 2010
Long Range Facility Plan - Phase 1	Tigard-Tualatin School District	March 2010

School District	School District
<u>Representative</u>	
Dick Steinbrugge, P.E.	Beaverton School District
Susan Stark Hayden	Tigard-Tualatin School
	District
Phil Wentz	Tigard-Tualatin School
	District

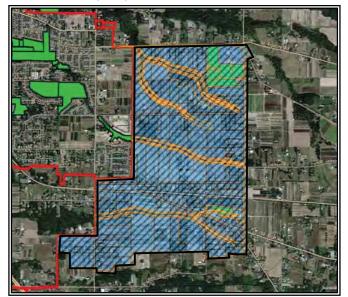
Total Reserve Land:	857	acres
Total Constrained Land:	169	acres
Net Buildable Land:	688	acres
Projected Dwelling Units:	7980	DU

Local Jurisdiction: City of Gresham Sewer Service Provider: City of Gresham Water Service Provider: City of Gresham Storm Drainage Service Provider: City of Gresham

Notes

School District: Gresham-Barlow SD Parks District: City of Gresham

Overall Vicinity Map



Buildable Lands Map

Buildable Lands Legend		
Existing UGB Boundary		
Buildable Land Boundary		
Urban Reserve Areas		
Parks		
	Analysis Area	



Transportation Services Map

Transporation Services Legend			
Analysis Area Boundary			
Existing UGB Area			
Proposed Roadway Upgrade			
= = = = = Proposed New Roadways			

Land Use Type: Residential				
8"-12"	12"-18"	18"+	Force	
Collector	Trunk	Interceptor	Main	
9700	1900	9800	0	
\$120	\$160	\$180	\$250	
\$1,164,000	\$304,000	\$1,764,000	\$0	
		Subtotal Cost:	\$3,232,000	
	0.6N	IGD pump station:	\$1,500,000	
	0.6MGD	capacity upsizing:	\$14,940,000	
	Total Sev	ver System Cost:	\$19,672,000	
	8"-12" Collector 9700 \$120	8"-12" 12"-18" Collector Trunk 9700 1900 \$120 \$160 \$1,164,000 \$304,000 0.6M 0.6MGD	8"-12" 12"-18" 18"+ Collector Trunk Interceptor 9700 1900 9800 \$120 \$160 \$180 \$1,164,000 \$304,000 \$1,764,000	

Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern. Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.

111

SITE

		F
	1C urban	E
HITE		[
	1C	
	BE DODDLE PARK BLVD	
		-

Water Distribution Services Estimate Water Pipe Size 8"-12" Estimated Pipe Length 9700 Estimated Pipe Unit Cost \$100 Water Transmission Pipe Cost \$970,000 Water System Upgrade Costs

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	9700	1900	9800	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$1,309,500	\$332,500	\$2,156,000	\$0
Storm System Upgrade Costs		No system up	grades expected	\$0
		Total Sto	rm System Cost:	\$3,798,000

Park Improvements	Neighborhood Parks	Community Parks
New Park Area (acres)	12.2	54.8
Park Cost per Acre	\$200,000	\$1,000,000
New Park Cost	\$2,440,000	\$54,800,000

New School Construction	See report text for details
Estimated enrollment:	1040 elementary school
	480 middle school
	560 high school
Current capacity estimate:	Expected to exceed capacity
Estimated school costs:	\$60,000,000 (New Elem + Middle Schools)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost	
		(in millions)	(in millions)	(in millions)	
Arterials	15.1	\$171.84	\$3.35	\$175.19	
Collectors	7.7	\$83.21	\$1.65	\$84.86	
Totals22.8Total Road System Cost:\$260.05					
*Data provided by Matra thru the HERS ST actimating approach					

*Data provided by Metro thru the HERS-ST estimating approach



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 1C Gresham East

Project Number - 2100103.00

August 3, 2010

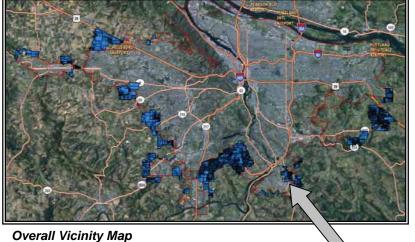
La

	and	Use	Type:	Residential
--	-----	-----	-------	-------------

ed Water Demand: 830000		gpd	
	12"-18"	18"+	
)	1900	5000	
)	\$150	\$200	
)	\$285,000	\$1,000,000	
Storage and pumping			\$1,700,000
	Total Wa	\$3,955,000	



Total Reserve Land:	573	acres
Total Constrained Land:	242	acres
Net Buildable Land:	331	acres
Projected Dwelling Units:	3970	DU



Water Service Provider: City of Oregon City Storm Drainage Service Provider: City of Oregon City

Local Jurisdiction: City of Oregon City Sewer Service Provider: Clackamas County WES School District: Oregon City School District Parks District: City of Oregon City

Notes

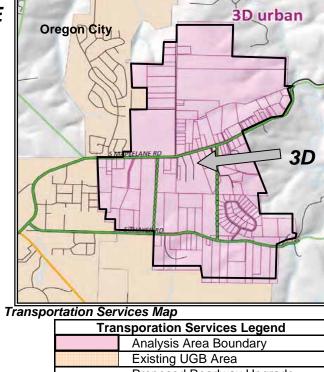
Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern.

Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.

Лар		
	SITE	Oreg
		2
		F
	2	
Мар	Tra	anspo <u>rta</u>
Lands Legend		

Buildable Lands Map			
Buildable Lands Legend			
	 Existing UGB Boundary 		
Buildable Land Boundary			
	Urban Reserve Areas		
	Parks		
	Analysis Area		



	Analysis Area Boundary	
	Existing UGB Area	
	Proposed Roadway Upgrade	
====	Proposed New Roadways	

		and Use Type:	Residential		
nitary Sewer Services					
Sewer Pipe Size	8"-12"	12"-18"	18"+	Force	
Pipe Classification	Collector	Trunk	Interceptor	Main	
Estimated Pipe Length	40500	5000	2600	C	
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250	
Sewer Pipe Cost	\$4,860,000	\$800,000	\$468,000	\$C	
			Subtotal Cost:	\$6,128,000	
Pump Station Upgrades		0.5MGD pump station:			
Treatment Facility Upgrades	A	Associated increased maintenance:			
Total Sewer System Cost:				\$8,028,000	

Water Distribution Services	Estimated Water Demand:		400000	gpd
Water Pipe Size	8"-12"	12"-18" 18"+		
Estimated Pipe Length	40500	5000	5000	
Estimated Pipe Unit Cost	\$100	\$150 \$200		
Water Transmission Pipe Cost	\$4,050,000	\$750,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping		\$800,000
Total Water System Cost:				

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	40500	5000	2600	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$5,467,500	\$875,000	\$572,000	\$0
Storm System Upgrade Costs		No system upgra	ades expected	\$0
		Total Storm	n System Cost:	\$6,914,500

Park Improvements	Neighborhood Parks	Community Parks
New Park Area (acres)	7.1	31.9
Park Unit Cost	\$200,000	\$1,000,000
New Park Cost	\$1,420,000	\$31,900,000

New School Construction	See report text for details
Estimated enrollment:	520 elementary school
	240 middle school
	280 high school
Current capacity estimate:	Expected to exceed capacity
Estimated school costs:	\$20,000,000 (New Elementary School)

Transportation Services*

	1 N.4'1			T () O (
	Lane Miles	Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Arterials	5.3	\$54.44	\$14.43	\$68.87
Collectors	6	\$56.78	\$17.11	\$73.89
Totals	11.3	Total Road	System Cost:	\$142.76
*Data may ideal by Matra that IEDC CT activation and as				

*Data provided by Metro thru the HERS-ST estimating approach



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 3D Maple Lane

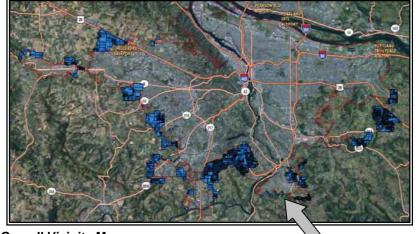
Project Number - 2100103.00

August 3, 2010

Land Use Type: Residential



Total Reserve Land:	227	acres
Total Constrained Land:	103	acres
Net Buildable Land:	124	acres
Projected Dwelling Units:	1052	DU



Overall Vicinity Map

Buildable Lands Map

Parks

Analysis Area

Local Jurisdiction: City of Oregon City Water Service Provider: City of Oregon City Storm Drainage Service Provider: City of Oregon City

Sewer Service Provider: Clackamas County WES School District: Oregon City School District Parks District: City of Oregon City

Notes

Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern.

Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.

OREGON CITY 3G

Transportation Services Map

SITE

Transporation Services Legend			
Analysis Area Boundary			
Existing UGB Area			
	Proposed Roadway Upgrade		
=====	Proposed New Roadways		

	Lan	d Use Type:	Residential	
Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	Force
Pipe Classification	Collector	Trunk	Interceptor	Main
Estimated Pipe Length	14500	3600	0	0
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250
Sewer Pipe Cost	\$1,740,000	\$576,000	\$0	\$0
		\$2,316,000		
Pump Station Upgrades		\$1,300,000		
Treatment Facility Upgrades	A	\$500,000		
	\$4,116,000			

Water Distribution Services	Estimated	Water Demand:	150000	gpd
Water Pipe Size	8"-12"	12"-18"	18"+	
Estimated Pipe Length	14500	3600	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$1,450,000	\$540,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping		\$300,000
	Total Water System Cost:			\$3,290,000

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	14500	3600	0	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$1,957,500	\$630,000	\$0	\$0
Storm System Upgrade Costs		No system upgrades expected		\$0
		Total Sto	orm System Cost:	\$2,587,500

Park Improvements	Neighborhood Parks	Community Parks
New Park Area (acres)	1.3	5.7
Park Unit Cost	\$200,000	\$1,000,000
New Park Cost	\$260,000	\$5,700,000

New School Construction	See report text for details
Estimated enrollment:	140 elementary school
	70 middle school
	80 high school
Current capacity estimate:	Adequate
Estimated school costs:	\$250,000 (Minor)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Arterials	4.2	\$39.48	\$18.55	\$58.03
Collectors	0.6	\$6.12	\$0.00	\$6.12
Totals	4.8	Total Ro	oad System Cost:	\$64.14
		<i>a a</i>		

*Data provided by Metro thru the HERS-ST estimating approach



Buildable Lands Legend Existing UGB Boundary

Buildable Land Boundary Urban Reserve Areas

ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 3G Beaver Creek Bluffs

Project Number - 2100103.00

August 3, 2010

CITEST STATES DESCRIPTION



Total Reserve Land:	337	acres
Total Constrained Land:	51	acres
Net Buildable Land:	286	acres
Projected Dwelling Units:	3331	DU

Local Jurisdiction: City of Tualatin Sewer Service Provider: Clean Water Services Water Service Provider: City of Tualatin Storm Drainage Service Provider: City of Tualatin

School District: West Linn-Wilsonville SD Parks District: City of Tualatin

Notes

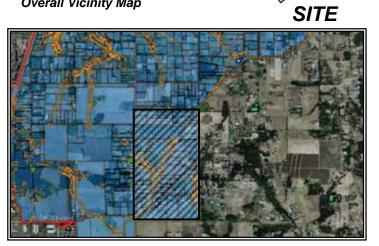
Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern. Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.

4DEFG urban

Overall Vicinity Map	\searrow

Overall Vicinity Map



Buildable Lands Map

B	Buildable Lands Legend			
Existing UGB Boundary				
	Buildable Land Boundary			
	Urban Reserve Areas			
	Parks			
	Analysis Area			



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 4D Norwood

Project Number - 2100103.00

August 3, 2010

	а	

		Lan	u use rype.	Residential	
Sewe	er Pipe Size	8"-12"	12"-18"	18"+	Force
Pipe C	lassification	Collector	Trunk	Interceptor	Main
Estimated	Pipe Length	40800	1400	2500	0
Estimated Pip	e Unit Cost	\$120	\$160	\$180	\$250
Sewe	er Pipe Cost	\$4,896,000	\$224,000	\$450,000	\$0
		Subtotal Cost:		\$5,570,000	
Pump Statio	n Upgrades	0.4MGD pump station:		\$1,300,000	
Treatment Facilit	y Upgrades	0.4MGD capacity upsizing:		\$6,300,000	
			Total Sewer	r System Cost:	\$13,170,000

Water Distribution Services	Estimated	Water Demand:	350000	gpd
Water Pipe Size	8"-12"	12"-18"	18"+	
Estimated Pipe Length	40800	1400	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$4,080,000	\$210,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping		\$700,000
		Total Water	System Cost:	\$5,990,000

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	40800	1400	2500	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$5,508,000	\$245,000	\$550,000	\$0
Storm System Upgrade Costs	No system upgrades expected			\$0
		Total Storm	System Cost:	\$6,303,000

Park Improvements	Neighborhood	Community	
	Parks	Parks	
New Park Area (acres)	7.6	34.4	
Park Unit Cost	\$200,000	\$1,000,000	
New Park Cost	\$1,520,000	\$34,400,000	

New School Construction	See report text for details
Estimated enrollment:	440 elementary school
	200 middle school
	240 high school
Current capacity estimate:	Expected to exceed capacity
Estimated school costs:	\$15,000,000 (New Elementary School)
\$50,000,000	(New Middle School to accommodate 4D,4E,4F,
\$80,000,000	(New High School to accommodate 4D,4E,4F,40

Transportation Services*

		Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Arterials	14.1	\$154.46	\$17.26	\$171.72
Collectors	21.1	\$217.96	\$23.70	\$241.66
Totals	35.2	Total Road	System Cost:	\$413.39

*Data provided by Metro thru the HERS-ST estimating approach



Transportation Services Map

Transporation Services Legend		
Analysis Area Boundary		
	Existing UGB Area	
	Proposed Roadway Upgrade	
=====	Proposed New Roadways	

and Use Type: Residential

,4G,4H students) G,4H students)



Total Reserve Land:	848	acres
Total Constrained Land:	290	acres
Net Buildable Land:	558	acres
Projected Dwelling Units:	6795	DU

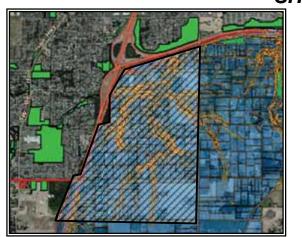
Local Jurisdiction: City of Tualatin Sewer Service Provider: Water Service Provider: Storm Drainage Service Provider: City of Tualatin

Notes

Clean Water Services City of Tualatin School District: Tigard-Tualatin SD and Sherwood SD Parks District: City of Tualatin

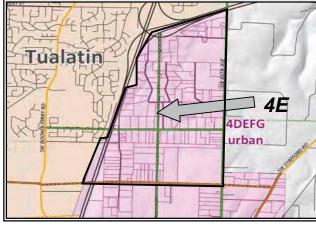
Overall Vicinity Map

SITE



Buildable Lands Map

Buildable Lands Legend		
Existing UGB Boundary		
	Buildable Land Boundary	
	Urban Reserve Areas	
	Parks	
	Analysis Area	



Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern. Pipe sizing assumed to correlate to street classification,

Utility unit costs are based on 2009 development studies.

i.e. local streets carry local utilities.

