BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ACCEPTING THE CHAPTER 1 REGIONAL TRANSPORTATION POLICY FRAMEWORK AS THE PROVISIONAL DRAFT FOR THE PURPOSE OF COMPLETING PHASE 3 OF THE 2035 REGIONAL TRANSPORTATION PLAN (RTP) UPDATE	))))))	RESOLUTION NO. 07-3793 Introduced by Councilor Rex Burkholder, Councilor Brian Newman and Councilor Rod Park

WHEREAS, the Regional Transportation Plan (RTP) is the federally recognized transportation policy for the Portland metropolitan region and threshold for all federal transportation funding in the region that must be updated every four years; and

WHEREAS, the RTP fulfills statewide planning requirements to implement Goal 12 Transportation, as implemented through the Oregon Transportation Planning Rule, and must be updated every five to seven years; and

WHEREAS, the RTP is a central tool for implementing the Region 2040 Growth Concept, and constitutes a policy component of the Regional Framework Plan; and

WHEREAS, the Metro Council and the Joint Policy Advisory Committee on Transportation (JPACT) approved Resolution No. 06-3661 (For the Purpose of Approving A Work Program For the 2035 Regional Transportation Plan (RTP) Update and Authorizing the Chief Operating Officer to Amend Contract No. 926975), on June 15, 2006; and

WHEREAS, JPACT and the Metro Policy Advisory Committee (MPAC) have recommended that the Chapter 1 Regional Transportation Policy Framework be used to guide the Phase 3 development and analysis of the 2035 RTP; and

WHEREAS, the Chapter 1 Regional Transportation Policy Framework is set forth in "Exhibit A," attached hereto, and will be updated and refined to reflect key findings from the Phase 3 work program; now, therefore

BE IT RESOLVED BY THE METRO COUNCIL THAT:

1. The Metro Council accepts the Chapter 1 Regional Transportation Policy Framework as the provisional draft for the purpose of completing Phase 3 of the Regional Transportation Plan update, identified in Exhibit "A."

2. Staff is directed to initiate Phase 3 of the RTP update.

ADOPTED by the Metro Council this 15th day of March 2007.

David Bragdon, Council President

Approved as to Form:

Daniel B. Cooper, Metro Attorney

Officially Approved Gesehlich Verbindlich Regionaler Gemeinderat METRO COUNCIL Metro Council

EXHIBIT "A" to
Resolution No. 07-3793

Chapter 1
Regional Transportation Policy Framework

[Note: This is a provisional draft recommended to be used guide development and analysis of the rest of the 2035 Regional Transportation Plan (RTP) during Phase 3 from March to August 2007. The framework will be subject to updating and refinement during the remainder of the 2035 RTP update process.]

March 1, 2007

METRO
PEOPLE PLACES • OPEN SPACES

Metro
People places • open spaces

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

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

Your Metro representatives

Metro Council President – David Bragdon
Metro Councilors – Rod Park, District 1; Brian Newman, District 2; Carl Hosticka, deputy council president, District 3; Kathryn Harrington, District 4; Rex Burkholder, District 5; Robert Liberty, District 6.
Auditor – Suzanne Flynn

Metro's web site: www.metro-region.org

Project web site: www.metro-region.org/rtp (Click on "2035 RTP Update)

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Executive Summary

Transportation shapes our communities and our daily lives in profound and lasting ways. What we plan for today will affect the health of our economy, communities and environment for many years and generations to come.

Public investment in transportation has been shaping our economy and our region for centuries. The Portland metropolitan region has one of the best performing transportation systems in the nation. This region has developed pioneering approaches to land use and transportation planning in the past, and we have the leadership, knowledge and public will to develop a transportation system that will allow us to compete in the global economy and protect our enviable quality of life.

Framing the Crossroads

The Portland metropolitan region is at an important crossroads. Investments in our transportation system are needed to respond to powerful trends and challenges so we can benefit from them and thrive:

- About a million more people are expected to live here in the next 25 years – an unprecedented rate of growth. They will all need to get to work, school and stores, more than doubling the amount of freight, goods and services that will need to travel to this region by air and over bridges, roads, water and rails. Growing congestion is expected to accompany this growth, affecting the economic competitiveness of our region and the State of Oregon, our environment and quality of life.

- The Portland-Vancouver metropolitan region is a global transportation gateway and West Coast domestic hub for trade and tourism. An international airport, river ports, rail connections and an interstate highway system make this region both a global transportation gateway and West Coast domestic hub for freight and goods movement, and tourism-related activities. The 2005 study, *Cost of Congestion to the Economy of the Portland Region,* estimated potential losses in the region of $844 million annually in 2025 from increased freight costs and lost worker productivity due to increases in travel time if our investments do not keep pace with growth.

- Geopolitical instability will continue to drive up transportation costs, affecting project costs and household expenditures. Rising prices for all petroleum products—not just fuel—are here to stay. For example, the price of liquid asphalt jumped 61 percent in Oregon during the first seven months of 2006—from $207 a ton to $333 a ton—doubling project costs in some cases. In addition, transportation costs per household in the region are also increasing. This is the second highest household expense after housing, with lower-income households spending a higher percentage of their income on transportation costs.

- Federal and state transportation sources are not keeping up with growing needs. At current spending levels and without new sources of funding, the federal highway trust fund will go broke in 2009. State purchasing power is steadily declining because the gas tax hasn't increased since 1993. As a result, there is increasing competition for transportation

funds, yet fewer dollars to maintain the infrastructure we have, let alone fund new expensive projects. Meanwhile, maintenance of our aging system of roads and bridges is being deferred and existing backlogs are expected to grow.

- Climate change poses a serious and growing threat to Oregon's economy, natural resources, forests, rivers, agricultural lands, and coastline. Transportation activities are one of the largest sources of greenhouse gas emissions - it is estimated that transportation accounts for 38 percent of carbon dioxide emissions in Oregon and this is predicted to increase by 33 percent by 2025 because of increased driving.

Where We Go From Here

Many of these issues are not new or unique to transportation planning in this region or in other major cities across the country. However, the Portland metropolitan region has a history of innovation, and these challenges pose an opportunity for the region to continue this tradition to thrive – mainly because we already have such solid, well-integrated transportation and land use systems in place, while other regions do not. We are fortunate because our region is so well positioned to take advantage of these new realities if we invest accordingly, while other regions are struggling to catch up. If we adapt to these new fiscal, social and economic realities – and develop a new approach to transportation that is consistent with the tools and aspirations of the 21st Century – then our region is positioned to prosper.

This important work begins with updating the policy framework to re-define the responsibility of the Regional Transportation Plan (RTP) to keep this region a great place to live and work for everyone, and preserve its unique qualities and natural beauty. The RTP must be different because the future will be different and it must respond to the values held by the residents of this region:

- The economic health and prosperity of our region and state are inextricably linked to our transportation system. The economy of the region depends upon a set of primary industries that have been attracted to the area because of its gateway role of providing access between global markets and those of the Pacific Northwest, the Mountain states, and the Midwest. The economy of our region and state depends on our ability to support the transportation needs of these industries and provide reliable access to gateway facilities.

- Land use choices and transportation planning are inextricably linked. Transportation planning can be a powerful tool to promote efficient land use—and vice-versa—translating into greater personal convenience and a more efficient use of our transportation system.

- Our region's environment and its economic health are inextricably linked. Residents of the region tell us they want transportation plans to minimize environmental impacts. In recent public opinion research, nearly two-thirds of the region's respondents put protection of air and water quality at the top of their list of transportation planning priorities. Transportation plans, they said, must protect fish habitat, our drinking water, the air we breathe and our great Northwest landscape. Likewise, the future of our region also depends on our ability to support the growth of sustainable businesses and family-wage jobs through strategic infrastructure investments.

- A balanced transportation system that serves everyone and supports our goals for land use, economy, the environment and equity. System balance is important because it provides all residents of the region – regardless of age, income or abilities - the opportunity to choose safe, reliable and more sustainable and affordable ways to get around. System balance is important to the relationship between an efficient transportation system and economic health because it reduces the burden on any one mode of travel –

most notably highways and regional arterials. This not only keeps business and commerce moving reliably, but does so with designs that foster safety for bicyclists and pedestrians.

- The RTP must aspire and inspire action, while also being pragmatic and responsible. Federal regulations stipulate that we produce a "fiscally constrained" plan, meaning that the total cost of the projects in the plan must correspond with "reasonably available" funding projections. Furthermore, the public expects us to maintain what we have first, before building anything new. So while we aspire to a plan that includes projects that cost more than we expect to have, we must first demonstrate to the public that the existing transportation system works at maximum efficiency before asking them to support new funding sources.

  If we can achieve this efficiency, we can then develop a plan for new funding sources in cooperation with the private sector. We also need to make choices about what types of investments are most important and be strategic to maximize the return on any public investments that are made. We simply will not have enough money to address all the transportation needs in the region. The RTP policy framework defines the vision of what we want the regional transportation system to look like and achieve in the future, setting the stage for future actions that will be needed to achieve that vision.

A Recommended Framework to Guide the Region's Response

This draft policy framework is a proposed new Chapter 1 of the RTP that will eventually replace nearly 70 pages of current policy language. The result is a dramatically simplified, more concise statement of intent for the plan that will guide planning for and investment in the region's transportation system.

The purpose of this new plan is to sharpen the focus of the RTP on those transportation-related actions that most affect the implementation of the Region 2040 Growth Concept and will respond effectively to the powerful trends and challenges facing our region today. This framework reflects the continued evolution of regional transportation planning from a primarily project-driven endeavor to one that is framed by the larger set of outcomes that affect people's everyday lives, commerce and the quality of life in this region.

An outcomes-based plan requires careful monitoring to ensure that incremental decisions to implement the plan through land use decisions and corridor and project planning are consistent with the plan vision, as measured by specific outcomes. The plan must also be flexible enough to adapt to the challenges of the 21st century.

To simplify the RTP policies and better respond to the six 2040 Fundamentals and to trends affecting this region, four key refinements to the existing RTP policy framework have been included to guide development of the remaining chapters of the 2035 RTP during Phase 3. These refinements represent a different approach for the design, management and governance of the regional transportation system:

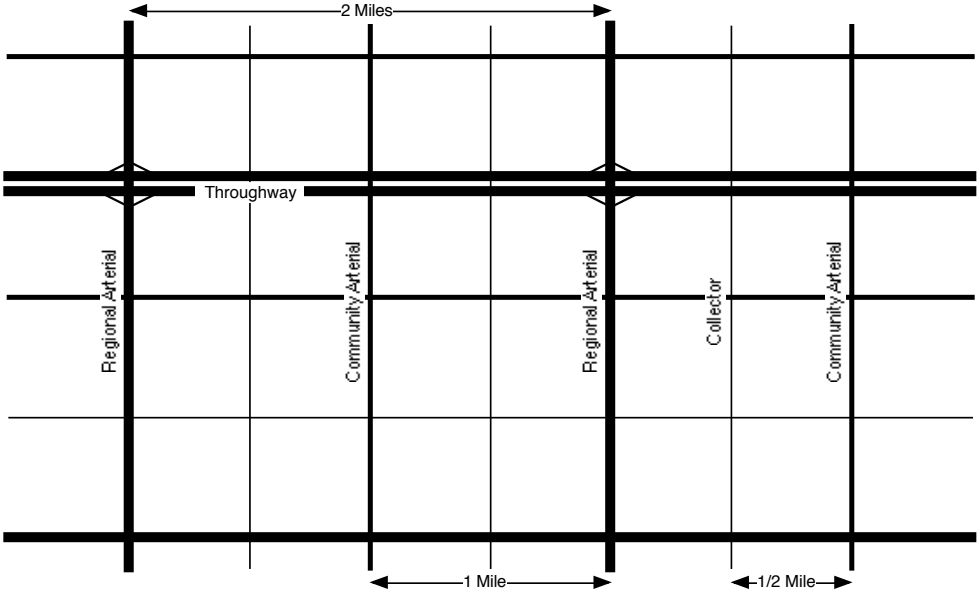
1. A new focus on outcomes that are tied directly to the Region 2040 vision, as embodied in the 2040 Fundamentals. The RTP policy framework described in this chapter relies on the 2040 Fundamentals as an expression of what the residents of this region value and provides focus for what the plan will address and monitor over time.

2. A more holistic, systems approach for how the transportation system is designed, managed and governed. The framework calls for looking at the transportation system as an integrated and seamless system that supports all modes of travel - motor vehicle, transit, pedestrian, bicycle and freight, including air, rail, water and roadways. The framework also further elevates the physical design and efficient management of the regional transportation

system as critical for achieving objectives to increase safety, travel options and traffic optimization, and as a result improve system performance and reliability for all users. This approach is based on basic transportation planning and engineering principles for building a complete and well-connected system as conceptually illustrated in the two diagrams below.

The Throughway and Arterial Network Concept diagram is for illustrative purposes only, showing an idealized spacing of throughway access points and multi-modal arterial streets when possible.

Throughway and Arterial Network Concept



Most of the region's travel occurs off the throughway system, and on a network of multi-modal arterial streets. The RTP policy places a new emphasis on ensuring that arterial networks are fully developed as the region grows, helping both local circulation and preserving highway capacity for cross-regional and statewide travel. Collectors are not part of the regional transportation system, but provide an important link between the local street and arterial networks for all modes of travel.

