A G E N D A

RESERVES STEERING COMMITTEE

DATE: **Monday, January 28, 2008**
TIME: **9:30 a.m. to noon**
PLACE: **Council Chamber, Metro Regional Center, 600 NE Grand Avenue, Portland**

Focus of the Meeting:

- *Provide overview information of reserves effort and an introduction to the issues*
- *Discuss committee operations, structure and work plan*
- *No decisions or formal action to be taken*

	AGENDA ITEM	PRESENTER	ACTION	TIME
1.	Welcome and Introductions	Kathryn Harrington, Metro Councilor Debra Nudelman, facilitator		30 min.
2.	Public Comment on Non-agenda Items			
3.	Overview of Issues and Background Information on Urban and Rural Reserves	Tom Brian, Washington County Chair Martha Schrader, Clackamas County Commissioner Jeff Cogen, Multnomah County Commissioner	Information/ Discussion	30 min.
4.	Review Structure and Roles of Committee and Work Plan	Councilor Harrington	Information/ Discussion	45 min.
5.	Open Discussion of Issues to Consider and Questions to Address	Deb Nudelman	Discussion	45 min.

Next meeting:
Wednesday, February 13, 2008, 9:00 to 11:00 a.m.
Council Chamber, Metro Regional Center, 600 NE Grand Avenue, Portland

Topics:

- LCDC Administrative Rule
- Reserves Analysis Methodology
- Public Involvement Strategy

For agenda and schedule information, please call Ken Ray at 503-797-1508 or email rayk@metro.dst.or.us

To check on closure or meeting cancellations during inclement weather, please call 503-797-1700.

Reserves Steering Committee 2008 Meeting Schedule

The Reserves Steering Committee will meet once each month during 2008. With the exception of January, March and June, these meetings will be held on the second Wednesday of the month from 9:00 to 11:00 a.m.

All meetings are open to the public and will be held in the Council Chamber at Metro Regional Center, located at 600 NE Grand Avenue in Portland.

For more information about this schedule, please contact Ken Ray at 503-797-1508 or rayk@metro.dst.or.us.

Monday, January 28
9:30 a.m. to noon

Wednesday, February 13
9:00 to 11:00 a.m.

Friday, March 14
9:00 to 11:00 a.m.

Wednesday, April 9
9:00 to 11:00 a.m.

Wednesday, May 14
9:00 to 11:00 a.m.

Monday, June 9
9:00 to 11:00 a.m.

Wednesday, July 9
9:00 to 11:00 a.m.

Wednesday, August 13
9:00 to 11:00 a.m.

Wednesday, September 10
9:00 to 11:00 a.m.

Wednesday, October 8
9:00 to 11:00 a.m.

Wednesday, November 12
9:00 to 11:00 a.m.

Wednesday, December 10
9:00 to 11:00 a.m.

Reserves Steering Committee Members

as of January 22, 2008

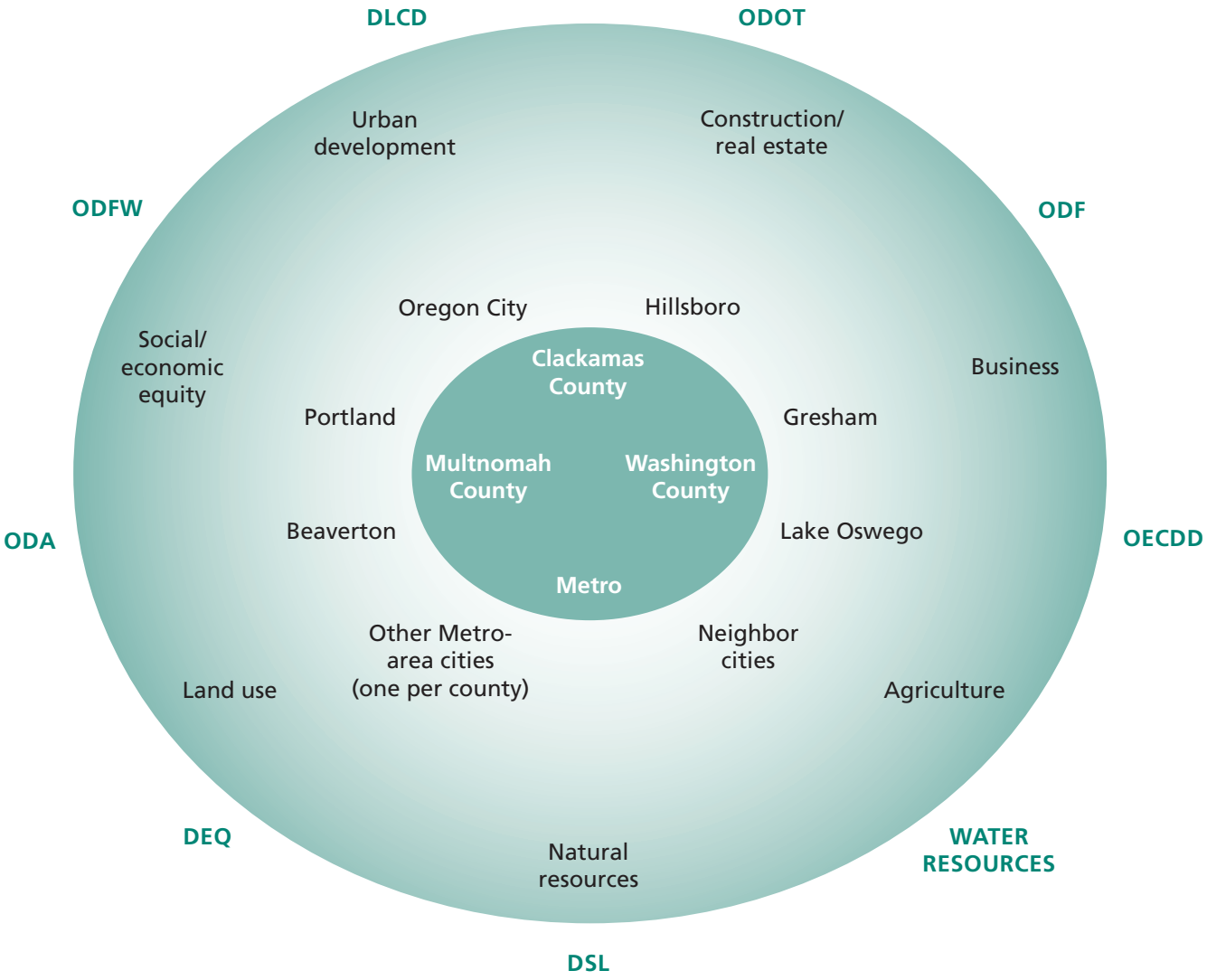
Core 4		
Metro Council	**Kathryn Harrington**	
Clackamas County	**Martha Schrader**	
Multnomah County	**Jeff Cogen**	
Washington County	**Tom Brian**	

Cities	Member	Alternate
Portland	**Gil Kelley**	
Beaverton	**Rob Drake**	
Gresham	**Shane Bemis**	
Hillsboro	**Tom Hughes**	
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**	
Other cities – Washington County	**Chris Barhyte, Tualatin city councilor**	
Neighbor cities	**Bob Austin, Estacada mayor**	**Kathy Figley, Woodburn mayor**

Non-governmental stakeholders	Member	Alternate
Business	**Greg Manning**	
Construction/Real Estate	**Greg Specht**	**Bob LeFeber**
Urban Development	**Craig Brown**	**Drake Butsch**
Agriculture	**Jeff Stone**	
Natural Resources	**Mike Houck**	
Land Use	**Mary Kyle McCurdy**	
Social/Economic Equity	**Sue Marshall**	

State Agencies – serving in coordination roles	Member	Alternate
Department of Land Conservation and Development		
Department of Transportation	**Lainie Smith**	
Department of Forestry	**David Morman**	
Economic and Community Development Department		
Water Resources Department	**Bill Ferber**	
Division of State Lands		
Department of Environmental Quality	**Keith Johnson**	
Department of Agriculture		
Department of Fish and Wildlife	**Jeff Boechler**	**Susan Barnes**

Reserves Steering Committee



- Four votes (Metro and counties); all decisions unanimous
- All other steering committee members serve in non-voting advisory positions
- Each steering committee member serves as the representative of an entity or community named on this diagram and is expected to coordinate with members of that entity or community
- Decisions that require governing body approval are tentative (e.g., IGAs)
- Charge is limited to creating IGA on urban and rural reserves
- Independent chair or facilitator

January 2008
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DRAFT

work in progress

Key Milestones for Designating Urban and Rural Reserves

2008

Identifying and analyzing options for urban and rural reserves study areas

2009

Final analysis and decisions on urban and rural reserves

2010

Future decisons

WINTER | SPRING | SUMMER | FALL | WINTER | SPRING | SUMMER | FALL

Reserves Steering Committee established

Agreement on analytical approach and public involvement process

Public input

LCDC adopts Reserves Administrative Rule

Technical analysis of "broad" reserve study areas

Reserve study areas recommended

LCDC Briefing

Public input

Reserve study areas endorsed

Input from Investment track
- Regional infrastructure analysis
- Economic, employment and housing needs and trends
- Local aspirations for centers and corridors
- Public investment action plan

Analyze reserve study areas incorporating:
- Agricultural lands assessment
- Natural features
- Great Communities characteristics (e.g. governance, complete communities, finance)
- Input from Investment track
- Input from Transportation track

Public input

LCDC Briefing

Input from Regional Transportation track
- RTP update

Input to Investment track

Preliminary reserve areas recommended

Public input

Input to Transportation track

Reserve areas recommended via inter-governmental agreements

Metro and counties hold public hearings

Metro Council designates urban reserves

Counties designate rural reserves

Metro Council makes growth management decisions

Submit reserves to LCDC for acknowledgement

Conceptual planning

Legend

- Milestone/Decision
- Preliminary recommendation
- Analysis work
- Public input

CLACKAMAS COUNTY | MULTNOMAH COUNTY | WASHINGTON COUNTY OREGON | METRO

DRAFT

"Road Map" for Making the Greatest Place, 2007 – 2011

2007
Engage, Identify Tools and Prioritize Investments
Focus: centers, corridors and employment areas

2008
Approve Methodology/Seek Agreements
Focus: urban and rural reserves

2009
Apply/Evaluate
Focus: urban performance

2010
Decisions

2011
Future

WINTER | SPRING | SUMMER | FALL | WINTER | SPRING | SUMMER | FALL | SPRING | FALL

- Metro Council decision
- Regional agreement
- Other jurisdictional responsibility
- work in process
- informs decision

6 POLICY ELEMENTS

1. FOCUS INVESTMENTS
- Build vibrant downtowns, main streets
- Stimulate development along corridors
- Redevelop brownfields
- Provide housing choices
- Create places for business to flourish
- Adopt public investment strategy and fund
- Infrastructure assessment

Inspire and engage partners
Assess needs
Identify financial resources
Provide technical assistance
Analyze investment needs

Share investment scenarios
Target opportunity areas
Define infrastructure problem statement
Analyze problems and estimate relative costs

Regional agreement on level of investment

Continue engagement and technical assistance
Update policies and plans
Explore public investment strategies
Develop solutions

Regional agreement on prioritizing public investments and recalibrating capacity expectations

Ongoing local actions

2. PERFORMANCE-BASED GROWTH MANAGEMENT

Define approach

Regional agreement on definition of performance

Define measures of performance and application process

Regional agreement on performance-based approach

Refine

COUNCIL accepts Urban Growth Report

Evaluate

COUNCIL makes urban growth management decisions

Monitor performance

3. NEIGHBORING CITIES AND COUNTIES

4. URBAN RESERVES

5. RURAL RESERVES

Engage partners
Identify factors
Define process

Regional agreement on factors and process

Select reserve study areas

Analyze urban reserves and rural reserves

Regional agreement on reserves

IGAs on reserve designations

Metro Council designates urban reserves

Counties designate rural reserves

Concept planning
Draft fiscal impact statements

Support new tools for rural reserves

6. REGIONAL TRANSPORTATION PLAN (RTP)

Determine goals
Investment solicitation/strategy
Systems analysis
Focus groups/recommendations

JPACT/ COUNCIL adopts Federal 2035 RTP

Expand system analysis
Air quality conformity

JPACT/ COUNCIL adopts Federal and State RTP

Update regional framework plan
Begin local implementation and assistance

Initiate next RTP update

Road Map is subject to change. 1/10/08

Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands

January 2007

Submitted to METRO
by the
Oregon Department of Agriculture
Katy Coba, Director

Oregon Department of Agriculture

ACKNOWLEDGEMENTS:

Primary analysis and writing: Jim Johnson, Land Use and Water Planning Coordinator, Oregon Department of Agriculture

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The analysis, opinions and conclusions expressed in this report are solely those of the Oregon Department of Agriculture.

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Identification and Assessment of the Long-Term Commercial Viability of Metro Region Agricultural Lands

As part of its *New Look at Regional Choices,* Metro, the regional government serving the Portland metropolitan region, asked the Oregon Department of Agriculture (ODA) to inventory and assess the region's agricultural lands and to provide suggestions relating to policy directions that may be considered in protecting the region's agriculture industry.

Metro describes the *New Look* as a "…collaborative effort to find new, creative ways to absorb the arrival of a million new residents in this region in the next 25 years, while preserving the values of our long-term vision." Metro's current vision relating to agriculture is set out in the following excerpt from the *Metro Regional Framework Plan*:

> **1.12 Protection of Agriculture and Forest Resource Lands**
>
> It is the policy of the Metro Council to:
>
> **1.12.1** Agricultural and forest resource lands outside the UGB shall be protected from urbanization, and accounted for in regional economic and development plans, consistent with this Plan. However, Metro recognizes that all the statewide goals, including Statewide Planning Goal 10 Housing and Goal 14 Urbanization, are of equal importance to Goal 3 Agricultural Lands and Goal 4 Forest Lands which protect agriculture and forest resource lands. These goals represent competing and, some times, conflicting policy interests which need to be balanced.
> **1.12.2** When the Metro Council must choose among agricultural lands of the same soil classification for addition to the UGB, the Metro Council shall choose agricultural land deemed less important to the continuation of commercial agriculture in the region.
> **1.12.3** Metro shall enter into agreements with neighboring cities and counties to carry out Council policy on protection of agricultural and forest resource policy through the designation of Rural Reserves and other measures.
> **1.12.4** Metro shall work with neighboring counties to provide a high degree of certainty for investment in agriculture and forestry and to reduce conflicts between urbanization and agricultural and forest practices.[1]

ODA has supported and continues to support these policies. Recognizing the issues and tasks ahead of Metro and the implications to one of the state's most valuable agricultural regions, ODA agreed to conduct an inventory and assessment with a focus on analyzing the ability of regional agricultural lands to conduct long-term viable commercial agricultural operations.

[1] Metro Regional Framework Plan, Chapter 1 - Land Use

Before discussing the inventory and assessment, it is important to get grounded in the role agriculture plays in the region.

Metro Agriculture: General Character

Metro[2] agriculture is best described as richly diverse. Food, fuel, seed, fiber and flora crops can all be found in production within the region. Intensive and extensive agricultural practices are employed, as are dryland and irrigated crop production. Many of the attributes that are key to successful and sustainable agriculture can be found within the region. Excellent soils, moderate climate, water for irrigation, access to markets and an accessible transportation system are some of the examples of the key attributes.

The physical landscape includes stream floodplains and terraces, Willamette Valley prairies, rolling to steep hillsides, and river and creek canyons that bisect the varied agricultural surfaces. The vast majority of soils found in the region are considered high-value farmland soils; a good percentage of those are also designated as prime farmland. Twenty percent of the state's prime farmland and 12% of the state's high-value farmland are located in the Metro region.[3]

Metro Counties Agricultural Soils

Acres of prime farmland, nonirrigated	238,951
Acres of Class I-IV agricultural soils, nonirrigated	672,722
Acres of Class I-IV agricultural soils, irrigated	562,055

Below are numbers from the 2002 Census of Agriculture that reflect the character of region farms in terms of size and production. At first glance, the raw number of farms appears to indicate that the nature of the region's agriculture is small-scale. It is important to note that the character of the region's agriculture, in terms of its footprint on the land and production, is dominated by farms that produced and sold $10,000 or more of agricultural products or normally would have been sold $10,000 during the census year. While lifestyle and small-scale farms are common in the region, they do not reflect the nature of the region's commercial farms. Over 63% of the region's 380,222 acres of land in farms and 88% of the market value of agricultural products sold are attributed to farms that produced and sold $10,000 or more of agricultural products or normally would have been sold $10,000 during the census year.

[2] "Metro" refers to the area under the jurisdiction of the Metro Regional government and for the purposes of this report includes the entire land area found in Clackamas, Multnomah, and Washington Counties.
[3] Soil Survey Geographic (SSURGO), http://soildatamart.nrcs.usda.gov/, USDA Natural Resource Conservation Service.

	Clackamas		Multnomah		Washington	
Farms, number	4,676	1,234	710	238	1,900	662
Land in farms, acres	215,210	119,932	34,329	21,503	130,683	98,542
Avg. size of farm, acres	46	97	48	90	69	149
Irrigated land, acres	26,927	23,322	7,780	7,536	25,182	23,822
Market value of ag products sold/farm	$71,002	$263,279	$95,143	$278,875	$122,010	$345,588
	All farms[4]	10K Farms	All farms	10K farms	All farms	10K

Metro Agriculture: Economic Contribution[5]

In 2006, agriculture directly and indirectly contributed nearly $12 billion to the state's economy. This equates to 10% of Oregon's gross state product and more than 9% of all employment in the state.

Agriculture purchases
over $3 billion in goods and services.
+ Farmers add land, capital and management
to produce over $4.3 billion.
+ Processing adds another $1.5 - $2 billion.
+ $2.3 billion in wages and salaries
are generated through the process.

= Nearly $12 billion in direct and indirect impact on Oregon's economy

[4] The census definition of a farm is any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year.

[5] Sources for economic data discussed in this section include:

- USDA National Agricultural Statistics Service (NASS), Oregon Field Office
- Oregon Agricultural Information Network, OSU Extension Economic Information Office.
- Census of Agriculture, Oregon State and County Data, USDA NASS
- Oregon Employment Department

Agriculture is a key traded sector in Oregon, ranking 1st in the volume of exported products and 3rd in the value of exported products. Over 80% of this production left the state, with 40% leaving the country.

Metro (jurisdiction) counties play a significant role in the state's agricultural production. In 2005 the value of production in the three counties was $714,547,000, nearly 17% of the state's total value of production. Clackamas County ranked 2nd and Washington County ranked 3rd in the state in overall farm and ranch sales. And it is easy to underestimate the value of Multnomah County. The smallest county in Oregon in terms of land area and the largest in terms of population, Multnomah County ranked 14th out of all 36 Oregon counties in farm sales.

County gross farm and ranch sales, 2005

Rank	County	Dollars
1	Marion	$539,629,000
2	**Clackamas**	$361,918,000
3	**Washington**	$274,885,000
4	Umatilla	$274,763,000
5.	Yamhill	$264,038,000
6.	Linn	$248,812,000
7.	Morrow	$233,396,000
8.	Malheur	$206,426,000
9.	Klamath	$200,749,000
10.	Polk	$130,052,000

Other quick facts:

- All three counties rank in the top five in terms of greenhouse and nursery production, the states number one ranked commodity. Metro counties account for over 50% of state production value.
- All three rank in the top five in the production of caneberries.
- Metro counties account for over 40% of the acreage in the state planted in small fruits and berries.
- Metro counties account for nearly 38% of the state sales of Christmas trees. Clackamas County ranks 1st, Washington County 6th.
- 60% of the Port of Portland's total export tonnage is agricultural products.

- Multnomah County leads Oregon in food processing with more than 22% of the payroll and 20% of the employees.

- Clackamas County ranks in the top five in the production of:
  Greenhouse and nursery (1)
  Christmas trees (1)
  Caneberries (2)
  Hazelnuts (4)
  Blueberries (3)
  Strawberries (3)
  Eggs and poultry (2)

- Multnomah County ranks in the top five in the production of:
  Greenhouse and nursery (5)
  Caneberries (5)
  Strawberries (5)

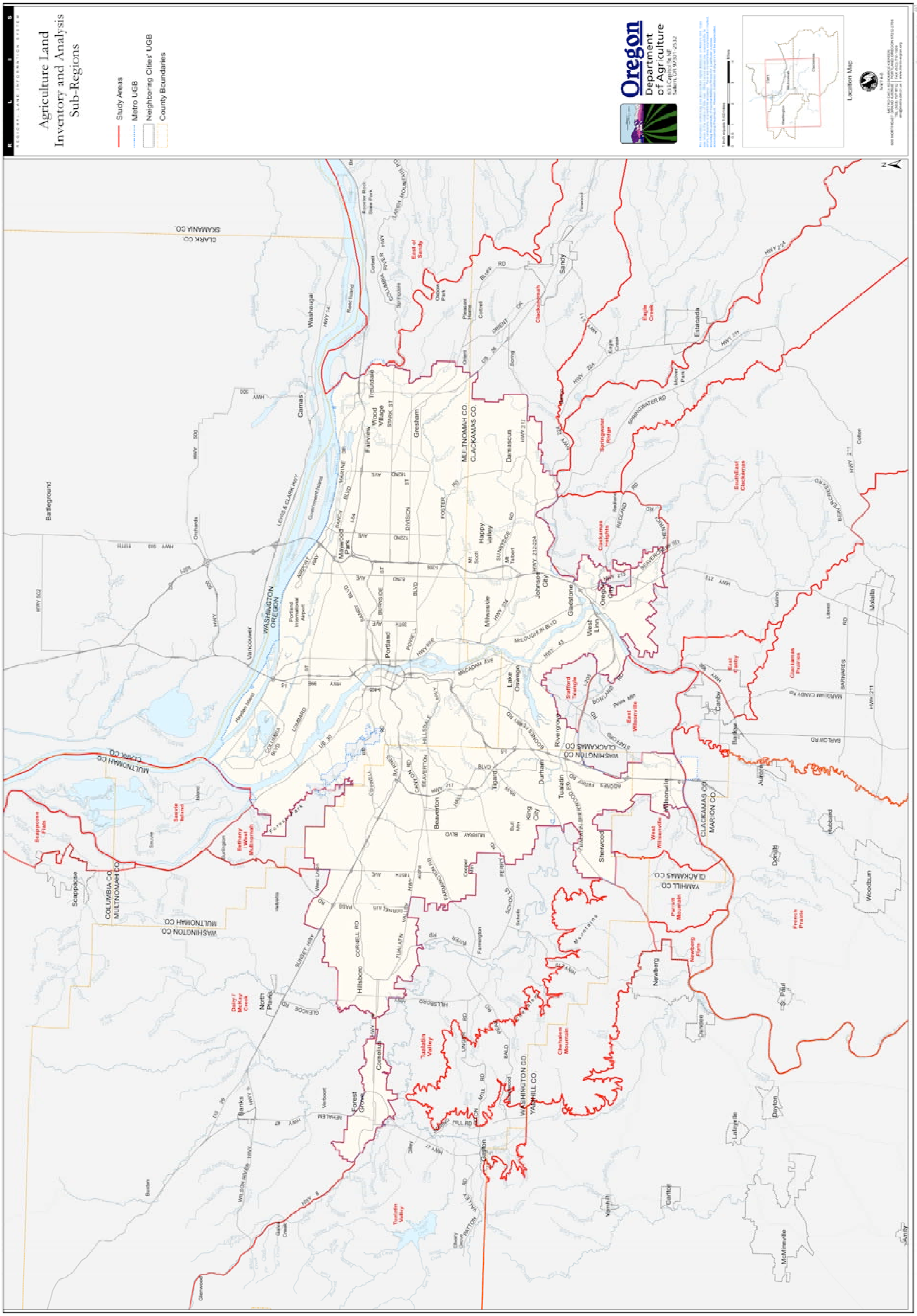
- Washington County ranks in the top five in the production of:
  Greenhouse and nursery (3)
  Caneberries (3)
  Pears (5)
  Wine grapes (3)
  Hazelnuts (3)
  Blueberries (2)
  Strawberries (2)
  Grass and legume seeds (5)

Process

Study area and subregions

The area analyzed for this report includes the three Metro counties and portions of adjacent counties that are increasingly influenced by land use in the Metro region. In many instances, agricultural lands found in the Metro region operate as part of larger blocks of agricultural lands. All together, the study area includes Clackamas, Columbia, Marion, Multnomah, Washington and Yamhill counties.

Recognizing the diversity of the region's physical and cultural landscape and the size of the area involved, the larger region was divided into agricultural subregions for this analysis. Topography, agricultural land use, connectivity, edges and barriers were key factors in establishing the subregions. The result was recognition of 20 separate subregions, listed below. A more detailed description of each subregion can be found in the analysis.


Agriculture Land Inventory and Analysis Sub-Regions
Study Areas
Metro UGB
Neighboring Cities' UGB
County Boundaries
Oregon Department of Agriculture
635 Capitol St NE
Salem, OR 97301-2532
Location Map

Agricultural Subregions of the Northern Willamette Valley

1. East of Sandy River
2. Clackanomah
3. Eagle Creek
4. Springwater Ridge
5. Clackamas Heights
6. Southeast Clackamas
7. East Canby
8. Clackamas Prairies
9. French Prairie
10. Stafford Triangle
11. East Wilsonville
12. West Wilsonville
13. Parrett Mountain
14. Newberg Flats
15. Chehalem Mountain
16. Tualatin Valley
17. Dairy/McKay Creeks
18. Bethany/West Multnomah
19. Sauvie Island
20. Scappoose Flats

Analysis of each of these subregions involved field investigation, consultation with local planning agencies, soil and water conservation districts and farmers, and review of technical data from Metro and ODA geographic information systems. Data fields included:

Soils
Topography (slope and aspect)
Zoning
Existing land use and vegetation inventory
Parcelization and ownership
Water rights, irrigation districts, ground water restricted areas
Existing land use (aerial photography)

Analysis factors

The assessment provided in this report is best described as an analysis of the site and the situation of a subject area. Analysis of site and situation is best understood as an examination of both the capability (ability of the land to produce an agricultural product) and the suitability (ability to conduct viable farm use) of any given tract of land to be utilized for farm use. The key factors employed to identify significant and intact agricultural lands are discussed below.

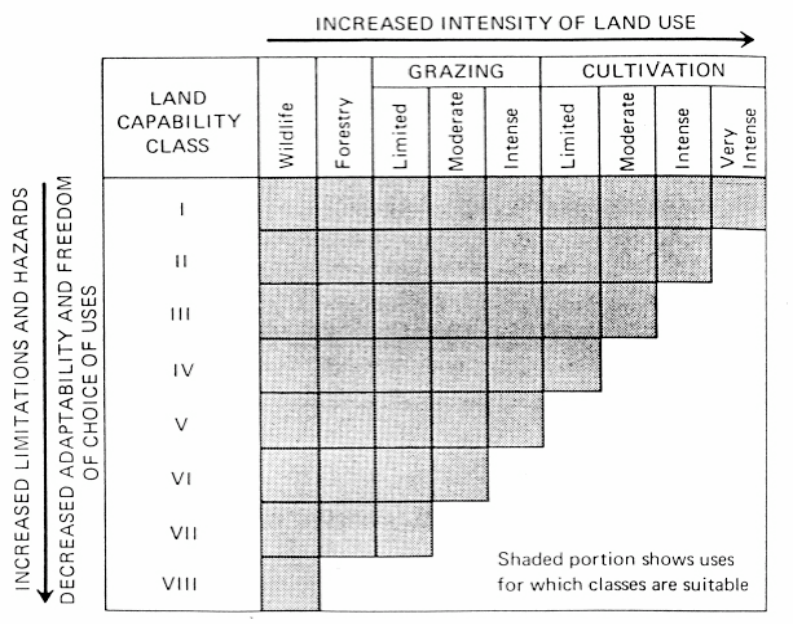
Capability factors

The physical ability of land to produce an agricultural product is a key and dominant factor in any assessment. Quantity and quality of soils and water play a significant role in the viability of agricultural production.

- Soils: USDA NRCS agricultural capability class and importance (prime, unique, important farmlands). Overall, soils are a major asset for Metro agriculture. Because soils play a key role in this analysis and Oregon land use issues, a more detailed discussion is provided below.

Soils surveys are based on all the characteristics of soils, including climate, that influence their use and management. Interpretations are provided within soil surveys for various land uses, including agriculture. Among these interpretations is the grouping of soils into agricultural capability classes. This classification system places soils in eight capability classes. The better the agricultural capability (decreasing from I-VIII), the less management (input) is required by the operator to produce a crop. Soil quality is also a key to the production options available to a grower.

The soils in the first four classes (I-IV), under typical/good management practices, are considered arable and are capable of producing adapted plants and common cultivated field crops and pasture plants. Some soils in classes V-VII are capable of producing specialized crops and even field and vegetable crops under special management.



Soils can also be designated as prime, unique, or high-value farmland:

Prime Farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops. It must be available for these uses. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not exclusively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season and moisture supply needed to produce economically sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods. Some examples of crops are tree nuts, cranberries, wine grapes, and tree fruits.[6]

High Value Farmland is defined in ORS 215.710(1), (3) and (4) and OAR 660-033-0020(8)(a), (c), (d) and (e). "High Value Farmland" is land in a tract composed predominantly (50.1%) of certain specified soils commonly referred to as "High Value Farmland Soils." These soils (alone or in combination) are the following:

1. Those soils classified by the Natural Resource Conservation Service (NRCS) as:
    a. Prime, Unique, Capability Class 1 or Capability Class 2 <u>not irrigated</u>; or
    b. Prime, Unique, Capability Class 1 or Capability Class 2 <u>if irrigated</u>; and

2. Certain specifically listed Capability Class 3 and 4 soils for the:
    a. Willamette Valley; and
    b. Oregon Coast west of the summit of the Coast Range if used in conjunction with a dairy operation on January 1, 1993; and

High-value farmland also includes other lands planted in specified perennials based on the 1993 Farm Service Agency air photos.

- Water: Availability of water for irrigation of agricultural crops and livestock watering. Water is key to the production of many high-value crops. However, many crops, including high-value crops, can be produced using dryland agricultural practices. Dryland production is most feasible where precipitation is adequate to allow economic return on a nonirrigated crop. New technologies in delivery and storage can compensate for limited availability.

  Water availability is both an asset and a threat to regional agricultural. Current availability is overall good throughout the region. Expansion in some areas, especially where groundwater is the major source, is severely limited by ground water limitations. Such limitations do not impair the use of existing water rights. It is especially important to recognize existing agricultural irrigation in groundwater restricteds areas because new irrigation rights currently are difficult to obtain. The development of valid Measure 37 claims may compromise the availability of ground water to existing water rights.

[6] Soil Survey Manual, USDA Handbook No. 18, issued October 1993, USDA Soil Survey Division Staff.

Metro Region Water Restrictions

Chehalem Mountain Ground Water Limited Area:
Classified for exempt uses, irrigation and rural residential fire protection systems only. New permits may be issued for a period not exceeding five (5) years, for fire protection and for drip or equally efficient systems only if it is determined that the proposed use and amount would not pose a threat to the groundwater resource or existing permit holders. The amount of water permitted for irrigation is limited to one acre-foot (v. 2.5) per acre per year. Permits may be extended for additional five-year periods.

Parrett Mountain Ground Water Limited Area:
Ground water from the basalt aquifers in this area is classified for exempt users only.

Sherwood-Dammasch-Wilsonville Ground Water Limited Area:
Ground water from the basalt aquifers in this area is classified for exempt users only.

Damascus Ground Water Limited Area:
Ground water from the basalt aquifers in this area is classified for exempt users only.

Sandy-Boring Ground Water Limited Area:
Ground water from the shallow Troutdale aquifer and the specially designated portion of the deep Troutdale aquifer is classified for exempt uses only.

Cooper Mountain – Bull Mountain Critical Ground Water Area:
Limited to exempt uses only on parcels 10 acres or greater in size.

Ground water-surface water hydraulic connection:
Ground water within unconfined alluvium within 1/4 mile of the banks of a stream or surface water source is presumed to be in hydraulic connection within the surface water source and shall be classified the same as the surface source.[7]

Suitability factors

Most of the suitability factors can be related to the position of farming operations as part of a large block of agricultural land or other resource lands. Protecting and maintaining large blocks of agricultural land is key to maintaining the integrity of working lands. Integrity involves many issues including the ability to operate with limited conflicts,

[7] The Oregon Department of Water Resources should be contacted for more detailed information about water restrictions.

curtail speculative land values and maintain a critical mass of land sufficient to leverage the infrastructure needs of the industry.

- Land use pattern: Adjacent and area land use pattern (nonfarm uses, exception areas). Includes analysis of edges that provide workable buffers between agricultural lands and nonfarm uses.

- Agricultural land use pattern within the subject agricultural area: The types of crops grown and the ability of farming operations/practices associated with the producing these crops to co-exist with other land uses in the area can be an important factor.

- Parcelization (number and size), tenure and ownership pattern: In analyzing suitability, parcelization is important, but not always as a stand-alone factor. All other factors being equal, smaller parcels under multiple ownerships are less favorable for long-term commercial farm use. The practice of renting or leasing smaller (and larger) parcels is very common in the region and needs to be taken into account. Long term, if the smaller parcels are protected for farm use, they frequently become available for rent, lease or acquisition for farm use, especially if they do not contain dwellings. See discussion of trends in agriculture below.

- Agriculture infrastructure: Elements such as transportation, irrigation delivery, labor availability, processing and other service needs, agricultural special districts, drainage facilities, etc., can be important factors in the long-term viability of an area. It is important to note that, unlike the infrastructure needs for new urban development, the agricultural infrastructure is in most cases already in place and has been and is being maintained and updated on an ongoing basis.

- Zoning, within subject agricultural area: Many lands currently employed in farm use within the Metro region are not zoned for exclusive farm use. The long-term suitability of such areas is impacted by the nonfarm uses that may be permitted and by the ability to further partition or subdivide the area.