Transportation Services Map

Transporation Services Legend		
	Analysis Area Boundary	
	Existing UGB Area	
Proposed Roadway Upgrade		
	Proposed New Roadways	

	Lan	a use Type:	Residential	
Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	Force
Pipe Classification	Collector	Trunk	Interceptor	Main
Estimated Pipe Length	8000	2700	5000	(
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$25
Sewer Pipe Cost	\$960,000	\$432,000	\$900,000	\$
			Subtotal Cost:	\$2,292,00
Pump Station Upgrades		0.7MC	D pump station:	\$1,500,00
Treatment Facility Upgrades		0.7MGD c	apacity upsizing:	\$12,060,00

Water Distribution Services Estimated Water Pipe Size 8"-12" Estimated Pipe Length 8000 Estimated Pipe Unit Cost \$100 Water Transmission Pipe Cost \$800,000 Water System Upgrade Costs

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	8000	2700	5000	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$1,080,000	\$472,500	\$1,100,000	\$0
Storm System Upgrade Costs	No system upgrades expected			\$0
		Total Storm	System Cost:	\$2,652,500

Park Improvements	Neighborhood Parks	Community Parks	
New Park Area (acres)	15.1	67.9	
Park Unit Cost	\$200,000	\$1,000,000	
New Park Cost	\$3,020,000	\$67,900,000	

New School Construction	See report text for details
Estimated enrollment:	890 elementary school
	410 middle school
	480 high school
Current capacity estimate:	Expected to exceed capacity
Estimated school costs:	\$20,000,000 (New Elementary School)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Arterials	14.1	\$154.46	\$17.26	\$171.72
Collectors	21.1	\$217.96	\$23.70	\$241.66
Totals	35.2	Total Road	System Cost:	\$413.39
*Data provided by Metro thru the HERS-ST estimating approach				



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 4E I-5 East Washington County

Project Number - 2100103.00

August 3, 2010

Land Use Type: Residential

\$0 2,000 00,000 0.7MGD capacity upsizing: \$12,060,000 Total Sewer System Cost: \$15,852,000

0

\$250

ed Water Demand:		670000	gpd
	12"-18"	18"+	
)	2700	5000	
)	\$150	\$200	
)	\$405,000	\$1,000,000	
Storage and pumping			\$1,400,000
	Total Water	\$3,605,000	



Overall Vicinity Map

Buildable Lands Map

Parks

Analysis Area

Total Reserve Land:	891	acres
Total Constrained Land:	253	acres
Net Buildable Land:	638	acres
Projected Dwelling Units:	7578	DU

Sewer Service Provider: City of Wilsonville Water Service Provider: City of Wilsonville Storm Drainage Service Provider: City of Wilsonville

Notes

Local Jurisdiction: City of Wilsonville School District: West Linn-Wilsonville SD and Sherwood SD Parks District: City of Wilsonville

	Lan	u use Type.	Nesidential				
Sanitary Sewer Services							
Sewer Pipe Size	8"-12"	12"-18"	18"+	Force			
Pipe Classification	Collector	Trunk	Interceptor	Main			
Estimated Pipe Length	91000	3000	5700	0			
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250			
Sewer Pipe Cost	\$10,920,000	\$480,000	\$1,026,000	\$0			
			Subtotal Cost:	\$12,426,000			
Pump Station Upgrades		0.8MG	D pump station:	\$1,600,000			
Treatment Facility Upgrades		0.5MGD ca	apacity upsizing:	\$13,860,000			
		Total Sewe	r System Cost:	\$27,886,000			

Water Distribution Services	Estimated	Water Demand:	770000	gpd
Water Pipe Size	8"-12"	12"-18"	18"+	
Estimated Pipe Length	91000	3000	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$9,100,000	\$450,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping		\$1,600,000
		Total Water	System Cost:	\$12,150,000

Storm Sewer Services						
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+		
Estimated Pipe Length	91000	3000	5700	0		
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330		
Storm Piping Cost	\$12,285,000	\$525,000	\$1,254,000	\$0		
Storm System Upgrade Costs		No system upgra	des expected	\$0		
		Total Storm	System Cost:	\$14,064,000		

Park Improvements	Neighborhood Parks	Community Parks
New Park Area (acres)	17.3	77.7
Park Unit Cost	\$200,000	\$1,000,000
New Park Cost	\$3,460,000	\$77,700,000

New School Construction	See report text for details
Estimated enrollment:	990 elementary school
	460 middle school
	540 high school
Current capacity estimate:	Expected to exceed capacity
Estimated school costs:	\$20,000,000 (New Elementary School)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Arterials	14.1	\$154.46	\$17.26	\$171.72
Collectors	21.1	\$217.96	\$23.70	\$241.66
Totals	35.2	Total Road	System Cost:	\$413.39

*Data provided by Metro thru the HERS-ST estimating approach *Data provided for analysis areas 4E and 4F combined



Buildable Lands Legend Existing UGB Boundary Buildable Land Boundary Urban Reserve Areas

ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 4F/4G Elligsen

Project Number - 2100103.00

August 3, 2010

WILSONVILLE

Transporation Services Legend					
Analysis Area Boundary					
Existing UGB Area					
	Proposed Roadway Upgrade				
= = = = =	= = = = Proposed New Roadways				

Paaaaaaaaa	1			1
5-1		4F/4		
10		4 1 -/4	G	

Trans

	R	E LE	1	_	
sp	oortation Ser	vices M	lap		

i Ser		
Trar		
	Analysis Area Boundary	
	Existing UGB Area	
	Proposed Roadway Upgrade	

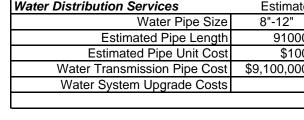
Utility unit costs are based on 2009 development studies.

Sewer, water, and storm pipe lengths and sizing assumed

Pipe sizing assumed to correlate to street classification,

to follow adjacent developed street pattern.

i.e. local streets carry local utilities.



Land Use Type: Residential



Total Reserve Land:	316	acres
Total Constrained Land:	135	acres
Net Buildable Land:	181	acres
Projected Dwelling Units:	2133	DU

Sewer Service Provider: City of Wilsonville Water Service Provider: City of Wilsonville Storm Drainage Service Provider: City of Wilsonville

Notes

School District: West Linn-Wilsonville SD Parks District: City of Wilsonville

Sewer, water, and storm pipe lengths and sizing assumed

Pipe sizing assumed to correlate to street classification,

Utility unit costs are based on 2009 development studies.

to follow adjacent developed street pattern.

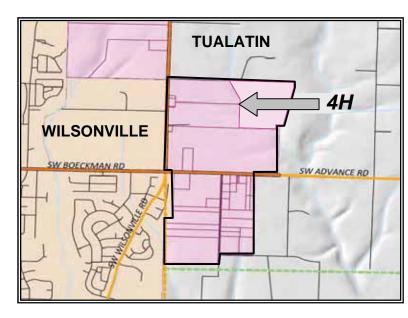
i.e. local streets carry local utilities.

Overall Vicinity Map

SITE

Buildable Lands Map

Buildable Lands Legend		
Existing UGB Boundary		
	Buildable Land Boundary	
	Urban Reserve Areas	
	Parks	
	Analysis Area	



Transportation Services Map

Trans	Transporation Services Legend		
	Analysis Area Boundary		
	Existing UGB Area		
	Proposed Roadway Upgrade		
====	Proposed New Roadways		

Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	Force
Pipe Classification	Collector	Trunk	Interceptor	Main
Estimated Pipe Length	25800	900	1600	0
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250
Sewer Pipe Cost	\$3,096,000	\$144,000	\$288,000	\$0
			Subtotal Cost:	\$3,528,000
Pump Station Upgrades	0.25MGD pump station:		\$1,300,000	
Treatment Facility Upgrades	0.25MGD capacity upsizing:		\$3,960,000	
		Total Sewer	r System Cost:	\$8,788,000

V

Water Distribution Services	Estimated	Water Demand: 220000		gpd
Water Pipe Size	8"-12"	12"-18"	18"+	
Estimated Pipe Length	25800	900	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$2,580,000	\$135,000	\$1,000,000	
Water System Upgrade Costs		Storag	ge and pumping	\$500,000
		Total Water	System Cost:	\$4,215,000

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	25800	900	1600	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$3,483,000	\$157,500	\$352,000	\$0
Storm System Upgrade Costs	No system upgrades expected		\$0	
		Total Storm	System Cost:	\$3,992,500

Park Improvements	Neighborhood	Community
	Parks	Parks
New Park Area (acres)	4.9	22.1
Park Unit Cost	\$200,000	\$1,000,000
New Park Cost	\$980,000	\$22,100,000
New School Construction	See report text	for details
Estimated enrollment:	280	elementary scho

ew School Construction	See report text for details
Estimated enrollment:	280 elementary school
	130 middle school
	150 high school
Current capacity estimate:	Expected to exceed capacity
Estimated school costs:	\$20,000,000 (New Elementary School)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Arterials	6.9	\$78.27	\$2.58	\$80.85
Collectors	2.4	\$25.44	\$1.24	\$26.68
Totals	9.3	Total Road	System Cost:	\$107.52

*Data provided by Metro thru the HERS-ST estimating approach



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 4H Advance

Project Number - 2100103.00

August 3, 2010

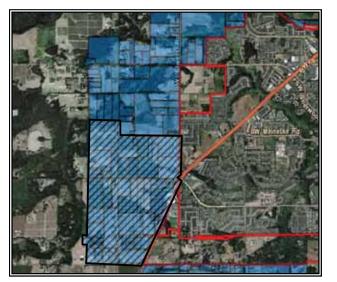


Total Reserve Land:	496	acres
Total Constrained Land:	64	acres
Net Buildable Land:	432	acres
Projected Dwelling Units:	4891	DU



Overall Vicinity Map

SITE



Buildable Lands Map

Buildable Lands Legend		
Existing UGB Boundary		
	Buildable Land Boundary	
	Urban Reserve Areas	
	Parks	
	Analysis Area	



Local Jurisdiction: City of Sherwood Sewer Service Provider: Clean Water Services Water Service Provider: City of Sherwood Storm Drainage Service Provider: City of Sherwood School District: Sherwood SD

Parks District: City of Sherwood

Notes

Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern. Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.