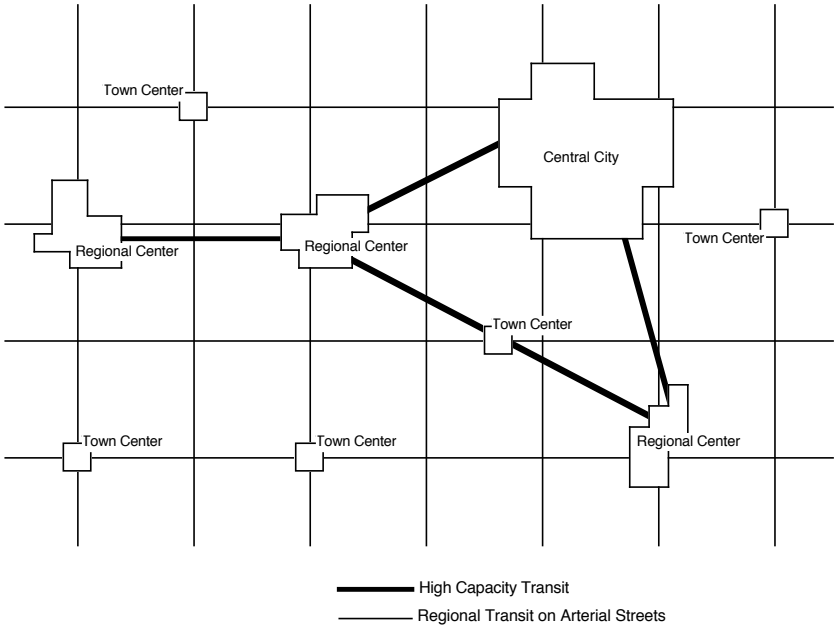
The regional freight system is a collection of transportation networks connected by intermodal terminals and industrial areas for the purpose of moving goods. River and air routes are global gateways for the region, the state and the Pacific Northwest economy. Throughways, regional arterials, rail, and pipeline networks are the landside connections that move goods domestically both in and outside the region. The Regional Freight Network concept diagram shows these critical components of the regional freight system.

Regional Freight Network Concept

[Place-holder for Freight Concept schematic under development by Regional Freight and Goods Movement planning effort during Phase 3]

The Regional Transit Network Concept diagram is also for illustrative purposes only, showing idealized service connections to support the 2040 Growth Concept land uses and goals identified in the plan.

Regional Transit Network Concept



The Region 2040 plan set forth a vision for connecting the central city to regional centers like Gresham, Clackamas and Hillsboro with light rail. The RTP expands this vision to include a complete network of regional transit along arterial streets to better serve suburban communities.

This more holistic, systems approach responds in part to recent policy direction from the federal and state levels to better link system management to planning for the region's transportation system as well as development of a transportation system that supports a variety of trip types on the regional motor vehicle system that include personal errands, commuting to work or school, walking, bicycling, commerce, freight and goods movement, and transit.

In addition, this policy framework:

- Considers transportation and the economy as inextricably linked, and recognizes investments that serve certain land uses or transportation facilities may have a greater economic return on investment than others.

- Recognizes that focusing transportation investments and other strategies to support the gateway function of our transportation system is the primary way in which to strengthen that gateway role for the region and the rest of the state. This means ensuring reliable and efficient connections between intermodal facilities and destinations in, beyond, and through the region to promote the region's function as a gateway for trade and tourism.

- Recognizes that new transit and road capacity are needed to achieve the Region 2040 vision and support the region's economic vitality.

- Recognizes that despite the varied ownerships and responsibilities for different parts of the system, the public expects the transportation system to operate as a cohesive network.

- Considers land use and transportation as inextricably linked, and that land use actions must be considered in the context of the transportation system.

- Builds on livable streets principles to further promote safety, community livability and congestion management through a well-designed transportation system that supports a variety of travel options to serve local, regional, intra-state and interstate travel needs for the movement of people and goods.

- Expands on the transportation system management and operations (TSMO) and transportation demand management (TDM) work currently underway in the region to further emphasize these programs and strategies to improve safety, mobility and the efficiency of the overall transportation system.

- Focuses on a web of regional and local transit options that allows convenient movement between 2040 centers that is a viable alternative to the automobile in terms of convenience and travel time. The policy framework gives particular attention to transit-supportive development and pedestrian access needed to support transit service.

- Retains the transit service elements in the current RTP, but integrates them in a different way to serve changing needs. The plan also calls for future passenger rail service corridors to neighbor cities, such as Milwaukie-Lake Oswego-Tualatin-Sherwood-McMinnville service as well as extension of Westside Commuter Rail to Salem to expand transit connections from the region to the rest of state.

- Builds on TriMet's current strategy to focus on the total transit system, bolstering existing service, reliability, passenger infrastructure, customer information and access is another tool to help leverage higher density development and ridership to support higher levels of transit service. This type of investment emphasizes management of the existing system to optimize the return on public investment.

- Continues to ensure a safe, continuous and attractive network of bikeways and pedestrian facilities on all arterials in the region. The regional street design guidelines and Livable Streets handbooks will continue to guide the design of streets in the region to promote innovative stormwater and stream crossing practices and walking, biking and access to transit in the region.

3. A new method for defining transportation needs and an increased focus on managing capacity. This change in focus recognizes that the region's ability to expand capacity is limited due to fiscal, environmental and land use constraints. This change is consistent with recent amendments to the Oregon Transportation Plan and federal legislation, which also recognize the limitations inherent in traditional approaches to dealing with congestion.

This change broadens how the RTP proposes to identify transportation needs and manage growing congestion in the region. The current method for determining transportation needs relies almost exclusively on level-of-service (LOS), which often results in the same roads and intersection "hot spots" identified as being congested. Consistently, research has demonstrated that even after capacity projects are constructed, these roads will eventually become congested again in the future as more drivers take advantage of the significant travel time savings or because of additional population growth. The RTP recommends addressing congestion and safety in a broader context that moves beyond simply fixing "hot spots." This multi-faceted strategy includes:

- Expanding current efforts to manage existing and new capacity as a precious resource and using such strategies as incident management, signal timing, ramp meters and access management to optimize system performance and reliability, particularly during peak periods;

- Targeting road and transit capacity and bike and pedestrian facilities to areas of the region that lack system connectivity for some or all modes of travel in order to better spread out traffic and provide a variety of travel options;

- Expanding on current efforts to increase the use of travel options by providing incentives and increasing awareness of travel options in order to help optimize system performance;

- Fostering compact urban form and locating housing, jobs and services in close proximity to reduce the need to drive longer distances for daily needs.

In order to realize this strategy, the RTP must move away from level-of-service (LOS) as a single tool used to evaluate and prioritize transportation needs at the system planning level. Instead, the policy framework uses multi-modal system design concepts to define transportation system needs over time, including the addition of new road capacity as well as needed sidewalks, bikeways and transit service. Reliability of the system, particularly for commuting and freight and goods movement, is emphasized and will be evaluated and monitored through an integrated multi-modal corridor perspective.

LOS still serves an important purpose for road system performance and is a good indicator of current and projected service conditions of a facility. Traditional LOS measures (e.g., demand-to-capacity ratios and travel speeds) in addition to travel time reliability and other measures are recommended to be used as diagnostic tools to evaluate and monitor performance of the system over time (including peak hour spreading), identify congestion "hot spots," and inform the timing and phasing of transportation capacity investments needed to implement the regional street system concept.

This new emphasis also highlights the need to more aggressively manage our transportation system and meaningfully consider strategies such as value pricing to better manage capacity and peak use on the throughways in the region. Similar variable charges have been used in other industries with airline ticket pricing, telephone rates and electricity rates. The current RTP calls for consideration of pricing only when new capacity is proposed for the throughway system. To date, this tool has not been applied in the Portland metropolitan region despite successful application of this tool in other parts of the U.S. and internationally. In addition, value pricing may generate revenues to help with needed transportation investments. Much more work is needed to gain public acceptance of and support for use of this tool.

4. A new focus on equity, stewardship and getting the best return on public investments by linking land use and transportation decisions and designing and managing the transportation system so that it performs as safely and efficiently as possible for all modes of travel. This emphasis also requires consideration of land use, economic, environmental and public impacts and benefits of actions as well as public (and private) dollar costs, to the extent possible. It also requires that we place a priority on maintaining and optimizing what we have because dollars are limited and we simply will not have enough to do everything we want.

   The policy framework places the highest priority on cost-effective transportation investments that achieve multiple goals, identified in this plan as the primary method for achieving the best return on public investments. The updated framework will also direct future actions to stabilize transportation funding in this region. This will include raising new revenue for needed infrastructure – a critical step to achieving the Region 2040 vision and specific goals described in this chapter.

Implementation of this new framework will be both challenging and exciting, requiring a new level of collaboration between the Metro Council, public and private sector leaders, community groups, businesses and the residents of the region. Our success in addressing these complex challenges will be measured in many ways and by many people – including future generations who will live and work in the region.

Regional Transportation Plan For the Portland Metropolitan Region

NOTE: Eventually this will be the Table of Contents for the full RTP. For this draft, it just shows the details of the organization for Chapter 1 with titles for the remaining chapters that will be developed during Phase 3.

TABLE OF CONTENTS

I. INTRODUCTION

A. Overview

The Regional Transportation Plan is a 20-year blueprint for the transportation system serving the Portland metropolitan region. The plan deals with how best to move people and goods in and through the region. As the federally designated Metropolitan Planning Organization, Metro is responsible for updating the plan every four years in coordination with the implementing agencies and jurisdictions that own and operate the region's transportation system.[1]

The primary mission of the Regional Transportation Plan is to implement the Region 2040 vision. This chapter presents the overall policy framework of goals and measurable objectives for the design, management and governance of the regional transportation system in support of that mission. The plan sets a direction for future planning and decision-making by the Metro Council and the implementing agencies, three counties and 25 cities in the Portland metropolitan region.

The RTP also serves as a long-range capital plan that will guide the public and private expenditure of billions of dollars from federal, state, regional and local revenue sources. As a result, the policy framework described in this chapter will form the basis for transportation projects and programs and other implementation strategies that will be recommended in this plan. Local transportation plans are required to be consistent with the RTP under state law.

The updated plan is anticipated to be approved by JPACT and the Metro Council in November 2007, pending air quality analysis.

B. Chapter Organization

This chapter represents a statement of the desired outcomes for the region's transportation system to best support the Region 2040 vision. This chapter identifies nine goals for the regional transportation system and multi-modal system design and management concepts that will guide the identification of regional transportation needs in Chapter 3. The goals are accompanied by more detailed measurable objectives that establish how a particular goal will be implemented. Potential performance measures accompany the objectives that will be used to make a determination of whether the proposed transportation system is adequate to serve planned land uses during the plan period in Chapter 5.[2] This draft identifies some potential strategies for implementation from the current RTP. Additional actions will also be identified during Phase 3 of the process that will more specifically direct implementation of the plan.

Eventually, this policy framework will become a chapter in the updated Regional Transportation Plan that will direct all transportation planning and project development activities in the Portland metropolitan region.

[1] These partners include the region's 25 cities, three counties, Oregon Department of Transportation, Oregon Department of Environmental Quality, Port of Portland, TriMet, South Metro Area Rapid Transit (SMART), Washington Regional Transportation Council, Washington Department of Transportation and other Clark County governments.

[2] The Oregon Transportation Planning Rule, subsection 060, requires the RTP to include performance measures that ensure the transportation system is adequate to serve planned land uses.

This chapter is organized as follows:

- Section I provides an overview of the purpose and organization of this chapter.
- Section II describes the history and values surrounding the region's long-term vision for growth – Region 2040 - and the RTP as a key tool for implementing the Region 2040 vision.
- Section III describes the nine goals and corresponding measurable objectives that represent the blueprint to guide the design, management and governance of the regional transportation system. The goals and measurable objectives are a positive statement of what the transportation system would look and function like in the future, if the goals are achieved. These positive future outcomes reflect public opinion and support what the residents of the region value most. The goals and measurable objectives will be used to prioritize critical transportation investments that best support the long-term Region 2040 vision. Performance measures are also proposed for each objective to assess the degree of success when evaluating investment alternatives and making decisions about future transportation investments. The goals and measurable objectives will also be the basis for prioritizing investments in the regional transportation system and monitoring performance of the plan over time. Through evaluation and monitoring, the region can be sure that investments in the transportation system are achieving desired outcomes.
- Section IV describes network and design concepts that will guide the identification of transportation needs during Phase 3 of the RTP update.

A glossary of terms is provided at the end of the document for reference.

II. REGIONAL POLICY CONTEXT

A. Metro Charter

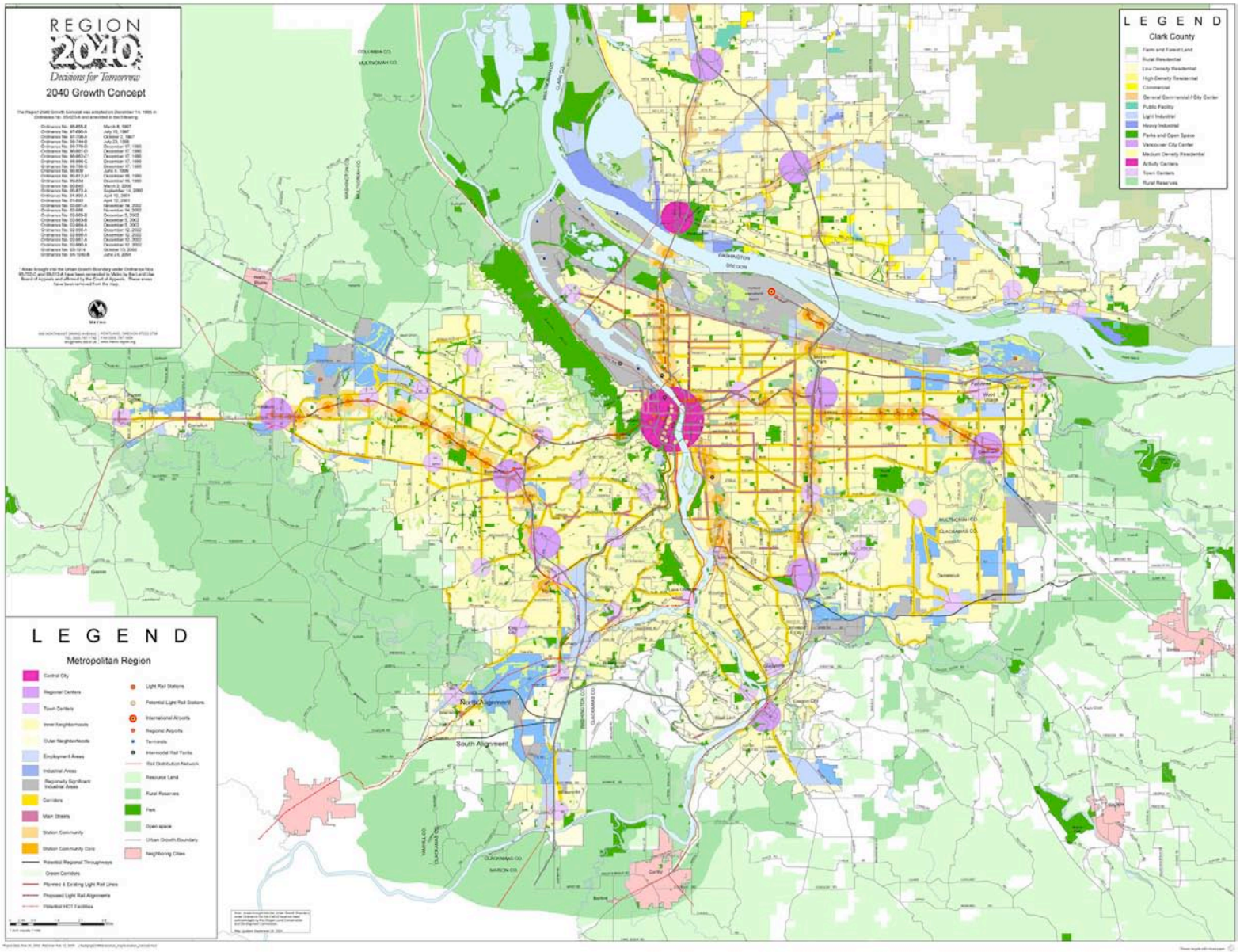
In 1978, the voters within the metropolitan areas of Clackamas, Multnomah and Washington counties approved a ballot measure that made Metro the nation's first directly elected regional government. That vote gave Metro the responsibility for coordinating the land use plans of the 28 jurisdictions in the region as well as other issues of "regional significance." In 1992, the voters of the region approved a charter that gave Metro jurisdiction over matters of metropolitan concern and required the adoption of a Regional Framework Plan.