- Location in relationship to adjacent lands zoned for nonresource development:
  - The number, size and length of edges with urban and other nonfarm development impact the efficiency and effectiveness of agricultural practices and can impact land values.
  - The scale, shape and size of protrusions of nonresource lands into agricultural lands also impact efficient and effective agricultural operations.
  - Certain nonfarm uses are more compatible with agricultural operations than others.
  - The ability to further partition or subdivide.

- Location/availability of edges and buffers that help insulate and protect agricultural operations from nearby nonfarm use.

Other factors

- Concentration/clusters of farms:
  - The dependence between farms: ability for sharing of labor, housing, equipment and other needed services can be critical to the bottom line.
  - The ability to leverage agriculture's infrastructure needs by maintaining economies of scale.
  - A cluster of farms can also have marketing value. Customers like to make one trip to obtain berries, fruits, vegetables and other products in one area. Agri-tourism can also benefit from clusters. Examples include winery tours, marketing by the Tri County Farm Fresh Food Guide, and the Hood River Valley "Fruit Loop."

- **Trends** in regional agriculture create different needs, opportunities and abilities for the industry. Consumer trends are increasingly dynamic and segmented, creating new markets; markets that are rapidly changing and demanding more specialty products. Specifically:
  - Global trade opportunities and concerns.
  - Demand for organic, sustainable, high quality foods both in the home and at restaurants.
  - Farmers markets, direct marketing opportunities, development of specialty and niche crops.
  - "Agri-tourism".
  - Increasing demand for biofuels/energy development. Agricultural practices associated with the production of commodities used in the production of biofuels tend to be more extensive in nature, usually do not require irrigation and tend to require the use of larger machinery.
  - Growing recognition of food security issues and demand for products from the local food shed.
  - Federal Farm Bill. New conservation incentives and other programs related to renewable energy and farmland protection could help region farms cope.
  - Measure 37: We have opted to not attempt to base much on analysis on the potential impacts from Measure 37 claims because there is so much uncertainty as to how much development will actually result from claims determined to be valid. Having said this, review of the data currently available from Portland State University does show a great deal of the Measure 37 claims in the region to be located within high-value, exclusive farm use-zoned agricultural lands.

  Location within and near a major metropolitan region can be a major asset in light of the trends outlined above. Many of the intensive, high-value, niche and specialty crops in increasing demand can be produced under circumstances not otherwise conducive to more recognized agricultural production in the region.

Analysis and Conclusions

The department would emphasize that it found little land currently zoned for agricultural use that it considers to be miszoned. Local governments have done an excellent job identifying and providing protection for the region's agricultural lands.

The inventory and analysis did identify varying intensities, scale and suitability situations within the regions agricultural lands. That led to the development of an agricultural lands hierarchy that recognizes three levels of agricultural lands found in the region. These are:

Foundation Agricultural Lands are agricultural lands that provide the core support to the regions agricultural base. These lands anchor the region's larger agricultural base. They incubate and support the larger agricultural industry and are vital to its long-term viability. They have the attributes necessary to sustain current agricultural operations and to adapt to changing technologies and consumer demands.

Important Agricultural Lands are agricultural lands that are suited to agricultural production and contribute to or have the capacity to contribute to the commercial agricultural economy. These lands maintain the ability to remain viable over the long-term. They have the potential to be Foundation Agricultural Lands, but tend to be not utilized to their full potential. Trends in regional agricultural could lead to a greater development of the agricultural capacity of these areas.

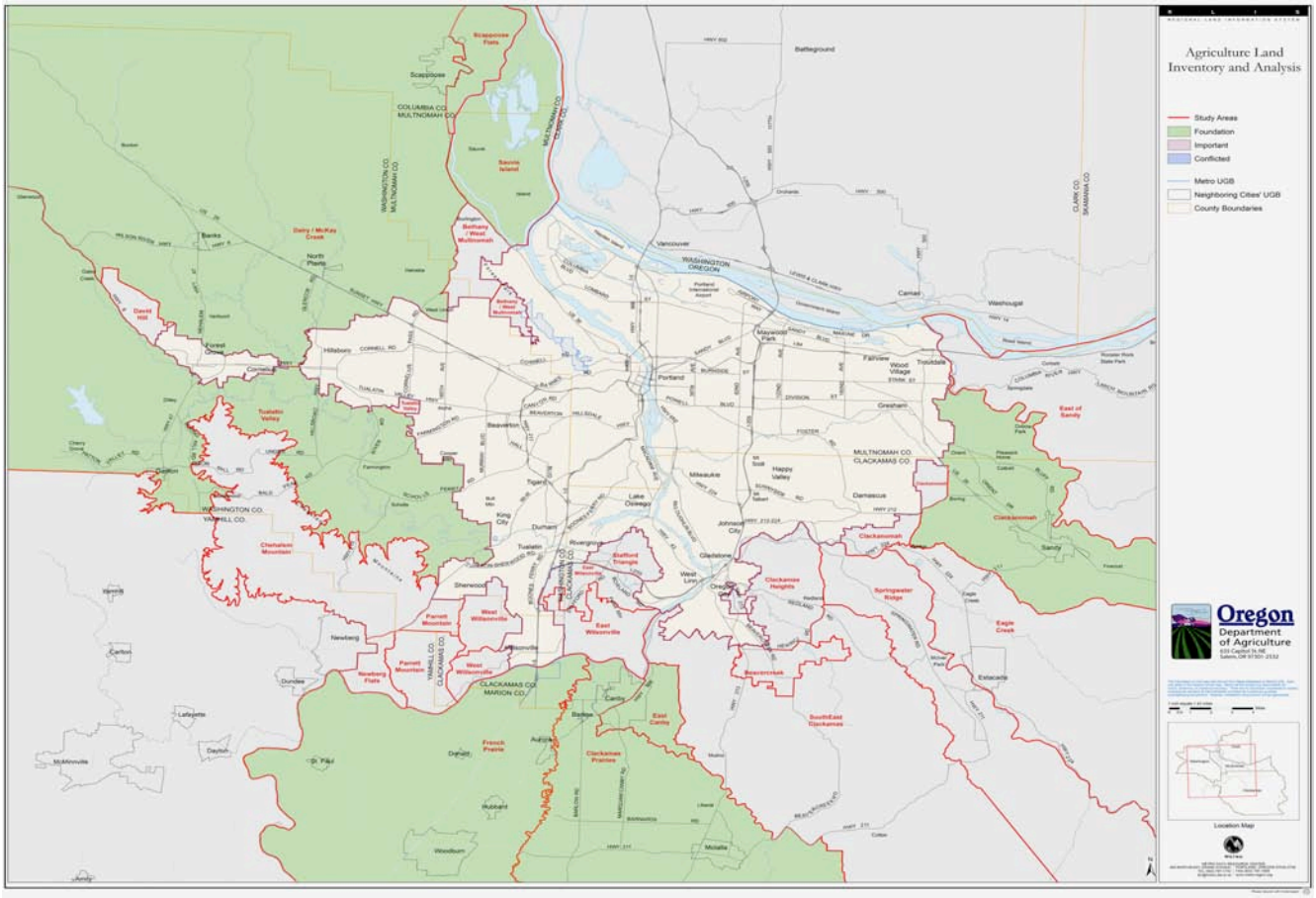
Conflicted Agricultural Lands are agricultural lands whose agricultural capability (soils/water) is more times than not considered excellent but whose suitability is questionable primarily due to questions of integrity and ability to operate. These questions lead to issues of long-term viability. These lands are influenced by factors that diminish long-term certainty, which in turn tends to limit investment in agricultural operations by area farmers. These lands could become Important Agricultural Lands with changes in circumstances and trends in the industry. There may be individual or multiple operations within these areas that are conducting efficient, effective and viable operations.

A list and map of subregions/areas within each category is found below. A detailed discussion and analysis of each subregion follows. It is important to review the detailed discussion for each subregion. Many times the discussion includes important conditions that need to be implemented or that affect the final conclusion at which level a subregion or area has been categorized.

Foundation Agricultural Lands

- Clackanomah*
- East Canby
- Clackamas Prairies
- French Prairie
- Tualatin Valley*
- Dairy/McKay Creeks*
- Sauvie Island
- Scappooose Flats

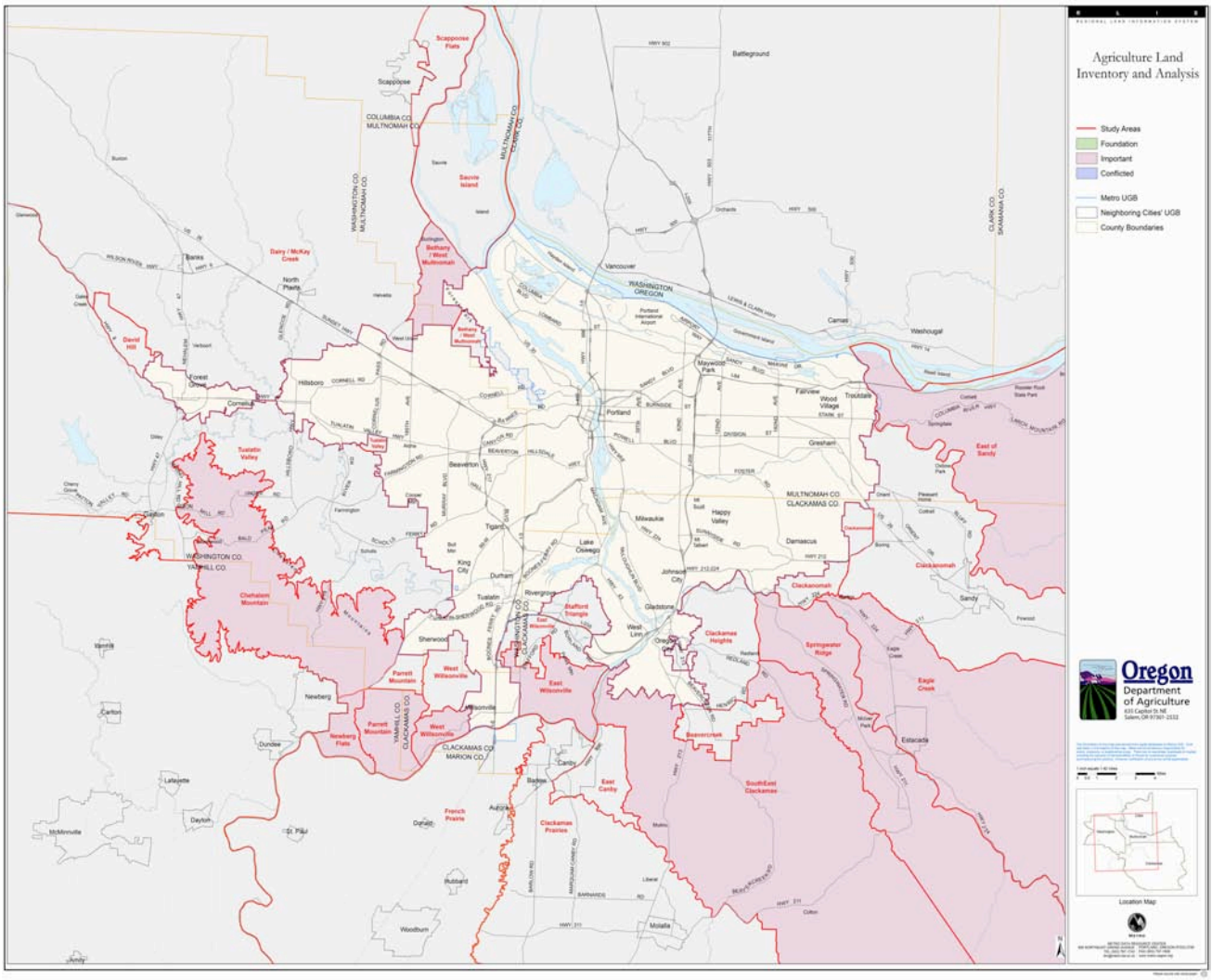
*Part of the subregion is considered Conflicted Agricultural Land; see detailed subregion analysis and map.



Important Agricultural Lands

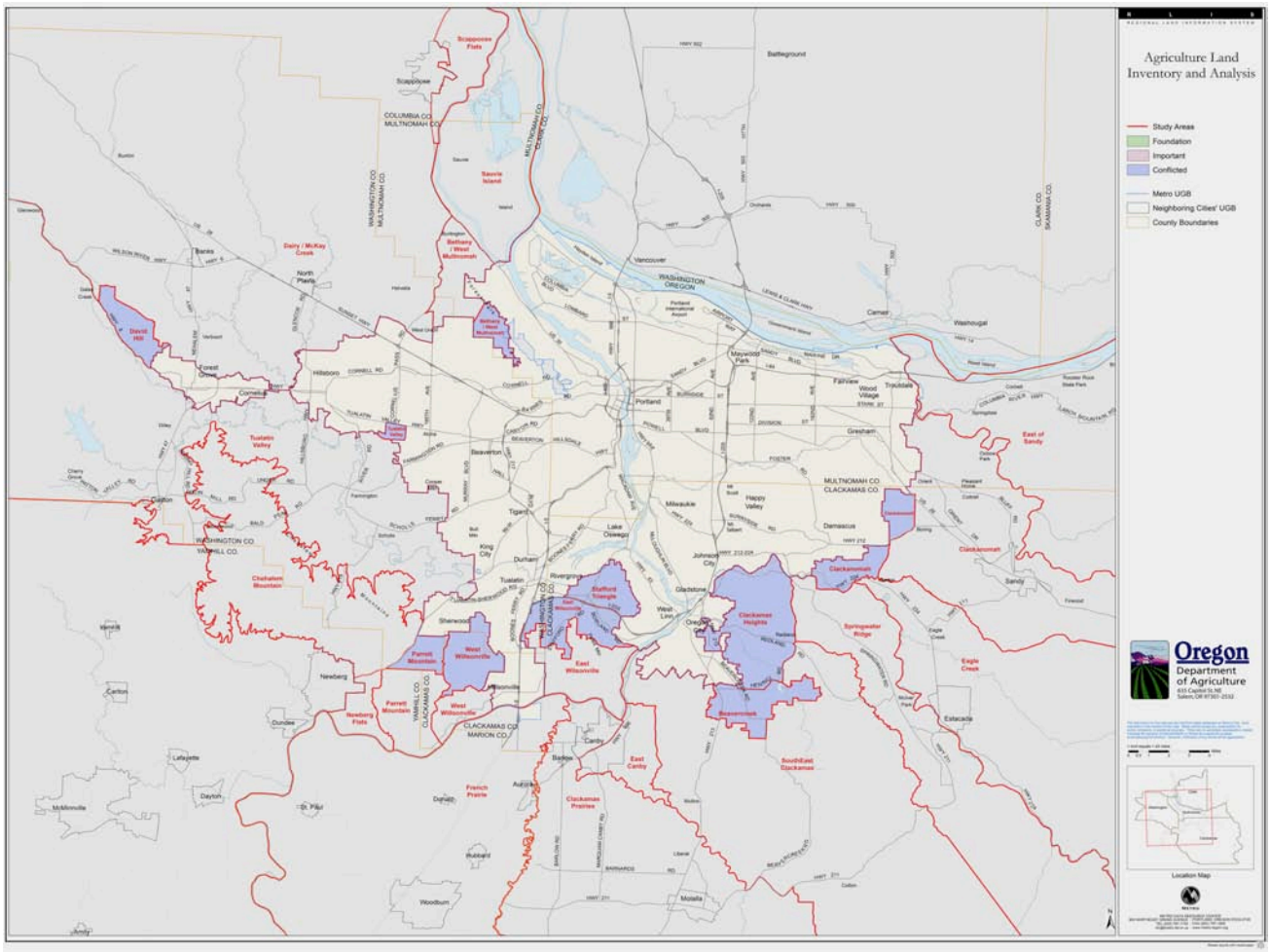
- East of Sandy River
- Eagle Creek
- Springwater Ridge
- Southeast Clackamas*
- East Wilsonville*
- West Wilsonville*
- Parrett Mountain*
- Newberg Flats
- Chehalem Mountain
- Bethany/West Multnomah*

*Part of the subregion is considered Conflicted Agricultural Land; see detailed subregion analysis and map.



Conflicted Agricultural Lands

- The area located between the Damascus UGB, the Clackamas River and Noyer Creek (located within the Clackanomah subregion)
- The area located north of Boring and Highway 212 and west of 282nd Avenue (located within the Clackanomah subregion)
- Clackamas Heights (entire subregion)
- Beavercreek Area (located within the Southeast Clackamas subregion)
- Stafford Triangle (entire subregion)
- South I-205 Crescent (located within the East Wilsonville subregion)
- West Wilsonville north of Mill Creek (located within the West Wilsonville subregion)
- North Parrett Mountain
- South Hillsboro Notch (part of the Tualatin Valley subregion)
- David Hill (part of Dairy/McKay Creeks subregion)
- Bethany/West Multnomah south of the powerline (part of the Bethany/West Multnomah subregion)



East of Sandy River

This subregion is located north and east of the Sandy River extending out to the Columbia River to the north and to private and National Forest lands to the east and southeast. It is characterized by steeply rolling hills and gently sloping benches. Multiple steep creek canyons originating from springs bisect the area. There are diverse agricultural endeavors in the subregion including larger vegetable and berry fields, pasture and hay, Christmas trees, nursery stock, a few orchards and small horse and cattle farms. A few full-time agricultural operations exist in the area. Smaller part-time commercial and lifestyle farms are common.

Analysis

Capability

Excellent soils are located within this subregion. Agricultural capability is predominantly Class II and III, nonirrigated. Soils located on the bench land located west and south of Corbett are designated as prime farmland. These soils have the capability of supporting a good diversity of products. Issues related to erosion and wind present management concerns, particularly near the Columbia River. Erosion issues associated with area high winds can be effectively managed with traditional methods. Issues associated with wind damage and desiccation to vegetation can present limitations to crop and timber production. The only management for winter desiccation is vegetative windbreaks. Areas with high winds, especially edge areas, face limitations in the types of crops that can be grown due to damage/deformation of vegetation (flagging).

Irrigation in this area is dependent almost entirely on ground water. No restrictions are currently in place that would limit the development of new ground water sources. Some landowners have reported decreased ground water capacity in the last few years.

Suitability

This area shares an edge with the Metro UGB for a short distance along the Sandy River at Troutdale. The majority of this edge is located within the Columbia River Gorge National Scenic Area. A small portion of the urban area is located east of the Sandy River along Highway 30. This urban area is physically buffered from area agricultural lands by bluffs located along the river.

Parcel size was not determined to be a limiting factor in our review. Tract and field size is appropriate for the character of agriculture in the area. Existing land use regulations limit the ability to further divide area agricultural lands. Nonfarm uses exist in throughout the area and there is little documented history of conflicts with agricultural operations in the area.

Much of the area agricultural land blocks up with forest lands. The remaining exception lands are concentrated in and around the Corbett and Springdale communities and along Highway 30. Exceptions lands located away from these communities are zoned by Multnomah County as Multiple Use Agriculture 20 (MUA 20). It is important to note

that while these "exception lands" are not protected under Statewide Planning Goal 3, the MUA20 zone affords similar if not better protection than EFU zoning and much better protection to agriculture than traditional rural residential zones commonly found in exception lands. The Scenic Area Management Plans also affords protection within the National Scenic Area.

Other considerations

The location both near the Portland metro area and within a recreational area provides excellent opportunities for the direct marketing and promotion of agricultural products. Farm stands, U-picks and small farms producing high-value products for sale to the urban market are not uncommon and are increasing in the area. This lends it self to greater opportunities for smaller parcels and parcels located within exception areas to produce crops that cater to the ever-growing demand for locally produced food and other agricultural products.

No major infrastructure issues are apparent.

Conclusion

Overall, this area is well suited for the continued production of agricultural and forest products. Some issues with wind nearer the Columbia River impact the types of crops and management required. Some crops may be limited in the future due to lack of ground water. Local conservation officials are encouraging drip and other water conservation practices. The area is well buffered and protected from urbanization.

Clackanomah

This agricultural subregion is located east of Portland, Gresham and Damascus straddling U.S. Highway 26. It is bounded on the east and north by the Sandy River, the south by Kitzmiller Road, the west by the metro urban growth boundary and southwest by Deep Creek. The area extends east out to the private and National Forest lands. This area is characterized by gently rolling hills bisected by moderate to steep stream originating from springs. Agriculture in this region includes large-scale nursery (container, in ground stock and greenhouses), berry and Christmas tree operations. Hay, pasture and orchards are not uncommon. A large number of small nurseries and horse and cattle farms are located throughout the region. This is especially evident in areas of suburban infill characterized by smaller parcels and nonresource zoning.

Analysis

Capability

Overall, soils within the region are well suited to production agriculture. Agricultural capability generally reflects a north-south distinction. Soils with higher clay content are located south of a line generally corresponding with Bluff Road, while soils north of said line tend to be a sandier loam. This distinction also reflects agricultural capability class. Soils to the north are Class II while soils to the south are Class III. It is important to note

that soils in both of these areas are also designated as prime farmland. In fact, with the exception of a lava dome area located immediately west of Highway 26 just northwest of the community of Boring, most soils located north of Tickle Creek and west of 352nd Avenue are designated as prime farmland.

Irrigation is an important element in the operational character of agriculture in this subregion. This area is extensively irrigated. Irrigation sources are almost entirely dependent on ground water. This area includes the Damascus and Sandy/Boring Ground Water Limited area. This ground water limited area is located in the Clackamas County portion of the area; it does not extend into Multnomah County. New wells for agricultural irrigation are precluded by the restrictions associated with this designation. Because the designation does not implicate existing water rights, lands with irrigation rights are especially valuable to the continued production of high-value crops in the area. Conservation managers recommend feasibility studies and construction of purple water systems when considering new water sources for use on agricultural lands in the future. Drip irrigation is highly advisable for both surface and ground water conservation.

Suitability

This area shares an edge with the urban growth boundary running from Troutdale in the north to the Clackamas River, southwest of Damascus. The City of Sandy and its associated urban area are located in the eastern portion of the subregion. Lands designated as agricultural land block up into larger resource land units when evaluated with the adjacent forest zoned lands. This subregion contains several large areas of exception lands. Areas of note include:

- Boring/Lava Dome area running parallel to the UGB generally north to south. This area is heavily parcelized and includes more intensive commercial center related uses in and around the Boring Rural Center. These exception lands do not protrude into agricultural lands located to the southeast. An isolated tract of land zoned exclusive farm use is located north of Highway 212 just outside the UGB. It is surrounded on all sides by rural residential development and like-zoned land.

- A finger intrusion of exception lands extends east from Highway 26 and Boring. It is located north of and adjacent to Highway 212/Compton Road. This area is zoned for rural residential use. This area is heavily divided into parcels predominantly ranging from two to ten acres in size. Small-scale agriculture is common. While some larger commercial nursery operations are located in this exception area associated with operations located to the north and south, most operations are small.

- A finger intrusion of exceptions lands extends east from Gresham in the Orient area straddling Dodge Park Road. While this area is an exception area, Multnomah County has zoned it Multiple Use Agriculture 20 (MUA-20). The MUA zone affords much better protection than the rural residential zoning in place in Clackamas County and comparable protection to that provided by

EFU zoning. The MUA-20 zone limits land divisions to the creation of 20-acre or greater parcels and limits the scale of nonfarm uses, in several cases more restrictively than state law. This area located west of Orient Drive is more heavily parcelized with smaller parcels, similar to the Highway 212 finger. Few parcels receive farm value special assessment. The eastern part of this area (east of Orient Drive) contains many parcels that exceed 20 acres in size. Tracts of land in this area receive farm value assessment and are in farm use. Throughout the MUA area it is not uncommon to see multiple parcels being managed together for agricultural use, especially nursery production.

Agricultural lands within and near this area have also been afforded additional protection by an intergovernmental agreement (IGA) between the City of Gresham and Multnomah County. The IGA recognizes the need to protect adjacent agricultural lands by planning for a buffer which among other things plans the urban edge for industrial uses that are generally more compatible with agricultural than residential, commercial and some public uses.

- Adjacent to the City of Sandy rural residential exceptions areas ring the UGB to the south, northwest (straddling Highway 26) and to the east. With the exception of an area located north of Highway 26, these exception lands contain larger parcels with a mixture of small woodlands and small agri-forest operations.

- A strip of exception lands extends out from the UGB along Beaver Creek out to Barlow High School. This area is split zoned by Multnomah County. The western end along Beaver Creek is zoned Rural Residential. The eastern end is zoned MUA-20. Most of the parcels located in the MUA-20 portion receive farm value special assessment and are in farm use. Beaver Creek and its associated riparian corridor provide a good edge/buffer between urban land uses and agricultural operations located to the east.

- Between the UGB at Damascus and the Clackamas River a block of lands zoned rural residential abut the UGB. This area is part of a peninsula-like tract bounded by the UGB, the Clackamas River and the deeply incised Noyer Creek.

Parcel size within the lands zoned for exclusive farm use is not a limiting factor. Tract and field size is appropriate and conducive to the character of agriculture in the subregion. It is apparent that few if any nonfarm land divisions have occurred within the designated agricultural lands. It was also apparent that the high-value nature of agricultural production in the area has lead in many cases throughout the area to the management of several smaller parcels as a farm tract, regardless of ownership. Tenure includes fee ownership, lease and rent. Nonfarm uses outside the exception areas are not widespread.

Other considerations

This subregion is an important part of a larger nursery industry cluster located in the northern Willamette Valley. Operations associated with the production of nursery products, while intensive in nature, have co-existed relatively well with low-density rural residential development. The area is also well known for berry, vegetable and Christmas tree farms that increasingly take advantage of their location in the metro area by the direct marketing and promotion of their products. Easily accessible by major transportation routes, this area is ideally located to take advantage of the increasing demand to obtain food from the local food shed. This leads toward greater opportunities for smaller parcels and parcels located within exception areas to cater towards the increasing demand for local products.

Transportation is an important issue to the nursery industry also. While it is true that major transportation corridors are located within and near the region, it is increasingly more difficult to move nursery products to these corridors, especially Interstate 84, and then on to markets located outside the state. Restrictions placed on large tractor-trailer trucks relating to certain local streets and roads have created some concerns in the industry. While not a factor that severely limits the ability of nurseries to operate, it is an issue to monitor.

Conclusion

Overall, this subregion is significant agricultural land if for no other reason than it produces high-value products important both to the traded sector economy and the increasingly important local food shed. Physically, the area is well suited to agriculture. Excellent soils and existing water availability is key. In light of the limitations in the Clackamas County portion of this subregion on future ground water withdrawals, it is important to protect lands with existing irrigation from conversion to nonfarm uses. It will also be important to consider protecting water rights associated with agriculture from transfer to other lands and nonfarm uses.

The number, size and configuration of exception areas within this subregion at first glance appear to impact the ability of farms in the vicinity to operate efficiently and effectively. As discussed above, large parts of the exception areas protruding into agricultural lands are in farm use and/or are protected by zoning for farm use. These "exception" agricultural lands, exclusive farm use zoned lands and forest zoned lands in many cases block up into larger blocks of resource land which maintain the ability of farms within to viably operate.

This being said, there are some smaller areas within the subregion where long-term viability is at question. These areas include:

1. The area located between the Damascus UGB, the Clackamas River and Noyer Creek. This area includes two islands of land zoned exclusive farm use that are separated by rural residential exception lands. The larger island includes a large nursery operation. There is no substantial commercial scale agriculture occurring within the exception areas. The eastern part of the area

is located in a notch of the current urban growth boundary that contains multiple edges. While no final plan has been adopted as to the ultimate land use of the urban lands located adjacent to this notch, the current land use of the developed lands is higher density residential. There are no evident opportunities to buffer residential uses from adjacent agricultural lands. Primary access is from the urban area and is, in effect, a dead-end. Conversely, the Clackamas River and Noyer Creek provide good opportunities to buffer any future nonresource development from the larger blocks of agricultural lands located to the south and to the east. These buffers could also provide hard edges to the UGB, providing long-term protection and certainty to the large blocks of high-value agricultural land located south of the Clackamas River and south of Boring.

2. The area located north of Boring and Highway 212 and west of 282nd Avenue extending into the current UGB. Most of this area is zoned rural residential. Little if any commercial agriculture is occurring within these rural residential lands. Higher density residential development and parcelization preclude any significant, viable commercial farm use. A small island of land zoned exclusive farm use is located in a notch formed by the UGB and Highway 212. This isolated EFU tract is completely surrounded by exception lands. The community of Boring is located immediately to the southwest and the City of Damascus to the west. This small area is isolated from larger blocks of agricultural land in the vicinity. Little opportunity exists to provide adequate buffers and the size of the tract limits its ability to provide for long-term effective operations as a stand-alone block.

Noyer Creek, the North Fork Deep Creek and their associated "canyons" border the area to the east. The Clackamas River and associated steeper terrain is located south of the area. Recent open space acquisitions by Metro are also found along the Clackamas River. These physical features would provide excellent hard edges and buffers between urban development and the large blocks of agricultural lands located within the Clackanomah and Springwater Ridge subregions. The "development" of open space along this edge provides an excellent buffer and helps to reinforce the river as a hard edge.

Beaver Creek may also provide an opportunity to provide an edge between agricultural lands to the east and the cities of Gresham and Troutdale to the west.

Development of infrastructure such as drip irrigation discussed earlier in this section is expensive, requiring an investment that will pay off over time. Because of the time element, farmers are looking for a degree of certainty that their operation will be viable at a given location before they continue to invest in needed improvements and land.

The region should continue to support the urban-rural edge defined in the agreement between the City of Gresham and Multnomah County to protect area agricultural lands located outside the UGB.

Eagle Creek

This narrow agricultural subregion parallels the Clackamas River and straddles Highway 224. It reaches from the Damascus/Barton area on the northwest to private and federal timberlands to the east and southeast. It is bordered on the west by the Clackamas River and to the north by Hwy 212, 232nd Avenue, and Deep Creek. The area is characterized with variable soils – predominantly clay and cobbly influenced with silt loam inclusions– bisected by steep creek canyons and moderately sloping benches in the northeast to flat on the southwest. The area has numerous forestland inclusions located adjacent to or intermixed with agricultural lands. Christmas trees and cattle farms are the prevalent farm use. Small nurseries, berry, horse and cattle farms are common. A large nursery is also located within the subregion.

Analysis

Capability

Excellent soils on flats and benches dissected by steep, incised streams best describe the land base in this subregion. Agricultural capability is predominantly Class II, nonirrigated. Unlike most areas in the metro region, a good deal of the soils located on the bench east of Highway 224 become Class I when irrigated. The vast majority of agricultural soils located within the subregion are designated as prime farmland.

Irrigation is provided by a combination of surface and ground water sources. The northwest corner of the region is adjacent to the Damascus-Sandy Ground water Limited area.

Suitability

This area shares no edge with the current Metro UGB. The City of Estacada is in the southeastern one-half of the subregion in an area of mixed rural residential, farm and forest uses. The rural community of Eagle Creek is located in the northern one-half of the subregion along with substantial rural residential exception areas located east of and adjacent to Highway 224. Small-scale and lifestyle agriculture is not uncommon in many of the exception areas. The largest area of lands zoned for farm use is located west of Highway 224 between the community of Eagle Creek and Estacada. While this area share edges with rural residential exception areas, these edges are relatively short. These and most other agricultural lands within this subregion share edges and block up with lands zoned for forest use. These combined “resource lands” form good size blocks that afford for good overall operating integrity.

Parcel size was not determined to be a limiting factor in our review. Tract and field size is appropriate for the character of agriculture in the area. In fact, good parcel and tract size is strength in this area. Existing land use regulations limit the ability to further divide area agricultural lands into parcels too small to be managed as agricultural units.

Nonfarm uses exist in throughout the area, predominately within the exception areas. There is little documented history of conflicts with agricultural operations in the area.

Greater potential for conflict exists in the areas zoned for mixed farm and forest use located east of Estacada. Here the farm/forest zoned lands share numerous edges with rural residential exception areas.

Other Considerations
Farm stands, U-picks and small farms producing high-value products for sale to the urban market are not common in this area. Great soils combined with location near the Portland metro area provide excellent opportunities for the direct marketing and promotion of agricultural products. This lends to greater opportunities for smaller parcels and parcels located within exception areas to produce crops that cater to the ever-growing demand for locally produced food and other agricultural products. The larger parcels located within the lands zoned for agriculture are conducive to more extensive, larger scale agriculture operations involving field crops. These larger parcels could help to meet the growing demand for biofuel/bioenergy products in the region.

No major infrastructure issues are apparent.

Conclusion
Overall, this area is suited for the production of agricultural and forest products. Prime farmland soils are predominant in the flat bench areas. Parcel size remains large and is conducive to intensive and extensive agricultural operations. Agricultural and forestlands combine into larger blocks of resource land to provide ability to operate with limited conflicts.

Springwater Ridge

This narrow agricultural subregion is bounded on the north and east by the Clackamas River, on the west by Clear Creek and by Fischers Mill and Hattan roads, and extends southeast into private and federal timberlands. The area has numerous forestland inclusions, especially along the Clackamas River. Large-scale Christmas tree operations are the predominant farm use. Smaller agricultural operations include nursery, Christmas trees, berries, and hay land.

Analysis

Capability
Soils in this subregion reflect the changing landscape of the area as it progresses west away from the Clackamas River and south into large blocks of forestland. Upper bench lands located north of Redland Road contain Class II, prime farmland soils. The lower bench between Foster Creek and the Clackamas River contains wetter soils. This is reflected in agricultural capability classification. This lower bench area contains predominately Class IV soils and is not designated prime farmland. The area located south of Redland Road reflects the transitory nature of the area. The smaller flat bench areas are Class II soils. Lands containing steeper slopes corresponding with the

woodland nature of operations in the area are Class III agricultural soils. While some soils are designated prime in this area, most are not.

Most of the agricultural land involves dryland operations. Irrigated land is almost entirely dependent on ground water. Use of surface water (snow water source is minimal) is limited. Wells require great depth for the most part.

Suitability

This area shares a short edge with the current Metro UGB along the Clackamas River. It also is bounded by the Clackamas Heights subregion to the west, which is characterized by a great deal of higher density rural residential development. The edge between these two subregions contains a good deal of land zoned for forest use. The City of Estacada is located across the Clackamas River in the southeastern one-half of the subregion in an area of mixed rural residential, farm and forest uses.