Transportation Services Map

Tran	Transporation Services Legend		
	Analysis Area Boundary		
	Existing UGB Area		
	Proposed Roadway Upgrade		
= = = = =	Proposed New Roadways		

	Lan
Sanitary Sewer Services	
Sewer Pipe Size	8"-12"
Pipe Classification	Collector
Estimated Pipe Length	53200
Estimated Pipe Unit Cost	\$120
Sewer Pipe Cost	\$6,384,000
Pump Station Upgrades	
Treatment Facility Upgrades	

Water Distribution Services	Estimated Water Demand:		520000	gpd
Water Pipe Size	8"-12"	12"-18"	18"+	
Estimated Pipe Length	53200	10100	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$5,320,000	\$1,515,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping		\$1,100,000
Total Water System Cost:			\$8,935,000	

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	53200	10100	0	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$7,182,000	\$1,767,500	\$0	\$0
Storm System Upgrade Costs	No system upgrades expected			\$0
Total Storm System Cost:				\$8,949,500

Park Improvements	Neighborhood	Community	
	Parks	Parks	
New Park Area (acres)	14.7	66.3	
Park Unit Cost	\$200,000	\$1,000,000	
New Park Cost	\$2,940,000	\$66,300,000	
	-		

New School Construction	See report text for details
Estimated enrollment:	640 elementary school
	300 middle school
	350 high school
Current capacity estimate:	Expected to exceed capacity
Estimated school costs:	\$80,000,000 (New K-8 School)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost	
		(in millions)	(in millions)	(in millions)	
Arterials	5.4	\$62.15	\$0.00	\$62.15	
Collectors	7.4	\$77.53	\$5.77	\$83.30	
Totals	12.8	Total Road	System Cost:	\$145.46	
*Determined the Meter that the UEDO OT estimation and a sh					

*Data provided by Metro thru the HERS-ST estimating approach

ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 5B Sherwood West

Project Number - 2100103.00

August 3, 2010

\$

and Use Type: Residential

12"-18"	18"+	Force		
Trunk	Interceptor	Main		
10100	0	0		
\$160	\$180	\$250		
1,616,000	\$0	\$0		
0,	\$8,000,000			
0.5MG	D pump station:	\$1,400,000		
0.5MGD capacity upsizing:		\$9,360,000		
Total Sewer	System Cost:	\$18,760,000		



Total Reserve Land:	447	acres
Total Constrained Land:	231	acres
Net Buildable Land:	216	acres
Projected Dwelling Units:	1902	DU



Overall Vicinity Map

SITE



Buildable Lands Map

B	Buildable Lands Legend				
	 Existing UGB Boundary 				
Buildable Land Boundary					
	Urban Reserve Areas				
	Parks				
	Analysis Area				

Local Jurisdiction: City of Sherwood Sewer Service Provider: Clean Water Services Water Service Provider: City of Sherwood Storm Drainage Service Provider: City of Sherwood

School District: Sherwood SD Parks District: City of Sherwood

Notes

Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern. Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.



Transportation Services Map

Transporation Services Legend				
	Analysis Area Boundary			
	Existing UGB Area			
	Proposed Roadway Upgrade			
= = = = =	Proposed New Roadways			

Sewer Pipe Size	8"-12"	12"-18" 18"+		Force
Pipe Classification	Collector	Trunk	Interceptor	Main
Estimated Pipe Length	26600	5100	0	0
Estimated Pipe Unit Cost	\$120	\$160 \$180		\$250
Sewer Pipe Cost	\$3,192,000	\$816,000 \$0		\$0
		Subtotal Cost:		
Pump Station Upgrades	0.25MGD pump station:			\$1,300,000
Treatment Facility Upgrades	0.25MGD capacity upsizing:			\$4,680,000
		Total Se	ewer System Cost:	\$9,988,000

Water Distribution Services	Estimated Water Demand: 260000 g		gpd	
Water Pipe Size	8"-12"	12"-18" 18"+		
Estimated Pipe Length	26600	5100	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$2,660,000	\$765,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping		\$500,000
Total Water System Cost:				\$4,925,000

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	26600	5100	0	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$3,591,000	\$892,500	\$0	\$0
Storm System Upgrade Costs		No system u	pgrades expected	\$0
		Total St	torm System Cost:	\$4,483,500

	Neighborhood Parks	Community Parks
New Park Area (acres)	7.5	33.5
Park Unit Cost	\$200,000	\$1,000,000
New Park Cost	\$1,500,000	\$33,500,000

New School Construction	See report text for details
Estimated enrollment:	250 elementary school
	120 middle school
	140 high school
Current capacity estimate:	Expected within capacity
Estimated school costs:	\$300,000 (increased maintenance costs)

Transportation Services*

-		Normal Cost	High Cost (in	Total Cost (in
	Lane Miles	(in millions)	millions)	millions)
Arterials	4	Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Collectors	10	\$90.96	\$35.24	\$126.20
Totals	14	Total F	Road System Cost:	\$178.12

*Data provided by Metro thru the HERS-ST estimating approach



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 5D Sherwood South

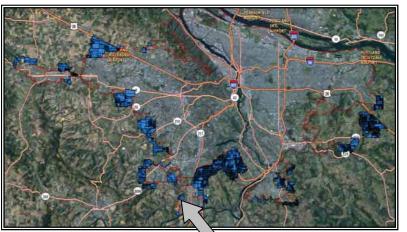
Project Number - 2100103.00

August 3, 2010

Land Use Type: Residential

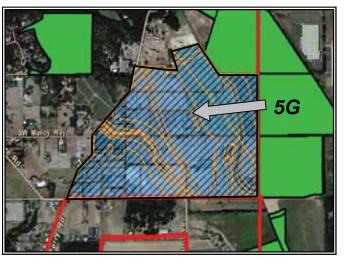


Total Reserve Land:	203	acres
Total Constrained Land:	120	acres
Net Buildable Land:	83	acres
Projected Dwelling Units:	1094	DU



Overall Vicinity Map

SITE



Buildable Lands Map

Buildable Lands Legend			
Existing UGB Boundary			
Buildable Land Boundary			
Urban Reserve Areas			
Parks			
	Analysis Area		

Local Jurisdiction: City of Wilsonville Sewer Service Provider: City of Wilsonville Water Service Provider: City of Wilsonville Storm Drainage Service Provider: City of Wilsonville

School District: Sherwood SD Parks District: City of Wilsonville

Notes

Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern.

Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.