> *We, the people of the Portland area metropolitan service district, in order to establish an elected, visible and accountable regional government…that undertakes, as its most important service, planning and policy making to preserve and enhance the quality of life and the environment for ourselves and future generations...*[3] *(emphasis added)*

This preamble, especially the emphasized passage above, lays the groundwork for all of Metro's regional planning activities to directly address sustainability and the region's quality of life, including development of the Regional Transportation Plan (RTP).

[3] Metro. *Preamble of Metro Charter as approved in 1992 and amended in 2000.*

Figure 1. 2040 Growth Concept Map



B. 2040 Growth Concept

Adoption of the 2040 Growth Concept in 1995 responded to the mission called out in the Metro Charter and established a new direction for planning in the Portland metropolitan region by linking transportation investments to desired outcomes for urban form, the economy and the environment. The unifying theme of the 2040 Growth Concept is to preserve the region's economic health and livability while planning for expected growth in this region in an equitable and fiscally sustainable manner. This new direction reflected a regional commitment to implementation of a long-term strategy to protect the things that the residents of the Portland metropolitan region have consistently said they value: vibrant communities, a strong regional economy, access to jobs, affordable housing, proximity to nature, protecting habitat and the environment for wildlife and people, transportation choices, and resources for future generations.

The 2040 Growth Concept contains a series of land-use building blocks that establish basic design types for the region as shown in Figure 1. The 2040 Growth Concept land-use components, called 2040 Design Types, are grouped into a hierarchy that serves as a framework to prioritize RTP investments. Of these, the central city, regional centers, industrial areas, intermodal facilities and station communities components are most critical in terms of regional significance and their role in supporting implementation of the other growth concept design types. Substantial public and private investment will be needed in these areas over the long-term to realize the 2040 Growth Concept vision. These areas provide the best opportunity for public policy to shape development, and are, therefore, the best candidates for more immediate transportation system investments. The second highest investment priority land uses for transportation investments are the secondary land use components.[4] In this framework, the primary and secondary land-use components are the priority for regional transportation investments.

Table 1 lists each 2040 Design Type, based on this hierarchy.[5] The hierarchy applies to developed and developing areas inside the urban growth boundary (UGB) and undeveloped areas added to the UGB in 1998 and 2002 through adopted concept plans. These UGB additions include the Pleasant Valley and Springwater areas in the City of Gresham, the city of Damascus in Clackamas County and the North Bethany area in northern Washington County, all of which will also require substantial public and private infrastructure investments to realize the 2040 Growth Concept visions.

Table 1. Hierarchy of 2040 Design Types

Primary land-use components	Secondary land-use components	Other urban land-use components
• Central city	• Employment areas	• Inner neighborhoods
• Regional centers	• Town centers	• Outer neighborhoods
• Industrial areas	• Station Communities	
• Freight and Passenger Intermodal facilities	• Corridors	
	• Main Streets	

Within the hierarchy shown in Table 1, the RTP recognizes that different parts of the region are at different stages of achieving the 2040 Growth Concept vision, and, as a result, may have different transportation investment priorities during the plan period to achieve the best return on public

[4] The New Look planning process may refine these priorities as it moves forward. Refinements will be addressed to the extent possible in this RTP, but may also be addressed during future updates to the RTP.
[5] More detailed descriptions of the land use and transportation elements of each 2040 Design Type can be found in the Regional Urban Growth Goals and Objectives and Regional Framework Plan.

investments made in the region. Table 2 shows investment priorities for each stage of 2040 implementation.

Table 2. Stages of 2040 Implementation and Priorities for Infrastructure Investment

Stage of Development	Developed Areas *Areas of the region that are primarily developed, with most new development occurring through a combination of retaining existing jobs and homes, refill and redevelopment and use of brownfields.*	Developing Areas *Areas of the region where new development will be primarily a combination of retaining existing jobs and homes, refill and redevelopment, use of brownfields and greenfield development.*	Undeveloped Areas *Areas of the region that are primarily new communities and recent additions to the urban growth boundary. New development will be primarily a combination of retaining existing jobs and homes and greenfield development.*
Investment Priorities	• Managing the existing transportation system to optimize performance for all modes of travel. • Leveraging refill, redevelopment and use of brownfields. • Addressing bottlenecks and completing missing links to address barriers and safety deficiencies (e.g., bike and pedestrian connections, transit service, new throughway and arterial street connections and expansions).	• Managing the existing transportation system to optimize performance for all modes of travel. • Building an urban transportation system (e.g., new arterial capacity and connections, bike and pedestrian facilities, transit service) • Addressing bottlenecks and completing missing links to address barriers and safety deficiencies (e.g., bike and pedestrian connections, transit service, new throughway and arterial street connections and expansions).	• Preserving right-of-way for future transportation system. • Establishing a basic urban transportation system (e.g., new arterial capacity and connections that include bike and pedestrian facilities, transit service). • Managing new transportation system investments to optimize performance for all modes of travel. • Addressing bottlenecks and completing missing links to address barriers and safety deficiencies (e.g., bike and pedestrian connections, transit service, new throughway and arterial street connections and expansions).

Table 2 should guide the identification of investment priorities for different parts of the region in combination with the broader RTP goals and measurable objectives that are described in Section 3 of this chapter.

Decisions about land use and transportation are inextricably linked and cannot be separated. Success of the 2040 Growth Concept, in large part, hinges on achieving the regional transportation goals and objectives identified in this plan, particularly in those 2040 design types that are the highest priorities.

C. 2040 Fundamentals

In 1996, the Metro Council approved policies[6] *(actions)* to implement the 2040 Growth Concept and committed to monitoring the progress of these actions. In 1997, the growth concept vision was condensed into eight fundamental values that express the region's vision for implementation of the

[6] Metro. Urban Growth Management Functional Plan.

2040 Growth Concept and desired outcomes for urban form and the health of our communities, our economy and our environment.

Adopted by the region in 1997 as part of the Regional Framework Plan, the 2040 Fundamentals focused the scope of efforts to monitor implementation of the Region 2040 plan and the degree to which the actions taken are achieving the Region 2040 vision over time. The 2040 Fundamentals embrace the ethics of sustainability described in Section II(A) for all Metro's planning and 2040 implementation activities.

The Regional Transportation Plan is a key tool for implementing the 2040 Growth Concept vision as well as other federal and state mandates for transportation planning.[7] Planning and investments in the transportation system are the means to an end - residents of the region do not measure their quality of life by how good a plan is or how many bike lanes or highway miles are constructed in their community. Quality of life is measured by how well they live, the extent to which where they live is economically prosperous and affordable; how reliably people and goods can travel; and the quality of the natural, community and social environments. These elements are what people value, and transportation planning and investments are a means to assure the region's quality of life and economy are protected.

The Regional Transportation Plan (RTP) blueprint described in this chapter relies on the 2040 Fundamentals as an expression of what the citizens of this region value to provide focus for what the RTP will address and monitor over time and to measure whether the plan is helping to maintain regional quality of life for its citizens. For purposes of the RTP, the eight 2040 Fundamentals have been consolidated into the six fundamentals:

1. Vibrant Communities - *A vibrant place to live and work, and compact development that uses both land and infrastructure efficiently and focuses development in 2040 centers, corridors, and industrial and employment areas.*

2. Healthy Economy - *A healthy economy that generates jobs and business opportunities and sustains the region's agricultural industry.*

3. Healthy Environment - *Forests, rivers, streams, wetlands, air quality and natural areas are restored and protected.*

4. Transportation Choices - *An integrated transportation system that supports land use and provides reliable, safe and attractive travel choices for people and goods.*

5. Equity - *Equitable access to affordable housing, jobs, transportation, recreation and services for people in all income levels is provided.*

6. Fiscal Stewardship - *Stewardship of the public infrastructure ensures that the needs and expectations of the public are met in an efficient and fiscally sustainable manner.*

To ensure integration of these fundamentals into the RTP and desired outcomes the implementation of the plan is trying to achieve, the following goals and objectives are the foundation for all planning activities governed by the RTP.

[7] Development of the Regional Transportation Plan must also respond to a variety of mandates included in Oregon Transportation Plan, Oregon Transportation Planning Rule, and federal legislation such as the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

III. GOALS AND OBJECTIVES

A. Overview

The Regional Transportation Plan (RTP) is the blueprint for achieving a regional transportation system in the Portland metropolitan region that is consistent with the six 2040 Fundamentals. The regional transportation system is defined as the interconnected network of throughways; arterials; air, marine, pipeline and rail systems; high capacity and regional transit services; regional multi-use trails with a transportation function; and bicycle and pedestrian facilities that are located on or connect directly to other elements of the regional transportation system.

The plan establishes the framework for the design, management and governance of all regional system investments, and is a statement of aspirational outcomes that reflect public opinion and support what the residents of the region value most. The RTP also serves as a long-range capital plan that will guide the public and private expenditure of billions of dollars from federal, state, regional and local revenue sources. Local transportation plans are required to be consistent with the RTP under state law.

This RTP reflects the continued evolution of regional transportation planning from a primarily project-driven endeavor to one that is framed by the larger set of outcomes that affect people's everyday lives and the quality of life in this region.

An outcomes-based plan requires careful monitoring to ensure that incremental decisions to implement the plan through corridor and project planning are consistent with the plan vision, as measured by specific outcomes, and flexible enough to adapt to the challenges of the 21st century.

B. Organizational Structure

To achieve the 2040 Vision articulated by the 2040 Fundamentals, the RTP policy framework is organized into a series of *goals* and *measurable objectives* that have been identified to guide the design, management and governance of the region's transportation system.

- *Goals* are statements of purpose that describe long-term desired outcomes for the region's transportation system to support and implement the Region 2040 vision.
- *Measurable objectives* comprise two elements - an objective statement and a performance measure – that represent even more specific outcomes the RTP is trying to achieve.
    - *Objectives* are similar to goals as they also represent a desired outcome. However, an objective is an intermediate, shorter-term result that must be realized in the plan period to reach the longer-term goals of the RTP.
    - *Performance measures* evaluate the success of the objective with quantitative or qualitative data. They can be applied at a system level and project level, and provide the planning process with a basis for evaluating alternatives and making decisions on future transportation investments. They can also be used to monitor performance of the plan in between updates to determine whether refinements to the policy framework or other plan elements are needed. This draft framework includes potential performance measures that will be refined during Phase 3 of the RTP update.

- *Potential Actions* are identified for each objective. A final recommended set of actions will be developed during Phase 3 of the RTP update to describe specific planning activities, strategies, regulations and coordination needed to achieve the objectives during the plan period. The actions will be included in Chapter 7 of the plan. Specific projects and programs will also be developed and recommended in Chapter 6.

The goals and measurable objectives are further divided into two categories:

1. System Design and Management – Goals and measurable objectives that define desired outcomes for the physical design and management of the transportation system over time to best support the Region 2040 vision.

2. Governance - Goals and measurable objectives that define desired outcomes for jurisdictional and fiscal governance of the transportation system to ensure meaningful public involvement, maximization and equity of public investments and accountability to the public to build and maintain public trust in government.

Table 3 summarizes the goals.