Parcel size was not determined to be a limiting factor in our review. Tract and field size are appropriate for the character of agriculture in the area. In fact, good parcel and tract size is strength in this subregion. Existing land use regulations limit the ability to further divide area agricultural lands into parcels too small to be managed as agricultural units. Nonfarm uses exist throughout the area, predominately within the exception areas near Estacada. The northern one-half of this subregion contains fewer, more isolated rural residential clusters that are also very small in area. There is little documented history of conflicts with agricultural operations in the area.

Other Considerations

Farm stands, U-picks and small farms producing high-value products for sale to the urban market are not common in this area. Excellent soils combined with location near the Portland metro area provide excellent opportunities for the direct marketing and promotion of agricultural products. This leads to greater opportunities for smaller parcels and parcels located within exception areas to produce crops that cater to the ever-growing demand for locally produced food and other agricultural products. The larger parcels located within the lands zoned for agriculture are conducive to more extensive, larger scale agriculture operations involving field crops. These larger parcels could help meet the growing demand for biofuel/bioenergy products in the region.

No major infrastructure issues are apparent.

Conclusion

Overall, this area is suited for the production of agricultural and forest products. Prime farmland soils predominant the flat bench areas. Parcel size remains large and is conducive to intensive and extensive agricultural operations. Agricultural and forestlands combine into larger blocks of resource land to provide ability to operate with limited conflicts.

Clackamas Heights

This small subregion is located south of the Clackamas River, west of Hatton and Henrici roads, east of the Oregon City UGB and north of Henrici Road. This subregion has few flat areas found within steep rolling hills dominated by timber inclusions bisected by numerous creek canyons. This area has numerous rural residential and rural residential/non-farm inclusions. There are very few industrial forestland parcels in this area. There are some large parcel, production agriculture operations generally corresponding with lands zoned Exclusive Farm Use by Clackamas County. The main agricultural commodities are row crops, hay land, Christmas trees and nursery (in ground, greenhouse and container). The area includes a large number of horse and cattle farms.

Analysis

Capability

Soils in this subregion are Class II along the Clackamas River within the floodplain and on flat plateau-like areas located along Henrici, Redland and Forsythe roads. These soils are also designated as prime farmland. Lands containing steeper slopes, the hilly areas and ravines characterized by woodland, contain Class IV and VI soils.

Irrigated agricultural is found along the Clackamas River and on the upper bench farmlands. These lands correspond with those zoned Exclusive Farm Use by the county. This subregion is almost entirely dependent on ground water for irrigation. The area is not within any designated ground water limited area.

Suitability

The agricultural integrity of this area is seriously impacted by urbanization along its western edge with Oregon City and the predominant rural residential development pattern located within the subregion. An island of over 640 acres of active, large-scale farm use blocks up with forestlands in the northern part of the area. This island is isolated from other metro area large-scale farming operations by large blocks of rural residential exception areas. Access to this island is via steep, narrow and winding roads that carry good to heavy volumes of residential traffic. Smaller blocks of Farm/Forest zoned land are located in the southern part of the subregion.

While many of the rural residential areas include some larger size parcels and small-scale and lifestyle agricultural activities, heavy parcelization and associated nonfarm development combined with rural residential zoning (potential for additional nonfarm development) provide few long-term opportunities to develop a block of viable farming operations. The larger parcels located outside the EFU zoned lands that are found throughout the area are located within and next to concentrations of smaller parcels.

Other Considerations

Small farms producing high-value products for sale to the urban market are becoming more common in this area. Excellent soils combined with location near the Portland

metro provide excellent opportunities for the direct marketing and promotion of agricultural products. This lends to greater opportunities for smaller parcels and parcels located within exception areas to produce crops that cater to the ever growing demand for locally produced food and other agricultural products.

The transportation in this subregion is a combination of bad and poor routes. There are some good major routes, but these are bottlenecked by urban connector streets to region highways. Narrow, winding roads characterize some of the roads with no or very little shoulders.

Conclusion

Overall, this area has limited ability to sustain long-term, viable commercial agricultural operations due to parcelization, nonfarm development and zoning that recognizes both the parcelization and nonfarm use. Few opportunities exist to buffer the few blocks of agricultural land from adjacent lands zoned for residential development and urbanization. Opportunities exist for small-scale agriculture that focuses on the demand for local agricultural products.

Southeast Clackamas

This broad agricultural subregion is generally bounded by Oregon City and Henrici Road to the north, Clear Creek to the east, and by the Molalla River and Mulino, Central Point and New Era roads to the west. The subregion extends southeast into private and federal timberlands. The topography is characterized by moderately to steep rolling hills dominated by timber inclusions bisected by numerous creek canyons. Forestland inclusions become smaller and less dominant from the east to the west.

Agricultural operations in this subregion reflect a transition from forestland to prairie lands. A corridor of agricultural land exists along Redland Road, eventually transcending into a solid block of forestland from the northwest to the southeast. Similar to the Springwater Ridge region, agriculture is characterized by a mixture of large and small-scale operations producing Christmas trees, berries, nurseries, hay and pastureland and cattle and horse operations. Small woodlot management is also common, especially as one travels further south out Redland Road.

To the southeast of the Beavercreek area agricultural and forest operations extend out along Beavercreek Road and Upper Highland Road. Christmas trees, pasture and small woodland management characterize the Highland Road area. To the south along Beavercreek Road, Christmas trees and larger woodlot and timber management are prevalent. Cattle operations are also common. Closer in to the community of Beavercreek the character of agriculture includes high-value livestock production, berries, flowers and some Christmas trees. It is not uncommon to see smaller operations producing crops for sale at area farmers markets.

To the south of Oregon City and west of and along Highway 213, the agricultural landscape begins to diversify. Christmas trees are still common as are livestock operations. Reflecting the transition of topography, nurseries, dairies and field crops become more common.

Analysis

Capability

Soils in this subregion are overall well suited for agricultural production. The majority of the area is comprised of Class II agricultural soils. Away from the terraces and floodplain of the Molalla River, a ridge of Class III and IV soils runs from the northwest around Union Hill to the southeast along Milk Creek. Similar soils are also found along the southern edge of the Oregon City UGB and south of Beaver Lake along Abernethy Creek.

Irrigation in this subregion has a combination of both surface and ground water sources. Most irrigated land is found along the Molalla River and in the New Era area south of Oregon City. No part of this subregion is located within a ground water-limited area.

Suitability

With the exception of the area within and around the community of Beavercreek, the agricultural character of this subregion can perhaps be best described as an agricultural block in the western one-third, and a forest block with agriculture occurring where the topography flattens out in the eastern two-thirds. The Beavercreek area is better characterized as rural residential with small-scale farm/forest and lifestyle operations. Each area is discussed in greater detail below.

The western one-third of the subregion has few suitability limitations. Rural residential exception lands are either located at the edges or are relatively small in area with few opportunities for further land division. The northern edge corresponds with the Oregon City UGB. It is well buffered by topography and forestlands, which are zoned for forest use under state law. The western and southern edges abut large blocks of agricultural lands zoned for exclusive farm use and the eastern edge borders with a large block of forest zoned land. Parcel size is not a limitation.

Within the eastern two thirds, agricultural lands at first glance appear to be more isolated in nature. However, when analyzed together with adjacent forest zoned lands, these smaller blocks of agricultural zone form much larger blocks of resource lands that work together to provide the integrity needed to ensure long-term ability to conduct farm and forest operations effectively. Parcel size within lands zoned for exclusive farm use is well suited for commercial farm use. Within the lands zoned Farm-Forest along Upper and Lower Highland roads, parcel size is similar to that of some rural residential areas. However this area is buffered from larger-scale farm and forest operations by a block of forestland made up of large sized parcels, most 80 acres or more in size. This forest-zoned land extends to the north to block up with EFU zoned lands located along Redlands Road.

The broader Beavercreek area is the most compromised area within this subregion. It would not be a stretch to describe this area as an extension of the urban area. This area shares an edge with the Oregon City UGB and the Clackamas Heights subregion and includes the area around Beaver Lake. While there are several larger tracts in farm use and while small scale and lifestyle agriculture is not uncommon within the exception lands, this area is dominated by higher density rural residential development and other nonfarm uses. The recent addition of a golf course in the area and its associated residential development add to the pressure and demand for further division of the remaining larger tracts located within the exception lands. Zoning in place would not preclude the further division of the larger rural residential parcels. South of and adjacent to Henrici Road a block of EFU zoned lands is located in a notch of exception lands that nearly surround and cut them of from the larger block of agricultural lands located to the southeast

Other Considerations
Small-scale intensive agriculture with a focus on the urban market, combined with good soils, provides a greater incentive to put smaller tracts in otherwise conflicted areas into farm use.

Conclusion
Outside the greater Beavercreek area, this area is suited for the production of agricultural and forest products. Prime farmland soils predominant the flat bench and shallower sloped areas. The size of parcels remains large and is conducive to intensive and extensive agricultural operations. Agricultural and forestlands combine into larger blocks of resource land to provide ability to operate with limited conflicts. In the Beavercreek area, residential and other nonfarm use, parcelization and potential for future development place severe limitations on the long-term viability of this area for commercial agricultural production.

East Canby

This agricultural subregion is bounded on the west by the City of Canby and the Willamette River, on the north by New Era Road, on the east by Central Point Road and the south by the Molalla River. It is characterized by rolling foothills and bisected by moderately sloping creek drainage. The agricultural sector becomes much more diversified and includes row crops, annual grasses, grass seed, nursery, berry crops, hay and pasturelands, Christmas trees and horse farms.

Analysis

Capability
Soils within this subregion with few exceptions are high-value Class I and II agricultural capability and are designated as prime farmland. A belt of Class I soils ring the City of Canby. This is one of the few areas of undeveloped Class I soils in the Metro region.

This subregion begins an area of intensive irrigation that extends into the heart of the Willamette Valley. Abundant water is available from both ground and surface water sources.

Suitability
This area shares an edge with the City of Canby. There are no major protrusions of urban land extending into agricultural lands. The only exception area lands within the subregion are located north and adjacent to Canby along the Willamette River. These exception lands are more an extension of the city and do not protrude out into the core agricultural block. All other edges are shared with commercial agricultural lands. There are no islands of exception lands located within the subregion.

Parcel size overall is large and well suited to the diversity of agricultural crops produced in the area. There is also evidence of management across larger tracts comprised of several parcels. Few nonfarm uses are located within the subregion. The agricultural block is zoned EFU. Because the soils in this area are high-value, few if any nonfarm dwellings or land divisions are allowed by the current zoning.

Other Considerations
Only the Molalla River separates this subregion from the heart of Willamette Valley agriculture. It is well connected to the service infrastructure found within the prairies and, in terms of agricultural function, should be considered a part of this larger block of significant agricultural land. Irrigation, drainage and transportation infrastructure are well established.

Conclusion
This subregion contains some of the best soils within the entire region and operates as a part of the larger prairie block of agricultural land that dominates the Willamette Valley south of the metro area. There are little if any issues related to the ability of farms to conduct farming operations. Long-term, a potential threat could relate to the character of any future expansion of the Canby UGB. Because Canby is not part of the Metro planning region, planning decisions are not required to be coordinated with other jurisdictions located in the region.

Clackamas Prairies

This agricultural subregion is located south of the Molalla River and east of the Pudding River extending southeast to the public and private timberlands of the Cascade foothills. Farm uses are diverse in scale and crop type and include the production of annual and perennial grass seeds, Christmas trees, berries, nurseries (in-ground and container), some greenhouses and irrigated annual row crops. There are also cattle, sheep, dairy and poultry operations.

Analysis

Capability
A variety of deep silt loams, many with drainage management issues, are located within this subregion. A large block of Class I agricultural soils are located immediately south of the Molalla River straddling Lone Elder Road. The vast majority of the remaining soils are Class II. Outside of narrow bands associated with the small streams, which drain the subregion, the soils are all designated as prime farmland.

This subregion is extensively irrigated by both surface and ground water sources. Few opportunities for additional surface water withdrawals currently exist. There are large numbers of ground water withdrawals. Static ground water levels are known to drop significantly in the late summer, particularly in the more southern portions of the subregion. This subregion includes the Gladtidings, Kingston, and Mt. Angel ground water limited areas.

Suitability
The northern part of this subregion shares an edge with the City of Canby on its west side. The Molalla River provides a good buffer and edge along a portion of the urban area. The City of Molalla and the community of Marquam are located within the southeastern part of the subregion. There are no major protrusions of urban land that extend out into agricultural lands. The only exception area lands within the subregion are located adjacent to the cities of Canby, Molalla and Barlow. In most cases, these exception areas are more an extension of the subject city and do not protrude out into the core agricultural block. All other edges are shared with commercial agricultural and forestlands. There are no islands of exception lands located within the subregion.

Parcel size within the lands zoned EFU is overall large and well suited to the diversity of agricultural crops produced in the area. There are groupings of smaller sized parcels located in the northern one-half of the region. There is also evidence of management across larger tracts comprised of several parcels. Few nonfarm uses are located within the subregion.

The subregion agricultural block is zoned EFU. Because the soils in this area are high-value, few if any new nonfarm dwellings or land divisions are allowed by the current zoning.

Other Considerations
Only the Molalla River separates this subregion from the heart of Willamette Valley agriculture. It is well connected to the service infrastructure found within the prairies and in terms of agricultural function, should be considered a part of this larger block of significant agricultural land. Irrigation, drainage and transportation infrastructure is well established. Major agricultural service centers in the region include Woodburn, Hubbard, Donald and Canby. There are numerous smaller service sites that cater to specific needs of the industry such as Marquam and Monitor. Irrigation and drainage infrastructure is well developed throughout the subregion. Transportation routes are well

developed providing excellent access to area agricultural operations. There are some issues with moving farm machinery on the heavier traveled main routes. This generally is not a major limitation.

Conclusion

This subregion contains some of the best soils within the entire region and operates as a part of the larger prairie block of agricultural land that dominates the Willamette Valley south of the metro area. The overall integrity of the subregion is excellent with no major issues impacting the ability of farms to operate efficiently and effectively. Current infrastructure needs are well met.

Long-term a potential threat could relate to the character of any future expansion of the Canby UGB. Because Canby is not part of the Metro planning region, planning decisions are not required to be coordinated with other jurisdictions located in the region.

French Prairie

This agricultural subregion is located west of the Pudding River and south and east of the Willamette River extending south to the Woodburn and St. Paul areas. The subregion is characterized by large flat terraces and plains bisected by moderately sloped creek canyons. It is also bisected by Interstate 5 and Highway 99E. The agricultural sector includes large amounts of grass seed, annual grasses, grass sod productions, nurseries (in ground, container and greenhouses), orchards (filberts and tree fruits), row crops, berry crops, and Christmas trees. There are also a significant number of dairy and livestock operations, poultry and egg farms.

Analysis

Capability

The soils within this subregion can generally be described as deep silt loams with mucky soils in creek and rivers bottoms. Drainage can be a problem in these soils if not managed and maintained properly. This is especially true for areas tiled in the 1940s and 1950s and in need of repair or replacement. Agricultural capability is predominantly Class II. Wetter soils are Class III and IV. The vast majority of the soils within the subregion are designated as prime farmland.

The subregion is blessed with abundant water from both surface and ground water. The majority of lands located within this subregion maintain the right to be irrigated. The major surface sources are the Willamette and Pudding rivers. There are large numbers of ground water withdrawals. No ground water limitations are in place within the area. Limitations on new withdrawals from the surface streams in the area do not implicate existing irrigators.

Suitability

This subregion maintains excellent integrity for large-scale, intensive industrial agricultural operations. It is, in effect, a large block of agricultural land containing large parcels and larger farms with several inclusions of urban development. It is not uncommon for farms to operate on several parcels located within and, in many cases, outside the subregion. While some localized conflicts with nonfarm uses exist, they are not, overall, beyond what is considered common.

The subregion shares an edge with the Wilsonville/Metro UGB, including the Charbonneau area that is located south of the Willamette River. The Willamette River provides an effective buffer for most of the edge. Residential and commercial development at Charbonneau has remained contained and isolated from surrounding agricultural lands. Location near I-5 and the fact that access to this development is, in effect, a dead-end has helped to limit impacts to area agricultural operations.

Just south of Charbonneau are located two large nonfarm use areas. The first is a golf course. Zoned EFU, this facility was approved only after Clackamas County determined that it would not significantly increase the cost of accepted farm and forest practices on surrounding lands devoted to farm and forest use and that its development and operation would not force a significant change in accepted farm and forest practices on surrounding lands [see ORS 215.296(1)]. EFU zoning also insures that any development associated with a golf course is also compatible with area farms. Many of the management practices conducted on-site are similar to agronomic practices conducted by area farms. The golf course in effect provides a buffer between the commercial and residential uses located at the Charbonneau interchange.

Approximately one-half mile south of the golf course is located the Aurora State Airport and associated commercial uses. With a few exceptions, agricultural and airport operations are considered compatible. Development at the airport is related to airport operations and future development is limited to uses that are dependent on air services and operations.

Several cities and their urban growth areas are located within this large agricultural block. These include Woodburn, Hubbard, Aurora, Donald and St. Paul. For the most part the associated UGB of each of these cities has remained compact and has maintained well-defined edges with few major protrusions into farmland. The Fargo interchange and the Aurora State Airport are two exception areas that contain substantial development. Few rural residential exceptions areas exist within the subregion and those that do are small in area.

The subregion agricultural block is zoned EFU. Because the soils in this area are high-value few, if any, new nonfarm dwellings or land divisions are allowed by the current zoning. The EFU zone also precludes several nonfarm uses, such as private parks, schools, golf courses and destination resorts on high-value farmland.

Other Considerations

The OSU North Willamette Research and Extension Center is located just south of Charbonneau. This facility provides many key services to Oregon's largest agricultural industry, nursery and greenhouse production, and to the small fruit industry. Irrigation, drainage and transportation infrastructure are well established. Major agricultural service centers in the region include Woodburn, Hubbard, Donald, St. Paul and Canby. There are numerous smaller service sites that cater to specific industry needs. Irrigation and drainage infrastructure is well developed and maintained throughout the subregion. Transportation routes are well-developed providing excellent access to area agricultural operations and outside markets. There are some issues with moving farm machinery on the heavier traveled main routes. This generally is not a major limitation.

The area is well known for berry, vegetable, flower and Christmas tree farms that increasingly take advantage of their location in the metro area and other valley urban centers by the direct marketing and promotion of their products. Easily accessible by major transportation routes and good local access routes, this area is ideally located to take advantage of the increasing demand to obtain food from the local food shed.

Conclusion

Excellent soils, available water, well established infrastructure and large parcels that block up and dominate the land use pattern. This subregion has all the elements for maintaining and expanding viable, commercial agricultural. This subregion, combined with the Clackamas Prairies and East Canby subregions, is one of the most significant agricultural areas in the state.

The Willamette River currently provides an excellent buffer and edge between urban land uses and the intensive commercial agriculture that predominates south of the river. A long-term potential threat to agriculture in this subregion relates to urbanization and expansion of the Metro UGB south of the river. This has been highlighted of late due to speculative discussions about development in, around and between the I-5 interchange at Charbonneau, the golf course and the airport. Strong consideration needs to be given to providing more certainty and long-term protection to agricultural production in this area. We believe that development of a permanent or "hard" edge at the Willamette River and coordination between Metro and north valley cities on future growth and urbanization are key considerations.

Stafford Triangle

This small subregion is best defined as the area bounded by Interstate 205 on the south, the Tualatin, Rivergrove and Lake Oswego UGBs on the northwest and the Lake Oswego and West Linn UGBs on the northeast. It is, in effect, located within a triangular notch of the urban growth boundary that is cut off from rural lands located to the south by Interstate 205. Subregion lands are moderate to steeply sloped, bisected by numerous creek canyons. The Tualatin River runs through the southeastern one-third of the area from the west to the east.

Rural residential development and small-scale, lifestyle farms and woodlots dominate the area. Numerous other institutional and commercial nonresource uses are also located within the area. The agricultural sector includes a large number of small parcels of hay and pastureland, woodlots and horse farms. In past years this area included several Christmas tree plantations. Some Christmas tree operations still exist but the acreage is greatly reduced or is reverting to small woodlands. A few nursery and vineyard operations are also located in the area. An estate winery has been developed in the Rosemont area. A community supported agricultural operation (CSA) operates on land leased from the City of Lake Oswego. The CSA is part of a larger recreational facility located straddling the Lake Oswego UGB.

Analysis

Capability

Soils in this subregion are predominately well drained, silt loam with inclusions of poorly drained loams. Soils located north of the Tualatin River, west of Stafford Road and north of Rosemont Road and in the hillier lands located south of Rosemont Road are Class II and IV agricultural lands. Flatter lands located along the Tualatin River, I-205 and Sweetbrier and Grapevine roads are Class II soils. With the exception of the Sweetbrier/Grapevine roads corridor, these Class II soils are also designated as prime farmland. Some areas along the Tualatin River have both seasonal flood and drainage issues.

The vast majority of lands with agricultural irrigation rights are located between the Tualatin River and I-205. This area is located within the Sherwood-Dammasch-Wilsonville Ground Water Limited Area. A few isolated agricultural water rights exist along Johnson and Rosemont roads.

Suitability

The integrity of the agricultural lands located within this subregion is seriously compromised. The few existing commercial operations located in the area are compromised by surrounding area development, parcelization and the potential for future residential development within the exception areas located in the subregion and at the edges along the UGB. Land values reflect the current nonresource zoning and/or the speculative land market that exists in the area due to its location. The core agricultural block is relatively small, providing little opportunity for the island to stand-alone.

South of the Tualatin River the few remaining agricultural operations are located on lands zoned for rural residential use, in an area containing several nonfarm uses that are generally not considered to be compatible with commercial agricultural practices. Such uses include churches, schools and retail commercial. High-density residential development also exists along the river. This area also shares an edge with the City of Tualatin. Along this edge, inside the UGB, exists high-density single-family and multi-family residential development. Finally, the entire area south of the river is a recognized exception area that provides no protection for farm use.

North of the Tualatin River, a block of land zoned Exclusive Farm Use runs north to south through the middle of the larger area. Exception lands zoned and developed for rural residential use and the West Linn and Lake Oswego UGBs surround these EFU lands. Some small-scale lifestyle agriculture is found within these exception lands. Inside the UGB along the northern and eastern edges the land use pattern is higher density residential development. Inside and along the western edge of the UGB are located lower density residential, institutional uses and a municipal golf course. This short edge of extensive land uses combined with lands owned by the City of Lake Oswego form a short edge/buffer. The long-range integrity of the buffer is questionable depending on the scale of recreational use that ultimately is developed.

Other Considerations
Location near the metro area does provide opportunities for the direct marketing and promotion of agricultural products. Only a few small farms producing high-value products for sale to the urban market are located in this area.

The transportation in this subregion is a combination of bad and poor routes from the prospective of moving agricultural machinery. Stafford, Borland and Rosemont roads dissect the area and are key routes between communities and/or major transportation routes. Heavy, congested, cut-through traffic is common.

A note here about impacts from Measure 37 claims. We have opted to not try to base much on analysis of the potential impacts from Measure 37 claims because there is so much uncertainty about how much development will actually result from claims determined to be valid. However, in a situation like the Stafford Triangle where a small block of agricultural land is already surrounded by urban and exception lands and that includes several approved Measure 37 claims for subdivisions, we offer the following remarks. Should the subdivisions authorized on EFU lands by Measure 37 ultimately be developed, we believe the limited integrity that this exists in this subregion for commercial agriculture currently will be lost.

Conclusion
A small, isolated core land base with poor integrity and infrastructure concerns combines to severely restrict the long-term viability of this area to survive as commercial agricultural land. This leads to a conclusion that this subregion is not does not contain significant commercial agricultural lands. Taking advantage of some trends in agriculture, some high-value, direct-marketed production may thrive.

East Wilsonville

This agricultural subregion is located south of I-205 and the City of West Linn UGB, west and north of the Willamette River, and east of the City of Wilsonville UGB and I-5 north of Wilsonville. The topography is flat to gently rolling with two major steep creek canyons bisecting the area. There are fairly large parcels that lend themselves to large production agriculture. The agricultural sector includes hay and pastureland, livestock,

annual grasses, grass seed, nursery stocks, vineyard, Christmas trees and large numbers of small horse farms. The east edge of the area is predominately small parcel timber and horse farms found on Pete's Mountain. Intensive nursery operations are found in the Peach Cove area. Annual row crop production associated with a direct marketing farm operation is located north of Wilsonville.

Analysis

Capability

Soils found in this subregion include a variety of excellent silt loams with very few inclusions. The vast majority of the soils located west of Mountain and Stafford Roads and within the Peach Cove peninsula are Class II agricultural soils. Prime farmland soils are predominant in the area located south of Homesteader Road and west of Pete's Mountain Road. They are also found in the Peach Cove peninsula and terrace land running along the southern edge of the Tualatin River.

Irrigation is not uncommon, especially in areas zoned EFU. Surface and ground water sources are utilized. The area is also located within the Sherwood-Dammasch-Wilsonville Ground water Limited Area, which precludes the development of additional ground water sources for irrigation. This subregion has begun to see a rebound in the static ground water level since the City of Wilsonville changed from wells to the Willamette River for their water supply.

Suitability

This subregion can perhaps be best described as containing two distinct areas, one resource related, the other rural residential with lifestyle farm and forest uses. This land use distinction corresponds with each area's suitability as commercial agricultural land.

A block of rural residential exception areas extends across the northern part of the subregion along I-205 and I-5. This area is heavily parcelized into parcels predominately ranging from 5 to 10 acres in size. Based on current zoning, few large parcels capable of further division exist in the area. The vast majority of parcels within the exception areas are developed with a single-family dwelling. Several nonfarm uses, primarily churches, have also located in the exception lands located along I-205 and I-5. The exception lands also isolate a smaller island of EFU lands located near the northern end of 65th Street where it crosses I-205.

The remaining large block of agricultural land, including two fingers extending north between I-5 and 65th Street and between Newland and Mountain roads and the Peach Cove peninsula, maintains good integrity.

Pete's Mountain and the forest zone uses and recreational uses occurring on the mountain buffer agricultural lands located to the southwest from the West Linn urban area and the heavily parcelized and well-developed rural residential development to the northeast. The edge this area shares with the City of Wilsonville contains no protrusions of urban land out into the agricultural block and no deep, multi-sided notches that surround

resource land. The two fingers and peninsula of agricultural land either block up directly or in combination with Forest zoned lands to the larger agricultural lands block. Few nonfarm uses exist within the larger agricultural land block. EFU zoning and associated provisions protecting high-value farmland limit future nonfarm development.

Parcel size within the EFU lands is generally large and conducive to intensive and extensive commercial agricultural operations. Many larger parcels 40-acres in size or greater exist within in the EFU area. There is also evidence of agricultural operations within the area utilizing several parcels to form one working unit.

A quick note about the Peach Cove area: It is characterized by intensive agricultural operations producing high-value nursery products. A small inclusion of several rural residential dwellings are concentrated within the EFU zoned lands. This agricultural block is bordered by the Willamette River on two sides and forest zoned lands that include lands acquired by Metro to the north. It shares but one edge with an isolated rural residential subdivision.

Other Considerations

The location both near the Portland metro area and near major transportation routes provides excellent opportunities for the direct marketing and promotion of agricultural products. Farm stands, U-picks and farms producing high-value products for sale to the urban market are not uncommon in the area. The site and situation of this subregion lends itself to greater opportunities for smaller to produce crops that cater to the ever-growing demand for locally produced food and other agricultural products. The larger parcels located within the lands zoned for agriculture are conducive to more extensive, larger scale agriculture operations involving field crops. These larger parcels located within the EFU zoned lands could help to meet the growing demand for biofuel/bioenergy products in the region.

Conclusion

With the exception of a small island of EFU zoned land located near the intersection of 65th Street and I-205, the large block of land within this subregion zoned EFU remains a viable block of agricultural land. Excellent soils, existing water rights with improving ground water conditions, large parcels and no out-of–the-ordinary edge compatibility issues all lead to this conclusion. Future land use decisions affecting the northern exception lands could have integrity implications for the two fingers of EFU land that protrude northward. However, current zoning of these heavily parcelized exception lands would not indicate much more impact from development than currently exists. These exception lands and the small island of EFU lands they surround near I-205 are not considered well suited for commercial agriculture.

West Wilsonville

This agricultural subregion is located west of Wilsonville, south of Sherwood, north of the Willamette River and east of Ladd Hill Road (Parrett Mountain). It is characterized

by moderate to steeply sloping terrain that is bisected by multiple steep creek canyons originating from springs and other surface waters. The agricultural sector includes hay land, limited nursery production, wine grapes, orchards, unmanaged pastures, Christmas trees, and large numbers of small horse farms. Some vegetable and fruit production associated with the local food market can be found within the Tualatin urban area and south of Sherwood.

Analysis

Capability

The agricultural capability as it relates to soils in this subregion is more complicated and diverse than most other subregions discussed in this analysis. South of Grahmans Ferry Road and east of Wilsonville Road, the soils are classified as Class I. Overall, Class II soils ring Parrett Mountain along the Willamette River; between the mountain and the Wilsonville and south and adjacent to the Sherwood UGB are Class II agricultural soils. Class III and IV soils are found on the steeper slopes found along the eastern edge of the area. Between the Tualatin and Sherwood UGBs along Tonquin Road, the majority of the soils have no agricultural capability rating or are classified as Class III and IV. Much of this area is wet and/or quite gravelly, mucky or rocky.

The flatter lands along the Willamette River, the southwest Wilsonville UGB and southwest of the Sherwood UGB are designated as prime farmland.

The entire subregion is located within either the Parrett Mountain or Sherwood-Dammasch-Wilsonville Ground Water Limited Areas. Large tracts with existing irrigation rights are located along the Willamette River. Smaller tracts are found south of Sherwood and to a limited extent along Ladd Hill Road. Some of the larger tracts with irrigation rights contain perennials, which require less water after initial plant development. The lack of widespread, existing irrigation rights is considered a limiting factor in this subregion, especially away from the Willamette River. Lack of irrigation precludes the development of high-value nursery and food crops, which otherwise could be produced on the smaller tracts located in the northern half of the subregion.

Suitability

South of Mill Creek, a block of agricultural land extends from the Wilsonville UGB along the Willamette River. This area shares a well-buffered edge with the Wilsonville UGB. The buffer is provided first by a deeply incised canyon associated with the lower reach of Mill Creek. Second and perhaps more significant, recent open space acquisitions by Metro are located along this edge. Rural Residential development located along the eastern edge is lower density and, topographically, is located on different terrain. Corral Creek and its associated gallery forest also buffers the agricultural lands located down slope. Lands located to the north across Mill Creek are smaller sized parcels zoned EFU. The Willamette River forms most of the southern edge. A narrow band of rural residential development is located between the river and Wilsonville Road at the southwestern corner of the area. Parcel sizes within this area are conducive to large-scale commercial agriculture. It is also evident that some agricultural operations in

the area are utilizing multiple parcels as single farm/field units. Few nonfarm uses are found in this area. This high-value farmland is zoned EFU which limits additional land divisions and nonfarm development. Agricultural operations in this area are connected and have more in common with farming operations on the French Prairie and the Newberg area.

North of Mill Creek commercial agricultural operations are more fractured and do not form a good size block. Rural residential exception areas border and squeeze the EFU zoned lands from the north, west and the east. A small area of EFU zoned lands is located in a notch of the Wilsonville UGB and is nearly surrounded by a rural residential exception area and the UGB. Numerous small rural-residential-like parcels are located within the EFU zoned lands located south of Tooze Road. Little intensive or irrigated agriculture is found in this area. North of Tooze Road, parcel sizes are larger and conducive to more commercial scale production. Some irrigated agriculture is found here.

Other Considerations

The northern and eastern parts of this subregion lack major transportation routes. For the most part, roads in these parts of the subregion are narrow and winding with no or very little shoulders. It is not well connected to other agricultural areas in the region. The southern area along the Willamette River is better connected to farm service centers located on French Prairie and in the Newberg area.

Conclusion

Excellent soils, existing water rights, good integrity and connection with adjacent agricultural lands lead to a conclusion that the block of EFU lands located south of Mill Creek are suited to commercial scale farm use.

North of Tooze Road, a combination of conditions leads to a different conclusion. Overall, this area has limited suitability to sustain long-term, viable commercial agricultural operations. Much of the area is squeezed or nearly surrounded by rural residential exception area and adjacent urban areas. Poor soils along the eastern edge and lack of existing irrigation rights further limit the amount of land capable of supporting commercial operations. South of Tooze Road parcelization into small units not conducive to commercial scale dry land agriculture reduces the block size of the larger parcels located to the north and, in effect, helps to isolate the northern area. Poor transportation routes reinforce this isolation.

One note about the agricultural lands located north of Tooze Road along Baker and McDonnell roads. The parcels found in this area are large size and there are some existing water rights for irrigation. Few opportunities exist to buffer this smaller block of agricultural land from adjacent lands zoned for residential development and urbanization. Potential for future irrigation is a limiting factor. However, opportunities exist for some agriculture production that focuses on the demand for local agricultural products.

Parrett Mountain

This subregion is located west of Ladd Hill Road, south of the City of Sherwood and Highway 99W, north of the Willamette River and east of a line formed by the Newberg-Wilsonville Road and Corral Creek Road. This subregion is generally characterized by steeply sloping terrain with some small benches along the summit of the ridges. Steep sloping creek canyons that originate from springs and surface waters bisect the area. Common agricultural activities found in this subregion include hay land, wine grapes, orchards, unmanaged pastures, Christmas trees, and large numbers of small horse farms. It is important to note that a number of parcels listed as unmanaged pasture and orchards on the Willamette Land Use/Land Type Map have been converted to wine grapes.[8] This illustrates a change in land use from lower income, marginally productive land to high-value, highly productive agricultural land. This observation can be used for all the gently to moderately sloping unmanaged lands in the north valley, especially west of the Willamette River. This subregion also contains large tracts (by Willamette Valley standards) of timberlands. The Magness Memorial Tree Farm is a part of this region.