Survey 25G	urban
Transportation Services Map	

Transporation Services Legend Analysis Area Boundary Existing UGB Area Proposed Roadway Upgrade = = = = = Proposed New Roadways

	Land	d Use Type:	Residential	
Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	Force
Pipe Classification	Collector	Trunk	Interceptor	Main
Estimated Pipe Length	11000	1400	800	0
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250
Sewer Pipe Cost	\$1,320,000	\$224,000	\$144,000	\$0
			Subtotal Cost:	\$1,688,000
Pump Station Upgrades		0.1N	IGD pump station:	\$1,200,000
Treatment Facility Upgrades	A	ssociated increa	sed maintenance:	\$300,000
		Total Sev	ver System Cost:	\$3,188,000

Water Distribution Services	Estimated	Water Demand:	100000	gpd
Water Pipe Size	8"-12"	12"-18"	18"+	
Estimated Pipe Length	11000	1400	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$1,100,000	\$210,000	\$1,000,000	
Water System Upgrade Costs		Sto	rage and pumping	\$200,000
		Total Wat	ter System Cost:	\$2,510,000

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length		1400	800	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$1,485,000	\$245,000	\$176,000	\$0
Storm System Upgrade Costs		No system up	grades expected	\$0
		Total Sto	rm System Cost:	\$1,906,000

Neighborhood Parks	Community Parks
3.3	14.7
\$200,000	\$1,000,000
\$660,000	\$14,700,000
	Parks 3.3 \$200,000

New School Construction	See report text for details
Estimated enrollment:	150 elementary school
	70 middle school
	80 high school
Current capacity estimate:	Expected within enrollment capacity
Estimated school costs:	\$300,000 (increased maintenance costs)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Arterials	4.6	\$30.62	\$49.46	\$80.08
Collectors	3.7	\$32.87	\$14.84	\$47.71
Totals	8.3	Total Ro	ad System Cost:	\$127.78

*Data provided by Metro thru the HERS-ST estimating approach



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 5G Grahams Ferry

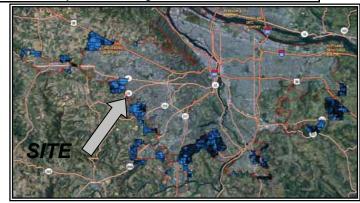
Project Number - 2100103.00

August 3, 2010

Land Use Type: Residential



Total Reserve Land:	1063	acres
Total Constrained Land:	184	acres
Net Buildable Land:	879	acres
Projected Dwelling Units:	10172	DU



Overall Vicinity Map



Buildable Lands Map

Buildable Lands Legend		
Existing UGB Boundary		
Buildable Land Boundary		
Urban Reserve Areas		
Parks		
	Analysis Area	



Local Jurisdiction: City of Hillsboro Sewer Service Provider: Clean Water Services Water Service Provider: City of Hillsboro Storm Drainage Service Provider: City of Hillsboro School District: Hillsboro SD Parks District: City of Hillsboro

Notes

Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern.

Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.



Transportation Services Map

Transporation Services Legend		
	Analysis Area Boundary	
	Existing UGB Area	
	Proposed Roadway Upgrade	
====	Proposed New Roadways	

Land Use Type: Residential			
8"-12"	12"-18"	18"+	Force
Collector	Trunk	Interceptor	Main
12500	5200	8000	0
\$120	\$160	\$180	\$250
\$1,500,000	\$832,000	\$1,440,000	\$0
Subtotal Cost: \$3,772,000			
1.1MGD pump station: \$1,700,000			\$1,700,000
1.1MGD capacity upsizing: \$19,080,000			\$19,080,000
Total Sewer System Cost: \$24,552,000			
Estimated	Water Demand:	1060000	gpd
	8"-12" Collector 12500 \$120 \$1,500,000	8"-12" 12"-18" Collector Trunk 12500 5200 \$120 \$160 \$1,500,000 \$832,000 1.1MG 1.1MGD ca Total Sewe 100	8"-12" 12"-18" 18"+ Collector Trunk Interceptor 12500 5200 8000 \$120 \$160 \$180 \$1,500,000 \$832,000 \$1,440,000 Subtotal Cost: 1.1MGD pump station: 1.1MGD capacity upsizing: Total Sewer System Cost:

Water Distribution Services	Estimated Water Demand:		1060000	gpd
Water Pipe Size	8"-12"	12"-18"	12"-18" 18"+	
Estimated Pipe Length	12500	5200	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$1,250,000	\$780,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping \$2,200,		\$2,200,000
		Total Water	System Cost:	\$5,230,000

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	12500	5200	8000	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$1,687,500	\$910,000	\$1,760,000	\$0
Storm System Upgrade Costs	No system upgrades expected		\$0	
		Total Storm	System Cost:	\$4,357,500

ŀ	Parks	Community Parks
New Park Area (acres)	12.7	57.3
Park Unit Cost	\$200,000	\$1,000,000
New Park Cost	\$2,540,000	\$57,300,000

New School Construction	See report text for details
Estimated enrollment:	1330 elementary school
	620 middle school
	720 high school
Current capacity estimate:	Expected to exceed capacity
Estimated school costs:	\$70,000,000 (New Elem and Middle Schools)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost
		(in millions)	(in millions)	(in millions)
Arterials	17.4	\$156.19	\$99.18	\$255.37
Collectors	6.7	\$71.09	\$2.89	\$73.98
Totals	24.1	Total Road	System Cost:	\$329.34
*Data provided by Matra thru the LIEDS CT actimating approach				

*Data provided by Metro thru the HERS-ST estimating approach

ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

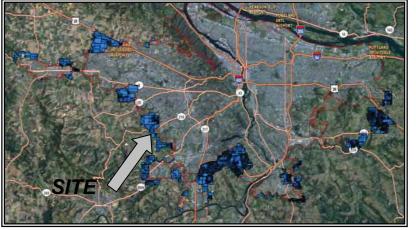
Cost Estimate - Area 6A South Hillsboro

Project Number - 2100103.00

August 3, 2010



Total Reserve Land:	256	acres
Total Constrained Land:	50	acres
Net Buildable Land:	206	acres
Projected Dwelling Units:	2424	DU



Overall Vicinity Map



Buildable Lands Map

Buildable Lands Legend		
	Existing UGB Boundary	
Buildable Land Boundary		
Urban Reserve Areas		
Parks		
	Analysis Area	

Local Jurisdiction: City of Tigard Sewer Service Provider: Clean Water Services Water Service Provider: City of Tigard Storm Drainage Service Provider: City of Tigard Parks District: City of Tigard

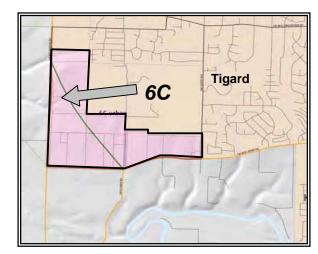
School District: Tigard-Tualatin SD

Notes

Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern.

Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.



Transportation Services Map

Transporation Services Legend				
	Analysis Area Boundary			
Existing UGB Area				
Proposed Roadway Upgrade				
====	Proposed New Roadways			

	Lan	d Use Type:	Residential	
Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	Force
Pipe Classification	Collector	Trunk	Interceptor	Main
Estimated Pipe Length	25100	4400	300	0
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250
Sewer Pipe Cost	\$3,012,000	\$704,000	\$54,000	\$0
			Subtotal Cost:	\$3,770,000
Pump Station Upgrades		\$1,300,000		
Treatment Facility Upgrades	0.25MGD capacity upsizing:			\$4,500,000
		Total	Sewer System Cost:	\$9,570,000

Water Distribution Services	Estimated	Estimated Water Demand: 250000 g		gpd
Water Pipe Size	8"-12"	12"-18"	18"+	
Estimated Pipe Length	25100	4400	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$2,510,000	\$660,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping		\$500,000
Total Water System Cost:				

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	25100	4400	300	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$3,388,500	\$770,000	\$66,000	\$0
Storm System Upgrade Costs		No system upgrades expected		\$0
		Total S	Storm System Cost:	\$4,224,500

Park Improvements	Neighborhood Parks	Community Parks
New Park Area (acres)	2.9	13.1
Park Unit Cost	\$200,000	\$1,000,000
New Park Cost	\$580,000	\$13,100,000

New School Construction	See report text for details
Estimated enrollment:	320 elementary school
	150 middle school
	170 high school
Current capacity estimate:	Expected to exceed elementary capacity
Estimated school costs:	\$20,000,000 (new elementary school)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost		
		(in millions)	(in millions)	(in millions)		
Arterials	6.1	\$67.56	\$4.64	\$72.20		
Collectors	2	\$21.62	\$0.00	\$21.62		
Totals 8.1 Total Road System Cost: \$93.82						
*Data provided by Metro thru the HERS-ST estimating approach						



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 6C Roy Rogers West

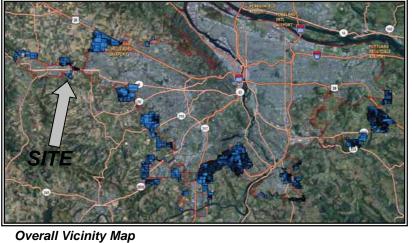
Project Number - 2100103.00

August 3, 2010

Posidontial



Total Reserve Land:	210	acres
Total Constrained Land:	21	acres
Net Buildable Land:	189	acres
Projected Dwelling Units:	2188	DU



Sewer Service Provider: Clean Water Services Water Service Provider: City of Cornelius Storm Drainage Service Provider: City of Cornelius

Local Jurisdiction: City of Cornelius School District: Hillsboro SD and Forest Grove SD Parks District: City of Cornelius

Notes

Sewer, water, and storm pipe lengths and sizing assumed to follow adjacent developed street pattern.