Table 3. Regional Transportation Plan Goals

System Design and Management
Goal 1 Efficient Urban Form Decisions about land use and multi-modal transportation infrastructure and services are linked to promote an efficient and compact urban form that fosters good community design and optimization of public investments; and supports jobs, schools, shopping, services, recreational opportunities and housing proximity.
Goal 2 Sustain Economic Competitiveness and Prosperity Multi-modal transportation infrastructure and services support a diverse, innovative, sustainable and growing regional and state economy through the reliable and efficient movement of people, freight, goods, services and information.
Goal 3 Transportation Choices Multi-modal transportation infrastructure and services provide all residents of the region with affordable and equitable access to affordable housing, jobs, services, shopping, educational, cultural and recreational opportunities, and all businesses of the region with competitive choices for goods movement.
Goal 4 Reliable Movement of People and Goods Multi-modal transportation infrastructure and services provide a seamless and well-connected system of throughways, arterials, freight systems, transit services and bicycle and pedestrian facilities to ensure effective mobility and reliable travel choices for people and goods movement.
Goal 5 Safety and Security Multi-modal transportation infrastructure and services are safe and secure for the public and goods movement.
Goal 6 Human Health and the Environment Multi-modal transportation infrastructure and services reduce greenhouse gas emissions and protect, restore and/or enhance the quality of human health, fish and wildlife habitats, and natural ecological systems.
Governance
Goal 7 Effective Public Involvement All major transportation decisions are open and transparent, and grounded in meaningful involvement and education of the public, including those traditionally under-represented, businesses, institutions, community groups and local, regional and state jurisdictions that own and operate the region's transportation system.
Goal 8 Fiscal Stewardship Regional transportation planning and investment decisions maximize the return on public investment in infrastructure, preserving past investments for the future, emphasizing management strategies and prioritizing investments that reinforce Region 2040 and achieve multiple goals.
Goal 9 Accountability The region's government, business, institutional and community leaders work together so the public experiences transportation services and infrastructure as a seamless, comprehensive system of transportation facilities and services that bridge institutional and fiscal barriers.

Effective design, management and governance of the regional transportation system support many desired outcomes, as set forth in the 2040 Fundamentals. Table 4 shows this relationship.

Table 4
Relationship of 2040 Fundamentals and RTP Goals

2040 Fundamental	RTP Goal
Vibrant Communities	Goal 1. Efficient Urban Form
Healthy Economy	Goal 2. Sustain Economic Competitiveness and Prosperity Goal 4. Reliable Movement of People and Goods
Healthy Environment	Goal 6. Human Health and the Environment
Transportation Choices	Goal 3. Transportation Choices Goal 5. Safety and Security
Equity	Goal 7. Effective Public Involvement Goal 9. Accountability
Fiscal Stewardship	Goal 8. Fiscal Stewardship

Purpose of the RTP Goals and Measurable Objectives

Collectively, the RTP goals and measurable objectives described in this chapter will be used to prioritize critical transportation investments that best support the long-term Region 2040 vision for our region and the broader sustainability mission identified in the Metro Charter. The goals and measurable objectives will also be the basis for developing screening criteria to evaluate and prioritize investments in the regional transportation system and monitoring performance of the plan over time. Through evaluation and monitoring, the region can be sure that investments in the transportation system are achieving desired outcomes and getting the best return on public investments.

C. RTP Goals and Measurable Objectives

Overview

Since the adoption of the Region 2040 Growth Concept in the mid-1990s, the region has embarked on an aggressive effort to further define urban form through design and management of the transportation system. For transportation, this effort has included a new emphasis on an interconnected multi-modal network and facility design and management that reinforces planned urban form; supports a healthy economy; protects natural systems and rural reserves; and serves access needs for all people, including children, seniors and people with disabilities.

Regional street design guidelines contained in Metro's Livable Streets handbooks[8] address federal, state and regional transportation planning mandates with street design concepts intended to support local and regional implementation of the 2040 Growth Concept. In addition, the evolution

[8] The handbooks are: Creating Livable Streets: Streets for 2040, Green Streets: Innovative Solutions for Stormwater and Stream Crossings and Trees for Green Streets.

of new design and operations practices is allowing for better management of stormwater runoff and the impact of transportation systems on wildlife habitat and migration corridors.

The following goals and measurable objectives define the vision for the design, management and governance of the regional transportation system to support the Region 2040 vision for the Portland metropolitan region.

Goal 1 Efficient Urban Form

Goal Statement	Objectives	Potential Actions
Decisions about land use and multi-modal transportation infrastructure and services are linked to promote an efficient and compact urban form that fosters good community design and optimization of public investments; and supports jobs, schools, shopping, services, recreational opportunities and housing proximity.	Objective 1.1 Compact Urban Form and Design - Leverage Region 2040 land uses to reinforce growth in, and access to, 2040 centers, industrial areas, intermodal facilities, corridors, station communities, and employment areas. Potential Performance Measures: • *Average trip length.* • *Acres of land developed.* • *Jobs and homes per acre.* • *Average distance traveled from home to work.* • *Vehicle miles traveled (VMT) per person and total VMT.* • *Vehicle miles traveled per employee.* • *Percent of population, jobs and homes attracted to UGB (capture rate).*	• *Promote the use of shared parking for commercial and retail land uses.* • *Establish minimum and maximum parking ratios for off-street parking spaces.* • *Develop plans to manage and optimize the efficient use of public and commercial parking in the central city, regional centers, town centers, corridors, station communities, main streets and employment areas.* • *Locate housing, jobs, schools, parks and other destinations within walking distance of each other whenever possible.* • *Support the development of tools including transit-oriented development, car sharing, location efficient mortgage and others.* • *Coordinate land use and transportation decisions to ensure the identified function, design and capacity of transportation facilities are consistent with applicable regional system concepts and support adjacent land use patterns.*

Goal Statement	Objectives	Potential Actions
	Objective 1.2 2040 Implementation - Place a high priority on investments that provide access to and within the Central City, regional centers, industrial areas and intermodal facilities. <u>Potential Performance Measures</u>: • *Percent of transportation investments in highest priority land uses (by 2040 land use).* • *Percent of transportation investments serving high priority land uses (by 2040 land use).*	• *Promote transit-supportive design and infrastructure in 2040 primary and secondary land use components and along designated transit corridors.* • *Provide landscaping, pedestrian-scale lighting, benches and shelters and other infrastructure to serve pedestrians and transit users in the in 2040 centers, station communities and main streets.* • *Work with the private development community to gain a better understanding of the role transportation infrastructure plays in making land development investment decisions for projects in 2040 land use districts.* • *Investigate, evaluate and seek funding as appropriate for non-transportation tools to leverage 2040 land uses.* • *Examine the difference between improvements providing access to 2040 land uses versus improvements within 2040 land uses.*

Goal 2 Sustain Economic Competitiveness and Prosperity

Goal Statement	Objectives	Potential Actions

Multi-modal transportation infrastructure and services support a diverse, innovative, sustainable and growing regional and state economy through the reliable and efficient movement of people, freight, goods, services and information.	Objective 2.1 Regional Freight Connectivity –Ensure efficient connections between freight intermodal facilities and destinations in, beyond and through the region to promote the region's function as a gateway for trade.
	
	Potential Performance Measures:
	• *Percent of Industrial areas and freight intermodal facilities served by direct arterial connections to throughways.*
	• *Access to rail measure.*
		• *Consider the movement of freight when conducting transportation studies.*
		• *Identify regional freight routes that ensure direct and convenient access from industrial and employment areas to the throughway network.*
		• *Identify and correct existing safety deficiencies on regional freight routes relating to:*
		  • *roadway geometry and traffic controls;*
		  • *bridges and overpasses;*
		  • *at-grade railroad crossings;*
		  • *truck infiltration in neighborhoods; and*
		  • *congestion on interchanges and hill climbs.*

	Objective 2.2 Regional Passenger Connectivity – Ensure efficient connections between passenger intermodal facilities and destinations in, beyond and through the region to promote the region's function as a gateway for tourism.	

Goal Statement	Objectives	Potential Actions
	Objective 2.3 Freight Reliability – Place a high priority on transportation investments that maintain travel time reliability on the regional freight network and provide freight access to industrial areas and freight intermodal facilities. Potential Performance Measures: • *Variability of travel times on regional freight routes during peak and off-peak periods.* • *Traffic congestion and delay on regional freight routes during peak and off-peak periods.*	• *Where appropriate, consider improvements that are dedicated to freight travel only.* • *Work with the private transportation industry, Oregon Economic Development Department, Portland Development Commission, Port of Portland and others to identify and realize investment opportunities that enhance freight mobility and support the state and regional economy.* • *Continue management strategies that increase person-trip capacity on congested freight corridors such as ramp metering and ridesharing.* • *Expand development and use of traveler information tools and other management strategies to increase system reliability.*
	Objective 2.4 Reliable Market Area Access - Ensure that businesses in 2040 Centers, Industrial Areas and Employment areas have adequate access to suppliers, customers and their work force. Potential Performance Measures: • *Auto and transit travel time contours for the Central city and selected regional centers, industrial areas and employment areas during peak and off-peak periods.* • *Truck travel time contours for regionally significant industrial areas during peak and off-peak periods.*	• *Ensure that jurisdictions develop local strategies that provide adequate freight loading and parking strategies in the central city, regional centers, town centers and main streets.*
	Objective 2.5 – Job Retention and Creation - Create and retain sustainable businesses. Potential Performance Measures: • *Cost of congestion measure.* • *Percent of jobs retained and created in 2040 centers and industrial areas.*	• *Develop measures that address the economic value of freight and goods movement, 2040 centers and other priority land uses and bike tourism and other recreational uses.*

Goal 3 Transportation Choices

Goal Statement	Objectives	Potential Actions
Multi-modal transportation infrastructure and services provide all residents of the region with affordable and equitable access to affordable housing, jobs, services, shopping, educational, cultural and recreational opportunities, and all businesses of the region with competitive choices for goods movement.	Objective 3.1 Travel Choices - Achieve Non-SOV modal targets for increased walking, bicycling, use of transit and shared ride and reduced reliance on the automobile and drive alone trips. Potential Performance Measures • *Percent of trips to work by walking, biking, transit and shared ride (by 2040 land use) to monitor progress toward Non-SOV Modal Targets.*	• *Consider the bicycle, pedestrian and transit needs when conducting transportation studies.* • *Conduct empirical research to better define the user preferences and behavioral responses on bikeways on low and high traffic streets.* • *Consider bicycle boulevards part of the regional system when arterial right-of-way is constrained or when the regional street system does not meet arterial spacing standards.* • *Develop travel-demand forecasting for bicycle use and integrate with regional transportation planning efforts.* • *Coordinate with TriMet and large public and private facilities to improve pedestrian facilities and access to transit.* • *Coordinate with TriMet and large public and private facilities to improve pedestrian and bicycle access and secure bicycle long and short-term parking at existing and future regional activity centers, light rail stations, transit centers and park-and-ride lots, educational institutions and employer campuses.* • *Continue individualized marketing and employer outreach forming public/private partnerships such as Transportation Management Associations to increase education of transportation choices and support meeting non-SOV targets by land use type.* • *Increase development and use of traveler information tools to inform choices.* • *Identify opportunities to include possible future passenger rail service corridors to the neighboring cities, such as Milwaukie-Lake Oswego-Tualatin-Sherwood-McMinnville service as well as extension of Westside Commuter Rail to Salem.*

Goal Statement	Objectives	Potential Actions
	Objective 3.2 Equitable Access and Barrier Free Transportation - Affordable and equitable access to travel choices and serve the needs of all people and businesses, including people with low income, children, seniors and people with disabilities. <u>Potential Performance Measures:</u> • *Percent of homes within 30 minutes travel time of employment by auto and transit during peak periods.* • *Percent of jobs within 30 minutes of travel time to workforce by auto and transit during peak periods.* • *Percent of homes and parks within one-quarter mile of regional multi-use trail system.* • *Percent of homes and parks within one-half mile access (via neighborhood streets) of bikeways.* • *Percent of seniors and people with disabilities within one-quarter mile of regional transit service via continuous sidewalks/protected crosswalks.* • *Percent of environmental justice target area households within one-quarter mile of regional transit service.* • *Percent of homes and jobs within one-quarter mile of regional and community transit service.* • *Percent of homes and jobs within one-half mile of high capacity transit service.* • *Percent of household income (by quintile) spent on transportation.* • *Percent of arterial network with intersections with ADA-compliant ramps, adequate and unobstructed sidewalks and transit stops that are accessible.*	• *Provide transit service that is accessible to the mobility impaired and provide para-transit to the portions of the region without adequate fixed-route service to comply with the Americans with Disabilities Act of 1990.* • *Serve the transit and transportation needs of the economically disadvantaged in the region by connecting low-income populations with employment areas and related social services.* • *Provide ADA compliant pedestrian facilities, including ramps on regional facilities.* • *Provide for audible signals, curb cut tactile strips and appropriately timed signalized crosswalks at major retail centers or near bus stops on arterial streets, high volume neighborhood circulators or other major roadways near elderly or disabled facilities or in neighborhoods with significant elderly or disabled populations.* • *Complete gaps in the bicycle and pedestrian networks.* • *Provide short and direct pedestrian crossings at transit stops and marked crossings at regional transit stops.* • *Provide continuous sidewalks along both sides of all arterials that connect to side streets, adjacent sidewalks and buildings.*
	Objective 3.3 Shipping Choices – Support a multi-modal freight transportation system that includes air cargo, pipeline, trucking, rail, and marine services to ensure economical and efficient movement of goods in, to and through the region.	