Analysis

Capability

Soils found within this subregion can generally be described as a variety of well-drained silt loams with clay and clay loam inclusions. The slope of lands found within this subregion ranges from 15% to 40%. Slope is a key factor in the agricultural capability classification of area soils. The vast majority of soils on the sloped lands located below higher benches and terraces are Class III, IV, VI or poorer. The flatter benches and terraces are Class II and are designated as prime farmland. Many of the Class III and IV soils located in this area that do not exceed 20% slope are considered high-value farmland as defined in state statute. These include the Jory clay loam, Yamhill silt loam, Woodburn silt loam and Laurelwood silt loam.

There are not many agricultural wells or surface rights listed in the area. This subregion is part of the Parrett Mountain Ground Water Limited Areas and has been an area of concern in relation to ground water levels. New ground water withdrawals are severely restricted. Snow is not a water factor is this area. Other surface water surface water sources are limited. Many rural homeowners have had to deepen wells and develop rainwater harvesting to procure enough water. Creative irrigation methods are being employed, especially in relation to the development of perennial crops that require a good deal of irrigation up front to establish a plant and little irrigation thereafter. Examples exist in this area of farms that that utilize roof rainwater storage and drip irrigation and the trucking of water during early plant development.

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[8] *Willamette Valley Land Use/Land Cover*, Oregon Department of Fish and Wildlife, Clair Klock, Principal Researcher, February 1998.
Metadata: http://nwhi.org/inc/data/GISdata/docs/willamette/wvveg24k_meta.htm
Accuracy Assessment: http://nwhi.org/inc/data/GISdata/docs/willamette/wvveg24kaccass.pdf

Suitability
The majority of the subregion located south of Sherwood within Washington County is rural residential exception areas. A few large tracts comprising two small blocks zoned for farm/forest use are located in this immediate area. These resource lands are either nearly or completely surrounded by rural residential development on 5-10 acre lots or higher density urban residential development.

Lands in the Clackamas portion of the subregion contain a large block of forestland containing several larger tracts. While bordered by rural residential development from several sides, most of the edges are with low density, relatively small rural residential blocks of commercial agricultural lands along the southern and western edges.
The area is further characterized by a combination of small, moderate and large parcels.

The Yamhill County part of this subregion overall is characterized by larger parcels and tracts that remain in farm and/or forest use. The northeast corner of this area is zoned for mixed farm/forest use. It is parcelized into a pattern of parcels predominately ranging in size from ten to 20 acres. A rural residential exception area borders this area to the south

Other Considerations
This area lacks major transportation routes. Roads within the subregion are characterized as narrow and winding with no or very little shoulders. Trends in the development of wine grapes and wineries in the larger region are reflected in the subregion. This subregion is located at the edge of the larger Yamhill wine region and near Highway 99E.

Conclusion
Overall, this area has few edge issues. Conflicts that affect the ability to conduct farming operations occur from within the area from rural residential development. This is especially the case in the Washington County portion of the subregion. Rural residential exception lands and development heavily influence this area. Parcelization, poor agricultural soils within the lands zoned for farm/forest use and little chance to develop future irrigation shows little promise for long-term, viable agriculture.

Topography and land use reflect the transitional nature of the Clackamas County portion of this subregion. Some good size forest parcels exist alongside of larger parcel, low-density rural residential development. This area also shares edges with large blocks of agricultural lands to the southwest and the west. Parcel size and soils are conducive to the production of wine grapes. Lack of irrigation water is a concern, however, wine grapes require little irrigation once established.

The Yamhill County part of this subregion has fewer issues. Suitability is good overall, with few edge issues and little inclusion of nonresource development. Soils in the area are valued in other parts of the region for the production of wine grapes. Lack of irrigation water is a concern; however, wine grapes require little irrigation once established. This area acts as an excellent buffer between the rural residential and urban development located to the north and west and the prime farmland located on the Newberg Flat.

Newberg Flats

This agricultural subregion is located east of the City of Newberg, east of the Wilsonville-Newberg and Corral Creek Roads, south of Highway 99E and north of the Willamette River. Characterized by flat to gently sloping terrain, this subregion is bisected by moderate to steep sloping creek canyons that originate from springs and other surface waters. Coming down off of Parrett Mountain at the point where the slope flattens, erosion potential is less and agricultural uses/practices change. The agricultural sector includes hay land, wine grapes, orchards, unmanaged pastures, limited nursery production (in-ground and container), Christmas trees, and large numbers of small horse farms.

Analysis

Capability

Soils are a variety of well-drained silt loams. With the exception of a wet inclusion near the Willamette River bridge crossing and area stream corridors, soils are high-value, Class II agricultural capability. Most of the soils, including the wet inclusion if drained, are designated as prime farmland. This subregion shares its eastern border with, but is not included in, the Parrett Mountain Ground water Limited Area. Lands with existing irrigation rights for agriculture are located throughout this subregion

Suitability

This area shares an edge with the City of Newberg. With the exception of one residential subdivision, urban uses along this edge are industrial and extensive commercial, uses that tend to be more compatible with agricultural operations. Rural residential exception areas are located adjacent to the Newberg UGB and are more a part of the urban area.

Parcel size is conducive to commercial agriculture. Few nonfarm uses are found in the area. Outside the three exception areas located against the UGB, the vast majority of the area is zoned EFU. On high-value farmland, the EFU zone precludes further nonfarm dwellings and land divisions and affords greater protection against the location of several nonfarm uses that may otherwise be located on EFU lands.

Other Considerations

The Willamette River separates this subregion from the French Prairie located to the south. Highway 219 crosses the river south of Newberg connecting these two subregions. Although Highway 219 is no bargain in terms of traffic volume, it provides excellent access to service centers located to south. It also gives farmers in the area the ability to avoid the major traffic problems associated with Highway 99W.

Conclusion

This subregion in form and function operates as a part of the prairie block of agricultural land located south of the metro region. Excellent soils, existing water and good integrity all support the conclusion that this area is significant agricultural land. Long-term, a

potential threat could relate to the character of any future expansion of the Newberg UGB. Because Newberg is not part of the Metro planning region, planning decisions are not required to be coordinated with other jurisdictions located in the region.

Chehalem Mountain

The Chehalem Mountain agricultural subregion runs in a northwest/southeast direction. It is generally bordered by the Chehalem Valley, the City of Newberg and Parrett Mountain on the south and Sherwood and Tualatin Valley on the north. More specifically, it was decided to distinguish this area as the area encircled by the 300-foot contour (elevation). At that point the slope dramatically increases, erosion potential becomes a major concern and agricultural uses/practices change. This area generally is characterized by steeply sloping terrain with benches found along the main ridge and spurs. Steep sloping creek canyons originating from springs and other surface waters bisect the subregion.

The agricultural sector includes wine grapes, orchards (some abandoned), unmanaged pastures, limited nursery production, Christmas trees, some hay land, livestock and large numbers of small horse farms. Forestland and small woodlots are also found throughout the subregion. Vineyards are found more often on lower, south facing slopes where the mountain transcends into the valley floors. The southeast end of the subregion, located along Highway 99E between Sherwood and Newberg, involves more intensive and concentrated operations, including wine grapes, hazelnut orchards and annual crops. It is important to note that a number of parcels listed as unmanaged pasture and orchards on the Willamette Land Use/Land Type Map have been converted to wine grapes. This illustrates a change in land use from lower income marginally productive land to high-value, highly productive agricultural land.

Analysis

Capability

Class II agricultural soils are found where the subregion transitions into the Tualatin Valley north of Bald Peak and Dixon Mill roads, and along the northern and eastern flanks. The flatter benches and terraces are also Class II. Reflecting slope, soils within the remainder of subregion are predominantly Class III and IV agricultural capability. Many of the Class III and IV soils located in this area that do not exceed 20% slope are considered high-value farmland as defined in state statute. Examples include the Jory clay loam, Chehalem silty clay loam, Cornelius and Kinton silt loams, Melbourne silty clay loam and Laurelwood silt loam. Very limited fingers of prime farmland exist in the subregion. What does exist is found along the Sherwood UGB the flatter bench lands and with the lower elevations of the small valleys that incise the subregion.

Lands with existing water rights for irrigation are scattered throughout the subregion. The largest concentrations are found in the McFee creek area and in the north end of the subregion in the Unger Road area. The entire area is within the Chehalem Mountain

Ground Water Limited Area. Unlike other metro region ground water limitations which preclude all new irrigation, restrictions for this area allow that permits may be issued for a period not exceeding five (5) years, for fire protection and for drip or equally efficient systems, only if it is determined that the proposed use and amount would not pose a threat to the ground water resource or existing permit holders. The amount of water permitted for irrigation is limited to one acre-foot (v. 2.5) per acre per year. Permits may be extended for additional five-year periods. This allows for the startup of new perennials such as wine grapes and orchards.

Suitability

The subregion itself is an island located within larger agricultural areas located in the Tualatin and Chehalem Valleys. Numerous exception areas are located throughout the subregion, especially in Washington County south and east of Bald Peak Road. Land use within these exception areas can best be characterized as rural residential, with small-scale, lifestyle farms. These exception lands are also heavily parcelized.

Good size blocks of agricultural and forest land also exist in the subregion. Most of the Yamhill County portions of the subregion located west and northeast of Newberg maintain good integrity. Parcel size is conducive to agriculture and there are few nonfarm use issues. High-value crops are not uncommon. In Washington County, lands located south of Chapman Road and north of Highway 99W block up with lands in Yamhill County. North of Bald Peak Road, several large forest parcels exceeding 80 acres in size block up with farm unit size parcels.

Lands located outside the exception areas are zoned for exclusive farm use.

Other considerations

Narrow, winding, roads with no or very little shoulders characterize this area. Soils and parcel size provide opportunities to develop high-end boutique vineyards and wineries.

Conclusion

This subregion is most impacted by the "shotgun" scattering of rural residential exception areas throughout the area. These exception areas tend to be somewhat contained by topography and located within, not at the edges of, the subregion.

The most significant agricultural areas within this subregion are located in transition areas located near the edges of the subregion. These include the upper slopes of the Chehalem valley west of Newberg, lands between Newberg and Sherwood and a good size block of land located north of bald Peak and Dixon Mill Roads in Washington County. Isolated between the rural residential islands are blocks of land that are well suited to agri-forestry and, in many cases, wine grape production.

Tualatin Valley

The main body of this agricultural subregion is bounded on the north and east by the metro area UGB. including the cities of Sherwood, Tualatin, King City, Tigard, Beaverton, Hillsboro, Cornelius and Forest Grove and Gales Creek. It is bordered on the south by Chehalem Mountain. The subregion extends west into private and state timberlands in the Coast Range. This subregion also wraps around the north end of the Chehalem Mountain south to the end of the Wapato Lake bed. This area is characterized as flat to very gently rolling floodplain and river terrace with the Tualatin River and a number of creeks bisecting the region.

The agricultural sector is diversified and includes hay land, annual grasses, grass seed, nursery land, orchards – hazelnuts, tree fruits, berries, row crops of all types, livestock and poultry, nursery stocks and large numbers of small horse farms. Wine grapes and Christmas trees are also produced in the Bull Mountain and Cooper Mountain areas.

Analysis

Capability

Soils in the subregion include a variety of silt loams with very few inclusions. These soils are excellent agricultural soils. They are predominantly Class II capability and are designated as prime farmland. Drainage can be a management issue in some of these soils. This is especially true for areas tiled in the 1940s and 1950s and in need of repair or replacement. Some large tracts of river bottom soils also require late crops and erosion protection due to winter flooding. Flooding also places limitations on the production of perennial crops in some floodplain areas. A block of Class I, prime farmland soils are located around the west end of Tongue Lane.

Class III and IV soils are found on lands with slope located in the Bull Mountain and Cooper Mountain areas. These soils are suited for the production of wine grapes and Christmas trees. The old Lake Wapato Lake bed contains Class III soils. This area has well-established drainage and the soils have been designated as unique farmland.

The area is fortunate to have abundant water available for irrigation. There are significant numbers and quantities of both surface and ground water withdrawals in this subregion. The majority of lands located within this subregion contains water rights for irrigation of agricultural products and are located within the boundaries of the Tualatin Valley Irrigation District. The east end of the subregion located just east of Butter Creek is located within the Cooper Mountain/Bull Mountain Critical Ground water Area. Edges of the subregion shared with the Chehalem Mountain subregion are located within the Chehalem Mountain Ground water Limited Area. These ground water limitations do not affect existing water rights or the delivery of water via the infrastructure provided by the irrigation district.

Suitability

Overall, this large block of commercial agricultural land is well suited to agriculture. Parcel size lends itself to the full range and scales of agriculture found in the region. The vast majority of parcels are of a size conducive to intensive agricultural operations or extensive, large machine-dominated operations. Few confirmed uses with any history of conflict are located within the subregion. These generally are related to edges between agriculture and urban scale residential uses. The several golf courses located within the subregion are generally compatible with farming operations. The vast majority of agricultural land in the subregion is zoned exclusive farm use under state law. Because most of the subregion is considered high-value farmland, it is afforded greater protection, including provisions that limit nonfarm uses, dwellings and land divisions.

Few inclusions of exceptions lands are found throughout the subregion and many of those that do exist are located at the edges of the area. These include several along Highway 47 along the western edge of the valley farmland, near the east end of Unger Road adjacent to Chehalem Mountain, and in the Cooper Mountain area along the edge of the Beaverton UGB. The City of Gaston is located at the edge of the region adjacent to Wapato Lake. It maintains a compact UGB, is more rural in character and acts as a service center for area farms.

The subregion shares an edge with the metro urban area involving eight cities. The area along this edge is where suitability issues are most likely to exist. Overall, the integrity of the agricultural lands is well established along the entire length of the subregion.

From Sherwood north and west to Scholls Ferry Road agricultural lands tend to be well buffered from the adjacent urban area. From Sherwood to King City, the combination of lands owned and managed by the U.S. Fish and Wildlife Service and open space acquisitions by Metro provide an excellent buffer along the UGB. From King City to Scholls Ferry Road, the transition from Bull Mountain to the Tualatin River floodplain provides a physical edge. This edge is generally marked by the 200 foot contour from King City to Roy Rogers Road, by the 250 foot contour north to Beef Bend Road and by the 300 foot contour north to Scholls Ferry Road. Urban development is located on the upper slopes away from the agricultural operations.

From Scholls Ferry Road north to the Baker Rock quarry located adjacent to Farmington Road is a section of the urban area centered on Cooper Mountain. This notch in the UGB includes two edges. A rural residential exception area that exceeds 400 acres in size is located along the eastern edge. Most of this exception area is located near the ridgeline summit or on the side away from agricultural lands located to the north. The majority of lands located along the northern edge of the notch (east to west) have been acquired by the Metro Open Space program. The largest remaining tract is being utilized as a rock quarry that is considered to be compatible with agricultural operations in this situation. These open space lands and a compatible land use combined with the break in topography represent a good edge and buffer between agricultural operations and the urban area.

Two small fingers protrude out from the UGB as it stretches north from Farmington road to Butter Creek. These small fingers, one along Rosedale Road and the other along Hagg Lane, are more the exception than the rule as surrounding agricultural operations represent the predominant land use. Low density residential and industrial use along the western side of 209th Street also provide a good transition into the higher density residential development located to the west.

North of Butter Creek the UGB forms a deep notch that nearly surrounds a tract of land that is close to a section (640 acres) in size. The area is bordered on the east by 209th Street, the north by a railroad and the TV Highway, the south by Butter Creek and the west by 229th Street. A grouping of nonfarm dwellings located northeast of the Reserve Golf Course nearly encloses and cuts off the tract from the larger agricultural block located to the south and southwest. This tract is, in effect, surrounded and cut off from area agricultural lands located to the south. Access to this isolated tract can only be through urban or urbanizing lands. If a higher percentage of the perimeter of this tract bordered agricultural, forest or other compatible land uses, then the size of the tract would provide greater ability to stand by itself and remain a viable agricultural tract into the future. It is important to note that the demand for local food and high-value products combined with the size of the tract and the quality of soils found in this notch could lend this area to continued agricultural production.

One last point about this area needs to be discussed. It is important to consider how the ultimate development of an area would impact surrounding agricultural operations. In this case, adjacent land uses and physical features provide a good buffer or edge between the notch and the greater Tualatin valley subregion. A golf course is located west and southwest of this area. This land is zoned EFU. The golf course was approved only after the county found that it was compatible with area agricultural operations. The golf course provides a good buffer between the urban area and resource lands located south of the urban area. Extending east from the golf course is Butter Creek. This stream provides a good opportunity to develop a hard edge and buffer from any future urban development that may occur. Without the establishment of a buffer/edge in this location, development would be problematic to future agricultural operations in the area.

The City of Hillsboro UGB extends in a generally western direction from 229th Street to the TV Highway. It includes two fingers that protrude from the urban area into EFU lands and two notches where EFU lands are confronted with two or more edges of the UGB. The first finger extends south between the Tualatin River and River Road. It is a small protrusion that is isolated from area resource lands by the Tualatin River and area golf courses. The primary land use is sewage treatment facilities. The second protrusion extends along Highway 219 to include lands owned and managed by Clean water Services (CWS) including the Jackson Bottom wetlands. This finger in effect creates the two notches located in this segment of the UGB. The lands located within the notches and the protrusion are also owned by CWS. An examination of this length of the UGB shows that a good part of the entire length involves land uses and ownership that provide a compatible edge with area farming operations. The CWS lands and operations located both inside and outside of the UGB along Dairy Creek form a good buffer along this

segment of the UGB. The Tualatin River, Dairy Creek and two golf courses also work to buffer agricultural uses from urban area land use.

The last length of the UGB stretches from Dairy Creek west along the cities of Cornelius and Forest Grove. As with the south Hillsboro UGB, much of this length is compatible with subregion agricultural lands. The only protrusion out from the UGB along Fern Hill Road involves public opens space and water sewage facilities. These lands are located on both sides of the UGB. Gales Creek, Metro open space lands, and the Tualatin River and its associated floodplain are also located along the UGB. There are no protrusions or multi-sided notches along the remaining edge.

Other Considerations

The delivery infrastructure associated with the Tualatin Valley Irrigation District is well developed. Drainage infrastructure is also well developed through out the subregion and is routinely being maintained and updated by area farmers. These are key elements in the viability of Tualatin Valley agricultural operations.

This subregion works with the Dairy/McKay Creek subregion to form a base of agricultural operations that rival any in the state. Major transportation arterials allow for access to both local and regional service centers. While there are problems with movement of farm machinery between fields due to heavy cut-through commuter and urban traffic, this currently is not a fatal flaw to area agricultural operations. This is, however, an issue to watch and give serious consideration in future planning decisions. The department is concerned about the impacts of urban commuter traffic on roads cutting through metro core agricultural areas. Many times it is difficult at best to move farm machinery between fields or to move agricultural products from the farm to the market.

The location within the Portland metro area provides excellent opportunities for the direct marketing and promotion of agricultural products. Farm stands, U-picks, wineries and small farms producing high-value products for sale to the urban market are not uncommon and are increasing in the area. This can provide greater opportunities for both larger farm operations and the smaller parcels to produce crops that cater to the ever-growing demand for locally produced food and other agricultural products. The larger parcels located within the lands zoned for agriculture are also conducive to more extensive, larger scale agriculture operations involving field crops. These larger parcels could also help to meet the growing demand for biofuel/bioenergy products in the region.

Conclusion

A key and important element to the long-term viability is the ability of the industry to adapt and diversify. This subregion has all the elements supporting such adaptability and diversity, including excellent soils, available water for irrigation, parcel size, local market and overall ability to conduct farming practices. The excellent integrity of area agricultural lands is due in no small part to the existence of good edges, compatible land uses within the UGB (buffers) and the opportunities that exist to better develop good edges. With the exception of the lands in the Butter Creek area (see below), the

department considers agricultural lands located within this subregion to be significant and recommends strong consideration for designation as an agricultural preserve.

Additionally, this subregion and the Dairy/McKay Creeks subregion combine to act as the "anchor-tenant" for all of metro west and southwest side agriculture. These two subregions incubate and support other rural interface areas such that these less significant areas can help to meet the growing demand for smaller scale operations, local food and other niche market, high-value products.

This being said, the department's analysis leads us to question the long-term viability of the lands located north of Butter Creek in a notch of the Hillsboro UGB. Our primary issue with this tract is its integrity (see earlier discussion). Perhaps even more important, any long-term conversion of this tract to urban development should occur with limited impact to agricultural operations located to the south. The department suggests that lands located north of Butter Creek should only be allowed to urbanize if a hard edge is established that would preclude incremental conversion and subsequent development to the south and southwest.

An ongoing threat to agriculture in this subregion is uncertainty related to long-term expansions of the Metro UGB. This uncertainty leads to speculative lands prices based on urban, not rural or agricultural uses. It also leads to short term planning and investment by the agricultural industry. Development of new and the maintenance of existing infrastructure is curtailed and production decisions tend to preclude perennial high-value crops. Changes to policy and law that lend to such uncertainty need to be explored.

Finally, impacts associated with the implementation of Measure 37 need to be monitored. A valid claim may not lead to the ultimate development of any given tract at the scale approved. Large blocks of agricultural land such as the Tualatin Valley subregion should have the ability to work around much of the proposed development. Even if this is so, the conversion and loss of farmland under developed claims and to lands impacted by the shadow cast by nonfarm development could ultimately lead to a loss of critical mass needed to support elements of the industry.

Dairy/McKay Creeks

This agricultural subregion is bound on the south by the metro area UGB, including the cities of Beaverton, Hillsboro, Cornelius and Forest Grove, and Highway 8. It is bordered on the east by 185th Street and Cornelius Pass Road. The subregion extends west and north into private and state timberlands in the Coast Range and Columbia County.

This area is characterized as flat to very gently rolling farmland bisected by Diary and McKay creeks and their smaller tributaries. Finger valleys extend out Highways 26 (Sunset) and 6 (Wilson River), and up Dairy and McKay creeks into the forestland that

edge the subregion. Lower foothills are found between these valleys and along the edge of the lower valley terraces and alluvial fans.

Like the Tualatin Valley subregion, the agricultural sector is diversified and includes hay land, annual grasses, grass and legume seed, nursery land, orchards (hazelnuts and tree fruits), berries, wine grapes, row crops of all types, livestock and poultry, and nursery stocks. Christmas trees are a key crop found in the foothills and higher terraces found in the finger valleys. Compared to the Tualatin Valley subregion, fewer lifestyle farms are found and field and seed crops are more common.

Analysis

Capability

The soils found within this subregion include a variety of silt loams with very few inclusions. They are excellent agricultural soils. The majority, found on the flats, terraces and finger valley bottoms, are Class II agricultural capability and are designated as prime farmland. There are enclaves of Class I, prime soils located north and south of North Plains and east of Jackson School Road. Class III soils are found in narrow bands along stream corridors. A good deal of these soils are designated as prime farmland also. Class III and IV soils are found on sloped lands in the foothills. Class IV and VI soils dominate David Hill located northeast and adjacent to Forest Grove.

As with the Tualatin Valley subregion, drainage can be an issue in these soils. This is especially true for areas tiled in the 1940s and 1950s and in need of repair or replacement. Area farmers have developed substantial drainage infrastructure and other management tools. The bottoms of the creek valley have soils that need special consideration related to wet conditions during the early part of the growing season.

There are significant numbers and quantity of both surface and ground water withdrawals found throughout this subregion. The core of this subregion, the lands located east of McKay Creek between Highway 26 and the metro UGB are also located within the Tualatin Valley Irrigation District. The District also includes a block of land located north and west of North Plains. Substantial irrigation is also available and utilized within the finger valleys, on lands located east of North Plains and along Holcomb Creek. No ground water limitations have been placed on lands located within the subregion.

Suitability

This subregion has maintained excellent agricultural integrity and is well suited for all types of intensive and extensive agricultural operations. Parcel size lends itself to the full range and scale of operations found in the region and provides good opportunities for adaptation to changing trends in agriculture that involve both small and large scale operational characteristics. There is good evidence of “tract’ use in agricultural operations. This involves field configuration and agricultural practices being conducted across parcel and lot lines. It is also quite common for single parcels to be leased/rented for use as part of larger farming operations.

Other Considerations

This subregion works with the Tualatin Valley subregion to form a base of agricultural operations that rival any in the state. As with the Tualatin Valley subregion, the delivery infrastructure associated with the Tualatin Valley Irrigation District is well established. Drainage infrastructure is also well developed and maintained. There are fewer issues with larger scale sheet flooding like that, which occurs along the Tualatin River. This allows farmers the option of various perennial crops not available where large scale flooding is common. This is an important factor where irrigation is questionable. Seed and legume crops can be produced in such situations and are commonly found in the subregion. Recent production numbers have seen the value of grass seed production outpace many irrigated crops.

Located within this subregion are numerous businesses that provide services required by high-value crop producers. Examples include seed cleaning facilities, processing and storage facilities. Many of these services are located on-farm and are available to farmers in the area.

Major transportation arterials allow for access to both local and regional service centers. While there are problems with movement of farm machinery between fields due to heavy cut-through commuter and urban traffic, this currently is not a fatal flaw to area agricultural operations. This is however an issue to watch and give serious consideration to in future planning decisions. The department is concerned about the impacts of urban commuter traffic on roads cutting through metro core agricultural areas. Many times it is difficult at best to move farm machinery between fields or to move agricultural products from the farm to the market.

The location within the Portland metro area provides excellent opportunities for the direct marketing and promotion of agricultural products. Farm stands, U-picks, wineries and small farms producing high-value products for sale to the urban market are not uncommon and are increasing in the area. This can lead to greater opportunities for both larger farm operations and the smaller parcels to produce crops that cater to the ever-growing demand for locally produced food and other agricultural products. The larger parcels located within the lands zoned for agriculture are also conducive to more extensive, larger scale agriculture operations involving field crops. These larger parcels could also help to meet the growing demand for biofuel/bioenergy products in the region.

Conclusion

A key and important element to the long-term viability is the ability of the industry to adapt and diversify. This subregion has all the elements, including excellent soils, available water for irrigation, parcel size, local market and overall ability to conduct farming practices. The excellent integrity of area agricultural lands is due in no small part to the existence of good edges, compatible land uses within the UGB (buffers) and the opportunities that exist to better develop good edges. With the exception of the David Hill area, the department considers agricultural lands located within this subregion to be significant and recommends strong consideration for designation as an agricultural preserve.

This subregion and the Tualatin Valley subregion combine to also act as the "anchor-tenant" for all of metro west and southwest side agriculture. These two subregions incubate and support other rural interface areas such that these less significant areas can help to meet the growing demand for smaller scale operations, local food and other niche, high-value products.

An ongoing threat to agriculture in this subregion is the uncertainty related to long-term expansions of the Metro UGB and the satellite cities of Banks, Gaston and North Plains. This uncertainty leads to speculative lands prices based on urban, not rural or agricultural uses. It also leads to short term, rather than long-term, planning and investment by the agricultural industry. Development of new and the maintenance of existing infrastructure is curtailed and production decisions tend to preclude perennial high-value crops. Changes to policy and law that add to this uncertainty need to be explored.

It is the department's opinion that the critical mass needed to support the agricultural service industry in Washington County is currently present but under threat. While we understand that trends in regional agriculture include a growing focus on local food and other products, it is important to remember that the production value of the region's agricultural industry is heavily focused and dependent upon on the export market. This traded sector economy brings "new" income into the region. Blocks of agricultural land containing larger parcels are key to maintaining this sector of the local economy.

Finally, impacts associated with the implementation of Measure 37 need to be monitored. A valid claim may not lead to the ultimate development of any given tract at the scale approved. Large blocks of agricultural land such as the Dairy/McKay Creeks subregion should have the ability to work around much of the proposed development.

Bethany/West Multnomah

This agricultural subregion is bound on the west by Cornelius Pass Road and 185th Avenue, the north by US Highway 30, the east by the City of Portland UGB (and Forest Park) and the south by the Portland and City of Beaverton UGBs. The subregion can perhaps be best characterized as predominantly forestland located north and east of Skyline Road associated with the Tualatin Mountains and rolling small woodland and agricultural lands on moderate to steeply rolling hills to the southwest of Skyline Road. Numerous steep creek canyons bisect the subregion.

The agricultural sector includes haylands, annual grasses, Christmas trees, nursery land, orchard – hazelnuts, tree fruits, berries, livestock and poultry nursery stocks and large numbers of small horse farms. Agricultural operations reflect some of the common trends occurring in the region. Nursery operations, community supported agriculture operations, natural beef, grapes and organic vegetables are found in the area.

Analysis

Capability

Soils in the subregion include a number of silt and clay loams with inclusions of rock and clay. North of the urban growth boundary and Skyline Road and in the area located southeast of Bannister Creek, the soils are predominantly forestland soils with an agricultural capability of Class VI or poorer. The remainder of the subregion can best be described as possessing a mottled pattern of Class III and IV soils. A major influence on the soil capability is slope. Many of these Class III and IV soils are considered as high-value farmland soil and provide "unique" qualities for the growing of higher value crops like wine grapes and Christmas trees. Prime farmland is found along the UGB in the area along Germantown Road and Kaiser Roads, in the notch of the UGB along Springvale Road and between the UGB and 185th Avenue.

Water supply is questionable in this subregion as it is located in the upper end of small drainage that does not produce large quantities of water. The availability of ground water in any abundance is unknown. Irrigated agriculture does exist in the northwestern portion of the subregion north of and along Abbey Creek. There are no restrictions on the development of ground water in this subregion.

Suitability

Outside of the forestland areas, this subregion is best described as two areas divided by a power line corridor that angles from the northeast to the southwest through Section 9, Township 1 North, Range 1 West, WM. South of the power line, the subregion is characterized as a deep notch into the urban area. This area is nearly surrounded by the urban area and includes multiple edges including two "stair step" notches. Approximately ninety percent of the perimeter of this area is UGB. A large rural residential exception area combines with the UGB to cut off the area from the larger block of resource lands located to the northwest of the power line. Several smaller clusters of low-density rural residential housing are also located throughout the area. These exception areas further break up the area into isolated small blocks of land zoned for farm use. What agriculture that does exists is characterized as pasture, livestock and small woodlots.

Northwest of the power line corridor, the subregion opens up to an area that is bounded only to the south by the UGB. This edge is relatively short and contains no protrusion and a short, open notch. This area contains fewer and smaller exception areas (including one zoned Multiple Use Agriculture by Multnomah County) within the core agricultural land base. Agricultural lands block up with adjacent forest zoned lands and agricultural lands located within the Dairy/McKay Creek subregion. Parcel size is conducive to small and large-scale agricultural operations. Few nonfarm uses are evident in the area. Zoning is predominantly Exclusive Farm Use or Forest, precluding major land division and development of nonfarm uses.

Land use within the UGB adjacent to agricultural lands includes Portland Community College and lands that remain in agricultural use after recently being placed within the

UGB. Perhaps more important to long-term stability, an opportunity exists to provide a good edge and buffer along this UGB edge. Abbey and Rock creeks flow from the east to the west along most of the UGB.

Other Considerations
This area lacks major arterials that are utilized by agricultural transportation. Roads in the subregion can be characterized by narrow, winding, roads with no or very little shoulders. There are problems with movement of farm equipment between fields due to both area and cut- through urban traffic. The western portion of the subregion has better access due to its location adjacent to the Dairy McKay Creek subregion.

The location within the Portland metro area provides excellent opportunities for the direct marketing and promotion of agricultural products. Farm stands, U-picks, wineries and small farms producing high-value products for sale to the urban market are not uncommon in the area. This provides greater opportunities for both larger farm operations and the smaller parcels to produce crops that cater to the ever-growing demand for locally produced food and other agricultural products. The larger parcels located within the western part of this subregion are also conducive to more extensive, larger scale agriculture operations involving field crops. These larger parcels could help to meet the growing demand for biofuel/bioenergy products in the region.

Conclusion
Lands located west of the power line corridor maintain good integrity. They block up with other resource lands and maintain a compatible edge with the adjacent urban area. This combined with prime farmland soils and trending agricultural operations that cater more and more to the urban population result in the ultimate conclusion that this area is suited to commercial-scale agriculture.

South of the power line, conditions change. Agricultural lands in this region are most impacted by the configuration of the urban growth boundary. This area is almost completely surrounded by the urban growth boundary and rural residential exception lands. When the exception area lands are include, adjacent land use to lands zoned for farm use is primarily residential. Soils are generally poorer in this area and those that are not are located immediately adjacent to the UGB within a notch.

Sauvie Island

This agricultural subregion is an oblong island running roughly north and south and bounded by the Multnomah Channel and the Willamette and Columbia rivers. It is flat, deep river bottomland bisected by various riverine features such as oxbow and cutoff meanders, sloughs and meander scars. The northern part of the island is dominated by Sturgeon Lake and associated lands contained within and maintained as a state wildlife reserve. Recreational use of the many island areas is common and popular.

The dominant agricultural use is irrigated row crops. Minor agricultural commodities include includes hay land, annual grass, nursery land (in-ground and container), orchards, berries, livestock, and nursery stocks. Small horse farms and other lifestyle operations are not common on Sauvie Island as in some other agricultural regions in the north Willamette Valley.

Analysis

Capability

Soils found in this subregion are characterized by a variety of silt loams with very few inclusions. They are excellent agricultural soils. With few small exceptions, due to wetness, the soils are designated as prime farmland and contain Class II and III soils. The Class III soils tend to be wetter than the Class II soils, but are highly productive when managed for excessive water. Drainage can be an issue. This is especially true for areas tiled in the 1940s and 1950s and in need of repair or replacement. Special consideration related to wet conditions needs to be given to agricultural practices on wetter soils during the early part of the growing season. Area farmers have developed substantial drainage infrastructure and other management tools. Most of the agricultural land found on the island is well drained.

This subregion has abundant water supply. Most arable land located on the Island has water rights for irrigation. There are significant numbers and quantity of both surface and ground water withdrawals. No restrictions on the use of water exist in the area.