Pipe sizing assumed to correlate to street classification, i.e. local streets carry local utilities.

Utility unit costs are based on 2009 development studies.

	Lan	d Use Type:	Residential	
Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	Force
Pipe Classification	Collector	Trunk	Interceptor	Main
Estimated Pipe Length	26500	100	3800	0
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250
Sewer Pipe Cost	\$3,180,000	\$16,000	\$684,000	\$0
			Subtotal Cost:	\$3,880,000
Pump Station Upgrades	0.25MGD pump station:			\$1,300,000
Treatment Facility Upgrades	0.25MGD capacity upsizing:			\$4,140,000
		Total Sewe	r System Cost:	\$9,320,000

Water Distribution Services	Estimated	Water Demand:	230000	gpd
Water Pipe Size	8"-12"	12"-18"	18"+	
Estimated Pipe Length	26500	100	5000	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Transmission Pipe Cost	\$2,650,000	\$15,000	\$1,000,000	
Water System Upgrade Costs		Storage and pumping		\$500,000
		Total Water	System Cost:	\$4,165,000

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	26500	100	3800	0
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$3,577,500	\$17,500	\$836,000	\$0
Storm System Upgrade Costs	No system upgrades expected			\$0
		Total Storm	System Cost:	\$4,431,000

Park Improvements	Neighborhood Parks	Community Parks
New Park Area (acres)	1.5	6.5
Park Unit Cost	\$200,000	\$1,000,000
New Park Cost	\$300,000	\$6,500,000

New School Construction	See report text for details
Estimated enrollment:	290 elementary school
	140 middle school
	160 high school
Current capacity estimate:	Expected within existing capacity
Estimated school costs:	\$500,000 (increased maintenance costs)

Transportation Services*

	Lane Miles	Normal Cost	High Cost	Total Cost	
		(in millions)	(in millions)	(in millions)	
Arterials	2.9	\$33.61	\$0.00	\$33.61	
Collectors	3.1	\$33.09	\$1.65	\$34.74	
Totals	6	Total Road	System Cost:	\$68.35	
*Data may ideal by Mature that the LIEDC CT active stics are proved at					

*Data provided by Metro thru the HERS-ST estimating approach



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 7D Cornelius South

Project Number - 2100103.00

August 3, 2010

Cornelius D urban **7D**

Transportation Services Map

Transporation Services Legend			
Analysis Area Boundary			
Existing UGB Area			
Proposed Roadway Upgrade			
= = = = = Proposed New Roadways			

A CONTRACTOR OF THE OWNER	10000		ALC: NOT
Иар			
	in the second se		



Buildable Lands Map

Buildable Lands Legend		
Existing UGB Boundary		
Buildable Land Boundary		
Urban Reserve Areas		
	Parks	
	Analysis Area	

I STATE TO DESCRIPTION



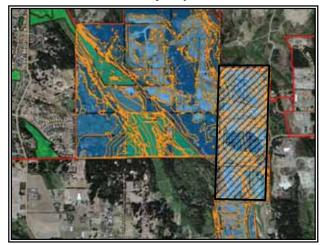
Total Reserve Land:	120	acres
Total Constrained Land:	63	acres
Net Buildable Land:	57	acres

Local Jurisdiction: City of Tualatin Sewer Service Provider: Water Service Provider: City of Tualatin Storm Drainage Service Provider: Cleanwater Services

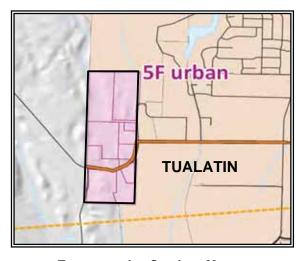
Cleanwater Services



Overall Vicinity Map



Buildable Lands Map		
Buildable Lands Legend		
	Existing UGB Boundary	
	Buildable Land Boundary	
	Urban Reserve Areas	
	Parks	
	Analysis Area	



Transport	Transportation Services Map			
Trai	Transporation Services Legend			
	Analysis Area Boundary			
	Existing UGB Area			
	Proposed Roadway Upgrade			
= = = = Proposed New Roadways				

Sanitary Sewer Services Sewer Pipe Size Estimated Pipe Length Estimated Pipe Unit Cost Sewer Pipe Cost Dump Station Unaredoa

IN IN	Pump Station Opgrades
Associated	Treatment Facility Upgrades
Tot	

Water Distribution Services	Estimated Water Demand: 57000		gpd	
Water Pipe Size	12"-18"	18"-24"	24"+	
Estimated Pipe Length	1600	400	800	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Pipe Cost	\$160,000	\$60,000	\$160,000	
Treatment or System Upgrades	Increased associated maintenance			\$250,000
Total Water System Cost:			\$630,000	

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	600	500	800	400
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$81,000	\$87,500	\$176,000	\$132,000
Total Storm System Cost:				\$476,500

Transportation Services*

		Normal Cost (in	High Cost (in	Total Cost (in
	Lane Miles	millions)	millions)	millions)
Arterials	5.7	\$57.55	\$18.29	\$75.84
Collectors	0	\$0.00	\$0.00	\$0.00
Totals	5.7	Total Road	System Cost:	\$75.84

*Data provided by Metro thru the HERS-ST estimating approach

Notes

Sewer, water, and storm pipe lengths are estimated based on average utility inventories of similar developments.

Utility unit costs are based on 2009 development studies.



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 5F Tonquin

Project Number - 2100103.00

August 3, 2010

8"-12"

1300

\$120

\$156,000

12"-18"	18"+	12+" Force
400	400	200
\$160	\$180	\$250
\$64,000	\$72,000	\$50,000
	Subtotal Cost:	\$342,000
No pump s	station expected	\$0
iated increas	ed maintenance	\$250,000
Total Sewe	r System Cost:	\$592,000



Total Reserve Land:	203 acres
Total Constrained Land:	37 acres
Net Buildable Land:	166 acres

Local Jurisdiction: City of Cornelius Sewer Service Provider: Cleanwater Services Water Service Provider: City of Cornelius Storm Drainage Service Provider: City of Cornelius



Overall Vicinity Map



Buildable Lands Map

В	uildable Lands Legend
	Existing UGB Boundary
	Buildable Land Boundary
	Urban Reserve Areas
	Parks
	Analysis Area



Transportation Services Map

Tran	sporation Services Legend
	Analysis Area Boundary
	Existing UGB Area
	Proposed Roadway Upgrade
= = = = =	Proposed New Roadways

Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	12+" Force
Estimated Pipe Length	3900	1200	1100	600
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250
Sewer Pipe Cost	\$468,000	\$192,000	\$198,000	\$150,000
			Subtotal Cost:	\$1,008,000
Pump Station Upgrades		0.25MG	D pump station	\$1,300,000
Treatment Facility Upgrades	Ass	sociated increas	ed maintenance	\$500,000
	Total Sewer System Cost: \$2,808,00		\$2,808,000	

Water Distribution Services	Estimated	Water Demand:	166000	gpd
Water Pipe Size	12"-18"	18"-24"	24"+	
Estimated Pipe Length	4800	1300	2400	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Pipe Cost	\$480,000	\$195,000	\$480,000	
Treatment or System Upgrades	As	sociated increas	ed maintenance	\$300,000
		Total Water	r System Cost:	\$1,455,000

Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	1700	1400	2300	1100
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$229,500	\$245,000	\$506,000	\$363,000
		Total Storm	System Cost:	\$1,343,500

Transportation Services*

		Normal Cost	High Cost (in	Total Cost (in
	Lane Miles	(in millions)	millions)	millions)
Arterials	5.9	\$61.92	\$13.65	\$75.57
Collectors	1.3	\$11.14	\$4.95	\$16.09
Totals	7.2	Total Road	System Cost:	\$91.66

*Data provided by Metro thru the HERS-ST estimating approach

Notes

Sewer, water, and storm pipe lengths are estimated based on average utility inventories of similar developments. Utility unit costs are based on 2009 development studies.