Goal 4 Reliable Movement of People and Goods

Goal Statement	Objectives	Potential Actions
Multi-modal transportation infrastructure and services provide a seamless and well-connected system of throughways, arterials, freight systems, transit services and bicycle and pedestrian facilities to ensure effective mobility and reliable travel choices for people and goods movement.	Objective 4.1 System Connectivity - A seamless and well-connected system of throughways, arterials, collectors, local streets, freight systems, transit services and bicycle and pedestrian facilities to ensure mobility and accessibility, consistent with Regional System Concepts. Potential Performance Measures: • *Percent of throughway network complete.* • *Percent of arterial network complete.* • *Percent of regional bike network complete.* • *Percent of regional pedestrian network complete.* • *Percent of all transit stops with connecting sidewalks.* • *Intervals of controlled crossings of regional arterials.* • *Percent of regional multi-use trails with a transportation function completed.*	• *Provide a network of limited-access throughways to primarily serve interstate, intercity and inter-regional people and goods movement, consistent with Arterial Network Concept.* • *Provide a network of arterials at one-mile spacing, with regional transit service on most regional arterials, consistent with Regional Arterial Network Concept.* • *Provide a network of high capacity transit service that connects the Central City, Regional Centers and passenger intermodal facilities, consistent with Regional Transit Network Concept.* • *Provide a complementary network of community bus and streetcar service connections that serve 2040 Growth Concept centers, industrial areas, employment areas and corridors, and provide access to the regional high capacity transit network, consistent with Regional Transit Network Concept.* • *Provide a network of local and collector street systems to reduce dependence on regional arterials and throughways for local circulation, consistent with Local Street System Concept.* • *Provide a continuous network of safe, convenient and attractive bikeways and pedestrian facilities on all arterials and improve access to transit facilities, consistent with Bike and Pedestrian System Concept.* • *Provide a continuous network of regional multi-use trails with a transportation function that connect priority 2040 land uses, on-street bikeways, pedestrian and transit facilities.*
	Objective 4.2 Regional Mobility - Maintain total person-trip and freight capacity and reasonable travel times along regional mobility corridors. Potential Performance Measures: • *Total person-trip capacity and freight capacity and volumes for regional mobility corridors in peak and off-peak periods.*	• *Consider a full range options for meeting this objective, including different modal options, and policies for making more efficient use of existing capacity as well as small and larger scale capacity investments.* • *Use system and demand management techniques to optimize performance of the*

	• *Auto, truck and transit travel times for peak and off-peak periods.* • *Traffic congestion and delay on regional mobility corridors.* • *Percent of time system is congested.* • *Percent of vehicle miles traveled in congestion.*	*system and improve mobility.* • *Consider the use of value pricing, high occupancy vehicle lanes and other strategies to improve system reliability and manage congestion.* • *Develop interchange area management plans (IAMPs) for all throughway access points that are approved by state, regional and local agencies.* • *Use interchange zoning (as a base zone and/or overlay zone) to regulate the type of development that may take place at an interchange or along arterials connecting to the interchange.* • *Use access management and site design standards for interchange areas to preserve traffic efficiency and function, while ensuring safety by all modes of travel. The standards should include guidelines for pedestrian and bicycle access, access restrictions, gateway treatments at interchanges, use of medians, landscaping minimums and other design considerations.*
	Objective 4.3 System Management – Place a high priority on strategies that optimize the regional transportation system to enhance mobility, reliability and safety, consistent with the system management concept. <u>Potential performance measures</u>: • *Share of traffic control devices under active management.*	• *Implement an integrated, regional advanced traffic management system program.* • *Enhance transportation system data collection and monitoring for the throughways and regional arterial networks.*
	Objective 4.4 Demand Management – Place a high priority on services, incentives, supportive infrastructure and awareness of travel options to reduce drive alone trips and enhance mobility and access, consistent the system management concept. <u>Potential Performance Measures</u>: • *Share of large employers in the region with employer-based trip reduction programs in place.* • *Vehicle miles of travel reduced within program as a result of shifting behavior to non-drive-alone trips.* • *Increased carpool matches and vanpool ridership.*	• *Promote private and public sector programs and services that encourage employees to use non-SOV modes or change commuting patterns, such as telecommuting, flexible work hours and/or compressed work weeks.* • *Continue rideshare tools and incentives from areas or at hours of the day under-served by transit.* • *Consider vanpool strategy to incubate new transit service.* • *Conduct further study of market-based strategies such as parking pricing and employer-based parking-cash outs and restructuring parking rates.*

Goal 5 Safety and Security

Goal Statement	Objectives	Potential Actions
Multi-modal transportation infrastructure and services are safe and secure for the public and for goods movement.	Objective 5.1 Improve Safety - Reduce traffic fatalities, serious injuries and crashes per capita for all modes of travel by placing a high priority on investments that address safety-related deficiencies. Potential Performance Measures: • *Per capita traffic crashes, serious injuries and fatalities (by mode).* • *Percent and number of Safety Priority Index System (SPIS) locations addressed in past five years.* • *Per capita bicycle and pedestrian crashes, serious injuries and fatalities.* • *Number of reoccurring SPIS intersections and segments from year-to-year as identified in ODOT Highway Safety Action Plan.* • *Number of crashes, serious injuries and fatalities in identified safety corridors by mode.* • *Number of crashes, serious injuries and fatalities involving bicyclists and pedestrians within one-quarter to one-half mile of a school.*	• *Promote safety in the design and operation of the transportation system.* • *Develop and implement safety and education programs.* • *Coordinate efforts to promote safe use of roadways by motorists, bicyclists and pedestrians through a public awareness program.* • *Work with local jurisdictions, ODOT and other public agencies to collect and analyze data identify high-frequency bicycle and pedestrian related crash locations and improvements to address safety concerns in these locations.* • *Complete gaps in the bicycle and pedestrian networks and address bottlenecks on the motor vehicle system.*
	Objective 5.2 Energy Independence - Reduce reliance on unstable energy sources. Potential Performance Measures: • *Measure of energy independence.*	• *Reduce the region's transportation-related energy consumption through increased use of transit, telecommuting, zero-emissions vehicles, carpooling, vanpooling, bicycles and walking and through increasing efficiency of the transportation network to diminish delay and corresponding fuel consumption.*
	Objective 5.3 Improve Security - Reduce vulnerability of the public, goods movement and critical transportation infrastructure to crime and emergencies (e.g., severe storms, earthquakes, landslides and flooding). Potential Performance Measures: • *Measure of personal safety.*	• *Explore opportunities for increased system monitoring for operations management and security.* • *Identify critical infrastructure in the region, including bridges.* • *Work with local, state and regional providers to develop coordinated regional emergency response plans.* • *Use security cameras and other means for monitoring regional transportation infrastructure and services.*

Goal 6 Human Health and the Environment

Goal Statement	Objectives	Potential Actions
Multi-modal transportation infrastructure and services reduce greenhouse gas emissions and protect, restore and/or enhance the quality of human health, fish and wildlife habitats, and natural ecological systems.	Objective 6.1 Natural Environment – Protect ecological systems, habitat conservation areas and water quality and quantity, and avoid or minimize undesirable impacts on wildlife and fish habitat conservation areas and wildlife corridors. Potential Performance Measures: • *Acres of environmentally-sensitive land impacted by new transportation infrastructure.* • *Number and percent of culverts on regional road system that inhibit fish passage.* • *Acres of riparian and wildlife corridors impacted by new transportation infrastructure.* • *Percent of street system with street trees that provide canopy for interception of precipitation.* • *Percent of street system with infiltration capacity.*	• *Reduce the environmental impacts associated with transportation system planning, project development, construction and maintenance activities.* • *Locate new transportation and related utility projects to avoid fragmentation and degradation of components of regionally significant parks, habitat, wildlife corridors, natural areas, open spaces, trails and greenways.* • *Implement a coordinated strategy to remove or retrofit culverts on the regional transportation system that block or restrict fish passage.* • *Incorporate green street designs and green development practices into community design and infrastructure plans.* • *Support the implementation of Green Streets practices through pilot projects and regional funding incentives.* • *Design transportation facilities with consideration for wildlife movement where wildlife corridors cannot be avoided.* • *Use Green Streets guidelines regarding the number of stream crossings.*

Goal Statement	Objectives	Potential Actions
	Objective 6.2 Clean Air – Improve air quality so that as growth occurs, human health and visibility of the Cascades and the Coast Range from within the region is maintained and greenhouse gas emissions are reduced. Potential Performance Measures: • *Tons per year of smog forming, particulate and air toxics pollutants released.* • *Tons per year of carbon/green house gas emissions.* • *Rates of asthma or other air-quality-related health incidents.*	• *Encourage use of all modes of travel (e.g., transit, telecommuting, zero-emissions vehicles, carpooling, vanpooling, bicycles and walking) that contribute to clean air.* • *Ensure timely implementation and adequate funding for transportation control measures, as identified in the State Implementation Plan.* • *Monitor air quality.*
	Objective 6.3 Human Health - Increase physical activity, reduce noise impacts and support efficient trip-making decisions in the region. Potential Performance Measures: • *Number of trips per capita per day.* • *Daily vehicle miles traveled per person.* • *Walk and bike trips to school.* • *BTU's consumed per capita for transportation.*	• *Locate housing, jobs, schools, parks and other destinations within walking distance of each other whenever possible.* • *Provide a continuous network of safe, convenient and attractive bikeways and pedestrian facilities.* • *Design transportation system to minimize noise impacts through pavement techniques, traffic calming and other design features.*

Goal 7 Effective Public Involvement

Goal Statement	Objectives	Potential Actions
All major transportation decisions are open and transparent, and grounded in meaningful involvement and education of the public, including those traditionally under-represented, businesses, institutions, community groups and local, regional and state jurisdictions that own and operate the region's transportation system.	Objective 7.1 Meaningful Input Opportunities Provide meaningful input opportunities for interested and affected stakeholders, including people who have traditionally been underrepresented, resource agencies, business, institutional and community stakeholders, and local, regional and state jurisdictions that own and operate the region's transportation system in plan development and review. Potential Performance Measures: • *Inclusiveness of planning process and opportunities for involvement.*	• *Develop a detailed public involvement work plan consistent with the regional public involvement policy for each transportation plan, program or project that includes timelines, key decision points and opportunities for meaningful input throughout the decision-making process consistent with Metro's adopted public involvement policy for transportation planning.* • *Provide opportunities for public input.* • *Create a record of public comment received and agency response regarding draft transportation plans and programs at the regional level.*

Goal 8 Fiscal Stewardship

Goal Statement	Objectives	Potential Actions
Regional transportation planning and investment decisions maximize the return on public investments in infrastructure, preserving past investments for the future, emphasizing management strategies and prioritizing investments that reinforce Region 2040 and achieve multiple goals.	Objective 8.1 System Maintenance, Preservation and Management – Place a high priority on the cost-effective maintenance, preservation, and management of existing transportation services and infrastructure. Potential Performance Measures: • *Condition of transportation system (by type).* • *Percent of road maintenance and preservation needs funded at local and state levels.*	• *Develop strategy to cost-effectively address maintenance, preservation, and management of existing transportation services and infrastructure.* • *Develop methods to consider life-cycle cost of facilities in the evaluation process.*
	Objective 8.2 Maximize Return on Public Investment - Place the highest priority on cost-effective investments that achieve multiple goals and those investments that make the greatest contribution to maintaining the region's economic competitiveness. Ensure land use decisions protect public investments in infrastructure. Potential Performance Measures: • *Cost per vehicle hours of delay reduced.* • *Cost per lane miles of congestion reduced.* • *Transit trips per transit revenue hour.* • *Relative cost comparison for roadway and transit system operations and maintenance.* • *Percent of funding spent on high-priority projects that achieve multiple goals.* • *Cost per person trip.* • *Return on investment ratio of public to private project and/or district infrastructure and development investments.* • *Return on investment ratio of public infrastructure and development costs to economic benefit in terms of job creation, retention, tourism, etc.*	• *Develop project solicitation process and procedures that place the highest priority on investments that achieve multiple goals.* • *Implement access management and other strategies to preserve the function of transportation facilities.* • *Develop agreements between transit service providers and local jurisdictions on the provision of transit service and the build-out of priority 2040 land-use areas and related street infrastructure.* • *Develop measures to evaluate the contribution of transportation investments and management strategies to the economic competitiveness of the region and the state.*
	Objective 8.3 Stable and Innovative Funding - Stable funding for operations, maintenance and preservation activities, and priority regional transportation investments for all modes of travel. Potential Performance Measures: • *New transportation funding secured beyond existing resources, including those forecasted as necessary for the financially constrained and the illustrative systems.* • *Transportation investments by funding source or strategy.* • *Public and private commitments to pursue appropriate revenue sources.* • *Reductions or increases in total infrastructure costs that the public must pay for new and refill development (includes required capacity increases in other parts of the system.)*	• *Develop innovative public and private partnerships to advance long-term Region 2040 vision and establish appropriate revenue sources and financing mechanisms.* • *Develop regional finance strategy and seek opportunities at the state and federal levels to secure stable funding.* • *Define roles and responsibilities for financing the regional transportation system.*

Goal 9 Accountability

Goal Statement	Objectives	Potential Actions
The region's government, business, institutional and community leaders work together so the public experiences transportation services and infrastructure as a seamless, comprehensive system of transportation facilities and services that bridge institutional and fiscal barriers.	Objective 9.1 Representative Decision-Making- Ensure representation in regional decision-making is equitable. Potential Performance Measure: • *Percent of population in cities and unincorporated area represented on JPACT and MPAC.*	• *Review JPACT membership for adequacy of smaller city and transit district representation in the region.*
	Objective 9.2 Coordination and Cooperation - Improve coordination and cooperation among the local, regional and state jurisdictions that own and operate the region's transportation system to remove barriers so the system can function as one system and to better provide for state and regional transportation needs. Potential Performance Measure: • *Percent of regional roadways connected to central operations center and ODOT operations center.*	• *Expand on current system and demand management coordination efforts at regional level.* • *Explore possibility of a regional approach for managing and operating bridges of regional significance.*
	Objective 9.3 Environmental Justice - Benefits and impacts of investments are equitably distributed. Potential Performance Measure: • *Distribution of transportation investments (by environmental justice target area).*	• *Evaluate benefits and impacts of recommended investments on environmental justice target areas.* • *Provide opportunities for public input.*
	Objective 9.4 Jurisdictional Responsibility – Develop a regionally accepted classification or description that very clearly defines which level of government is primarily responsible and principally accountable for planning, funding and managing different components of the transportation system. Different governments will be primarily responsible for different components.	• *Work with JPACT and others to develop a definition or description that very clearly defines transportation responsibility by type of facility or jurisdiction.* • *Monitor transportation investments to ensure consistency with the definition or description.*

IV. CONCEPTS FOR SYSTEM DESIGN AND MANAGEMENT

Overview

This section describes the transportation system concepts that will guide the design and management of the regional transportation system. The design and management of the transportation system has profound and lasting impacts on a community. The regional transportation system concepts reflect the fact that each element of the transportation system may perform many functions.