Suitability

This subregion is set apart from the rest of the region with the best all-around buffering found in any metro agricultural subregion. Besides the river channels, zoning on the lands located between the Multnomah Channel and US Highway 30 is Multiple Use Agriculture (see discussion below). Urban influences on island agricultural operations relate to traffic on exterior access roads and recreational users. All exception areas located within the island and outside the wildlife area are zoned Multiple Use Agriculture 20 (MUA-20) by Multnomah County. The MUA zone affords much better protection than the rural residential zoning in place in other regional exception areas and comparable protection to what is provided by EFU zoning. The MUA-20 zone limits land divisions to the creation of 20-acre or greater parcels, and limits the scale of nonfarm uses, in several cases more restrictively than state law. The vast majority of the island's agricultural land is zoned exclusive farm use. Because the soils on the island are considered high-value farmland, fewer nonfarm uses may be allowed under state law.

Parcel size is not a limiting factor. It is appropriate for all scales and intensive of production agricultural practices. In fact, parcel size is considered to be a key strength in this subregion.

Nonfarm use is limited and focused on the island. An aggregate mining operation is located on the southern tip of the island. Several smaller isolated clusters of rural residential development exist around the edges of the island. Recreational use and its

associated traffic can pose problems to agricultural operations but it is not considered a fatal limiting factor. In fact, many of the farms located on the island take advantage of the recreation use to direct market island products.

Other Considerations
Agricultural transportation off the island, the movement of crops and machinery, is presently restricted by bridge weight limit. This is currently being corrected by construction of a new bridge. Access off the island is direct to US Highway 30, which provides good access to area services.

The location both near the Portland metro area and within a recreational area provides excellent opportunities for the direct marketing and promotion of agricultural products. Farm stands, U-picks and farms producing high-value products for sale to the urban market are common and well known. Agri-tourism activities conducted on the island are well known through out the region.

The importance of drainage to agriculture in the area is highlighted by the existence of a drainage district on the island. This special district is vital in maintaining drainage systems and flood protection structures that are key to area agricultural operations.

Conclusion
Excellent soils, good water availability, location near an urban area, and excellent operational integrity combine to make this area a significant agricultural subregion within the greater metro region.

Scappoose Flats

This agricultural subregion is an oblong region running north and south. It is bounded by the Scappoose UGB and US Highway 30 to the west, the Multnomah Channel to the east and Scappoose Bay to the north. Physically, it has much of the same characteristics as Sauvie Island. It is best characterized as flat river bottomland bisected by various riverine features such as oxbow and cutoff meanders, sloughs and meander scars.

Agricultural use in this subregion includes irrigated row crops, hay and pasture land, livestock and nursery stocks.

Analysis

Capability
Soils found in this subregion are characterized by a variety of silt loams with very few inclusions. They are excellent agricultural soils. With very few small exceptions the soils are designated as prime farmland and contain Class II and III soils. The Class III soils tend to be wetter than the Class II soils, but are highly productive when managed for excessive water. Drainage can be an issue. This is especially true for areas tiled in the 1940s and 1950s and in need of repair or replacement. Special consideration related to

wet conditions needs to be given to agricultural practices on wetter soils during the early part of the growing season. Most of the agricultural land found on the island is well drained. Columbia River bottomland shallow swales and sloughs combined with constructed drainage ditch assist in drainage the area. These swales have a tendency to remain wet later in the spring and present some problem to agricultural efforts. Area farmers have also developed substantial drainage infrastructure and other management tools.

There are a significant number and quantity of both surface and ground water withdrawals in this subregion. The area is fortunate to have abundant water at this time. This is probably due to the fact that the subregion is hydrologically connected to the Columbia River.

Suitability

Agricultural lands within this subregion are squeezed between the Scappoose urban area and the Multnomah Channel. Much of this area is located on floodplain lands located below the terrace where urban development exists. This transition provides a buffering effect. The Scappoose Airport also provides an edge and buffer between the city and area farming operations. Exception areas are located on the edges of the subregion and in most cases act as a part of the urban area or the airport. One large exception area does protrude out from the Scappoose urban area to the northeast. It contains an airport and an aggregate mining and processing operation. These uses are generally compatible with farm use.

Parcel size is considered to be a key strength in this subregion, and is not a limiting factor. It is appropriate for all scales and intensities of production agricultural practices.

Nonfarm uses within the subregion are few in number but involve considerable area. Three large aggregate mining and processing facilities are roughly spaced at even intervals running south to north. While they represent a considerable footprint and conversion of quality agricultural land, the operational characteristics overall are compatible with the type of agricultural operations found in the subregion. Agricultural lands in the subregion are zoned exclusive farm use. Because the soils are considered high-value farmland, fewer nonfarm uses may be allowed under state law.

Other Considerations

The importance of drainage to agriculture is highlighted by the existence of drainage districts in the area. These local improvement special districts are vital in maintaining drainage systems and flood protection structures that are key to area agricultural operations.

This area is somewhat isolated from other regional agricultural operations. Urbanization and expansion of aggregate operations could impact the critical mass of operations needed to support and maintain the needed infrastructure in the area, especially in relation to drainage. Local drainage district officials have been able to establish cooperative

agreements with the cities, the port district and aggregate operators that recognize their impacts to area drainage and their contribution towards maintaining the system.

Conclusion

Excellent soils, good water availability, and good operational integrity combine to make this area suited for continued agricultural use.

Policy Considerations

This final section responds to Metro's request that ODA suggest policy directions that may be considered in protecting the region's agriculture industry including the ability of working farms to operate efficiently and effectively. ODA offers the following comments and suggestions.

Issue: Balance between protecting agriculture and other land uses.

It is not uncommon to hear a statement the goes something like this: "When it comes to existing policy and law relating to the expansion of urban growth boundaries, protection of agricultural lands trumps all other land uses. There is no balance given to the needs of other land uses."

Is this an accurate assumption? Based on our experience and analysis of existing policy and law, the answer is no. If anything, it appears that if an imbalance does exist, the system appears to be weighted more towards the ultimate conversion of agricultural lands to urban uses than to their protection as agricultural lands. Consider the following provisions in state law that can lead to the conversion of agricultural lands to urban land uses:

1. ORS 197.296(2): This provision in state law requires a local government to demonstrate that its plan provides sufficient buildable lands within its urban growth boundary to accommodate estimated housing needs for twenty years.

2. OAR 660-009-0025(2): This provision requires local land use plans to provide a twenty-year land supply of "employment lands" (commercial and industrial).

3. ORS 197.298(3): Allows "lower priority" lands (better agricultural lands) to be included in an urban growth boundary if it is determined by the local government that nonresource and poorer quality resource lands are inadequate to accommodate the amount of land needed to meet the determined twenty-year land supplies. The law further provides three specific reasons that may justify conversion of higher quality resource lands:
    a. Specific types of identified land cannot be reasonably accommodated on nonresource and poorer quality resource lands;
    b. Future urban services could not reasonably be provided due to topographical or other physical constraints; or

c. Maximum efficiency of land uses within a proposed UGB requires the inclusion of higher quality resource lands in order to include or provide services to other lands with high priority for inclusion.

4. Statewide Planning Goal 14: Requires that UGBs shall be consistent with 20-year population needs. Needs include housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space or any combination of these categories. Allows local governments, when determining "need", to specify the characteristics necessary for land to be suitable for an identified need.

5. OAR 660-024-0040: Implements Goal 14 provision discussed previously.

6. Regional Problem Solving ORS 197.652: Allows for expansion onto agricultural lands regardless of soils hierarchy if deemed to not be part of the region's commercial agricultural or forestland base. Does not define "commercial agricultural land base.

The above provisions provide a path to urbanize agricultural lands regardless of soil type, quality, value or rank. None of these provisions provide any bottom line or ultimate protection for any category of agricultural land. These provisions have been utilized in actual practice. Recent examples include expansion of the Woodburn (775 acres), McMinnville (794 acres) and Metro (industrial lands, 402 acres) urban growth boundaries.[9]

These policies and laws have led some in the agriculture industry to coin the term "the rolling urban growth boundary. This focuses on the potential for different cities UGBs to ultimately coalesce. Unlike other land uses, there are no policies or provisions addressing the long-term protection of agricultural lands from urbanization.

Issue: Should the region identify agricultural lands that should remain off limits to urbanization? Should permanent UGB boundaries or "hard edges" be established?

The establishment of agricultural preserves and hard edges in some locations should certainly be given strong consideration. Many areas that are considered by region planners as best suited for urban growth involve areas that are well suited to long-term agricultural operations and in most cases involve prime farmland. While most urban uses are land dependent, they are not dependent on the quality of the soil.

The use of preserves to protect significant agricultural lands could go a long way in providing some stability and certainty to some agricultural areas, if not to the larger region. Analysis similar to that provided in this report could be used to make allocation

[9] According to data available from the Oregon Department of Land Conservation and Development, from 1987 to 2005, 14,840 acres of agricultural zoned land were moved into urban growth boundaries by way of urban growth boundary expansions. This constituted 33% of all the land brought into urban growth boundaries during said time period.

decisions as to which lands merit preserve status. Obvious candidates in the region include the McKay/Dairy Creek, Tualatin Valley, Clackamas Prairies and French Prairie subregions. The department supports and recommends the establishment of agricultural preserves. Agricultural preserves would help to balance existing urban growth policy that provides long-term certainty for residential and employment lands, but not for agricultural lands.

In the analysis section of this report a good deal of discussion focuses on edges and buffers between agricultural lands and urban lands. Where good edges currently exist, strong consideration needs to be given to making them permanent. Existing physical features that should be given strong consideration for hard edges include: Willamette River between Newberg and Oregon City, Clackamas River/Noyer Creek/North Fork Deep Creek and Council Creek/McKay Creek. Consideration should also be given to developing hard edges that do not correspond with a physical feature through land use regulation and conservation easements. This is particularly relevant along the northern segment of the Hillsboro UGB. A good example of a "designated" edge is found in east Multnomah County. This edge was established in an agreement between the county and the City of Gresham.

Good agricultural buffers provide situations that protect or moderate adverse impacts between agriculture and other land uses not considered to be generally compatible with agricultural operations and practices. Buffers can be created using different tools. Establishing compatible land uses between land uses and requiring mitigation such as setbacks and physical barriers/features are examples. Once established, buffers should be protected from urbanization (conversion) and should not be leap-frogged by urban expansion.

Examples within the Metro area of intervening land use buffers include the Metro open space acquisitions in the Cooper/Bull Mountain area, and the zoning (and development) of lands along various segments of the UGB for industrial use. Other examples are identified in the analysis section of this report. There is no apparent evidence to suggest that compatibility with or protection of agricultural lands was taken into account when these "buffers" were created. This appears to be an area that could be better developed. Decisions involving future acquisitions of "open space" lands and easements and the allocation of land use designations along UGB edges should consider long-term protection agricultural lands and compatibility with agricultural operations and practices.

We are not aware of any provisions within the region that require any mitigation such as establishment of setbacks or barriers.

Issue: Should farmland protection priorities be based on soil qualities or other factors?

This question brings focus on the state law that establishes a priority list of lands for inclusion into an urban growth boundary:

197.298 Priority of land to be included within urban growth boundary. (1) In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:

(a) First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.

(b) If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.

(c) If land under paragraphs (a) and (b) of this subsection is inadequate to accommodate the amount of land needed, third priority is land designated as marginal land pursuant to ORS 197.247 (1991 Edition).

(d) If land under paragraphs (a) to (c) of this subsection is inadequate to accommodate the amount of land needed, fourth priority is land designated in an acknowledged comprehensive plan for agriculture or forestry, or both.

(2) *Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use*.

(emphasis supplied)

This law establishes a priority for inclusion of agricultural lands based on land use designation (nonresource before resource) first, and then on soil quality (poorer soils before best soils).

The inventory and analysis in this report utilizes several factors in assessing agricultural lands. Soils capability is and remains the single most important factor in this assessment. Without quality farmland soils, all the other factors, including water availability, are irrelevant. It would not be good policy, in our opinion, to replace the soils hierarchy as the primary consideration used in determining which lands are included within an UGB. This being said, there are circumstances where the implementation of the priority system may warrant additional considerations, including the justification of exceptions to the established priority.

The first circumstance involves the lack of consideration of important farmlands in the priority ranking. Currently agricultural capability is measured by the I-VIII capability system. It does not include consideration of prime, unique or high-value farmland soils designations. This can become an issue in situations where 1) two tracts contain soils with the same capability class soil but one is prime farmland, the other is not, and 2) one tract contains a lower capability class than another yet it is considered prime farmland while the higher capability tract is not.

What happens when all lands being considered for an UGB expansion are equal in terms of the agricultural capability of the soils? This is a situation in which many of the factors utilized in this report could be employed. Under current law, there is no requirement to

protect the prime, Class II farmland over the Class II farmland that is not prime farmland. There is no requirement to protect the irrigated Class II land over the nonirrigated, or the conflicted agricultural land over the foundation agricultural land. These situations occurred during Metro's most recent UGB expansion for industrial lands. Metro Regional Framework Policy 1.12.2 recognizes this situation and provides the ability to consider other factors important to agricultural production.

When the Metro Council must choose among agricultural lands of the same soil classification for addition to the UGB, the Metro Council shall choose agricultural land deemed less important to the continuation of commercial agriculture in the region.

In regard to land use designation priority, it became evident in this analysis that a situation can occur in which an area of high-value agricultural production is zoned nonresource (exception lands), not exclusive farm use. Because of the land use designation (nonresource), these lands are high priority for inclusion in the UGB. This is not a common situation but one that, nonetheless, merits discussion of an exception to the rule due to the agricultural value of the area. Because this is and should be a rare situation, we suggest that consideration be given to an exception-like process, rather than an overhaul of the entire policy.

Issue: Consideration of the impact of UGB expansions on surrounding agricultural lands.

One of the factors that Goal 14 and the implementing rules call for when considering changes to an UGB is the compatibility of the proposed urban uses with nearby agricultural (and forest) activities occurring on farm and forest land **located outside the UGB.** The Goal is one of four factors to be "balanced" in the process. This balancing has tended to obscure or ignore the compatibility factor.

While a good deal of analysis is given to the conversion of agricultural lands to urban lands, more weight needs to be given to this compatibility factor. Expansion of UGBs need to better take into account the impact of the planned development, including the configuration (footprint) of the expansion, on area agriculture. For example, UGB expansions should not create protrusions or fingers of urban land into agricultural lands. Expansions should not create situations where urban lands have multiple edges multiple edges with agricultural lands. Urban expansion should not "commit" agricultural lands to nonresource use.

It is important to note that adverse impacts need not always lead to a "yes or no" answer to a proposed expansion. Greater consideration should be given the mitigation, when found to be appropriate, of impacts to agricultural lands. Conditions of approval such as requiring buffers and setbacks, establishment of agricultural easements and protection of compatible urban uses from conversion can mitigate impacts to agricultural operations located outside the UGB. A mitigation fund/bank could be established where funds could be deposited as mitigation for the conversion of high-value farmland. The funds could

then be used to acquire agricultural conservation easements to establish better edges and to protect key blocks of agricultural land.

Issue: How do trends in consumer demands and agricultural production affect the need to protect productive agricultural land in the region?

Examples of current trends include:

- Increasing uncertainty about long-term energy supplies.
- Increasing demand for biofuels/energy development.
- The growing demand for organic, sustainable, high quality foods both in the home and at restaurants.
- Increasing demand for food products from a local food shed.
- New conservation incentives and other programs related to renewable energy and farmland protection including the ability of working farms to operate.

These trends suggest that lands not always considered to be important to the region's agricultural base may now merit greater or equal consideration. Areas considered impacted due to parcelization, parcel size and nonfarm development may be suited to more intensive operations on a smaller parcel. Lands underutilized in the past but maintained as larger parcels may be well suited to the production of biofuel crops.

The department recognizes these and other trends and supports the development of these sectors. The region may value and wish to protect areas that are characterized by operations responding to these trends. Discussion should occur about the importance of such lands.

We do not believe that the development (and protection) of these sectors should be at the expense of the greater agricultural industry, for two reasons. First, the nature of the region's and Oregon agriculture is focused on production for the export market. Eighty percent of the production leaves the state. Forty percent of the production leaves the country. This production provides the base and critical mass needed to support the infrastructure needed and used by all types of Oregon agriculture. And this export production is an important part of the state's economic bottom line.

Second, lands that provide the needs for the production of commodities such as nursery products, grass seed, production berries and vegetables, Christmas trees and tree fruits and nuts could easily be converted to the scale and production associated with the trends discussed above. On the other hand, areas that are "conflicted" by parcelization and nonfarm land uses could not be easily converted to meet the needs of the export oriented agricultural products that drive the industry.

Issue: Coordination of regional growth with neighboring cities.

Several cities located within the greater region are not within Metro's planning jurisdiction. These include the cities of Banks, Gaston, North Plains, Newberg, Canby, Estacada and Sandy. Much of the growth occurring within these cities can be associated

with regional patterns and issues, yet decisions to urbanize lands adjacent to these cities do not require any coordination with or consideration of decisions made by Metro jurisdictions. Decisions by the Metro jurisdictions to protect or urbanize any given agricultural land may work contrary to decisions by neighboring cities to protect ofr urbanize agricultural lands.

Long-term urban growth decisions within the greater region should be made only after coordinated population forecasts and regional economic need analyses are developed and utilized. Such forecasts and analyses should include Metro jurisdictions and neighboring cities.

New Look

The Shape of the Region

A NEW LOOK AT REGIONAL CHOICES FOR HOW WE GROW

METRO

PEOPLE PLACES OPEN SPACES

Natural Landscape Features Inventory

INTRODUCTION

The Metro Council launched the New Look at Regional Choices work program, to re-examine the way we carry out the region's long-range plan, the 2040 Growth Concept. The New Look at Regional Choices work program is separated into three broad categories: Investing in our Communities, Shape of the Region and the Regional Transportation Plan (RTP). The Shape of the Region portion of the New Look work program, a coordinated effort with Clackamas, Multnomah and Washington Counties and the State Departments of Land Conservation and Development and Agriculture, focuses on balancing regional agricultural land needs with the protection of natural resources and the creation of great communities. This memo focuses on the natural resources component of the Shape of the Region. The intent is to define a simple mapping process that will identify those features of the landscape that influence the sense of place for the greater region and ultimately will help define the future urban form of the greater region. This information will also be used to identify possible environmental integration strategies to be included in the updated RTP.

BACKGROUND

The protection of natural and cultural resources has long been a key driving force of Metro's charge. The preamble of the 1992 Metro Charter proclaims that Metro's most important service is to preserve and enhance the quality of life and the environment for ourselves and future generations. The 1992 Greenspaces Master Plan further expands this notion stating that the diversity of natural landscapes in the region – broad river valleys stippled with wetlands, narrow river canyons veiled by green ways of riparian vegetation, buttes and forests, mountains and meadows, foothills and farms – all impart a special sense of place and character to this metropolitan area. It speaks to the creation of a cooperative system of natural areas, open space, trails and greenways for wildlife and people in the four-county metropolitan area.

This acknowledgement of the key role the greater regional landscape plays in the minds of the region's citizens was further established through the development of Metro's Fish and Wildlife Habitat Protection Program's Vision Statement (2000). The vision articulated an overall goal to conserve, protect and restore a continuous ecologically viable streamside corridor system, from the stream's headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with the surrounding urban landscape. Maintaining access to nature, managing growth to address watershed health and connections between habitat areas, and fully integrating the built and natural environment are important elements of Metro's policy framework. The current RTP encourages environmental integration and context sensitive design through its policies and regional street design guidelines contained in the Livable Streets and Green Streets Handbooks. Finally, the establishment of the Nature in Neighborhoods Initiative in 2005, with the Metro Council's support of protecting and restoring more habitat in future Urban Growth Boundary expansion areas, solidified the Council's goal of enhancing the quality of life and the environment for future generations.

In January 2006 Davis, Hibbitts & Midgehall, Inc. completed public opinion research for Metro that confirmed the importance of natural and cultural features to the citizens of the region. For instance, seventy-eight percent of those polled indicated that protecting rivers and streams is one of the most urgent/high priority planning goals to deal with population growth over the next ten years. The top two answers to the question "what is it that you enjoy most about the quality of life you have in the region?" were environmental quality and nature/scenery, at twelve and eleven percent respectively.

The Metro Greenspaces Policy Advisory Committee's Vision calls for the creation of an exceptional, multi-jurisdictional, interconnected system of neighborhood, community and regional parks, natural areas, trails and open spaces and recreational opportunities distributed equitably throughout the region. Coincidentally, a sub-committee of GPAC was initiating an assessment of the natural areas component of the "system" at the same time that Metro Planning staff initiated the Natural Landscape Features Inventory of the New Look at Regional Choices work program. Thus it made sense for the two initiatives to join forces.

NATURAL LANDSCAPE FEATURES INVENTORY

In an effort to reflect this interest and respect of the natural components of the larger regional landscape, Regional Planning and Parks & Greenspaces staff developed an inventory and assessment approach at a broad level based on a couple of key questions. From these questions we can identify the resources in the landscape that will help define the future urban form. The questions are:

- What natural resources are essential to the health and welfare of the region?
- What landscape features define the sense of place for the region?

What natural resources are essential to the health and welfare of the region?

At the very basic level, clean air and water are essential to the health and welfare of the region. Besides the need for clean drinking water, the abundant supply of quality water has played a role in attracting the high-tech industry to the region, which has helped drive the changing economy of the state. Healthy river and stream corridors, along with forested lands are essential for maintaining air and water quality, watershed health and habitat for hundreds of fish and wildlife species. Protecting lands that are susceptible to natural hazards is another key component of the health and welfare of the region. This includes floodplains and wetlands that store floodwaters and help reduce flooding as well as steep sloped areas that are at risk to landslides or earthquakes.

What landscape features define the sense of place for the region?

Citizens of the region have been steadfast in their desire for easy access to nature, whether it is Mt. Hood or the Columbia River Gorge, Forest Park or Jackson Bottom. Views to Mt. Hood are sacred, as are views of the buttes in Clackamas County or the Chehalem Mountains in Washington County. Citizens and trail planners have worked continuously through the years to complete the 40-Mile Loop, ever since John Charles Olmsted recommended the creation of a comprehensive and interconnected system of parks, boulevards and parkways and greenways in his 1903 Portland Park Master Plan.

These defining elements - quick access to nature, trails, protection of fish and wildlife habitat and views of the larger natural landscape, along with innovations in transportation and land use planning have defined the sense of place that is most acknowledged by the region's citizens today. Metro's 2006 Parks and Greenspaces Bond Measure target areas, as originally defined, represent on a broad scale the larger anchor areas that tie the natural features of the landscape together. These areas build upon the 1995 Parks & Greenspaces bond purchases as well as other public and private park and open space land such as the Tualatin River Wildlife Refuge.

METHODOLOGY

The process for identifying key natural resource and landscape features on a landscape scale incorporated natural resources available in a GIS database format and the collective expertise of a select group of ecology and park professionals from various federal, state, local and private organizations. GIS coverages were overlayed to create a base map on which the experts could add more information. The base map included soils, slopes, rivers and streams, wetlands, floodplains, public/private parks and natural areas, the 2006 Bond Natural Area for Clean Air and Water target areas, Metro's Fish and Wildlife Habitat Protection Areas rural habitat inventory, greenways, and natural hazard data.

To give context to the broader New Look perspective, the map was extended from north of Salem to the North Fork of the Lewis River on a north-south axis and from the Cascade foothills to the Coast Range on the east-west axis. Land cover information outside of the Metro area was taken from the National Land Cover Database (NLCD) at the 30-meter resolution scale. The Multi-Resolution Land Characteristics Consortium (MRLC), a group composed of eight federal natural resources management agencies generated this data.

On June 20, 2006, the Greenspaces Policy Advisory Committee (GPAC) organized a natural landscape features charette. The participants were selected for their intimate knowledge of the regional landscape, their grounding in ecological and landscape ecology principles, and their familiarity with Metro's regional growth management and greenspaces program. A list of the participants can be found at the end of the document.

The participants were organized into teams for an exercise designed to allow each team to identify a "system" of those elements of the regional landscape, natural resources and collections of natural resources that meet the objectives outlined below. This natural features work is to be incorporated into additional work GPAC is conducting to identify a bi-state, interconnected system of parks, trails and natural areas.

The participants' analyses focused on identifying:

- A variety of habitats needed to protect and enhance the region's biological diversity,
- Opportunities to consolidate and connect existing or potential natural areas as much as possible,
- Critical stream and river corridors,
- Natural connections between watersheds at their headwaters, and
- Geographic features that define and distinguish the region

The objectives of the charette were to:

- Identify an interconnected, ecologically significant system of natural resources that respond to objectives identified in the GPAC Vision and the New Look at Regional Choices work program.
- Illustrate natural resource landscape patterns that can support ecological processes in the existing urban area and help define future urban and rural development patterns
- Discuss and document how the system contributes to meeting the objectives of the GPAC Vision and the New Look at Regional Choices work program.

Each charette team was asked to produce a marked-up map of significant natural systems and land patterns that define the quality and character of the region and a diagrammatic concept for the "system" that captures the region's sense of place, allows for resource protection at a larger landscape and ecosystem scale and helps define where future growth should and should not occur. The three teams were then asked to evaluate each of the maps and a consensus set of landscape features were agreed on. A composite map that compiled data from each of the maps was created.

The composite map reflecting a consensus of all charette participants was scanned and digitized. Additional data was then added from three data sets:

- Priority Conservation Areas of the Willamette Valley-Puget Trough-Georgia Basin Ecological Assessment by the Nature Conservancy
- Conservation and Restoration Opportunities in the Willamette River Basin Planning Atlas: Trajectories of Environmental and Ecological Change by David Hulse et al
- Conservation Opportunity Areas from the Oregon Conservation Strategy developed by the Oregon Department of Fish and Wildlife

This data either established more precise boundaries on previously identified areas or highlighted new areas of significance on the composite map.

The final product is the regional natural features base map to be used in the Shape of the Region work program as well as GPAC's work creating the bi-state regional parks and greenspaces system map.

Complimentary to this GIS-based natural features map, a series of graphical perspective maps of the region were generated by James Pettinari, University of Oregon Department of Architecture. The region was divided into five "rooms" or perspectives and oblique representations of landforms were drawn from each perspective. Natural features were highlighted in colors. The results are accurate perspectives of the region that are evocative of a sense of place as seen from aerial views. While these perspective drawings are not appropriate for GIS analysis, they are useful in that they make the observer look at the region in a new way and stimulate conversations about the future shape of the region.

IDENTIFIED SIGNIFICANT NATURAL LANDSCAPE FEATURES

It should be noted that the GPAC charette process identified landscape features in Clark County Washington, due to the bi-state nature of the GPAC work. While the Shape of the Region work program is confined to Oregon, the areas identified in Clark County are represented on the map for contextual purposes, but are not described in the report. Listed below are the areas identified as natural landscape features of the region. It is important to note that natural features inside the UGB are not examined in this New Look process and are well documented in Metro's Fish and Wildlife Habitat Inventory.

Columbia River Gorge Scenic Area

The purpose of the National Scenic Area Act is to protect and provide for the enhancement of the scenic, cultural, recreational and natural resources of the Gorge. The Columbia River Gorge is a spectacular river canyon, 80 miles long and up to 4,000 feet deep, cutting the only sea level route through the Cascade Mountain Range.

The Sandy River Delta, which serves as the "front porch" for urbanites entering the Columbia River Gorge from the west, is a 1,400-acre river delta that contains extensive floodplain forests, scrub/shrub communities, and seasonal wetlands.

Cascade Foothills

The Cascade Mountain foothills provide a scenic panorama for Portland and the eastside of the region and define the eastern and southeastern edges of the greater metropolitan area. The forest contains healthy fish and wildlife populations and provides drinking water for the majority of the population of the region.

Sandy River Gorge

The Sandy River cuts a 55-mile-long serpentine swath from Mt. Hood to the Columbia River. A 12.5-mile stretch of the river – from Dodge Park on the south, downstream to the Stark Street Bridge on the north – wends its way through the 800-foot-high basalt and sandstone canyons known as the Sandy River Gorge. This portion of the river is designated as both a State Scenic Waterway and a National Wild and Scenic River.

The Sandy River Gorge area also provides a big game corridor ("connectivity") between Larch Mountain and the lower Sandy River, and protection of critical habitat for steelhead, resident trout and salmon.

East Buttes

The forested buttes stretching from Gresham south through Damascus and Happy Valley create a unique geography for local residents and provide welcome relief from surrounding land uses. The slopes of these extinct lava domes provide opportunities to protect water quality and large areas for wildlife habitat and corridors that stretch from inner urban Portland to the edge of the Cascades.

Deep Creek Canyons

The intact steeply wooded slopes of Deep Creek and its major tributaries of Noyer and Tickle Creeks have some of the largest contiguous wildlife habitat remaining in the region. The creeks serve as the principal corridor connecting the Clackamas River to habitat areas to the north within urbanized areas. The corridor also includes the Cazadero Trail, which will link Gresham and Barton, completing the Springwater Trail from downtown Portland to Barton with potential for connection to Estacada.

Clackamas River

The Clackamas River watershed is home to the last significant run of wild late winter Coho in the Columbia Basin. The watershed also has one of only two remaining runs of spring Chinook in the Willamette Basin and supports a significant population of winter steelhead, cutthroat trout and native lamprey.

The Clackamas River is a part of the national wild and scenic river system, designated as a recreational river. Four sections of the Clackamas River are designated as Scenic Waterways. Whitewater and floating enthusiasts, hikers, campers, fisher folk and equestrians enjoy the river's clear water and excellent scenery. The Clackamas is the closest significant whitewater river to Portland. Wildlife, beautiful forests and dramatic 500-foot high basalt cliffs provide a backdrop to a recreational outing on the Upper Clackamas.

The Clackamas River watershed, which also includes a number of other areas identified in this report, provides high quality drinking water to approximately 200,000 people. There are four municipal surface water intakes on the river that provide water for households in the towns of Estacada, Gladstone, Lake Oswego, Milwaukie, Oregon City and West Linn.

Clackamas River Bluffs and Greenway

The Clackamas River Bluffs abuts the Clackamas River North Bank Greenway from Barton Park to Clackamette Park, thus providing an important link to the lower river for the communities of Damascus and Happy Valley. The area contains uncommon habitat types, due to wet and dry conditions in close proximity that create a rich diversity of plant and animal habitats. Large undeveloped tracts of land surrounding the bluffs form a critical mass sufficient to provide landscape-scale wildlife habitat.

Newell and Abernethy Creeks

Located within and surrounding Oregon City, Newell and Abernethy Creeks provide critical fish and wildlife habitat in a rapidly urbanizing area, especially threatened habitat for steelhead and cutthroat populations.

Clear Creek Canyon

The Clear Creek Canyon begins south of Carver on Clear Creek, a free-flowing tributary of the Clackamas River. Clear Creek is a high-quality fish-bearing creek originating in the Cascades that meanders through a valley terrace before entering pools and riffles of its lower canyon channel. The stream supports 11 different varieties of fish, including rainbow trout and endangered fall chinook and coho salmon, steelhead and threatened coastal cutthroat trout. Unimpeded by dams from its origin to the ocean, the creek provides excellent fish spawning beds.

More than 100 species of wildlife are found at Clear Creek, including coyotes, cougar, blacktail deer, elk and 76 species of birds. Falcons, hawks, osprey, owls, pheasant, willow flycatchers and warbling vireos are a few of those birds. The mature riparian forests, wooded canyon walls, terraced uplands, open meadows, ponds, springs and wetlands provide diverse wildlife habitat.

Lower Pudding River

Flowing through forests and the developed plains of the Willamette Valley, the Pudding River joins the Molalla River at its confluence with the Willamette River to form a large floodplain delta at Molalla State Park. Once an important breeding area for wood ducks, this area does provide an important seasonal resting area for large gathering of waterfowl.

Willamette Narrows to Canemah Bluff

Just south of its confluence with the Tualatin, the Willamette River draws itself in, narrowing through a stretch of steep cliffs and rocky islands called the Willamette Narrows. The Narrows is botanically rich, home to plants normally found far north and east of our region. The area contains mixed forests of Oregon white oak, Oregon ash and Douglas fir in the uplands that give way to Western red cedar and Grand fir

and some madrone in the lower levels. The Willamette Narrows is home to deer, coyote, frogs, salamanders, osprey, owls, herons, woodpeckers and many songbirds. The area also contains a unique place called Peach Cove Bog, believed to be the only wetland of its kind remaining in the Willamette Valley. This 20-acre shallow lake and associated emergent marsh sit in a depression scoured in bedrock by the Missoula Floods thousands of years ago. A floating peat mat rises and falls as the lake level fluctuates with seasonal rains.

Located along the east bank of the river south of Oregon City, Canemah Bluff is noted for a diversity of habitats including steep cliffs, rock outcroppings, oak/madrone forest, well-established native plant communities, diverse topography, seeps and numerous wetlands. Its historical use by Native Americans is apparent given its location overlooking Willamette Falls, a restriction to fish and boat passage.

Tonquin Geologic Area

Bearing visible marks left by the ancient floods that shaped our region, this area located between Wilsonville, Sherwood and Tualatin is unique. The Tonquin geologic area was created 12,000-15,000 years ago when the Missoula floods scoured out the Columbia River Gorge, ultimately backing up past the current vicinity of the city of Wilsonville and filling the Willamette Valley. When the floodwaters subsided, unique geologic formations including "kolk" ponds, channels, basalt hummocks and knolls were left behind.

Protection of the rocky outcrops that frame these former lake bottoms will provide wildlife habitat of considerable complexity and richness and preserve the area's rare geologic features. Within this area, a 12-mile trail corridor will connect nearby cities and the new town center of Villebois to regionally significant natural areas (e.g., Graham Oaks Natural Area, Tualatin River National Wildlife Refuge, the Cedar Creek Greenway in Sherwood and the Willamette River Greenway).

Coffee Lake Creek originates in the Tualatin-Sherwood area and flows south through this area to Wilsonville, connecting the Tualatin River National Wildlife Refuge to the Willamette River. The wetland habitat along the creek supports many important species of migratory and residential wildlife and wetland plants. Near Wilsonville, the basin widens to form Coffee Lake, an ancient lakebed that has become a large scrub/shrub wetland.