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 71 Cornelius North

Project Number - 2100103.00

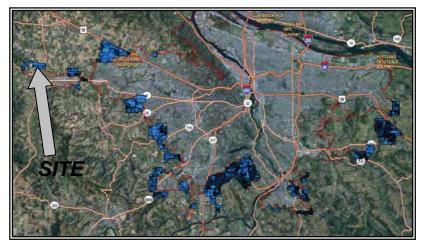
August 3, 2010



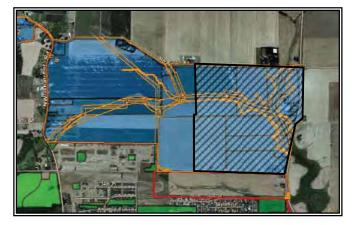
Total Reserve Land:	216 acres
Total Constrained Land:	41 acres
Net Buildable Land:	175 acres

Sewer Service Provider: Water Service Provider: City of Forest Grove Storm Drainage Service Provider: City of Forest Grove

Local Jurisdiction: City of Forest Grove Cleanwater Services



Overall Vicinity Map



Buildable Lands Map

В	uildable Lands Legend
	Existing UGB Boundary
	Buildable Land Boundary
	Urban Reserve Areas
	Parks
	Analysis Area



Transportation Services Map

Trai	nsporation Services Legend
	Analysis Area Boundary
	Existing UGB Area
	Proposed Roadway Upgrade
=====	Proposed New Roadways

	lusinai	Large-Site inc	a use Type:	Lan	
					Sanitary Sewer Services
Force	12+" Fo	18"+	12"-18"	8"-12"	Sewer Pipe Size
600		1100	1300	4100	Estimated Pipe Length
\$250	\$	\$180	\$160	\$120	Estimated Pipe Unit Cost
50,000	\$150	\$198,000	\$208,000	\$492,000	Sewer Pipe Cost
18,000	\$1,048	Subtotal Cost:			
00,000	\$1,300	D pump station	0.25M0		Pump Station Upgrades
00,000	Associated increased maintenance \$500,0		Treatment Facility Upgrades		
18,000	Total Sewer System Cost: \$2,848,000				

Water Distribution Services	Estimated	Water Demand:	175000	gpd
Water Pipe Size	12"-18"	18"-24"	24"+	
Estimated Pipe Length	5100	1400	2600	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Pipe Cost	\$510,000	\$210,000	\$520,000	
Treatment or System Upgrades	Associated increased maintenance		\$350,000	
	Total Water System Cost:			\$1,590,000

Storm Sewer Services					
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+	
Estimated Pipe Length	1800	1500	2400	1200	
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330	
Storm Piping Cost	\$243,000	\$262,500	\$528,000	\$396,000	
Total Storm System Cost:					

Transportation Services*

		Normal Cost	High Cost (in	Total Cost (in
	Lane Miles	(in millions)	millions)	millions)
Arterials	4.1	\$43.97	\$6.96	\$50.93
Collectors	2.4	\$23.04	\$6.18	\$29.22
Totals	6.5	Total Road	System Cost:	\$80.15

*Data provided by Metro thru the HERS-ST estimating approach

Notes

Sewer, water, and storm pipe lengths are estimated based on average utility inventories of similar developments. Utility unit costs are based on 2009 development studies.



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 7B Forest Grove North

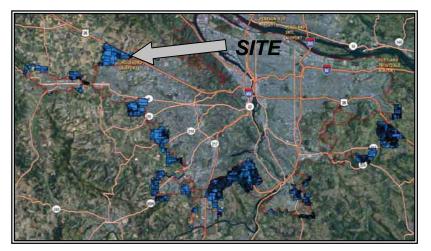
Project Number - 2100103.00

August 3, 2010



Total Reserve Land:	950 acres
Total Constrained Land:	183 acres
Net Buildable Land:	767 acres

Local Jurisdiction: City of Hillsboro Sewer Service Provider: Cleanwater Services Water Service Provider: City of Hillsboro Storm Drainage Service Provider: City of Hillsboro



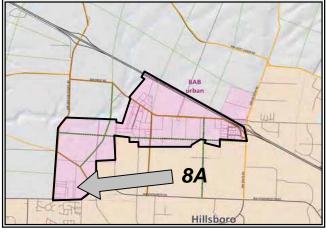
Overall Vicinity Map



Buildable Lands Map

Buildable Lands Legend						
Existing UGB Boundary						
	Buildable Land Boundary					
	Urban Reserve Areas					
	Parks					
	Analysis Area					





Transportation Services Map

Transporation Services Legend					
	Analysis Area Boundary				
Existing UGB Area					
	Proposed Roadway Upgrade				
====	Proposed New Roadways				

			•	
Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	12+" Force
Estimated Pipe Length	17900	5500	4900	2700
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250
Sewer Pipe Cost	\$2,148,000	\$880,000	\$882,000	\$675,000
	Subtotal Cost:			\$4,585,000
Pump Station Upgrades	C).75MGD pump s	station expected	\$1,500,000
Treatment Facility Upgrades	Associated increased maintenance			\$750,000
		\$6,835,000		

Water Distribution Services	Estimated	Water Demand:	767000	gpd
Water Pipe Size	12"-18"	18"-24"	24"+	
Estimated Pipe Length	22200	6000	11300	
Estimated Pipe Unit Cost	\$100	\$150	\$200	
Water Pipe Cost	\$2,220,000	\$900,000	\$2,260,000	
Treatment or System Upgrades	Assocated increased maintenance			\$700,000
		\$6,080,000		

Storm Sewer Services						
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+		
Estimated Pipe Length	8000	6500	10500	5100		
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330		
Storm Piping Cost	\$1,080,000	\$1,137,500	\$2,310,000	\$1,683,000		
		Total Storm	System Cost:	\$6,210,500		

Transportation Services*

		Normal Cost	High Cost (in	Total Cost (in
	Lane Miles	(in millions)	millions)	millions)
Arterials	24.8	\$272.67	\$28.85	\$301.52
Collectors	13.4	\$128.97	\$33.18	\$162.15
Totals	38.2	Total Road	System Cost:	\$463.67

*Data provided by Metro thru the HERS-ST estimating approach

Notes

Sewer, water, and storm pipe lengths are estimated based on average utility inventories of similar developments. Utility unit costs are based on 2009 development studies.

ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 8A Hillsboro North

Project Number - 2100103.00

August 3, 2010



Total Reserve Land:	86 acres
Total Constrained Land:	28 acres
Net Buildable Land:	58 acres

Local Jurisdiction: City of Hillsboro Sewer Service Provider: Cleanwater Services Water Service Provider: City of Hillsboro Storm Drainage Service Provider: City of Hillsboro

Sanitary Sewer Services				
Sewer Pipe Size	8"-12"	12"-18"	18"+	12+" Force
Estimated Pipe Length	1400	400	400	200
Estimated Pipe Unit Cost	\$120	\$160	\$180	\$250
Sewer Pipe Cost	\$168,000	\$64,000	\$72,000	\$50,000
	Subtotal Cost:			\$354,000
Pump Station Upgrades	No pump station expected			\$0
Treatment Facility Upgrades	Associated increased maintenance			\$200,000
		Total Sewer	System Cost:	\$554,000

Water Distribution Services	Estimated	Water Demand:	58000	gpd		
Water Pipe Size	12"-18"	18"-24"	24"+			
Estimated Pipe Length	1700	500	900			
Estimated Pipe Unit Cost	\$100	\$150	\$200			
Water Pipe Cost	\$170,000	\$75,000	\$180,000			
Treatment or System Upgrades	As	\$100,000				
	Total Water System Cost:					

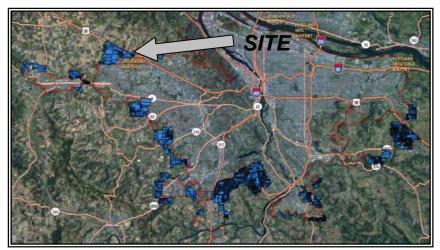
Storm Sewer Services				
Storm Pipe Size	12"-18"	18"-24"	24"-48"	48"+
Estimated Pipe Length	600	500	800	400
Estimated Pipe Unit Cost	\$135	\$175	\$220	\$330
Storm Piping Cost	\$81,000	\$87,500	\$176,000	\$132,000
· · · · ·		Total Storm	System Cost:	\$476,500

Transportation Services

Note: transportation costs for this area have been incorporated into the adjacent 8A area. No additional transportation improvements are needed to serve this area.