Each transportation system concept serves as an aspirational ideal, guiding how to build and manage a regional transportation system that best serves the Region 2040 vision. As an aspiration, application of each concept will be tailored to respect existing development and neighborhoods and the natural environment. Implementation of the system concepts is intended to promote community livability by balancing all modes of travel and addressing the function and character of surrounding land uses when designing and managing roads of regional significance. Together, the implementation of the concepts will provide a well-designed system of throughways, arterials, local and collector streets, transit services, freight routes, and bicycle and pedestrian facilities to make the transportation system safer and more effective for all modes of travel to support the Region 2040 vision.

The system concepts are organized into:

- network concepts that establish basic transportation planning and engineering principles for building a complete and well-connected regional transportation system that supports all modes of travel and emphasizes both accessibility and mobility for the movement of people and goods;
- design concepts that set forth principles of physical design of the system that help foster great communities throughout the region; and
- management concepts that establish the “toolkit” of programs and strategies that will allow the region to better use the existing transportation system, and any new capacity that is provided, to benefit all users.

The system concepts are the basis for the system needs analysis that follows in Chapter 3 of this plan, and recommended system investments shown in Chapter 5 of the plan.

A. Network Concepts

Arterial Network Concept

Though our region has changed dramatically over the past century, the shape of our street network serving our region has changed little. Most of our regional arterials were once farm-to-market roads, many established along Donation Land Claim boundaries at half-mile or mile spacing. Where it exists, this inherited network has proven to be an adequate match for accommodating the changing travel demands of our growing region.

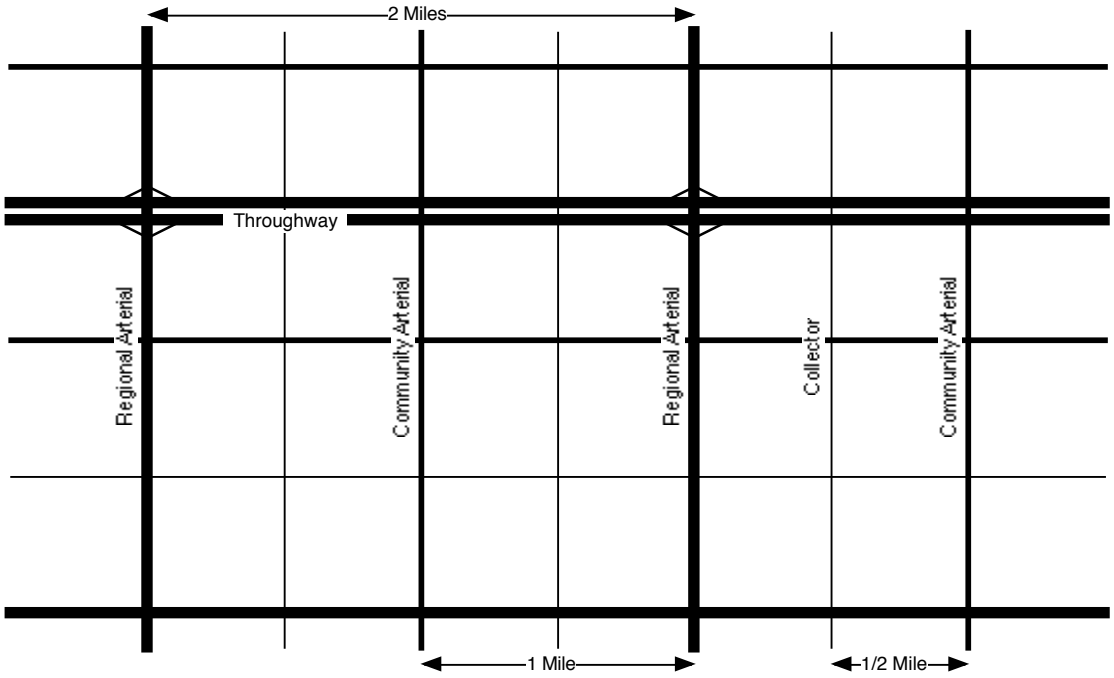
A modern system of throughway and transit mobility routes built from the 1960s through today complements the regional arterial system, carrying longer trips separately from the surface network. The regional street concepts seek to apply these proven networks to developing and

undeveloped areas, while seeking opportunities to bring existing developed urban areas closer to this ideal.

Accessibility

The arterial network concept calls for one-mile spacing of 4-lane regional arterials, with 2-lane community arterials at half-mile spacing whenever possible, recognizing that existing development, streams and other natural features may limit the provision of these connections. Shown in Figure 2, the illustrative arterial network is complemented by a well-connected system of collector and local streets. This system is multi-modal in design, serving automobiles, motorcycles, trucks, transit, bicycles and pedestrians. The 4-lane regional arterial design reflects an optimal compromise for all of these modes, accommodating urban levels of traffic, while also allowing for safe and convenient bicycle and pedestrian travel and crossings at major intersections.

Figure 2
Throughway and Arterial Network Concept



Note: Idealized concept for illustrative purposes only, showing ideal spacing of arterial facilities and illustration of multi-modal corridors for system analysis. Most of the region's travel occurs off the throughway system, and on a network of multi-modal arterial streets. The RTP policy places a new emphasis on ensuring that arterial networks are fully developed as the region grows, helping both local circulation and preserving highway capacity for cross-regional and statewide travel. Collectors are not part of the regional transportation system, but provide an important link between the local street and arterial networks for all modes of travel.

Traditionally, throughways and streets are classified into a functional hierarchy that focuses primarily on traffic movement and vehicle access to surrounding properties. In general, the transportation system should be designed to provide opportunities for through-travel on arterial streets and throughways, and to support local travel to community destinations on collector and local streets. Traffic speeds, access and street level of connectivity should vary depending on the function of the street. This approach results in a traffic hierarchy of:

- throughways (e.g., limited-access facilities such as I-85, US 26, I-5, I-205 and I-405)

- arterial streets (e.g., examples include Cornell Road in Washington County, Halsey Street in the City of Portland and Sunnyside Road in Clackamas County).
- collector streets
- local streets

The traditional traffic classifications for throughways, arterials and other streets are a good starting point for spreading out traffic in communities, and avoiding overly wide roads as a community grows. However, when designing transportation facilities it is important to not only consider the roadway's traffic function, but also other modes of travel and character of the surrounding community that the facility will serve.

Though the individual design of throughways, arterials, collectors and local streets is almost always uniquely tailored to specific site conditions, there are unifying features that are necessary to most urban settings, and thus a basic construct common to most urban transportation systems. The local and collector street system remains an important component of the regional transportation system, but are a local responsibility.

The following are the building blocks for creating a well-connected arterial system that effectively distributes traffic, providing multiple routes for travel:

THROUGHWAYS

Throughways are limited-access facilities designed for interstate, intrastate and cross-regional travel. Throughways are classified as a principal arterial and have the function of connecting major activity centers within the region, including the central city, regional centers, industrial areas and intermodal facilities to one another and to points outside the region. These routes also form the primary connection between neighbor cities and the urban area and the region to other parts of the state, California and rest of the Pacific Northwest and Canada.

These routes usually carry between 50,000 to 100,000 vehicles per day and provide for high-speed travel for longer motor vehicle trips within and through the region. Throughways serve as the primary freight routes, with an emphasis on mobility. Throughways are divided into limited-access freeway designs where all intersections have separated grades, and highways and parkways that include a mix of separate and at-grade intersections. Throughway interchanges are spaced no less than two miles apart.

ARTERIALS

Arterial streets have the function of linking communities within the region and interconnecting major activity centers and industrial areas to the throughway system. These routes link major commercial, residential, industrial and institutional areas. Arterials usually carry between 10,000 and 40,000 vehicles per day and provide for higher speeds than collector and local streets. These facilities are divided into major and minor classifications. Major arterials function to serve longer distance, through trips and serve more of a regional traffic function. Minor arterials function to serve shorter, more localized travel within a community. As a result, major arterials usually carry more traffic than minor arterials. Arterial streets are usually spaced about one mile apart and are designed to accommodate bicycle, pedestrian, and transit travel.

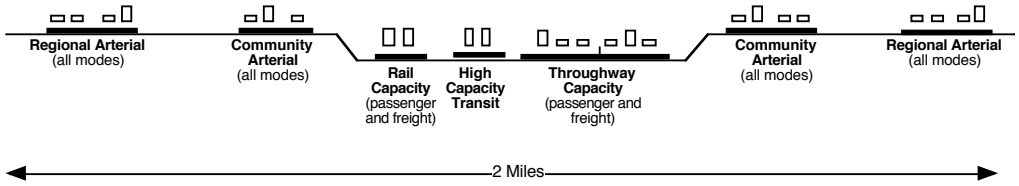
Mobility

The fabric of well-connected arterial and collector streets is designed to allow for efficient, multi-modal travel at the community level. Complementing this fabric is a dispersed network of regional mobility corridors that allow for cross-regional, statewide and interstate travel. Throughways define most of these regional mobility corridors, and are an increasingly precious resource having been largely built with federal subsidies in the 1960s and 70s, with growing congestion in the region.

Today, throughways are typically 6-lane facilities that serve as the backbone of the regional economy. Additional lanes may be required in some places in the region based on the importance of a facility to regional and state economic performance, excessive demand, constraints to building the full multi-modal network due to the presence of natural resources, existing neighborhoods, topographic conditions, etc. or inadequate (and difficult to overcome) capacity, reliability, or geometry on the existing parallel system. Chapter 3 will explore where such conditions may exist. Chapter 5 will analyze the trade-offs between widening the freeway and improving the parallel multi-modal system. Chapter 6 will identify investment solutions and Chapter 7 will define the parameters for future refinement planning work specific to each corridor.

Several throughways are now supplemented with high capacity transit service built since the mid-1980s that provide an important passenger alternative to throughway travel. Parallel arterial streets, heavy rail and regional multi-use trails with a transportation function further complement mobility in these corridors. These facilities are to be considered in conjunction with the parallel throughways for the purpose of system evaluation and monitoring, system and demand management and phasing of physical investments to the individual facilities. The concept of regional mobility corridors is shown in Figure 3.

Figure 3
Regional Mobility Concept

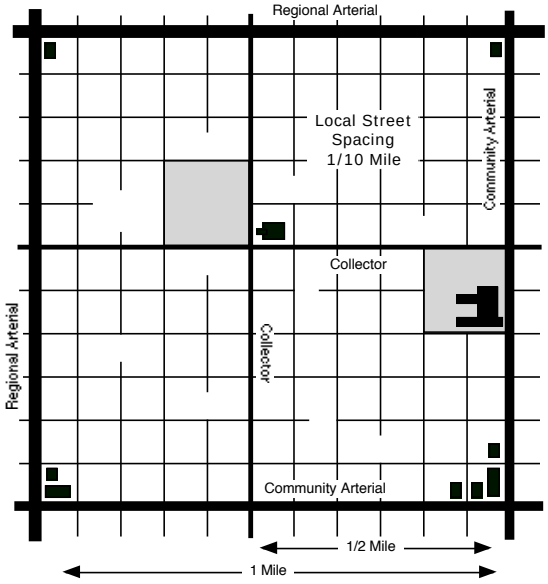


Note: Idealized concept for illustrative purposes showing recommended range of system analysis for the evaluation, monitoring, management and phasing of investments to throughways, arterials and transit service in the broader corridor. The illustration is modeled after I-84 between 12th and 60th avenues in Northeast Portland.

Local Street Network Concept

Local jurisdictions are responsible for defining the fabric of local streets within the mile-spacing network of regional arterials. Since the late 1990s, the region has enforced a minimum level of 1/10 mile for local street connectivity with the goal of minimizing local traffic on regional arterials. Shown in Figure 4, this concept promotes bicycle and pedestrian travel and provides for the most direct access from local street systems to community destinations and transit on regional arterials. More frequent bike and pedestrian connections are made where collector and local streets cannot be constructed due to existing development and other topographic or environmental constraints. Local street connectivity also benefits emergency response.

Figure 4
Local Street Network Concept



Note: Idealized concept for illustrative purposes showing desired spacing in residential and mixed-use areas to serve local circulation, walking and bicycling. The illustration is modeled after neighborhoods in Southeast Portland.

Collector and local streets are not part of the regional transportation system, but provide an important complementary role to the design and optimization the regional transportation system. Collector and local streets are general access facilities that provide for community and neighborhood circulation.

COLLECTOR STREETS

Collector streets serve neighborhood traffic and commercial/industrial areas. Collectors provide local circulation alternatives to arterials, balancing movement with access to land uses. They provide both circulation and access within residential and commercial areas, helping to disperse traffic that might otherwise use the arterial system for local travel. As such, collectors carry fewer motor vehicles than arterials, with reduced travel speeds. However, an adequate collector system is needed to serve these local travel needs. Collectors may serve as local bike, pedestrian and freight access routes, providing local connections to the arterial and transit network. Collectors usually carry between 1,000 and 10,000 vehicles per day, and with volumes varying by jurisdiction. Collector streets are usually spaced at half-mile intervals, or midway between arterial streets. Speeds and volumes on collector streets are moderate.