Tualatin River

The Tualatin River watershed drains 712 square miles and ranges from the densely populated areas of southwest Portland, Hillsboro, Tigard and Beaverton to agricultural areas near Scholls, Gaston, Banks, Mountaindale and North Plains to the forests of Oregon's Coast Range, Tualatin Mountains and Chehalem Mountains. Most of the fast-growing urban population -- approximately 500,000 residents -- resides on 15% of the watershed's area. Agricultural uses take up 35% of the area while 50% of the watershed's area is forest.

The riparian areas and floodplains of the Tualatin are important to protecting the water quality of this river heavily impacted by urban and agricultural uses. In addition to providing flood storage, the floodplains and associated wetlands support considerable numbers of waterfowl and migrating neotropical birds.

Chehalem Mountains

The unbroken ridges and forested slopes of the Chehalem Mountains provide an important scenic panorama from the urbanized portion of Washington County and define the southwestern edge of the greater metropolitan region. Protection of headwaters and riparian lands within the important drainages of Chicken, Baker and McFee Creeks insures good water quality prior to entering the urbanized region and the Tualatin River. There is significant wildlife habitat value along Chicken, Cedar and Baker creeks and wildlife corridors that extend from the urban area to the Coast Range. The northern terminus of the Chehalem Mountains forms a large forested ridge leading to Wapato Lake and Tualatin River floodplain currently being restored to wildlife habitat.

Parrett Mountain.

An extension of the Chehalem Mountains southeast to the Willamette River, Parrett Mountain is the prominent topographic feature separating Wilsonville from Newberg. Scattered rural developments mixed with forested creeks provide habitat connectivity from Sherwood south to the river.

Willamette River Floodplain

Historic channels and meander scars of the Willamette River fill stretches of this wide floodplain, providing productive wetland habitats for migratory waterfowl and native amphibians and off-channel refuge for migrating salmonids. With its high restoration potential, this complex floodplain system is essential for flood storage and water quality protection of the Willamette River.

Yamhill/McMinnville/Amity Oaks

Three areas east of McMinnville and near Amity referred to as Yamhill, McMinnville and Amity Oaks, respectively, contain large tracts of Oregon white oak woodlands. Oak woodlands are key habitat for many at-risk species dependent on this disappearing habitat type. What was historically a major component of the Willamette Valley landscape, only a few large stands of Oregon white oak woodland and savanna are remaining.

Wapato Lake

This ancient lakebed historically supported large numbers of waterfowl, including tundra swans. This flood-prone bottomland of the Tualatin River is being considered as a future wildlife refuge that will connect to existing public lands to the north located near Forest Grove and Hillsboro and attract tourists to Washington County. The area has the highest potential for protecting wildlife habitat and water quality in this part of the region, and also offers significant restoration opportunities. The lakebed serves as a catchment for the upper Tualatin River as it transitions from steep slopes of the Coast Range and Chehalem Ridge to its meandering lower floodplain.

Tillamook State Forest

The Tillamook State Forest provides a scenic panorama for the western portion of the region and defines the western edge of the greater metropolitan area. The forest contains healthy fish and wildlife populations and provides drinking water for a substantial population of the region.

Lower Gales Creek

Lower Gales Creek provides the opportunity for a linear greenway connection between the Fernhill Wetlands complex and the Tualatin River to the upper reaches of Gales Creek, the only remaining steelhead spawning area of the Tualatin River. The area provides wildlife habitat, water quality/quantity benefits and recreation, education and stewardship opportunities.

Dairy and Mckay Creeks Confluence

Dairy and McKay Creeks drain a largely agricultural watershed within Washington County and converge at the interface of farmland and the urban growth boundary, forming broad wetlands accessible to a rapidly urbanizing area. McKay Creek forms the western boundary of the city of Hillsboro and flows into Dairy Creek north of the Tualatin Valley Highway. Near the confluence of Dairy Creek and the Tualatin

River, Jackson Bottom Wetlands Preserve contains a variety of wetland communities. Wetland habitat enhancement projects are under way that will enhance the area's value for wildlife, water quality and environmental education. Protecting and enhancing water quality and providing wildlife habitat along these major tributaries contributes significantly to the natural functions of the Tualatin River.

Rock Creek Headwaters

Rock Creek flows from the Tualatin Mountains in Forest Park to the Tualatin River. Watershed managers have identified protection of the upper watershed as a high priority for meeting water quality protection goals in the lower watershed. Opportunities to improve and protect habitat also exist through the protection of key tributaries and their associated wetlands. Because the creek and its tributaries pass through rapidly urbanizing neighborhoods within the cities of Hillsboro and Beaverton, protecting water quality is a priority. These headwaters also provide wildlife habitat and trail connectivity from the Tualatin Valley to the Tualatin Mountains that includes Forest Park.

Forest Park Connections

Forest Park lies within the city of Portland and unincorporated Multnomah County. It is considered by many to be the "crown jewel" of the region's open spaces network. At more than 5,000 acres of mostly second-growth forest, Forest Park contains an abundance of wildlife and its massive tree canopy and substantial undergrowth serves as a natural air purifier, water collector, and erosion controller.

The Forest Park connection area provides protection to key watersheds like Balch, Miller, Ennis and Agency Creeks and secures the integrity of the "big game" corridor that links the park with habitat in the northern Coast Range. Connecting Forest Park to Rock Creek and the proposed Westside Trail will keep important wildlife corridors intact and provide trail connections between the region's largest urban park and Washington County.

Dixie Mountain

Lying within the Tualatin Mountains range northwest of Forest Park, Dixie Mountain is a heavily forested area that serves as a major attractant for roosting and nesting bald eagles, which hunt the adjacent Sauvie Island and Scappoose bottomlands as well as the Ridgefield National Wildlife Refuge and Vancouver Lake bottomlands in Washington. There are considerable and accessible land tracts containing late successional forests.

Sauvie Island

The 26,000-acre Sauvie Island, formed by alluvial deposits at the confluence of the Willamette and Columbia Rivers, is highly accessible to the citizens of the Portland metropolitan region. Surrounded by the two rivers and interspersed with floodplain lakes, Sauvie Island is one of the largest attractants to waterfowl, neo-tropical bird migrants, and raptors in the region. With over 12,000 acres in wildlife refuge protection and much of the remaining land in agricultural use, the island is one of the region's most identifiable landscape features.

Columbia River Islands

From the Sandy River to the Willamette River lay a number of large mostly undeveloped islands in the main channel of the Columbia River: Reed, Flag, Gary, Lady, Government, Sand Lemon and Western Hayden Island. These islands are characterized by sand flats, scrub-shrub plant communities and cottonwood groves that provide significant aquatic habitat for migrating salmon and protected upland wildlife habitat for nesting shorebirds and raptors and are very identifiable within the bi-state landscape.

Summary and Next Steps

The natural landscape features identified in this report represent an integral component of the region's future urban form. The preservation, and in some cases restoration of these landscape features will ensure that the region's citizen's will continue to have quick access to nature and trails, scenic vistas and views that define the region, while providing for the protection of fish and wildlife habitat and air and water quality.

The next step in the Shape of the Region work element is to integrate this work with the products from the other two work elements, the Agricultural Land Inventory and Analysis and the Great Communities research work. Metro Planning and Parks & Greenspaces staff, with continued involvement from Clackamas, Multnomah, and Washington counties, DLCD and ODA will initiate the integration of the three work elements to provide a platform for future discussions on the creation of urban and non-urban reserves for the greater metropolitan region.

NATURAL LANDSCAPE FEATURES

Below are the twenty-six identified natural landscape features, listed as one moves in clockwise motion starting at the Columbia River in the east portion of the region.

1 **Columbia River Gorge Scenic Area**

2 **Cascade Foothills**

3 **Sandy River Gorge**

4 **East Buttes**

5 **Deep Creek Canyons**

6 **Clackamas River**

7 **Clackamas River Bluffs and Greenway**

8 **Clear Creek Canyon**

9 **Newell and Abernethy Creeks**

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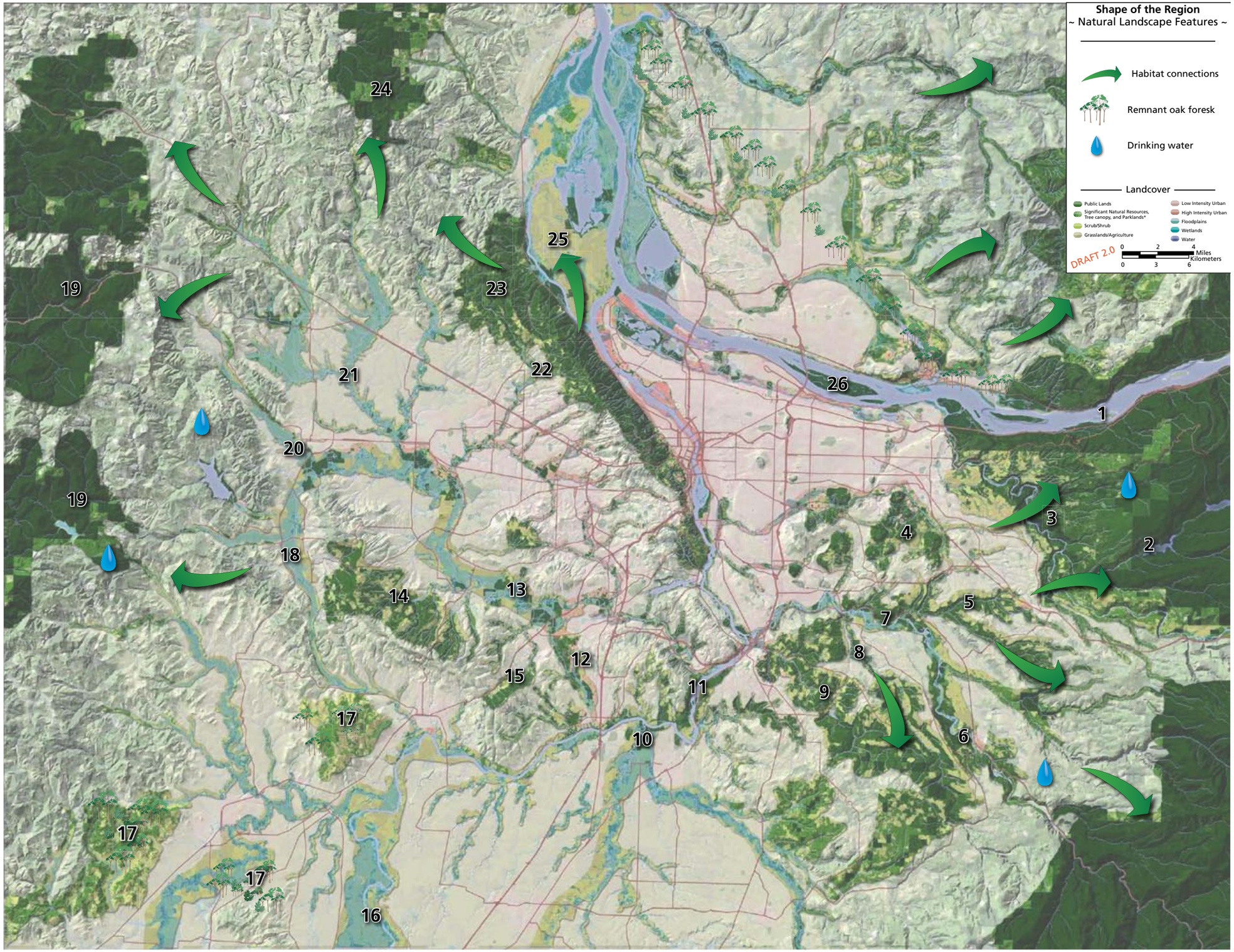

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Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that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

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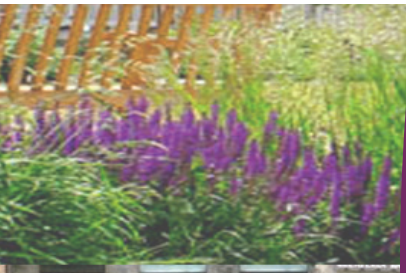
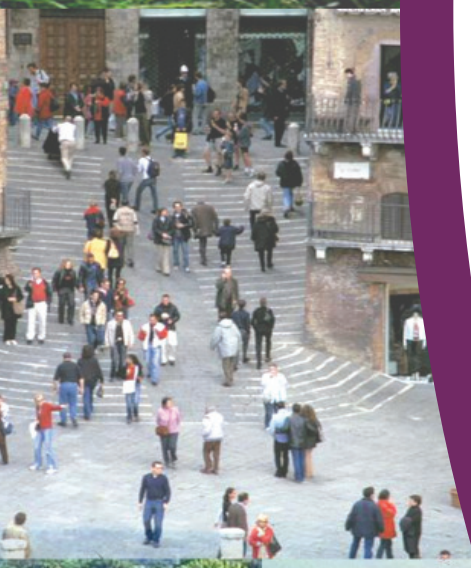
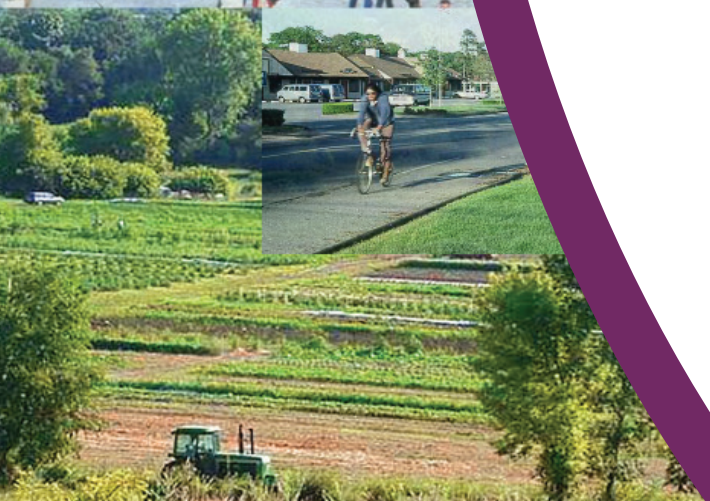
GREAT COMMUNITIES

FINAL REPORT







DECEMBER, 2006

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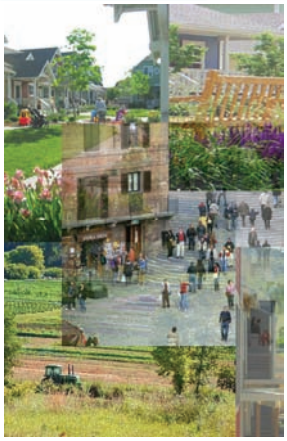


FINAL REPORT
December, 2006

Introduction/Background

The Oregon Statewide Planning Program provides a framework of goals to foster development inside urban growth boundaries (UGB) in an orderly and efficient manner and to expand the UGB consistent with a land use hierarchy designed to protect agricultural and forest land. Utilizing this framework of goals, the Portland metropolitan region has successfully met many significant growth challenges over the years. However, growth pressures, goverannce, agricultural and natural resource protection and finance issues have contributed to more controversial decisions over time. Consequently, Metro launched a New Look at where and how the region should grow, that balances regional agricultural land needs with the protection of natural features and the creation of great communities.

Metro, in partnership with Clackamas, Multnomah and Washington Counties, the State Department of Land Conservation and Development (DLCD) and the Oregon Department of Agriculture (ODA) were tasked with identifying urbanization factors or characteristics that could be used to accommodate growth while ensuring the continued successful implementation of the Metro 2040 Growth Concept Plan and the Statewide Planning Program. This Great Communities project, which focuses on urban issues, is part of a regional effort to reconsider urbanization decisions that also includes agricultural and natural landscape features research.

A consulting team led by Cogan Owens Cogan and assisted by SERA Architects, ECONorthwest, Economic and Financial Analysis, Kittelson & Associates and David Evans and Associates, completed the Great Communities work program. The team was aided by a four-member national advisory panel and guided by a regional Project Management Team consisting of planning directors and growth management staff from the three counties, Metro, DLCD and ODA. The Ag/Urban Coordinating Committee, comprised of elected officials from throughout the region and the Department Directors of DLCD and ODA provided oversight. Funding for the project was provided by DLCD.

Scope of Work

The purpose of the study was to define and describe community characteristics that should be included in urbanization decision-making processes, as well as applied to existing communities, to ultimately create Great Communities in the region. The study focused on characteristics related to land use, governance,

urban services and finance issues. The study was composed of two parts. Phase one was devoted to research – to define the characteristics and attributes of "great communities" both nationally and internationally. Phase two included application of a refined set of characteristics and attributes to three test areas throughout the region. The purpose of this application was to test the characteristics and attributes to define those most important to urbanization decisions.

The three test areas, the Stafford area in Clackamas County, the Northwest Hills area in Multnomah County and the Forest Grove/Cornelius area in Washington County, were recommended by the Project Management Team to test different agricultural, topographic, governance and infrastructure conditions. Their selection does not reflect a prority for future expansions of the UGB nor does the work completed represent future concept planning for the areas.

This report includes a description of the methodology and results of analyses of both phases combined. The work was iterative and evolved throughout the process. Recommendations from a cost-revenue evaluation tool are integrated into this report and the executive summary. The Cost Revenue Evaluation Tool Methodology is available under separate cover.

Process of Developing Great Communities Characteristics from an Urbanization Perspective

Phase I: Research and Conclusions

In Phase I, vision, political will and financing are identified as foundations for the development of Great Communities. Great Communities share the attributes of innovation, energy, vitality and a self-perpetuating enthusiasm. They are created with intention, design and change over time. Common characteristics are excellent community design, a transparent and proactive government, a vital economy, a full range of housing, employment transportation, recreation, shopping and entertainment choices as well as attention to the environment. They are accompanied by the need for adequate physical infrastructure (roads, pipes, power lines, etc.), a design perspective such as ensuring that urbanized areas are safe, attractive and walkable. Both elements: the "hardware" (infrastructure, built environment, services) and the "software" (social infrastructure, governance, finance, public investment) are essential for the development of Great Communities.

For the Phase I research, Cogan Owens Cogan worked with Doug Kelbaugh, Dean of the School of Urban Design, University of Michigan, Professor Kit McCullough and a team of fifteen graduate students to examine and identify examples of Great Communities throughout the world. Summary characteristics and their attributes included Community Design, Governance, Finance, Complete Communities, and Innovation. A report and descriptions of these five characteristics and their attributes, underlying community fact sheets and the research strategy also are included in the Phase I report documents in the appendix. The fact sheets highlight the most outstanding characteristics of each community.

The study shows that Great Communities allow for the safe and efficient flow of goods and circulation of people and services. In Great Communities, people feel safe and services are accessible. Public investment is a catalyst for private investment. The most successful examples are communities that add to their "edge" by redeveloping underutilized sites within or near urban areas, rather than constructing communities from the bottom up. However, there are notable examples exist of the latte as well.

The research confirmed the region's realization that the best utilization of scarce land and resources is to focus development to "grow up" before expanding out. Advisory Panel members agreed that the Portland Metro region should be on a national list of example Great Communities, citing the regional UGB, resource land protection, a history of transportation investments and other innovations.

Phase II: Application

The goal of Phase II was to test the application of the Great Communities characteristics and attributes identified in Phase I in three distinct geographic areas in order to refine the list of characteristics and attributes and limit the list to those critical from an urbanization perspective. This work included:

- Identification of limitations to building Great Communities.
- Recommendations on strategies for overcoming or mitigating limitations.
- Identification of creative public financing methods to supplement conventional methods.
- Descriptions of factors or criteria the region should use to evaluate and prioritize land for urbanization.
- Definitions of the scale and "building blocks" for Great Communities.
- Evaluation of the usefulness of the characteristics and attributes for decisions concerning future UGB expansions. This last issue became the overarching objective of the Phase II research.

The consulting and project management teams identified three areas to test how the Great Communities characteristics and attributes can likely be applied in a specific geographic area and also to identify factors or criteria the region should use to identify land for urbanization. The three are the Northwest Hills area in Multnomah County, the Stafford area in Clackamas County and the Forest Grove/Cornelius area in Washington County. Maps are included in the appendix.

Criteria for selecting test areas included physical/development challenges such as natural resources/features, agricultural land, level of parcelization; and jurisdictional, governance and financial issues. The areas are geographically dispersed, with at least one on the edge or adjacent to existing cities and one that may become a new city. They represent a range of development options – from the neighborhood level "building block", to village/town center to small city. The results are applicable to other areas in the region.

To evaluate the test areas, the team pared down the list of Great Communities characteristics and attributes developed in Phase I to a workable list of those that were relevant to making urbanization decisions. The characteristics and attributes included:

1. **Community Design**
   - Density levels
   - Connectivity
   - Active public spaces
   - Ecological buildings/infrastructure
   - Parks, open space, other natural features
   - Legibility
   - Maximizing public investment

2. **Governance**: support local initiatives and capitalize on governance opportunities
   - Can the area be governed?
   - Can services be provided to the area?
   - Is there a willingness to bring the area into the UGB?

3. **Finance**
   - Stable, predictable, equitable, efficient funding
   - Property tax policy designed to achieve development objectives
   - Citizens willing to support government for desired services

4. **Complete Communities**
   - Housing, employment, and recreational options for all sizes of households and people of all ages so that residents can live close to their jobs, families, and communities of choice
     - Build on local strengths in global markets
     - Build on local economic strengths and clusters
   - Education
     - Quality K-12 education
     - Higher education: training and workforce development
   - Affordable utilities and attainable services (see also finance and jobs/housing balance)

5. **Innovation**: communities recognized for their ability to redevelop and renew themselves over time
   - Sustainable infrastructure, ecological services

Team members then developed a set of criteria, evaluation questions and data needs to use in the analysis. Evaluation questions helped determine whether or not an area could meet the criteria. Data needs were identified for each workable characteristic. The consulting team's methodology and record of their results of their evaluation are included in the appendices to define a replicable path the region can use in future UGB expansions.

The consulting and project management teams held work sessions to identify any vision for each area; the desired outcomes of the analyses; to confirm any sub areas within the test area; to hear jurisdictional

representatives describe relevant issues, limitations, opportunities, connections and relationships; and to identify likely service providers and any additional data needs and sources.

The consulting team utilized the data given by the test area jurisdictions, accumulated additional information from surveys and phone interviews, refining the sketch maps developed at the work sessions to reflect this information. Refinements to the list of characteristics and attributes were made as the work progressed.

There were two parts of the analysis: first, to evaluate the likelihood of each area to meet the Great Communities characteristics in order to get a sense of the workability of the characteristic and second, to determine which characteristics are likely to be most useful in making urbanization decisions.

The exercise of assigning a score to a geographic area was useful to thin out the Great Community characteristics to those that are most useful in making urbanization decisions. The test area analysis illuminated ways in which the characteristics should be applied at varying scales.

Some of the characteristics, e.g., governance and finance remained strong through the evaluation process, while others that had initially been assumed less important, e.g. education and the economy, rose to the top. On the other hand, innovation did not remain on the final list as it is not crucial from an urbanization decision-making perspective.

The results are the eight Great Community urbanization characteristics that follow.

Great Community Characteristics

Following are summary descriptions of the eight essential characteristics the team and Advisory Panel believes are the most important in making urbanization decisions that will lead to Great Communities:

1. Community Design

Density, connectivity and legibility are considered essential characteristics in attaining cohesive community interaction, active populations and thriving business districts. To support the characteristic of walkability, the area should have high enough densities and a diverse enough mix of uses within a quarter mile radius of centers to support walkability. A minimum of 12 to 16 dwelling units per acre in these areas is recommended. Additionally, the area should have the capacity to provide connectivity to and within the area for all automobiles, business-related trips, bicycles, pedestrians and transit. Legibility refers to areas that have rich, distinctive and site-specific attributes and forms that fit the natural environment and capitalize on unique and significant natural features. It also focuses on how people inside the area perceive the region as they move through it, in other words, how they define its sense of place. Features may include views of natural ordering elements such as Mount Hood, the presence of and visual access to significant local landmarks, the ability to

create edges to the community and pathway systems throughout an area, to create districts, nodes or centers and to develop gateways in to/out of the area. The Northwest Hills test area is a good example of an area in which it would be difficult to create the level of connectivity required for communities with great design. The topography makes it necessary to build many costly bridges between isolated centers to create any level of connectivity. In addition, the presence of Forest Park and the West Hills may give the area stronger value for the region to remain if it remains as is.

2. Complete Communities

Considering the numerous impacts that are associated with urbanization, areas should be considered for addition to the regional UGB only if they are found to satisfy a legitimate regional or community need. One example is to complete an existing community by adding land for educational facilities or housing to serve employment areas. Another is when a new complete community can be created (e.g. Damascus). Factors such as affordable housing, parks and recreation and the accommodation for diversities in age and income may be made conditional upon approval of the decision to expand the UGB.

In every case, it is important to evaluate the impact of these decisions on existing affected communities. There are several good examples of this in the Stafford Triangle area. The team began the Stafford Triangle assessment by determining whether new development should stand alone or be an extension and/or completion of an existing community. They determined there are opportunities for both within the study area. Development at the eastern edge would complete the City of West Linn by providing residential neighborhoods northwest of the West Linn Civic Center. At the northern edge of the Stafford area, development of the Stafford Road interchange could provide the basis for a new community with employment, a mixed-use village center and surrounding residential neighborhoods.

3. Ecological Systems

In any Great Community, ecological systems should be preserved. While some requirements are met by current local, regional, state and federal laws, it is critical to the long-term health of the region that as urbanization occurs, it preserves essential regional natural systems, such as wildlife habitat, corridors, and water quality. Opportunities to utilize sustainable infrastructure, the regional "greenfrastructure" and ecological services should be maximized. In the Northwest Hills area for example, the buildable lands map revealed a major riparian system that feeds the Tualatin River as well as numerous riparian corridors within the rolling rural landscape. This ecological web modulates the landscape and defines potential development spaces. The team concurs that preservation of this important ecological area is likely more important to the region than urbanizing it, especially given the other constraints (lack of connectivity and developable land area) and significant opportunities (water quality and view).

Central to ecological systems and developing infrastructure in a sustainable manner is integrating infrastructure systems of the built environment with those of nature. Whereas traditional infrastructure simply "links" systems of the built and nature environment, sustainable infrastructure seeks to "integrate" these systems in way that utilizes, in a responsible manner, the carrying capacities of natural systems to provide infrastructure services (i.e., ecosystem services). This could include creating natural, low-impact stormwater systems to manage stormwater, utilizing solar or wind to generated energy, and creating wetlands to treat wastewater. As communities continue to grow and urbanize, the development of sustainable infrastructure systems should be a central strategy to ensure they operate within the community's economic and environmental carrying capacity.

4. Optimize Regional Public Investments

When the region makes urbanization decisions for long-term, 20 to 50-year growth, it is timely and appropriate to consider previous and future infrastructure investments. Additions to urban land should optimize existing investments and/or identify likely future major, regional public investments such as parks and greenspaces, transportation, sewer, water and other utilities such as light rail alignments. The Stafford area is a good example of how regional investments could be realized by urbanizing strategic areas. Development at the Stafford Road interchange with I-205 would reinforce the value of the highway investment and serve important workforce needs if employment were located along the freeway, closes to the interchange. Looking farther into the future, an extension of light rail along I-205 to the Stafford interchange, coupled with an extension of the Portland to Lake Oswego transit line to the area could provide a regional multi-modal transit facility. A new community at such a hub would support these future transportation investments. Likewise, residential and mixed-use development adjacent to the West Linn Civic Center would reinforce the public investment in that area.

5. Governance

Even though it is one of the most difficult aspects associated with urbanization, the governance issue, from large to small, area-specific scale, must be addressed. A central question is commitment from all entities to accepting a share of the region's growth. Considering existing limitations on annexation, alternate forms of governance and service provision may be needed. Scale matters, as large areas could support new local governments while smaller land areas that would complement existing communities should have governance agreements in place prior to annexations. In other words, some degree of governance responsibility should be expressed by some entity prior to the urbanization decision. An example of the issues involved in the application of the governance criterion is the Northwest Hills area. Of the three test areas, the Northwest Hills faces the greatest challenge for governance. Although the area is located in Multnomah County, its strongest connection to an existing community (and the accompanying services) is in Washington County and, more specifically, the City of Beaverton. While governing and providing services to this area in the future is possible through intergovernmental agreements, annexations, and creatively-financed infrastructure, it is

significantly complicated by the fact that there is not one governing body that can easily provide the core urban services needed to create a Great Community in that area.

6. Finance

Another important factor in assessing the feasibility of urbanizing a specific area is the cost of supplying public services and the governments' ability to finance these services. The capital costs of extending services should be reasonable and able to be sustained as the need increases. Three issues are critical to this analysis. First, to finance public services, a financially-capable local government - or consortium of local governments, such as cities, counties, special districts and regional agencies - needs to have the requisite financing authority. Secondly, before expanding into an existing rural area, the area needs to be evaluated to determine if the cost per unit of development (e.g., housing unit, per capita, or employee) of extending primary linear-public services (streets, sewer, water, transit, storm drainage) is reasonable. Furthermore, the costs should be evaluated in relation to those in existing urban areas and in relation to other possible areas for expansion. To this end, the consulting team has developed a cost-revenue evaluation tool that summarizes basic infrastructure costs and introduces the effects of underlying land use and planning decisions. The tool also includes a methodological approach to assessing the costs of some of these services for use in future urbanization decisions.

Third, in considering urbanization, a plan to finance at least the capital costs of each system must be developed. A number of public, private, and public-private partnership methods are currently available to local governments. Oregon does not prohibit the creation of new methods used elsewhere in the U.S. such as those that provide a greater role for private sector investment in public services and value-capture methods. The financing "toolbox" includes the following methods: stronger public/private partnerships (especially on large-scale developments); public infrastructure that is conducive to private development; extra territorial and/or statewide Tax Increment Financing (TIF); matrix financing (financing new development from a variety of public, private, academic and philanthropic sources with spatial and temporal dimensions); System Development Charges (SDCs) and other dedicated fees; private governance/leadership; conditioning approval of new development on desired outcomes; using infrastructure as leverage; rezoning areas and capturing the development rights; transfer taxes, especially for windfall situations; Transfer of Development Rights (TDR) for land assembly; and empowering local governments to collaborate with private entities for development purposes. Another option is to consider earmarking some fees that are logically related to the services provided. In all these cases, it will be important to coordinate jurisdictions to conduct their planning for public land acquisitions or reservations in advance of any UGB expansion, particularly in an Urban Reserve area.

7. Economy

The role of the market is another important factor in Great Communities. Part of the challenge in land use planning is to provide for a sufficient supply of land to meet regional needs while maintaining the quality of life that keeps the region a desirable place to live. To ignore the market is as inappropriate as would allowing the market to be the sole determinant of urbanization decisions. The basic question is whether the addition of land to a specific economic sector would add to the economic vitality of the region by supporting existing and potential future business clusters and niches at a regional and/or subregional level. For example, leaders in the cities of Forest Grove and Cornelius have expressed the opinion that an addition of land for commercial or industrial development will help make their communities more complete. How this possible addition to their communities relates to the economic market of Washington County should be evaluated prior to consideration of expansion of the UGB. For example, there is some likelihood that satellite firms associated with the high tech industry in Hillsboro may find the Forest Grove/Cornelius area attractive.

8. Education and Workforce Development

Although schools are increasingly a defining element of how citizens relate to their communities, a K-12 school district's ability to accommodate projected growth has not been well integrated into the urbanization decision-making process. To insure that sufficient land for future school sites is available, some districts are speculating on land outside the UGB, not taking into consideration other infrastructure and land use planning efforts of other jurisdictions. Additionally, post-secondary educational facilities are important to creating and maintaining skilled workforces. The needs of both should be considered when making urbanization decisions. For example, Forest Grove and Hillsboro school districts are ready and willing to accommodate the influx of new students urbanization would create. Each has speculatively bought land just outside the UGB to prepare for the expansion they believe is inevitable. The Forest Grove School District has even prepared a detailed facilities plan that includes the test area as their preferred expansion area. The region should consider utilizing school population projections as building blocks in identifying the appropriate amount of land to include in a UGB expansion.

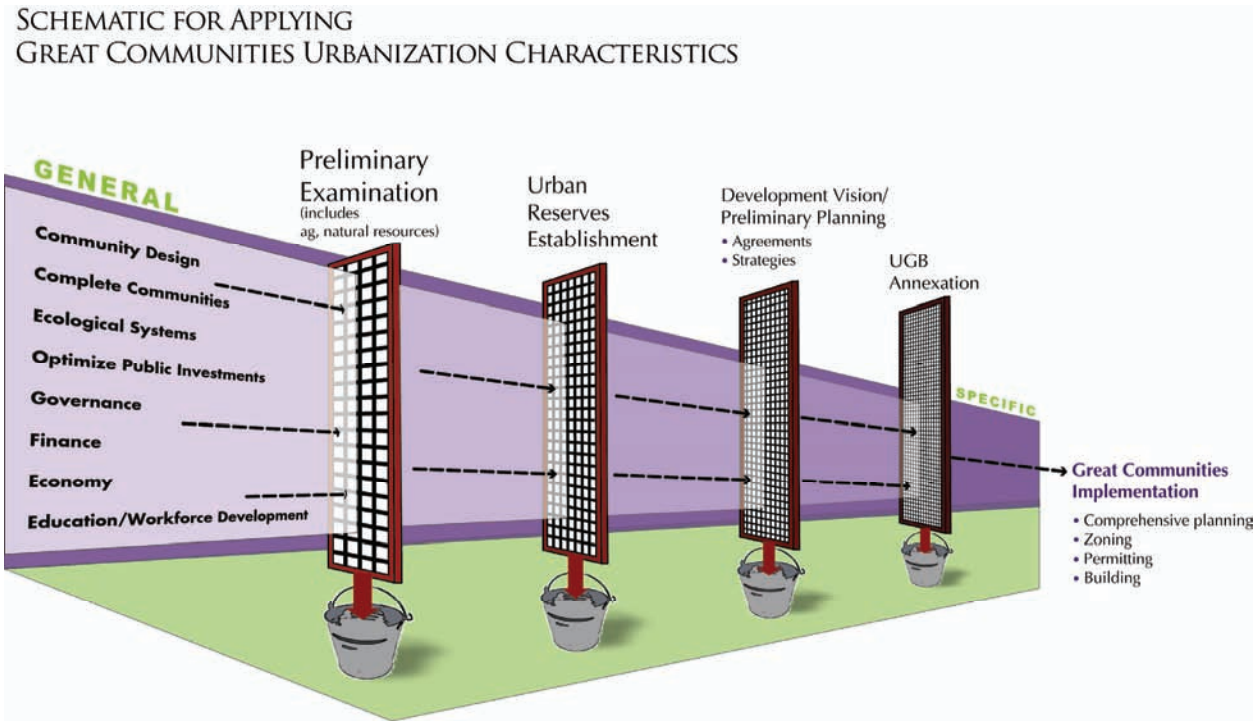
Upon reviewing the consultant's recommendations, the Advisory Panel and the Ag/Urban Coordinating Committee (AUCC) agreed that these were the eight most important driving characteristics for a Great Community.