Notes

Sewer, water, and storm pipe lengths are estimated based on average utility inventories of similar developments. Utility unit costs are based on 2009 development studies.



Overall Vicinity Map



Buildable Lands Map

Buildable Lands Legend						
	Existing UGB Boundary					
	Buildable Land Boundary					
	Urban Reserve Areas					
	Parks					
Analysis Area						



ASSESSMENT OF POTENTIAL URBAN GROWTH BOUNDARY EXPANSION AREAS

Cost Estimate - Area 8B Shute Road Interchange

Project Number - 2100103.00

August 3, 2010

8AB urban	8B
	HILLSBORO

Transportation Services Map

(See adjacent area 8A for transportation cost data)

Transporation Services Legend						
Analysis Area Boundary						
	Existing UGB Area					
	Proposed Roadway Upgrade					
= = = = = Proposed New Roadways						



Attachment 4 Public Facilities and Services Cost Summary

	Conitory Course	Water	Charma Causar	Tropportation	Dorte	Cabaala
	Sanitary Sewer	Distribution	Storm Sewer	Transportation	Parks	Schools
1C - East Gresham	\$15,272,000	\$3,240,000	\$2,858,500	\$260,050,000	\$43,560,000.00	\$60,000,000
3D - Maplelane	\$8,028,000	\$6,600,000	\$6,914,500	\$142,760,000	\$33,320,000.00	\$20,000,000
3G - Beaver Creek Bluffs	\$4,116,000	\$3,290,000	\$2,587,500	\$64,140,000	\$5,960,000.00	\$250,000
4D - Norwood	\$13,170,000	\$5,990,000	\$6,303,000	\$80,580,000	\$35,920,000.00	\$15,000,000
4E - I-5 East	\$15,852,000	\$3,605,000	\$2,652,500	\$124,290,000	\$70,920,000.00	\$20,000,000
4F/G - Elligsen	\$27,886,000.00	\$12,150,000.00	\$14,064,000.00	\$238,260,000.00	\$81,160,000.00	\$20,000,000.00
4H - Advance	\$9,788,000	\$4,570,000	\$4,513,000	\$107,520,000	\$25,600,000.00	\$20,000,000
5B - Sherwood West	\$18,760,000	\$8,935,000	\$8,949,500	\$145,460,000	\$69,240,000.00	\$80,000,000
5D - Sherwood South	\$9,988,000	\$4,925,000	\$4,483,500	\$178,120,000	\$35,000,000.00	\$300,000
5F - Tonquin	\$592,000.00	\$630,000.00	\$476,500.00	\$75,840,000.00	-	-
5G - Grahams Ferry	\$3,188,000	\$2,510,000	\$1,906,000	\$127,780,000	\$15,360,000.00	\$300,000
6A - South Hillsboro	\$24,552,000	\$5,230,000	\$4,357,500	\$329,340,000	\$59,840,000.00	\$70,000,000
6C - Roy Rogers West	\$9,570,000	\$4,670,000	\$4,224,500	\$93,820,000	\$13,680,000.00	\$20,000,000
7B - Forest Grove North	\$2,848,000.00	\$1,590,000.00	\$1,429,500.00	\$80,150,000.00	-	-
7D - Cornelius South	\$9,320,000	\$4,165,000	\$4,431,000	\$68,350,000	\$6,800,000.00	\$500,000
71 - Cornelius North	\$2,808,000.00	\$1,455,000.00	\$1,343,500.00	\$91,660,000.00	-	-
8A - Hillsboro North	\$6,835,000.00	\$6,080,000.00	\$6,210,500.00	\$463,670,000.00	-	-
8B - Shute Road Interchange	\$554,000.00	\$525,000.00	\$476,500.00	n/a*	-	-

*See analysis summary report for more details.

Attachment 5 Transportation Analysis Summary

	Existing lane miles	Conceptual lane miles	Lanes miles to be built	Square miles	Total cost (in millions)	Cost/square mile (in millions)	Cost/added Iane mile (in millions)	Cost/system lane mile (in millions)	Distance to bus (in miles)	Distance to LRT (in miles)
1C - East Gresham	12.03	34.79	22.76	1.34	\$260.05	\$194.07	\$11.43	\$7.47	0	2.44
3D - Maplelane	7.54	18.87	11.33	0.9	\$142.76	\$158.62	\$12.60	\$7.57	0.53	6.01
3G - Beaver Creek Bluffs	3.88	8.6	4.72	0.35	\$64.14	\$183.26	\$13.59	\$7.46	0.74	6.63
4D - Norwood	2.2	8.4	6.2	0.5	\$80.58	\$153.20	\$13.01	\$9.58	1.41	9.92
4E - I-5 East	8.2	19.1	10.8	1.3	\$124.29	\$93.81	\$11.46	\$6.52	0.25	8.68
4F/G - Elligsen	7.9	28.6	20.7	1.4	\$238.26	\$171.17	\$11.49	\$8.32	0.19	9.98
4H - Advance	6.35	15.64	9.29	0.42	\$107.52	\$256.01	\$11.57	\$6.87	1.53	1.53
5B - Sherwood West	5.23	18.01	12.78	0.77	\$145.46	\$188.90	\$11.38	\$8.08	1.08	3.53
5D - Sherwood South	4.58	18.63	14.05	0.7	\$178.12	\$254.45	\$12.68	\$9.56	0.9	2.49
5F - Tonquin	2.23	7.94	5.71	0.19	\$75.84	\$399.16	\$13.28	\$9.55	0.24	0.24
5G - Grahams Ferry	4.28	12.6	8.32	0.32	\$127.78	\$399.33	\$15.36	\$10.14	0.18	0.18
6A - South Hillsboro	7.19	31.26	24.07	1.66	\$329.34	\$198.40	\$13.68	\$10.54	0.01	1.75
6C - Roy Rogers West	5.06	13.09	8.03	0.4	\$93.82	\$234.56	\$11.68	\$7.17	1.35	3
7B - Forest Grove North	2.73	9.23	6.5	0.22	\$80.15	\$364.31	\$12.33	\$8.68	1.2	5.73
7D - Cornelius South	2.75	8.78	6.03	0.33	\$68.35	\$207.11	\$11.33	\$7.78	0.03	2.02
7I - Cornelius North	4.53	11.7	7.17	0.32	\$91.66	\$286.44	\$12.78	\$7.83	0.38	2.7
8A - Hillsboro North	10.78	49.01	38.23	1.62	\$463.67	\$286.22	\$12.13	\$9.46	0	1.8
8B - Shute Rd. Interchange	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Attachment 6 Environmental Analysis Summary

	Total (ac.)	Wetlands (ac.)	Floodplain (ac.)	Total Habitat (ac.)	<i>Slopes >25% (ac.)</i>	Fully Constrained (ac.)	Partially Constrained (ac.)
1C - East Gresham	857	0.27	0.00	116.57	20.30	104.13	65.06
3D - Maplelane	573	2.06	0.00	181.04	48.14	153.14	88.81
3G - Beaver Creek Bluffs	227	1.50	0.00	82.94	32.28	53.61	48.94
4D - Norwood	337	0.12	0.00	46.01	8.87	18.58	31.93
4E - I-5 East	848	4.74	0.00	280.68	50.37	95.75	193.77
4F/G - Elligsen	890	6.35	0.00	202.59	41.67	109.40	144.57
4H - Advance	317	0.00	0.00	72.65	17.97	103.00	32.00
5B - Sherwood West	495	0.42	0.00	44.52	22.80	33.18	31.21
5D - Sherwood South	447	4.54	44.60	203.85	45.68	117.69	112.57
5F - Tonquin	120	13.49	12.60	36.29	27.00	60.06	3.28
5G - Grahams Ferry	203	44.56	36.88	115.22	0.44	54.39	65.55
6A - Hillsboro South	1063	35.98	37.66	132.46	2.60	108.40	76.12
6C - Roy Rogers West	256	0.00	0.00	43.25	6.25	17.82	31.92
7B - Forest Grove North	216	4.08	35.58	39.32	0.00	31.00	10.00
7D - Cornelius South	210	0.00	0.00	21.09	0.59	3.39	17.94
7I - Cornelius North	203	6.62	17.78	32.86	1.55	24.88	12.11
8A - Hillsboro North	950	24.63	57.12	137.42	1.57	118.13	65.14
8B - Shute Road Interchange	85	0.00	23.15	24.11	0.17	16.98	11.30