LOCAL STREETS

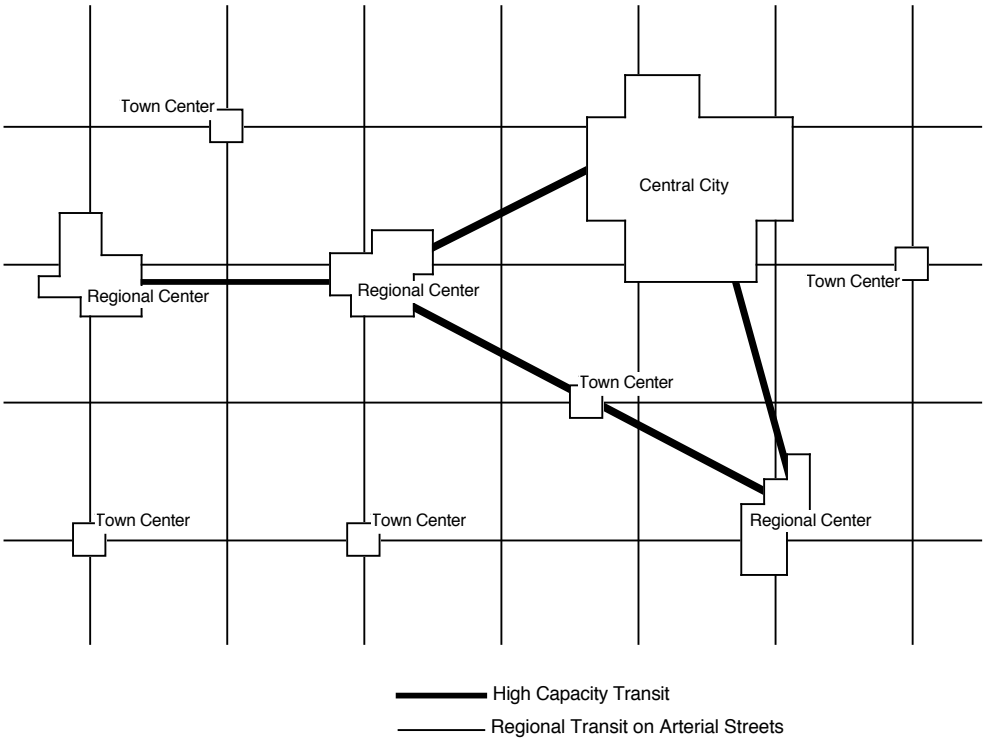
The local street system is used throughout the region to provide for local circulation and access. Local streets connect to collector streets and provide access to small activity centers, homes and neighborhoods. Regional regulations require local street spacing of no more than 530 feet in new residential and mixed-use areas, and cul-de-sacs are limited to 200 feet in length. These connectivity requirements are needed to ensure that a lack of adequate local street connections does not result in the arterial street system becoming congested. In particular, the lack of local street connections forces local auto trips onto the throughways and the arterial network, resulting

in significant congestion on these facilities. Local streets usually carry fewer than 1,000 vehicles per day, with volumes varying by jurisdiction. Speeds on local streets are relatively low.

Regional Transit Network Concept

The regional road system has carried public transit for more than a century, beginning with the streetcars of the early 1900s, and evolving to a combination of vans, buses, streetcars and light rail trains today. Light rail typically occupies its own right-of-way, though also shares the street in the Portland central city and other centers. The regional transit system concept calls for bus service on the balance of the regional arterial system, with streetcars on some streets in the Portland central city and regional centers. These services require passenger infrastructure at stops and stations, and a pedestrian system that connects to adjacent local and collector streets. The regional transit system concept retains the regional and local transit service elements from the 2004 RTP and integrates them in a different way to serve this growing demand as shown by Figure 5.

Figure 5
Regional Transit Network Concept



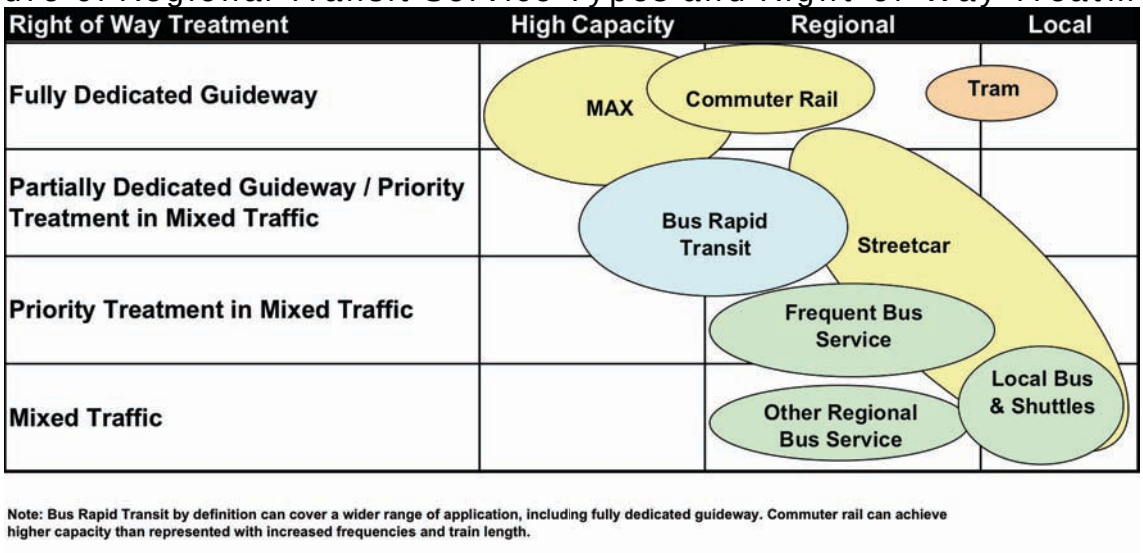
The Region 2040 plan set forth a vision for connecting the central city to regional centers like Gresham, Clackamas and Hillsboro with light rail. The RTP expands this vision to include a complete network of regional transit along arterial streets to better serve suburban communities.

The concept shown in Figure 5 is built around a web of regional and local transit options that allow convenient movement to, from, within and between 2040 centers. In parts of the region where development focuses on regional and town centers and station communities, the RTP will move more toward providing radial systems serving these centers that help leverage higher-density development needed to support higher levels of transit service, with overlap and connections providing the complex web of transit options necessary to serve growing demand. In areas where development focuses on 2040 corridors, main streets and within centers, the RTP focus will be to

provide transit-supportive densities and well-connected street and transit systems to allow convenient bicycle and pedestrian access and transfers for multi-destination trips.

The components of the regional transit network have different right-of-way needs and effects on achieving the goals and measurable objectives identified in Section II of this chapter. The transit network has a functional hierarchy similar to the street functional hierarchy. Figure 6 shows the regional transit service types and right-of-way treatments.

Figure 6. Regional Transit Service Types and Right-of-Way Treatment



This change in emphasis responds to significant growth in population and jobs in the areas outside of the Portland Central City that are difficult to serve with the current Portland Central City focused hub-and-spoke system that developed for most of the 20th century. Beginning in the 1980's with a major redesign of the eastside Portland bus routes and continued development of transit centers throughout the region, TriMet began to respond to changing travel patterns in the region.

This concept represents a deepening commitment to this approach, especially in parts of the region outside of the older eastside neighborhoods in the City of Portland, where the road infrastructure and topography do not easily lend themselves to such a densely connected street system. RTP background research demonstrated growing demand and desire for a web of convenient travel service connections between suburban areas of the region that remain also linked to the Central City. This is also consistent with changing travel patterns and more demand for transit trips throughout the region that are not destined for the Central City, even though Central City demand remains high.

In addition, possible future passenger rail service corridors to the neighboring cities, such as Milwaukie-Lake Oswego-Tualatin-Sherwood-McMinnville service as well as extension of Westside Commuter Rail to Salem should be explored to expand transit connections from the region to the rest of state.

Regional Freight Network Concept

The regional freight system is a collection of transportation networks connected by intermodal terminals and industrial areas for the purpose of moving goods. River and air routes are global gateways for the region, the state and the Pacific Northwest economy. Throughways, regional arterials, rail, and pipeline networks are the landside connections that move goods domestically

both in and outside the region. Figure 7 shows these critical components of the regional freight system.

Figure 7
[Place-holder for Freight Concept schematic under development by Regional Freight and Goods Movement planning effort during Phase 3]

Regional Bike and Pedestrian Network Concept

Connectivity of the street system is critical because the arterial, collector and local street networks provide the backbone for bicycle and pedestrian travel in the region. In addition, almost every transit trip begins or ends on an arterial or collector street. Arterials are not always the best routes for bikeways, but are almost always the most direct route and are usually the last connection to destinations in centers and along 2040 corridors. The RTP has a responsibility to provide continuous bicycle and pedestrian connections on all arterials where possible, recognizing there may be locations in the region where existing development, natural features or other circumstances may constrain right-of-way. This, in turn, requires designing the transportation system to have a well-connected network of four-lane regional arterials, where possible, that are supported by a well-connected network of collector and local streets.

For purposes of the RTP, the regional bicycle and pedestrian networks correspond to the arterial street network and identified regional multi-use trails with a transportation function. The regional pedestrian network also includes infrastructure in pedestrian districts that correspond to 2040 centers and station communities. Bikeway gaps on arterials may be addressed through bikeways or bicycle boulevards off the regional system on parallel facilities when right-of-way constraints exist or when the regional arterial system does not meet arterial spacing standards.

System Management Concept

Transportation infrastructure represents a major public investment. Roads, bridges and Port facilities often constitute the largest assets owned by local governments and Port authorities. Despite the effort put into designing an ideal system, the road, freight and transit networks sometimes do not perform up to their true potential. A road or rail line that does not provide good service provides a low return on investment. Therefore, managing the system so that the full potential is realized is a cost-effective way to increase the rate of return on the public's investment in the transportation system.

To accomplish this, many states and metropolitan areas are looking at new models for managing the capacity that already exists on regional transportation systems, and for managing the addition of new capacity. Strategies that allow the region to better use the existing transportation system benefit all users of it.

The concept of regional system management has two components. The first component includes strategies that focus on making the infrastructure better serve the users. The second component includes programs that enable the users to take advantage of everything the system has to offer. These components are commonly known as system and demand management, respectively.

Application in the Portland Metropolitan Region

In some parts of the Portland metropolitan region, the transportation system is generally complete, while in other parts of the region, especially those where new development is planned, significant amounts of infrastructure will be added. In both contexts, management strategies have great value. Where the system is already built-out, such strategies may be the only ways to manage congestion and achieve other objectives. Where growth is occurring, system and demand management strategies can be integrated before and during development to efficiently balance provision of capacity with demand.

Notably, technology is playing an increasing role in the implementation of transportation management strategies. The application of advanced technology to transportation, referred to as Intelligent Transportation Systems (ITS), can multiply the benefits of some strategies and create opportunities where none existed before. For example, a common strategy for managing throughways is to try to respond quickly when an incident occurs. This simple approach to system management does not require any advanced technology, but it benefits from surveillance devices that shorten the time it takes to determine that a crash or breakdown has occurred or communication technology that expedites the dispatching of a tow truck or emergency vehicle, promoting coordination among responders.

Application of demand management increases the benefit of new infrastructure improvements as well as offering travel choices to slower developing areas of the region. For example, individualized marketing applied to a travel corridor in North and Northeast Portland showed a net increase in transit ridership, greater than ridership increases occurring from all other factors. The same project yielded higher levels of other non-drive-alone options and an increase in local trips. An example of demand management serving slower developing areas comes from the regional rideshare program, with 8,000 registrants for carpool matching services and a coordinated vanpool program for commute trips equal to or greater than 10 miles, one-way.

System Governance Concept

Government must be a responsible steward of the public's money. This means we must work in a cooperative and coordinated manner with our partners in the private sector and with local, regional and state governments - including the region's 25 cities, three counties, Oregon Department of Transportation, Oregon Department of Environmental Quality, Port of Portland, TriMet, South Metro Area Rapid Transit (SMART), Washington Regional Transportation Council, Washington Department of Transportation and other Clark County governments. We serve the same constituency and they must know that our mutual goal is provide them with a superior and seamless transportation system.

While this RTP reflects a more pragmatic approach to managing the transportation system, it also seeks to stabilize funding at a strategic level needed to support the Region 2040 Growth Concept and meet the desired outcomes described in the plan. Reaching a consensus on how best to deliver a transportation system that meets public expectations rests on a level of public involvement, fiscal stewardship and accountability that helps build public trust in government's ability to meet the region's transportation challenges today and in the future.

B. Street Design Concepts

This section describes the individual elements of each the design concepts. For the purpose of this plan, three design groupings for throughways and two for arterial streets are shown to illustrate these basic design principles.

Regional Design Concepts

Table 5 summarizes throughway and arterial classifications, design elements and recommended function. Illustrations included in Table 5 show how the multi-modal design elements can be integrated. The typical cross sections are for illustrative purposes only. The specific process for identifying needed exceptions will be set forth in Chapter 7. The classifications are grouped by the trip type, function and 2040 land use(s) a facility is intended to serve:

- Principal Arterials that emphasize motor vehicle and freight travel and connect major activity centers and provide inter-city, inter-regional and inter-state connections, with an emphasis on mobility.

- Major and Minor Arterials in mixed-use areas (e.g., 2040 centers, station communities and main streets) that integrate motor vehicles, freight, transit, bicycle and pedestrian modes of travel, with an emphasis on pedestrian, bicycle and transit travel and accessibility.

- Major and Minor Arterials in 2040 mixed-use corridors, industrial areas, employment areas and neighborhoods that integrate motor vehicles, freight, transit, bicycle and pedestrian modes of travel, with an emphasis on vehicle mobility and special pedestrian infrastructure on transit streets.

Designs for pedestrians, bicyclists and transit users

In addition, street design can have a significant impact on people's ability to walk, bike and use transit. Sidewalks and bikeways provide a safe route for non-motorized traffic and encourage walking and biking. Where appropriate to support land use objectives, traffic calming measures such as narrower travel lanes, compact intersections and on-street parking can slow vehicle traffic and reduce traffic accidents for pedestrians, bicyclists, motorcyclists and motorists. Painted crosswalks, appropriate use of signs and signals and median islands make it easier for pedestrians and bicyclists to cross roads. In addition, curb cutouts, ramps and signals designed for the hearing and sight impaired ensure that people of all ages and abilities can safely cross roadways. Facilities and infrastructure such as street lighting, benches, telephones, waste containers, landscaped buffers that include trees, planters, lampposts and kiosks can make an environment more attractive and create a sense of community and safety that encourages walking, bicycling and the use of transit.

Linking street design to stormwater management and natural resource protection

Ecosystems do not conform to political boundaries. Streams and watersheds cross both city and county boundaries, and transportation projects often impact watersheds. In recent years, it has become increasingly important to acknowledge the effect of developing the public right-of-way on the health of our environment, particularly urban waterways. Streets and driveways combine to form the largest source of impervious surfaces in our urban landscape. A particular challenge is how to address conflicts between planned transportation improvements and stream corridors, and how transportation improvements can be located, designed and constructed in concert with stream corridor protection plans.