Scale of Characteristic Application

The consulting team and Advisory Panel concluded that while all the final eight characteristics are likely to be important in making urbanization decisions that would lead to Great Communities, considering a temporal and changing geographic scale, not all should be applied in the same way. To illustrate this concept, the team developed a conceptual diagram that shows how potential areas would pass through a screening process using the eight characteristics at four spatial and temporal levels:

1. Preliminary examination
2. Urban reserves
3. Concept-type planning
4. UGB annexation/implementation

In other words, while the eight characteristics are significant enough to be considered while adding lands to the Urban Growth Boundary to increase the likelihood that newly annexed lands will develop into "Great Communities" over time, their application will vary at different scales and over time periods. Some will be most helpful when making decisions about large areas that should be considered for urban reserves while others may assist when considering specific UGB additions. Levels of decision-making and agreements also will vary over time.



Using this diagram as a model, an area being considered for urbanization should first need to meet the appropriate level of evaluation for each characteristic at the preliminary examination level. This would be the time to ask the big-picture questions. For example: how would the area meet regional needs according to each characteristic? If the area failed to pass the evaluation at this filter, the analysis about whether it should be brought into the urban reserves would discontinue.

The value of this screening process is that while all eight characteristics are important, not all are relevant at each level. For example, while the ability and willingness of an area to provide excellent educational opportunities is important to consider when making urbanization decisions, the questions asked about

education at the preliminary examination level would be very different from those asked at the point of UGB addition and implementation. At the preliminary level, broader questions such as, are there quality schools nearby, and can the school district expand to accommodate growth, would be appropriate. On the other hand, when a specific area is being considered for inclusion in the UGB, the questions become more focused, such as does the school district have the capacity to accommodate new students today? In a similar vein, optimizing public investment takes on a different level of significance when considering Urban Reserve decisions rather than a UGB revision. In the former, regional capital improvement planning becomes important, whereas in the latter, local capital improvement plans and strategies should be considered.

Detail on Great Community Characteristics

The following section includes the sample criteria, evaluation questions and data needs for evaluating the likelihood of an area to meet the eight characteristics through urbanization. In addition, some limitations the team discovered when testing the characteristics and test areas are listed, along with possible strategies to overcome those limitations. The level of detail provided here is intentionally such that the region can work from this base of experience as it refines any changes to UGB expansion process. A next step would be to refine these questions for each phase of the decision-making process. A matrix of sample question at each scale follows.

1. Community Design

Sample Criteria

Density

- Developable slopes
- Lack of environmental constraints
- Suitable site for center
- Adjacent existing/planned development densities
- Adjacent existing/planned centers
- Ability to support transit

Connectivity

- Walkable terrain, slopes
- Existing/future transit
- Proximity to town center and destinations
- Grid network with small block size
- Sidewalks
- Compatible origins and destinations within appropriate modal distances
- Functional roadway hierarchy to support land use patterns
- Ability to provide a high-level of roadway connectivity within the area and to the greater regional network
- Pedestrian paths and sidewalks that connect residential neighborhoods with transit stops, key commercial/employment areas, schools, and open spaces
- Bicycle lanes on key commuter routes
- Density to accommodate transit

- Transit stops within walking distance of neighborhoods and key commercial/employment centers
- Frequent transit headways on key transit routes
- Potential for future light rail or streetcar
- Well-defined grid network of streets
- Designated routes for local and regional freight movement

Legibility
- Views to natural ordering elements (e.g., Mt. Hood, local rivers, floodplains)
- Presence of, and visual access to significant landmarks
- Ability to create edges to community
- Ability to develop pathway systems through area
- Ability to create districts, nodes or centers
- Ability to create gateways into/out of area

Evaluation Questions

Density
- Are slopes buildable?
- Are there significant environmental barriers to development?
- Is there a developable site large enough to be a center of activity?
- Are adjacent densities (or plans) consistent with urbanization vision?
- Are there adjacent destinations?
- Can the area support densities to provide transit?
- Can parks and recreation be accommodated?

Connectivity
- Are slopes generally less than 6%?
- Is there/are there plans for transit to serve destinations?
- Is there a framework to support a grid network with 200-400 foot block spacing?
- Do sidewalks and paths exist?
- Do roadway connections exist? Could they easily be made to adjacent urbanized areas?
- What is the mix and layout of land uses?
- Are there opportunities to connect land use types via multiple modes of transportation?

Legibility
- Where are the significant landmarks located within the study area?
- What natural features create barriers or logical boundaries?
- What are the identifiable centers and edges? How do you know that you have arrived at or are leaving the study area?
- Are parks, squares, plazas and civic buildings located in areas that help inform the location and quantity of other uses?

Data Needs

Density
- Topographical maps
- Floodplains, wetlands, protected forests
- Property ownership
- Aerials/information on adjacent areas
- Buildable slope thresholds

Connectivity
- Topographical maps
- Transit service plans
- Existing roads and sidewalks
- Zoning and land use maps
- Roadway network, functional classifications, land use
- Roadway network, aerials

Legibility
- Location of historic landmarks, other significant natural features

Limitations
- Topography and other ecological lands for preservation. Preserved natural areas also can be an important part of a good design. Topography may not allow compact development nodes within walking distance of each other
- Some areas have limited ability to support cost effective connectivity (intervening streams, ravines, hills, etc.) that would also make development relatively expensive
- Finding a sub-area suitable for a mixed-use center
- Potential loss of important agricultural lands in areas that are easily developed
- Areas that score high on ability to create density may have low connectivity
- Flat, easily developed areas may encourage chaos and sprawl
- Measure 37 claims/impact

Strategies to Overcome Limitations
- Create a system of mixed-use centers with strong edges to give form to new development
- Focus some new growth areas at freeway interchanges or existing mixed-use nodes
- Limit development to areas easily accessible to existing and new roads
- Focus growth near transit nodes
- Allow for higher density
- Do not develop in areas that have difficult regional access and little opportunity to create good connectivity/walkability within them
- Do not develop on upper slopes, headwater areas
- Find alternative sites to accommodate development lost to areas with poor connectivity in other parts of the region with good connectivity. Such sites could provide a similar complement of land uses, accessibility and natural edges. They also could further reinforce existing and potential public investments and provide a catalyst for the transit extension.
- Limit extent of Measure 37 claims legislatively
- Work with Measure 37 property owners on creative solutions, including transfer of development rights
- Preserve areas as rural that are difficult to connect

2. Complete Communities

Sample Criteria
- The added area must fill a legitimate regional need
- The area can be a discrete community (can finance, govern, etc. without the help of other jurisdictions) and will help fill out, or "complete" an existing community
- Ability to provide affordable housing, accommodate age and income diversity, parks and recreation and a jobs/housing balance

Evaluation Questions

- Can the area support the range of activities essential to a vibrant, full service community?
- Will the area further complete or enhance an existing community?
- Should the area become a new community?

Data Needs

- Topographical maps
- Floodplains, wetlands, protected forests
- Property ownership
- Aerials/information on adjacent areas
- Buildable slope thresholds
- Transit service plans
- Existing roads and sidewalks
- Zoning and land use maps
- Roadway network, functional classifications, land use, aerial photographs
- Survey of local landowners and neighboring jurisdictions
- Concept plan or other information about how newly incorporated land would be developed
- Jobs/housing analysis

Limitations

- The team questions the value of developing new communities disconnected from developed areas. The level of public investment to support the density and connectivity of such a development may be difficult to justify
- Assurance that any new development achieves a balance of uses
- While topography and community design factors may indicate that an area should be added to an existing community, the appropriate jurisdiction may not be open to annexation
- Topography and community design factors may indicate that an area should be a new community, but there may not be any group of people/developer willing to take on the task/financial burden of creating the new community

Strategies to Overcome Limitations

- Careful planning and urban design with the goal of balanced uses
- Active local government to implement the plans
- Involvement of the community from the beginning to create buy-in
- See other strategies for overcoming governance limitations

3. Ecological Systems

Sample Criteria

- Land for new and redevelopment
- Lack of public facilities/infrastructure
- Existing and available water, sewer, electric, telecommunications systems
- Percentage coverage of forest canopy
- Percentage of historic streams, flood plains, intact open spaces
- Buildable south and west-facing slopes
- Ground water temperatures and soil types

- Prevailing winds
- Existing natural and constructed water holding areas

Evaluation Questions

- How is the area, in its existing condition, crucial to ecological systems?
- If developed, can the existing ecological function of the study area be preserved or maintained?
- Is there capacity in the existing infrastructure system to serve future development?
- Is there capacity in the existing ecological system to serve future development?

Data Needs

- Detailed infrastructure plans
- Ecological function data (RLIS)
- Regional ecological data (RLIS)
- Inventories/other research on local/regional ecological assets

Limitations

- Incomplete data/data that is difficult to measure (infrastructure plans, regional ecological and ecological function information)
- It may be difficult to determine the significance of certain areas to the regional ecology, especially for those not typically protected, such as uplands
- Evaluations identifying the carrying capacities of ecosystems and their services are not readily available
- Analysis of ecological data for each new study area may be time-consuming

Strategies to Overcome Limitations

- Utilize opportunities for storm water management, recreation and other ecological infrastructure
- Develop a methodology for integrating existing data and new research into an accurate picture of significant regional ecological systems
- Consider further refining Metro's mapping inventory efforts to include this level of detail

4. Optimize Major Public Investments

Sample Criteria

- Encourage/require infill development first as a threshold for expansion
- Reinforce, build upon existing infrastructure investments

Evaluation Questions

- Does the proposed development reinforce the core area as a vibrant place to live, work and play?
- Will development complete or enhance an existing community?
- Does it take advantage of major regional infrastructure investments?

Data Needs

- Infrastructure facilities
- Aerials/statistics on adjacent areas
- Relationships to developed area

Limitations

- The current plan for regional transit/light rail may not extend to the area

Strategies to Overcome Limitations

- Limit development to areas with existing infrastructure, closest to town centers
- Develop plans for transit service when considering a vision/pre-concept plan for the area
- Create a system of mixed-use centers with strong edges to give form to new development. Use these as a backbone for connecting to major regional public investments.

5. Governance

Sample Criteria

- Can the area be governed?
- Can services be provided to the area?
- Is there a willingness to bring the area into the UGB?

Evaluation questions

- Is there an existing community with a vision for its future?
- Is the area of sufficient size to support its own local government?
- Are providers willing and able to provide services?
- Does some existing city want to annex the area? Do the people who currently live there want to have their properties brought into the UGB?

Data Needs

- Community vision
- Stated desire of property owners to urbanize. Ideally, this would be through a survey or some other measure of their preferences.
- Number of acres per owner. This is to assess the ability of the area (is it large enough?) to provide an adequate tax base and the amount of land assembly needed to provide services.
- Stated ability and willingness of providers to serve the area
- Assessment of the likelihood of annexation if the area is not of sufficient size to form its own city

Limitations

- Annexations may run into opposition
- High cost of service provision
- Unclear which jurisdiction should govern
- Disputes over the area to annex

Strategies to Overcome Limitations

- Hold discussions during the pre-concept planning phase to negotiate the size of area
- Conduct recommended data review
- Assess public and property owners' sentiments
- Develop methods to equalize benefits, impacts
- Draft intergovernmental agreements for service provision, annex area to a nearby city, or do not include the area in the UGB
- Resolve long-term barriers to urban service provision and annexation through legislation, local agreements

6. Finance

Sample Criteria

- Developable slopes
- Integration with adjacent systems
- Ability to expand existing infrastructure
- Stable tax base that doesn't change with recessions
- Taxes that are elastic with costs
- An obvious notion of equity exists
- Tax or charges do not impede the private economy relative to competing areas
- Cross subsidization between existing and new development does not occur
- Taxes are sufficient to cover costs
- Taxes are coupled with other funding mechanisms to achieve affordable tax rates
- Taxes provide obvious benefits
- Benefits of the service exceed the taxes to provide it
- Benefits are in rough proportion to taxes paid
- Tax incidence is roughly proportionate to personal and corporate incomes

Evaluation Questions

- Are there logical roadway connections to adjacent areas?
- Is the existing road network a hierarchical grid network that can be expanded in a cost-effective manner?
- Can other infrastructure, such as sewer and water, be expanded in a cost-effective manner?
- Is there an opportunity to maximize opportunities to fund services in an equitable manner?
- What is the history of tax measures in the area?
- Have there been fluctuations in taxes in recent time?
- Have companies or other entities left the area because of taxation practices?
- Is there any evidence of a willingness or lack of it to provide and pay for services?

Data Needs

- Assessment and taxation information
- Topographical maps
- Road network
- Local and regional sewer and water system
- Record of voting patterns on tax measures
- A logical and affordable financial plan (pro forma)
- A sound forecast of assessed value
- A sound forecast of tax rates and impacts
- Tally of taxes levied in the area, by year
- Financial history of existing service providers
- Assessed value of land by parcel, use, planned use
- Existing rates and charges of existing or potential service providers
- Preliminary design and construction costs for backbone transportation, sewer and water systems

Limitations

- Sloped property lacking water storage systems and pressure lines to get water to reservoirs
- Annexations may run into opposition

- Cities may be responsible for providing main trunk lines for sewer, water, and storm water, but have little funding to do so
- Limitations addressed under governance are also relevant to finance
- Without a financial plan, no public investments can be made to permit private development

Strategies to Overcome Limitations

- Identify water, sewer and storm drainage suppliers through negotiated agreements
- Partner with service providers to install trunk lines. Find a party to finance up-front costs.
- Develop a logical and affordable financial plan/pro forma
- See also strategies addressed under governance

7. Economy

Sample Criteria

- Jobs/housing balance
- Identify existing and potential future clusters and niches
- Growing sectors in the local economy

Evaluation Questions

- Is the area being considered close to a growing economic cluster in the region? Is it likely to be a factor in the expansion of that cluster?
- What are the strengths of the existing local economy? Is there a market for expanding the associated businesses or adding new ones? Are there satellite companies that would benefit from agglomeration that cannot locate near existing businesses because there is not adequate land available?
- Are there transportation constraints to market?
- Is adequate communication infrastructure available?
- Are there potential new niche markets that might grow as a result of adding the land?
- Are there significant economic strengths that will be lost as a result of urbanization?

Data Needs

- Cluster analysis of local economy: Which clusters are strong now? Which are likely to be strong in the future?
- Economic development or other strategic plans for the potential new area and/or for the nearby jurisdictions
- Buildable lands analysis identifying the need for new industrial lands
- Analysis of what is produced on the potential new land prior to adding it to the UGB and its importance to the local economy

Limitations

- It may be unlikely that an area could contribute more to any industry or cluster as part of Metro's UGB
- It may be difficult to assess how an expansion will impact the regional economy; this is especially true of very small inclusions
- Lack of an agreed-upon plan for urbanizing an area
- Some areas may make a strong contribution to the region's economy in an un-urbanized state

Strategies to Overcome Limitations

- If the land is near an existing cluster or sector that is projected to grow, adding industrial or commercial lands nearby could provide the space needed for agglomeration of businesses and growth. On the other hand, if the potential new area does not meet a need for business and job growth, it should not automatically be excluded.
- In areas where there is limited area to accommodate a regional need, cluster development nearest to urban centers. This upholds the community design findings as well.
- Conduct cluster analyses and consult/develop economic development or strategic plans for potential new areas.
- Conduct pre-concept planning for urbanization

8. Education and Workforce Development

Sample Criteria

K-12 Education

- Population and age demographics
- School service area
- School district, capacity, and plans
- Training and apprenticeship opportunities in non-traditional trades and arts
- PTA and/or other active school/civic institutions
- Presence of existing planning, general government, and special district organizations (e.g., CPOs)
- Existing or emerging special interest groups

Higher Education/Training

- Type of training programs that are available to compare to the sectors and clusters that are expected to grow
- Number and location of universities, community colleges, and vocational-technical programs
- Other sources of training programs
- Existence of any plans to build or support new educational opportunities
- Community college and university campus commute time

Evaluation Questions

K-12 Education

- Are there quality schools nearby?
- Who is the provider?
- Can the school district expand to accommodate new growth?
- What resources and networks exist for training in the trades or arts?
- What formal or informal special interest organizations exist or are emerging in the area?

Higher Education/Training

- Are there quality schools nearby that serve the local area?
- Who is the provider?
- What educational programs do they have?
- Do existing or planned programs fill a local workforce need?
- Can the school accommodate new growth?

Data Needs

K-12 Education

- Population forecast
- School district projections
- Overall enrollment vs. capacity numbers for the school districts
- A map of school locations/district boundaries relative to the study area
- Interviews with school districts
- State assessments

Higher Education

- Names and locations of schools
- Interviews with school districts
- Enrollment: where students are traveling from/service area of institution
- Workforce needs (economy)/programs school provides

Limitations

K-12 Education

- Funding and time for acquiring land and designing and building new schools with the new demand urbanization brings
- Availability of land suitable to build on (right size, slope characteristics, etc.)
- If the school is not able to keep up with increasing population growth and increased likelihood of future growth with urbanization, this could compromise the quality of local education
- Although some schools have long-range plans that include projections and strategies to meet future demand from population growth within the current UGB, they do not include speculative projections about future UGB expansions. For these reasons, it may be especially difficult to find the resources to meet the increased need with urbanization

Higher Education

- It is difficult to assess how higher education institutions serve local areas
- Because higher education institutions may not focus on the local area, it is difficult to assess the likely impact of UGB expansions directly

Strategies to Overcome Limitations

K-12 Education

- Set aside land for new schools when the UGB expands
- Help school districts come up with funding strategies that are proactive, rather than reactive. Currently, they must be able to garner political will to get bond levies passed, so it is inherently difficult to plan ahead for funding needs for growth they project they will have, let alone UGB expansions that they cannot predict.
- Make sure the timing is right to meet expansion needs
- Provide the funding necessary to ensure schools are built/upgraded at the right time with urbanization

Higher Education

- Find reliable data sources
- Assess higher education and workforce development as a factor of economic success

Sample Questions for Each Characteristic at Four Spatial/Temporal Scales

The purpose of the following matrix is to help determine whether or not a given area is likely to become a Great Community with urbanization. It expands upon the spatial/temporal diagram by delineating which questions might be asked about each characteristic at each level.

Sample Questions for Each Characteristic at Four Spatial/Temporal Scales

Characteristic	Preliminary Analysis	Urban Reserves	Concept-type Planning	UGB Expansion/ Implementation
1. Community Design	■ Can Great Community densities be achieved for development, recreation and active living? ■ Does the area "fit" within the natural landscape? Is there a sense of legibility, recognition, from both within and outside of the site? ■ Can the area be well connected from a transportation perspective to surrounding areas and linked by transit to the region?	■ What are the 2040 design type building blocks expected for the area? ■ What is needed to connect transportation and transit to the area?	■ How much density (residential and employment) is expected? ■ How will density, legibility and connectivity be satisfied? ■ Can Title II criteria be met?	■ Will adequate design standards be in place?
2. Complete Communities	■ What benefits would inclusion of the area produce for the region? ■ What need is satisfied? ■ Does the location recognize agricultural and natural features?	■ Are existing urban areas sufficiently developed? ■ How would the addition complete and not negatively impact existing areas? ■ What mitigation would be needed?	■ Will this create new urban centers? ■ Can social and economic diversity be addressed? ■ Are there competing areas of higher priority/readiness for expansion/annexation?	■ Is there a regional need for a particular type of housing, jobs or recreational amenities that is not being met? If so, can the area accommodate it? ■ How will a range of housing types (affordability) be accomplished?
3. Governance	■ Can urban services be provided over time? ■ Is there community support for inclusion of the area?	■ What governance structures are needed to manage long-term growth and development of the area?	■ How will intergovernmental coordination be implemented? ■ Who are the providers for each service, including education, parks, recreation, and libraries?	■ Are all needed intergovernmental agreements in place? ■ Who will be the overall coordinating entity?

Characteristic	Preliminary Analysis	Urban Reserves	Concept-type Planning	UGB expansion/ Implementation
4. Finance	■ What capital schemes could be developed to finance development of the area? ■ What is the relationship to governance?	■ What will the public sector do to attract private development? ■ What infrastructure investments are needed and how will they be financed?	■ What kinds of public/private partnerships and incentives are needed? ■ What is the rate of return and over how long a time period on public and private investments? ■ What can the public sector add to induce private investment?	■ Will finances be stable over time and meet needs? ■ What agreements are in place to provide and pay for services? ■ What public investments are needed to achieve Great Community goals (connectivity, affordability)?
5. Economy	■ Is the area appropriate to satisfy an economic need to support existing and emerging economic clusters? ■ How will an expansion of the UGB enhance the region's position in the global market?	■ Are there environmental and economic justice impacts to be considered? ■ How much employment land is needed and for what types of industries? ■ How will productive resource lands adjacent to urban reserves be protected?	■ How will the jobs/housing balance be met? ■ What employment lands are anticipated?	■ To what extent does the expansion strengthen the local area and regional economy, and support existing or emerging clusters?
6. Education and Workforce Development	■ Who are the regional providers of education (K-12 and higher education)? ■ What are their concerns?	■ Are the providers interested in extending services? ■ Are there sufficient large parcels for location of schools, colleges?	■ What providers will accommodate demand?	■ Who will accommodate educational demand and workforce training? ■ How can schools help shape the area included in the UGB?
7. Optimize Regional Public Investments	■ What significant regional infrastructure (including "greenfrastructure") investments are in place or needed?	■ Where are the areas for the most logical extensions of public services? ■ Who would be the providers?	■ How will the proposed expansion take advantage of major regional infrastructure investments?	■ Does the area optimize regional public investments?
8. Ecological Systems	■ What significant ecological systems are in place? ■ Is there capacity in the existing infrastructure system to serve future development?	■ Are locations connected to an ecological system, e.g., drainage basin? ■ How will these systems be preserved?	■ If developed, can the existing ecological function of the study area be preserved or maintained?	■ How will ecological systems be preserved? ■ What innovative/sustainable infrastructure techniques can be employed?

Lessons Learned from Applying the Characteristics

At least some degree of professional judgment was required to apply the characteristics to the test areas. At issue here is the ability of researchers to reconcile the theoretical—the characteristics that make a community great—with the practical—the region's decision-making process for expanding the UGB. While data and analysis can move us toward answers about the likelihood that an area will become a Great Community if it is urbanized, it is simply not possible to determine with certainty, even given perfect information. While analysis and data about these characteristics provide a foundation for decisions, some amount of professional judgment was required on the part of the consultant team, and will likely be required of the region if it uses these characteristics to make UGB decisions.

Having jurisdictional participation in the analysis was important to the success the application of the characteristics. At the test area work sessions held in September, representatives of the counties and cities surrounding the test areas presented their thoughts about how they might go about urbanizing the test areas once included in the UGB. These work sessions were extremely useful. During the sessions, the consultant team learned (among other important lessons) that there is no clear leadership for urbanization projects in the Northwest Hills test area, while in Cornelius and Forest Grove, preliminary concept plans were created that address many of the characteristics with which this study is concerned.
The advantages:

- Directly involves jurisdictions in the process from the beginning of making urbanization decisions.
- Gives jurisdictions the responsibility to advocate for the inclusion of particular areas. If no jurisdiction is willing to advocate for the inclusion of an area, it might not be the best place to expand the UGB.
- Gives Metro and the region a chance to ask questions about plans for urbanization and gain an understanding of the degree of enthusiasm and readiness for change in the process.

The characteristics can be used to make urban reserve decisions. The team feels that an analysis of the characteristics defined in this research is a useful addition to the region's decision-making toolkit regarding what land to designate as an urban reserve.

The characteristics provide a useful framework for annexation and incorporation decisions, but a more thoroughly-considered methodology is needed for this purpose. A complete methodology would need to go beyond analysis related to the characteristics that this research considers. At a minimum, the methodology should:

- Consider current annexation and incorporation laws.
- Describe exactly how stakeholders (including the public and local leaders) would be included in the decision-making process.
- Describe how data and analysis related to the characteristics would be incorporated into decision making processes.

While the characteristics in this research have limitations as applied to urbanization decisions, the team is reasonably confident that they are the right characteristics. By "right," the team simply means that together they capture the essence of the future development pattern that the region wants in its urban areas. All of the people involved in this research—from the consultant team to the Advisory Panel (experts in land use, finance, governance and development from around the country)—generally agree that these characteristics can be used to improve decision-making around UGB expansion.

The final list of characteristics must be limited to those practical for use in UGB expansion decisions. The initial list of characteristics produced in Phase I of this project was intentionally broad and too general for use in the UGB expansion process. Through a rigorous process, the team shortened a lengthy list of characteristics to just those that might reasonably be measured and applied.

The characteristics are not equally important in every community and in every stage of an urbanization decision. The team found that some characteristics were so important that they should be considered first, including governance, finance and density. If, for example, there is no jurisdiction willing or able to provide urban-level services to an area, that area should not be designated as an urban reserve nor brought into the UGB.

What gets built on the ground is heavily influenced by the ability of communities to finance public infrastructure improvements, and by the ability of developers to finance high-quality development. One way to address this is to make available "patient capital," which is capital that does not require an immediate return. This concept is described in *The Need for Patient Equity in Creating Great Places* by Christopher B. Lineberger, University of Michigan. The idea of value-latching introduced in Lineberger's article could be an important concept to explore, or at least introduce in this research, as it would be an incentive for developers to carry out the steps necessary for creating Great Communities.

The use of 2040 design types and strong urban design standards are critical inside the boundary. In addition, the use of phasing can help insure infrastructure and development are appropriately timed.

Recommendations

- Integrate the eight Great Communities characteristics into the region's urbanization decision-making processes and included in the Statewide Planning Program, Metro's Regional Framework Plan and local government initiatives.

- Undertake a greater level of planning prior to all urbanization decisions, from the designation of urban reserves to the inclusion of areas inside the UGB. This type of planning is intended to balance urban, natural resources and agricultural and forest interests early in the process. It also provides for the creation of a vision for an area and certainty for urban service providers, local governments, property owners and developers. Transferable development rights and other tools to increase the shared benefits of urbanization should continue to be explored.

- Develop a 50-year capital improvement plan for regional facilities to facilitate the pre-planning integral to the development of Great Communities. Public facilities that are most land intensive and likely to vary in cost among geographic areas are transportation, sewer, water, storm drainage and transit. Other services such as police, fire, social services and libraries use insignificant amounts of land and can be placed in a variety of locations within an urban area.

- Institute regional financing to provide the backbone to accommodate future growth and development in an efficient and cost-effective manner. This should be comprehensive and address all the major development needs from land assembly and other investment assistance for infrastructure and other services.

- Inform the public and private sectors on the desired Great Communities characteristics and incentives and barriers. Focus on the opportunities for public-private partnerships to address the essential needs of infrastructure development and financing to develop and redevelop Great Communities over time.

Enrolled
Senate Bill 1011

Sponsored by COMMITTEE ON JUDICIARY

CHAPTER .....

AN ACT

Relating to land reserves; creating new provisions; amending ORS 195.145, 197.626 and 221.034; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

SECTION 1. As used in sections 1 to 4 of this 2007 Act:

(1) "Rural reserve" means land reserved to provide long-term protection for agriculture, forestry or important natural landscape features that limit urban development or help define appropriate natural boundaries of urbanization, including plant, fish and wildlife habitat, steep slopes and floodplains.

(2) "Urban reserve" means lands outside an urban growth boundary 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.

SECTION 2. The Legislative Assembly finds that:

(1) Long-range planning for population and employment growth by local governments can offer greater certainty for:

(a) The agricultural and forest industries, by offering long-term protection of large blocks of land with the characteristics necessary to maintain their viability; and

(b) Commerce, other industries, other private landowners and providers of public services, by determining the more and less likely locations of future expansion of urban growth boundaries and urban development.

(2) State planning laws must support and facilitate long-range planning to provide this greater certainty.

SECTION 3. (1) A county and a metropolitan service district established under ORS chapter 268 may enter into an intergovernmental agreement pursuant to ORS 190.003 to 190.130, 195.025 or 197.652 to 197.658 to designate rural reserves pursuant to this section and urban reserves pursuant to ORS 195.145 (1)(b).

(2) Land designated as a rural reserve:

(a) Must be outside an urban growth boundary.

(b) May not be designated as an urban reserve during the urban reserve planning period described in ORS 195.145 (4).

(c) May not be included within an urban growth boundary during the period of time described in paragraph (b) of this subsection.

(3) When designating a rural reserve under this section to provide long-term protection to the agricultural industry, a county and a metropolitan service district shall base the des-

ignation on consideration of factors including, but not limited to, whether land proposed for designation as a rural reserve:

(a) Is situated in an area that is otherwise potentially subject to urbanization during the period described in subsection (2)(b) of this section, as indicated by proximity to the urban growth boundary and to properties with fair market values that significantly exceed agricultural values;

(b) Is capable of sustaining long-term agricultural operations;

(c) Has suitable soils and available water where needed to sustain long-term agricultural operations; and

(d) Is suitable to sustain long-term agricultural operations, taking into account:

(A) The existence of a large block of agricultural or other resource land with a concentration or cluster of farms;

(B) The adjacent land use pattern, including its location in relation to adjacent nonfarm uses and the existence of buffers between agricultural operations and nonfarm uses;

(C) The agricultural land use pattern, including parcelization, tenure and ownership patterns; and

(D) The sufficiency of agricultural infrastructure in the area.

(4) The Land Conservation and Development Commission shall, after consultation with the State Department of Agriculture, adopt by goal or by rule a process and criteria for designating rural reserves pursuant to this section.

SECTION 4. (1) A county and a metropolitan service district must consider simultaneously the designation and establishment of:

(a) Rural reserves pursuant to section 3 of this 2007 Act; and

(b) Urban reserves pursuant to ORS 195.145 (1)(b).

(2) An agreement between a county and a metropolitan service district to establish rural reserves pursuant to section 3 of this 2007 Act and urban reserves pursuant to ORS 195.145 (1)(b) must provide for a coordinated and concurrent process for adoption by the county of comprehensive plan provisions and by the district of regional framework plan provisions to implement the agreement. A district may not designate urban reserves pursuant to ORS 195.145 (1)(b) in a county until the county and the district have entered into an agreement pursuant to ORS 195.145 (1)(b) that identifies the land to be designated by the district in the district's regional framework plan as urban reserves. A county may not designate rural reserves pursuant to section 3 of this 2007 Act until the county and the district have entered into an agreement pursuant to section 3 of this 2007 Act that identifies the land to be designated as rural reserves by the county in the county's comprehensive plan.

(3) A county and a metropolitan service district may not enter into an intergovernmental agreement to designate urban reserves in the county pursuant to ORS 195.145 (1)(b) unless the county and the district also agree to designate rural reserves in the county.

(4) Designation and protection of rural reserves pursuant to section 3 of this 2007 Act or urban reserves pursuant to ORS 195.145 (1)(b):

(a) Is not a basis for a claim for compensation under ORS 197.352 unless the designation and protection of rural reserves or urban reserves imposes a new restriction on the use of private real property.

(b) Does not impair the rights and immunities provided under ORS 30.930 to 30.947.

SECTION 5. (1) Sections 1 to 4 of this 2007 Act are added to and made a part of ORS chapter 195.

(2) ORS 195.145 is added to and made a part of sections 1 to 4 of this 2007 Act.

SECTION 6. ORS 195.145 is amended to read:

195.145. (1) To ensure that the supply of land available for urbanization is maintained[,]**:**

(a) Local governments may cooperatively designate lands outside urban growth boundaries as [*urban reserve areas, subject to ORS 197.610 to 197.625.*] **urban reserves subject to ORS 197.610 to 197.625.**

(b) Alternatively, a metropolitan service district established under ORS chapter 268 and a county may enter into a written agreement pursuant to ORS 190.003 to 190.130, 195.025 or 197.652 to 197.658 to designate urban reserves. A process and criteria developed pursuant to this paragraph are an alternative to a process or criteria adopted pursuant to paragraph (a) of this subsection.

(2)(a) The Land Conservation and Development Commission may require a local government to designate an urban reserve [*area*] **pursuant to subsection (1)(a) of this section** during its periodic review in accordance with the conditions for periodic review under ORS 197.628.

(b) Notwithstanding paragraph (a) of this subsection, the commission may require a local government to designate an urban reserve [*area*] **pursuant to subsection (1)(a) of this section** outside of its periodic review if:

(A) The local government is located inside a Primary Metropolitan Statistical Area or a Metropolitan Statistical Area as designated by the Federal Census Bureau upon November 4, 1993; and

(B) The local government has been required to designate an urban reserve [*area*] by rule prior to November 4, 1993.

(3) In carrying out subsections (1) and (2) of this section:

(a) Within an urban reserve [*area*], neither the commission nor any local government shall prohibit the siting on a legal parcel of a single family dwelling that would otherwise have been allowed under law existing prior to designation as an urban reserve [*area*].

(b) The commission shall provide to local governments a list of options, rather than prescribing a single planning technique, to ensure the efficient transition from rural to urban use in urban reserve [*areas*].

[*(4) For purposes of this section, "urban reserve area" means lands outside an urban growth boundary that will provide for:*]

[*(a) Future expansion over a long-term period; and*]

[*(b) The cost-effective provision of public facilities and service within the area when the lands are included within the urban growth boundary*].

(4) Urban reserves designated by a metropolitan service district and a county pursuant to subsection (1)(b) of this section must be planned to accommodate population and employment growth for at least 20 years, and not more than 30 years, after the 20-year period for which the district has demonstrated a buildable land supply in the most recent inventory, determination and analysis performed under ORS 197.296.

(5) A district and a county shall base the designation of urban reserves under subsection (1)(b) of this section upon consideration of factors including, but not limited to, whether land proposed for designation as urban reserves, alone or in conjunction with land inside the urban growth boundary:

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

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

(c) Can be served by public schools and other urban-level public facilities and services efficiently and cost-effectively by appropriate and financially capable service providers;

(d) Can be designed to be walkable and served by a well-connected system of streets by appropriate service providers;

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

(f) Includes sufficient land suitable for a range of housing types.

(6) The commission shall adopt by goal or by rule a process and criteria for designating urban reserves pursuant to subsection (1)(b) of this section.

SECTION 7. ORS 197.626 is amended to read:

197.626. A metropolitan service district that amends its urban growth boundary to include more than 100 acres, or **that amends the district's regional framework plan or land use regulations implementing the plan to establish urban reserves designated under ORS 197.145 (1)(b),** a city with a population of 2,500 or more within its urban growth boundary that amends the urban growth

boundary to include more than 50 acres or that designates urban reserve [*areas*] under ORS 195.145, **or a county that amends the county's comprehensive plan or land use regulations implementing the plan to establish rural reserves designated under section 3 of this 2007 Act,** shall submit the amendment or designation to the Land Conservation and Development Commission in the manner provided for periodic review under ORS 197.628 to 197.650.

SECTION 8. ORS 221.034 is amended to read:

221.034. (1) As used in this section:

(a) "Neighboring city" means a city that has any part of its territory situated within three miles of the area proposed to be incorporated.

(b) "Rural unincorporated community" means a settlement with a boundary identified in an acknowledged comprehensive plan of a county and that:

(A) Is made up primarily of lands subject to an exception to statewide planning goals related to agricultural lands or forestlands;

(B) Either was identified in the acknowledged comprehensive plan of a county as a "rural community," "service center," "rural center," "resort community" or similar term before October 28, 1994, or is listed in the Department of Land Conservation and Development's "Survey of Oregon Unincorporated Communities" (January 30, 1997);

(C) Lies outside the urban growth boundary of a city or a metropolitan service district; and

(D) Is not incorporated as a city.

(c) "Urban reserve [*area*]" has the meaning given that term in [*ORS 195.145*] **section 1 of this 2007 Act**.

(d) "Urban services" has the meaning given that term in ORS 195.065.

(2) When any of the area proposed to be incorporated as a city lies within an urbanized area, but outside the urban growth boundary of a city or a metropolitan service district:

(a) The area proposed to be incorporated must also be located entirely within a designated rural unincorporated community and contiguous lands subject to an exception to statewide planning goals related to agricultural lands or forestlands.

(b) The petition required by ORS 221.031 must be accompanied by an affidavit, signed by a chief petitioner, stating that:

(A) Ten percent of the electors registered within the area proposed for incorporation favor the incorporation; and

(B) The chief petitioners have engaged the neighboring cities in discussions concerning the effects of the proposed incorporation, including discussions specifically relating to how those cities and the proposed city will allow for expansion of urban growth boundaries and, where applicable, for creation or expansion of urban [*reserve areas*] **reserves**.

(c) The economic feasibility statement required by ORS 221.035 must:

(A) Indicate that the proposed city must plan for and provide urban services in a cost-effective manner at the minimum level adequate to meet current needs and projected growth;

(B) Contain a proposed permanent rate limit for operating taxes to provide revenues for urban services; and

(C) Indicate that the proposed city must plan for residential development at or above the same urban density planned for an existing city, within the county, that has a similar geographic area within the existing city's urban growth boundary or, for a proposed city within three miles of Metro's boundary, a minimum urban residential density in accordance with a statewide planning goal and rules pertaining to needed housing for cities within Metro's urban growth boundary.

(d) If the proposed city will be required to complete a public facility plan and a transportation systems plan, the proposed city must demonstrate the ability to provide urban services to meet current needs and projected growth. The proposed city may meet this requirement, in whole or in part, by establishing an agreement in principle with a city or a district, as defined in ORS 195.060, to provide the urban services.

(3) If the governing body of a neighboring city determines that the proposed incorporation adversely affects that city, the governing body may ask the county court with which the petition for

incorporation was filed to reject the petition and terminate the incorporation proceedings. The objections by the city to the incorporation shall be heard and considered by the county court at a public hearing held under ORS 221.040.

(4) If, at the hearing held under ORS 221.040, the county court finds that any of the requirements of subsection (2) of this section are not met or that the proposed incorporation will adversely affect a neighboring city, the county court shall provide by order for the termination of the incorporation proceedings. The order shall contain the findings of the county court relating to the proposed incorporation and the reasons for terminating the incorporation proceedings.

(5) In the manner provided in ORS 197.830 to 197.845, the Land Use Board of Appeals shall review, upon the petition of a party to the incorporation proceedings, the order of the county court under subsection (4) of this section.

SECTION 9. (1) Notwithstanding ORS 197.650, a Land Conservation and Development Commission order concerning the designation of urban reserves under ORS 195.145 (1)(b) or rural reserves under section 3 of this 2007 Act may be appealed to the Court of Appeals by the persons described in ORS 197.650.

(2) Judicial review of orders described in subsection (1) of this section is as provided in this section.

(3) Jurisdiction for judicial review is conferred upon the Court of Appeals. A proceeding for judicial review may be instituted by filing a petition in the Court of Appeals. The petition must be filed within 21 days after the date the commission delivered or mailed the order upon which the petition is based.

(4) The filing of the petition, as set forth in subsection (3) of this section, and service of a petition on the persons who submitted oral or written testimony in the proceeding before the commission are jurisdictional and may not be waived or extended.

(5) The petition must state the nature of the order the petitioner seeks to have reviewed. Copies of the petition must be served by registered or certified mail upon the commission and the persons who submitted oral or written testimony in the proceeding before the commission.

(6) Within 21 days after service of the petition, the commission shall transmit to the Court of Appeals the original or a certified copy of the entire record of the proceeding under review. However, by stipulation of the parties to the review proceeding, the record may be shortened. The Court of Appeals may tax a party that unreasonably refuses to stipulate to limit the record for the additional costs. The Court of Appeals may require or permit subsequent corrections or additions to the record. Except as specifically provided in this subsection, the Court of Appeals may not tax the cost of the record to the petitioner or an intervening party. However, the Court of Appeals may tax the costs to a party that files a frivolous petition for judicial review.

(7) Petitions and briefs must be filed within time periods and in a manner established by the Court of Appeals by rule.

(8) The Court of Appeals shall:

(a) Hear oral argument within 49 days of the date of transmittal of the record unless the Court of Appeals determines that the ends of justice served by holding oral argument on a later day outweigh the best interests of the public and the parties. However, the Court of Appeals may not hold oral argument more than 49 days after the date of transmittal of the record because of general congestion of the court calendar or lack of diligent preparation or attention to the case by a member of the court or a party.

(b) Set forth in writing and provide to the parties a determination to hear oral argument more than 49 days from the date the record is transmitted, together with the reasons for the determination. The Court of Appeals shall schedule oral argument as soon as is practicable.

(c) Consider, in making a determination under paragraph (b) of this subsection:

(A) Whether the case is so unusual or complex, due to the number of parties or the existence of novel questions of law, that 49 days is an unreasonable amount of time for the parties to brief the case and for the Court of Appeals to prepare for oral argument; and

(B) Whether the failure to hold oral argument at a later date likely would result in a miscarriage of justice.

(9) The court:

(a) Shall limit judicial review of an order reviewed under this section to the record.

(b) May not substitute its judgment for that of the Land Conservation and Development Commission as to an issue of fact.

(10) The Court of Appeals may affirm, reverse or remand an order reviewed under this section. The Court of Appeals shall reverse or remand the order only if the court finds the order is:

(a) Unlawful in substance or procedure. However, error in procedure is not cause for reversal or remand unless the Court of Appeals determines that substantial rights of the petitioner were prejudiced.

(b) Unconstitutional.

(c) Not supported by substantial evidence in the whole record as to facts found by the commission.

(11) The Court of Appeals shall issue a final order on the petition for judicial review with the greatest possible expediency.

(12) If the order of the commission is remanded by the Court of Appeals or the Supreme Court, the commission shall respond to the court's appellate judgment within 30 days.

SECTION 10. Notwithstanding ORS 195.145 (4), if urban reserves are designated by a metropolitan service district and a county pursuant to ORS 195.145 (1)(b) on or before December 31, 2009, the urban reserves must be planned to accommodate population and employment growth for at least 20 years, and not more than 30 years, after the 20-year period for which the district has demonstrated a buildable land supply in the next inventory, determination and analysis required under ORS 197.299 on or after the effective date of this 2007 Act.

SECTION 11. The Land Conservation and Development Commission shall adopt the goals or rules required by section 3 of this 2007 Act and by the amendments to ORS 195.145 by section 6 of this 2007 Act not later than January 31, 2008.

SECTION 12. This 2007 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2007 Act takes effect on its passage.

Passed by Senate May 9, 2007

Repassed by Senate June 13, 2007

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Secretary of Senate

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President of Senate

Passed by House June 11, 2007

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Speaker of House

Received by Governor:

.....M.,....., 2007

Approved:

.....M.,....., 2007

.....
Governor

Filed in Office of Secretary of State:

.....M.,....., 2007

.....
Secretary of State

Materials following this page were distributed at the meeting.

Reserves Steering Committee 2008 Meeting Schedule

The Reserves Steering Committee will meet once each month during 2008. With the exception of January, March and June, these meetings will be held on the second Wednesday of the month from 9:00 to 11:00 a.m.

All meetings are open to the public and will be held in the Council Chamber at Metro Regional Center, located at 600 NE Grand Avenue in Portland.

For more information about this schedule, please contact Ken Ray at 503-797-1508 or rayk@metro.dst.or.us.

Monday, January 28
9:30 a.m. to noon

Wednesday, February 13
9:00 to 11:00 a.m.

Friday, March 14
9:00 to 11:00 a.m.

Wednesday, April 9
9:00 to 11:00 a.m.

Wednesday, May 14
9:00 to 11:00 a.m.

Monday, June 9
9:00 to 11:00 a.m.

Wednesday, July 9
9:00 to 11:00 a.m.

Wednesday, August 13
9:00 to 11:00 a.m.

Wednesday, September 10
9:00 to 11:00 a.m.

Wednesday, October 8
9:00 to 11:00 a.m.

Wednesday, November 12
9:00 to 11:00 a.m.

Wednesday, December 10
9:00 to 11:00 a.m.

Reserves Steering Committee Members

as of January 25, 2008

Core 4		
Metro Council	**Kathryn Harrington**	
Clackamas County	**Martha Schrader**	
Multnomah County	**Jeff Cogen**	
Washington County	**Tom Brian**	

Cities	Member	Alternate
Portland	**Gil Kelley**	
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**	
Neighbor cities	**Bob Austin, Estacada mayor**	**Kathy Figley, Woodburn mayor**

Non-governmental stakeholders	Member	Alternate
Business	**Greg Manning**	
Construction/Real Estate	**Greg Specht**	**Bob LeFeber**
Urban Development	**Craig Brown**	**Drake Butsch**
Agriculture	**Jeff Stone**	
Natural Resources	**Mike Houck**	
Land Use	**Mary Kyle McCurdy**	
Social/Economic Equity	**Sue Marshall**	

State Agencies – serving in coordination roles	Member	Alternate
Department of Land Conservation and Development		
Department of Transportation	**Lainie Smith**	
Department of Forestry	**David Morman**	**Doug Decker**
Economic and Community Development Department		
Water Resources Department	**Bill Ferber**	
Department of State Lands	**Kevin Moynahan**	
Department of Environmental Quality	**Keith Johnson**	
Department of Agriculture		
Department of Fish and Wildlife	**Jeff Boechler**	**Susan Barnes**

Metro region cities
Beaverton
Cornelius
Damascus
Durham
Fairview
Forest Grove
Gladstone
Gresham
Happy Valley
Hillsboro
Johnson City
King City
Lake Oswego
Maywood Park
Milwaukie
Oregon City
Portland
Rivergrove
Sherwood
Tigard
Troutdale
Tualatin
West Linn
Wilsonville
Wood Village

Metro region counties
Clackamas County
Multnomah County
Washington County

METRO

MAKING THE Greatest PLACE

Focus on urban and rural reserves

MESSAGE FROM COUNCILOR KATHRYN HARRINGTON

We live in a special place. We have vibrant communities and town centers interwoven with beautiful natural areas that enable wildlife to thrive and provide us with extraordinary recreational activities close to home. And we have a diverse agricultural community that plays an important role in our region's economy.

This did not happen by chance. For more than 30 years, as this region has grown by more than a million people, we've made conscious decisions to reinvest in our existing communities, protect nature, use land more efficiently and minimize the impact of new development on farm and forest land while accommodating population growth and welcoming the economic opportunities it offers.

Although our efforts to manage our land and natural resources more efficiently have made us a national model for other metropolitan regions to emulate, the current process for making urban growth management decisions has also been highly contentious. It has offered no predictability or certainty for the protection of valuable rural lands, and it has not considered a variety of factors for accommodating growth in ways that strengthen local communities. It also does not weigh the costs of new development in expansion areas against those for redevelopment of existing downtowns and main streets within the current urban growth boundary.

Continued on page 2

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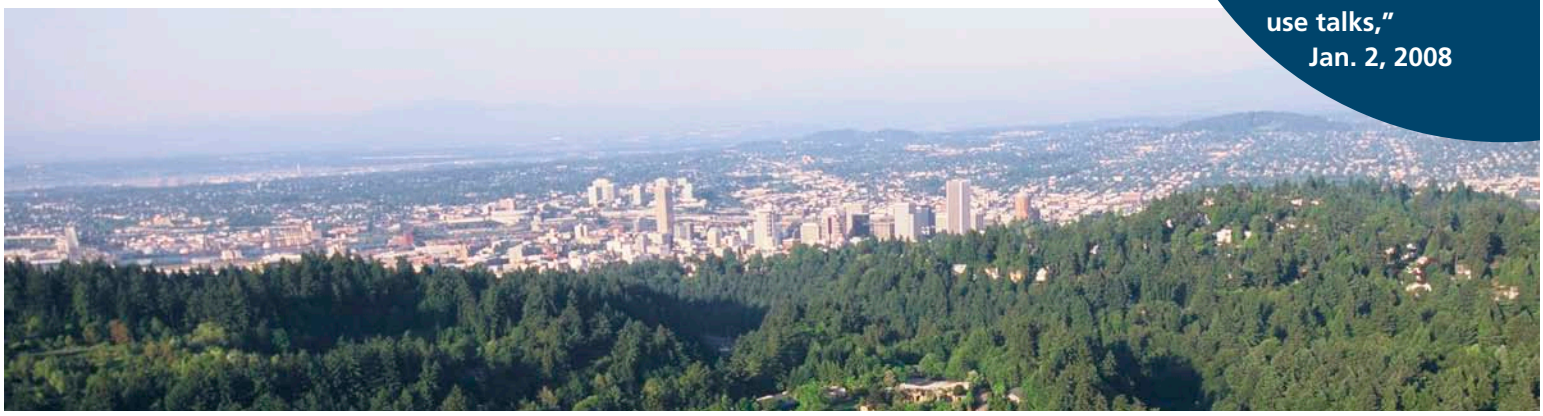

Working to develop collaborative solutions to regional challenges

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Metro and the three counties will coordinate public outreach efforts and will be seeking your input and guidance as we help shape this region for the next 50 years. More information about this effort can be found online at **www.metro-region.org/reserves.** I hope you will get involved with and stay informed about this important work.

Get involved

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1. INVESTMENTS
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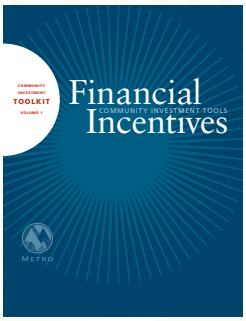
3. PERFORMANCE-BASED GROWTH MANAGEMENT
4. REGIONAL TRANSPORTATION PLAN

www.metro-region.org/greatestplace



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08018jl

RESERVES STEERING COMMITTEE
DRAFT OPERATING PRINCIPLES
(AS OF JANUARY 28, 2008)

For any collaborative process to operate smoothly, it is necessary for those involved to agree at the outset on the purpose for the process and on the procedures by which the group will govern its discussions and deliberations.

I. BACKGROUND AND PURPOSE OF THE RESERVES STEERING COMMITTEE

In 2007, the Oregon Legislature approved Senate Bill 1011. This bill, and subsequent rules adopted by the Land Conservation and Development Commission, enables Metro and the counties of the region to establish urban reserves and rural reserves to provide greater predictability for local governments, service providers, and landowners regarding 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.

The Reserves Steering Committee ("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 will meet regularly in 2008 and 2009 to develop recommendations to the Metro Council and the county commissions on the designations of urban and rural reserves.

Urban and rural reserve designations will first be recommended through intergovernmental agreements between the Metro Council and the county commission in whose jurisdiction reserve areas are located. Following the endorsement of intergovernmental agreements in summer 2009, the Metro Council will designate urban reserves through amendments to the Regional Framework Plan, and the county commissions will designate 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.

II. RESERVES STEERING COMMITTEE STRUCTURE

The Steering Committee is co-led by one Metro Councilor and one commissioner each from Clackamas, Multnomah and Washington counties (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 apiece representing the smaller cities of each county. One representative is designated to represent the neighboring cities outside Metro's urban growth boundary. In addition, the Steering Committee includes representatives of business, the agricultural community, the environmental conservation community, social and economic equity organizations, and state agencies.

The Steering Committee members will:

- Work together to develop the recommendation for designation of reserve areas;
- Agree on the desired level of specificity of agreement components;
- Strive to concur in all Steering Committee recommendations;
- Ensure adequate integration of the governance, funding, policy and analytical considerations to reach sound recommendations; and
- Concur in recommendations about the Steering Committee process, including overseeing the implementation of these operating principles.

In order for an agreement of this scope to be acceptable to and implementable by all authorities, those involved in this process agree to work together to produce an agreement that integrates the mandates, concerns, and ideas of all those significantly affected by the outcome.

Subgroups may be formed at the direction of the Steering Committee, which will designate subgroup members as needed for the anticipated tasks and outcomes. At the direction of the Steering Committee, subgroup members may develop draft products and make recommendations to the Steering Committee. Subgroups will not make decisions on behalf of the Steering Committee.

Governance, Funding, Policy and Technical Analysis will be provided by Metro and county staff, consultants or other designated entities. To the extent a Steering Committee member is relying on the expertise of technical staff, such technical staff must be made available for discussion with other members of the Steering Committee if requested or needed. These technical advisers will not make decisions on behalf of the Steering Committee.

III. PARTICIPATION

Interests Represented. Steering Committee parties, identified on the signature page for these Operating Principles, represent the Core 4, cities, non-governmental stakeholders, and state agencies.

Attendance at Meetings. Each member must make a good faith effort to attend each Steering Committee meeting. If a Steering Committee member cannot attend, he or she may designate a regular alternate to attend. It is the responsibility of the member and alternate to stay fully briefed on all Steering Committee meeting discussions and deliberations. It is the responsibility of the member to inform the alternate concerning the deliberations. All alternates are also bound by these Operating Principles.

Constituent Interests. Steering Committee members are expected to consult with and represent the concerns and interests of the organizations and constituents they were appointed to represent. They are responsible for ensuring that all significant issues and concerns of their organizations and constituents are fully and clearly articulated during Steering Committee meetings. Members are also responsible for ensuring that any eventual recommendations or agreements are acceptable to their constituents and/or the agencies they were appointed to represent.

IV. MEETINGS

Agendas. Proposed meeting agendas will be drafted by the facilitator in consultation with Core 4 members and Steering Committee project team staff. The facilitator and project team will post draft agendas to the Steering Committee website for review at least one week in advance of Steering Committee meetings. The website is maintained by Metro and can be found at www.metro-region.org/reserves. Agendas will be approved or revised at the beginning of each meeting.

Meeting Summaries. The facilitator will prepare Steering Committee meeting summaries. They will be provided electronically in draft form to the Steering Committee website for review and comment within one week of the Steering Committee meeting. Meeting summaries will be approved by the Steering Committee at the following meeting. Final meeting summaries will also be posted on the project website.

Action Items. Action item lists will be prepared by the facilitator to assist the Steering Committee in documenting its progress and activities. The facilitator will ensure that items included on the lists are tracked and that Steering Committee members are informed of their progress.

Caucuses/Breaks. Meetings may be suspended at any time at the request of any member to allow consultation among group members. Requests should be respectful of all members' time. If the use of caucuses becomes disruptive, the Steering Committee will revisit the process. The facilitator may be used to assist parties during the caucus if requested.

Facilitator. Steering Committee meetings will be facilitated by Debra Nudelman of Kearns & West, Inc. The facilitator will be funded by Core 4 entities but will remain independent and not take positions on the issues. The facilitator will work to ensure that the process runs smoothly. The facilitator's role usually includes developing draft agendas, distributing meeting materials, facilitating meetings, working to resolve any impasse that may arise, preparing meeting summaries, action items and other tasks as requested.

The facilitator will work directly with all Steering Committee members to ensure their ability to represent the concerns and interests of their organizations and constituents. The facilitator will serve at the will of the group and may be replaced by another facilitator upon consensus of the Core 4.

V. COMMITMENTS

The Steering Committee includes only four voting members (Metro and the three counties—the Core 4) and all votes of the Core 4 must be unanimous before recommendations are carried back to their governing bodies, which retain authority for approval of the intergovernmental agreement. All other Steering Committee members serve in non-voting advisory positions and bring a responsibility to represent their entity or constituent group.

Core 4 Intent and Commitment. Steering Committee members recognize that under SB 1011, the ultimate decision-making on the designation of urban and rural reserves rests with the Metro Council and the boards of county commissioners. The Core 4 members, who are the representatives of those elected bodies on the Steering Committee, are committed to developing final urban and rural reserves recommendations in a collaborative forum in order to achieve concurrence and support from potential objectors and partners. However, all Steering Committee members understand that, if full group concurrence is not possible, the Core 4 will make the final decision with regard to the establishment of study areas and recommendations for reserve designations.

Steering Committee Intent and Commitment. It is understood that Steering Committee members are representing interests of their organization, agency, and/or constituents. Steering Committee members agree to regularly brief the decision-makers within their respective organizations to ensure support and buy-in for recommendations developed through the Steering Committee process, as well as the greatest likelihood of successfully implementing final recommendations and designations. All Steering Committee members agree to:

- Attend meetings and follow through on promises and commitments;
- Bring concerns from their interest group or organization up for discussion at the earliest point in the process;
- Share all relevant information that will assist the group in achieving its goals;
- Participate in a free, open, and mutually respectful exchange of ideas, views, and information prior to achieving consensus;
- Resolve issues being addressed by the Steering Committee within the Steering Committee structure;
- Articulate interests and concerns to the best of their ability in an effort to find common ground among the parties;
- Communicate the expectation to subgroups and those providing scientific and technical input that these Operating Principles are also applicable to them;
- Characterize individual, caucus, or subgroup viewpoints as fully and accurately as possible;
- Keep its organization's decision-makers informed of potential decisions and actions, in order to expedite approval for the final product; and
- Support the eventual product if they have concurred in it.

VI. PROCESS REMINDERS/GROUND RULES

- Seek to learn and understand each other's perspective.
- Encourage respectful, candid and constructive discussions.
- Provide balance of speaking time.
- Seek to resolve differences.
- Discuss topics together rather than in isolation.
- Make every effort to avoid surprises.
- Limit side conversations.
- Turn off cell phones or place in the non-ring mode during formal meeting sessions.
- Make every effort to start and end meetings on time.

VII. SAFEGUARDS

Good Faith. All members agree to act in good faith in all aspects of the collaborative effort. Specific offers made in open and frank problem solving conversations will not be used against any other member in future litigation or public relations. Personal attacks and prejudiced statements are not acceptable. Good faith requires that individuals not represent their personal or organization's views as views of the Steering Committee, and that they express consistent views and opinions in the Steering Committee and in other forums.

Open Meetings. Meetings of the Steering Committee are open to the public and will include an opportunity for public comment. Notice of Steering Committee meetings will be posted in advance of meetings on the Metro website.

Public Comment. The facilitator will provide periodic public comment opportunities for non-Steering Committee members during meetings. Comments from the public will be limited in time to allow sufficient opportunity to conduct the other portions of the Steering Committee agenda. Citizens are encouraged to participate in the Urban and Rural Reserves Coordinated Public Involvement Plan process and to submit written comments to project team staff for circulation to the full Steering Committee.

Public Records and Confidentiality. Steering Committee records, such as meeting documents, discussion drafts and meeting summaries are public records. Steering Committee communications (oral, written, electronic, etc.) are not confidential and may be disclosed. However, the private documents of individual Steering Committee members and the private documents of the facilitator that are not shared with the Steering Committee are not considered public records and are not subject to disclosure under public records laws.

Press. Steering Committee members will strive to keep each other apprised of communications with the press regarding the Reserves Steering Committee process. Upon request, contact from the press related to the Steering Committee process may also be referred to the Core 4 representatives.

Right to Withdraw. Any member may temporarily or permanently withdraw from the Steering Committee at any time after discussing the reasons for withdrawal with the facilitator and Steering Committee members. Any entity that withdraws from the Steering Committee shall remain bound by the good faith provisions of these Operating Principles.

VIII. SCHEDULE

The Steering Committee as a whole will meet approximately once a month between January 1, 2008 and July 31, 2009. With few exceptions, each regularly scheduled meeting will be held on the second Wednesday of each month. The Reserves Milestone Chart includes a proposed timeline of events and decisions points and may be found at www.metro-region.org/reserves. It is anticipated that the Steering Committee's work will be completed during the summer of 2009.

By their signature, the undersigned agree to abide by the preceding Reserves Steering Committee Operating Principles:

Interest Represented	Member	Signature

Metro region cities
Beaverton
Cornelius
Damascus
Durham
Fairview
Forest Grove
Gladstone
Gresham
Happy Valley
Hillsboro
Johnson City
King City
Lake Oswego
Maywood Park
Milwaukie
Oregon City
Portland
Rivergrove
Sherwood
Tigard
Troutdale
Tualatin
West Linn
Wilsonville
Wood Village

Metro region counties
Clackamas County
Multnomah County
Washington County

METRO

MAKING THE Greatest PLACE

Focus on urban and rural reserves

MESSAGE FROM COUNCILOR KATHRYN HARRINGTON

We live in a special place. We have vibrant communities and town centers interwoven with beautiful natural areas that enable wildlife to thrive and provide us with extraordinary recreational activities close to home. And we have a diverse agricultural community that plays an important role in our region's economy.

This did not happen by chance. For more than 30 years, as this region has grown by more than a million people, we've made conscious decisions to reinvest in our existing communities, protect nature, use land more efficiently and minimize the impact of new development on farm and forest land while accommodating population growth and welcoming the economic opportunities it offers.

Although our efforts to manage our land and natural resources more efficiently have made us a national model for other metropolitan regions to emulate, the current process for making urban growth management decisions has also been highly contentious. It has offered no predictability or certainty for the protection of valuable rural lands, and it has not considered a variety of factors for accommodating growth in ways that strengthen local communities. It also does not weigh the costs of new development in expansion areas against those for redevelopment of existing downtowns and main streets within the current urban growth boundary.

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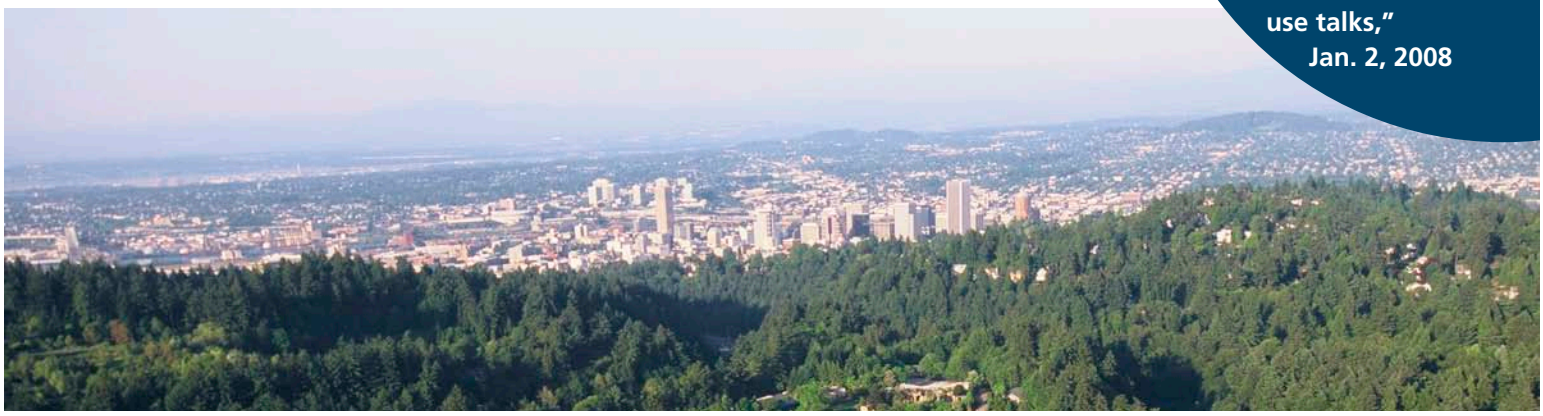

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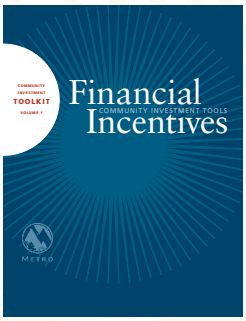

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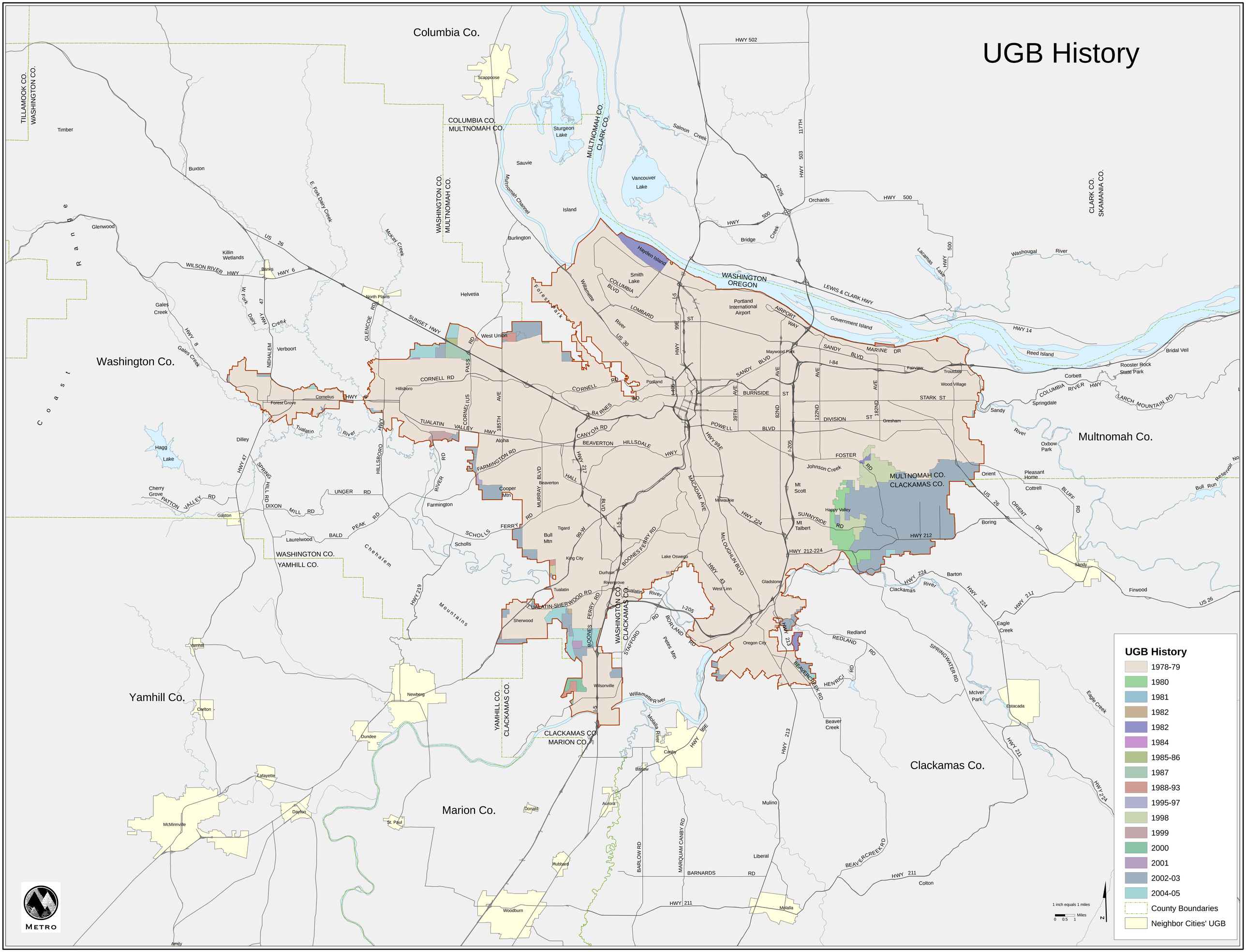

UGB History

- 1978-79
- 1980
- 1981
- 1982
- 1982
- 1984
- 1985-86
- 1987
- 1988-93
- 1995-97
- 1998
- 1999
- 2000
- 2001
- 2002-03
- 2004-05
- County Boundaries
- Neighbor Cities' UGB

METRO