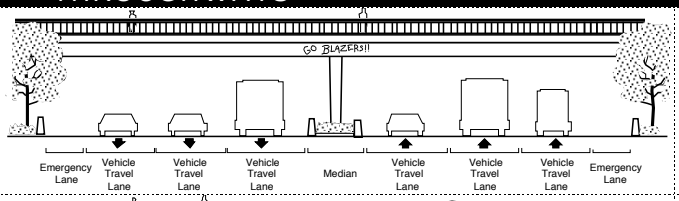
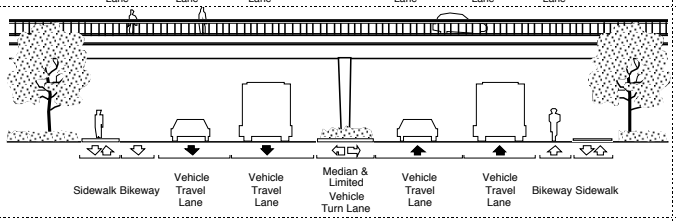
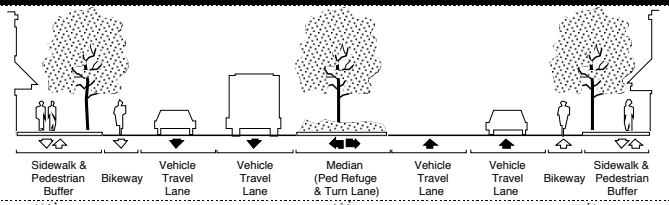
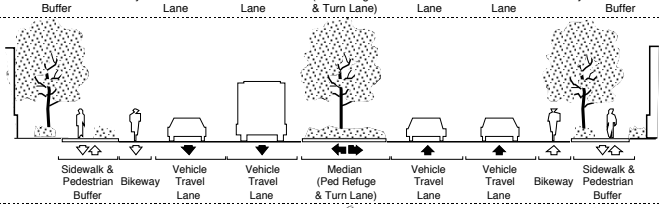
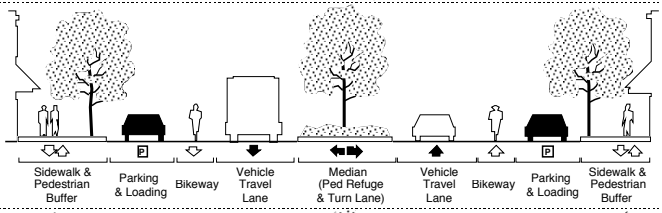
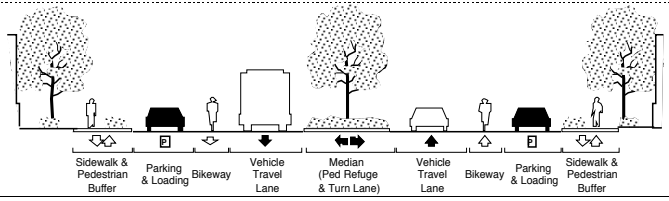
Impervious surface coverage has been linked to dramatic changes in the shape of streams, water quality, water temperature and the biological health of waterways. The regional Green Streets program seeks to mitigate this effect on streams over time through a combination of retrofits to existing streets and design guidelines for new streets such as street tree canopy to intercept rainwater, techniques that allow stormwater to infiltrate directly into the ground and other infrastructure design and management strategies to reduce impervious surfaces and stormwater run-off from transportation facilities.

As roadways and other types of transportation infrastructure cut across the landscape, they form barriers to natural wildlife movement, disrupting wildlife migration patterns and population dynamics. These conflicts can be minimized through both engineered solutions, such as wildlife-crossing devices/structures, as well as a more holistic approach of identifying specific wildlife corridor acquisition/restoration needs as part of transportation project development.

Infrastructure planning and design should seek to avoid fish and wildlife habitat conservation areas first, and if that is not possible, then identify opportunities to mitigate the effects of transportation infrastructure and services through the application of “green” design treatments where possible. For example, street trees, vegetated swales and other green street treatments can be used to intercept rainwater and convey stormwater in the public right-of-way adjacent to the region’s throughways and arterials, where appropriate. Metro’s Green Streets handbook recommends combining the use of green street elements with a traditional pipe system for arterial streets to avoid safety issues of standing water on major streets during significant storm events. However, the majority of streets in the urban area will be local and, in some cases, may be appropriate for implementation of “pipeless” streets.

In addition, trees intercept rainwater on leaves, branches and trunks and absorb stormwater runoff through their root systems, reducing the amount of water runoff that must be managed in urban areas. Permeable pavement and swale treatments may not be appropriate in all locations due to soil composition, land use and the volume and speed of traffic.

Table 5. Summary of Throughway and Arterial Design Concepts

Trip Type	2040 Design Concept	Network Function	Illustrative Design Concept	Typical number of travel lanes[9]
THROUGHWAYS				
Interstate/ regional	Freeway	Principal arterial		4 to 6 through lanes with grade separated interchanges
Interstate/ regional	Highway	Principal arterial		4 to 6 through lanes with grade separated intersections/ interchanges
Interstate/ regional	Parkway	Principal arterial	[Place-holder for Parkway Concept schematic under development]	4 to 6 through lanes with grade separated intersections/ interchanges
ARTERIALS				
Regional/ City	Regional Boulevard • *2040 centers* • *station communities* • *Main streets*	Major Arterial		4 through lanes with turn lanes
Regional/ City	Regional Street • *Industrial areas* • *Employment areas* • *Corridors* • *Intermodal facilities*	Major Arterial		4 through lanes with turn lanes
City	Community Boulevard • *2040 centers* • *station communities* • *Main streets*	Minor Arterial		2 to 4 through lanes with turn lanes
City	Community Street • *Industrial areas* • *Employment areas* • *Corridors* • *Intermodal facilities*	Minor Arterial		2 to 4 through lanes with turn lanes

[9] The number of through lanes may vary based on right-of-way constraints or other factors that may require additional lanes due to a lack of connectivity in some places the region. The process for identifying needed exceptions will be described in Chapter 7.

For more information about the road network design elements, refer to the design guidelines contained in Metro's Livable Streets handbooks, which address federal, state and regional transportation planning mandates with design guidelines intended to support local and regional implementation of the 2040 Growth Concept and the regional system concepts described in this plan.

Transit Design Concepts

TriMet is the primary public transportation provider for the metropolitan region and is committed to providing the appropriate level of transit service to support regional goals and strategies identified in the 2040 Growth Concept and Regional Transportation Plan (RTP). TriMet implements the transit component of the Regional Transportation Plan through annual updates and expansions to their service plan, called the Transit Investment Plan (TIP).

Consistent with the Oregon Transportation Plan, TriMet's TIP focuses on the "Total Transit System," not just service enhancements. In addition to frequent, reliable service throughout the day, other elements of the "Total Transit System" include easy access to bus stops, clear customer information and comfortable places to wait for transit. The TIP outlines where transit will grow in the future following a review for ridership potential, cost, impact on existing service and operational feasibility. Currently, TriMet has no minimum standards for provision of new service, however, regional transit policies, potential ridership and traffic congestion are all considerations in where expanded transit service is most needed. Focusing on the total transit system, bolstering existing service, reliability, passenger infrastructure, customer information and access is another tool to help leverage higher density development and ridership to support higher levels of transit service. This type of investment emphasizes management of the existing system to optimize the return on public investment.

The following are the elements used to plan for and design the high capacity transit, regional transit and local transit networks.

HIGH CAPACITY TRANSIT NETWORK

High capacity transit provides the backbone of the transit network connecting the Central City, Regional Centers, and passenger intermodal facilities. It operates on a fixed guideway or within an exclusive right-of-way, to the extent possible. Service frequencies vary by type of service. High levels of passenger infrastructure are provided at transit stations and station communities including real-time schedule information, ticket machines, special lighting, benches, shelters, bicycle parking, and commercial services. Speed and schedule reliability are preserved using transit signal priority at at-grade crossings and/or intersections. Types of high capacity transit facilities and services include:

- Light Rail Transit
- Commuter Rail
- Bus Rapid Transit
- Intermodal Passenger Facilities (e.g., Amtrak & Greyhound)

REGIONAL TRANSIT NETWORK

The regional transit network relies on transit service headways of 15-minutes or less on most regional arterial roadways (all day and weekends when possible). It also offers coverage and access to primary and secondary land-use components, with streetcar service functioning primarily as connection within and between primary and secondary land-use components that leverages higher density land uses in these areas. This service also includes preferential treatments at regional transit stops and high ridership locations such as transit signal priority and enhanced passenger facilities such as covered bus shelters, curb extensions and special

lighting. Park-and-ride lots provide important access to this network. Types of regional transit services and facilities include:

- Frequent Bus
- Regional Bus
- Streetcar
- Park-and-Ride Lots
- Regional Transit Stops

COMMUNITY TRANSIT NETWORK

The community transit network provides basic service and access to the regional and high capacity transit networks. Service frequencies vary by type of service. It also offers coverage and access to primary and secondary land-use components, with streetcar service functioning primarily as a local circulator that leverages higher density land use within primary or secondary land uses. Transit preferential treatments and passenger facilities are appropriate at high ridership locations. Sidewalk connectivity and protected crosswalks are critical elements of the community transit network. Types of community transit services include:

- Streetcar
- Tram
- Local Bus
- Mini-Bus
- Para-Transit

Each of these networks plays a different role in leveraging and supporting the Region 2040 vision and land uses as illustrated in Table 6.

Table 6. Transit Service Type by 2040 Land Use

	Light Rail	Streetcar	Commuter Rail	Bus Rapid Transit	Frequent Bus	Regional Bus	Local Bus & Shuttles
Primary Land Use Components Central City Regional Centers Industrial Areas Station Communities Intermodal Facilities	•	•	•	•	•	•	•
Secondary Land Use Components Employment Areas Town Centers Corridors Main Streets		•		•	•	•	•
Other Land Use Components Inner Neighborhoods Outer Neighborhoods							•

System Management Design Concepts

System management, which is also known as Transportation System Management and Operations (TSMO), requires a careful balance between safety and performance. Perhaps the most rudimentary example is a four-lane arterial with no signal timing, which does not fully utilize the existing capacity. A common TSMO strategy involves optimizing traffic signal timing to improve performance and safety. Signals, speed limits, access management and many other elements can be managed to improve the safety and performance of existing infrastructure and thereby maximize the value of the public investment and reliability of the system. Some of these strategies are implemented continuously while others are deployed in response to certain events, some of which can be anticipated while others cannot.

OPERATIONAL MANAGEMENT

These are strategies that are carried out continuously, such as traffic signals and ramp meters. Through ongoing management, minor adjustments can be made, sometimes in real-time, to improve system performance. In the transit realm, for example, the location of buses can be monitored so that dispatchers know if one is behind schedule or off route.

INCIDENT MANAGEMENT

These strategies are oriented to situations that may arise at any time and for which operators must be prepared. The most common example is traffic or weather incidents, which includes crashes as well as breakdowns and stalls. When such events occur, the relevant operators are prepared to respond quickly so that traffic can be restored. Other activities that can also benefit from these strategies include evacuation and security planning efforts.

EVENT MANAGEMENT

These strategies are also oriented to occasional situations but in this case, the events are known in advance, such as a parade, a major sporting event, a work zone or other kind of disruption. For example, with a major sporting event, departing spectators may create a strain on the local roads as well as the transit service. Operators can adjust signal timing, increase transit service and take other measures to limit the disruption.

Demand Management Concepts

Demand management, which is also known as Transportation Demand Management (TDM), focuses on the user of the system, the barriers they encounter and the benefits of traveling efficiently for all trip purposes. TDM helps the system as a whole perform optimally by providing services, incentives, supportive infrastructure and awareness for travel options. Examples are: rideshare matching services; employer transit pass incentive programs; flex time programs, end-of-trip facilities like bike racks and showers; and, marketing programs that provide individualized travel information.

Similar to TSMO, these strategies also improve the performance of existing infrastructure and services, and thereby maximize the value of the public investment and reliability of the system. A meaningful way to categorize them is according to the travel choices that individuals make, including when, where, and how to go from one place to another for all types of trips.

TRIP REDUCTION PROGRAMS

These programs promote the concept that by combining trips, a person can save time and money (such as the cost of gas if they are driving). For example, doing several errands on one trip often requires less driving than making each errand separately. Living near work,

school and shopping shortens trip length, allowing for walking trips which increases individual health. Working from home via phone or computer is an option for some people to eliminate commute trips.

MODE CHOICE PROGRAMS

These programs promote benefits, and balanced transportation choices, by helping people efficiently get to work, school, shopping, and other trip purposes. While some trips may require travel by car, many others are possible by walking, biking or taking transit. Some programs focus on travelers who are not using these options because they lack information that would increase their comfort. For example, many people would like to ride their bikes to work or school lack adequate knowledge of safe routes. Other programs in this category seek to increase the use of options, such as carsharing, providing rideshare matching services, partially financing vanpools and reserved parking spaces for these vehicles. Mode choice programs depend on providing services, incentives and supportive infrastructure while raising awareness.

Examples of Trip Reduction and Mode Choice Programs and Strategies

Traveler Information Programs

These programs seek to help travelers find the best route and timing for their trips, and can also help select among modes. For example, some driving commuters take one route out of habit even though another route might be more reliable. The latest version of Google Maps compares transit and auto travel times and cost for trips. Other programs work closely with employers to allow employees to commute before or after the peak travel periods. Information about system performance and travel options helps travelers make more informed choices about routes, time and mode. Such programs depend on public-private partnerships to share knowledge and expertise.

Parking management

These are strategies and programs that result in more efficient use of parking resources. Parking management strategies can include parking pricing, shared parking that serves multiple users or destinations, preferential parking or price discounts for carpools and/or short-term parking. When appropriately applied, parking management can reduce the number of parking spaces required in some situations. Implementation of parking management may require changing current development, zoning and design practices, broadening how parking problems and solutions are addressed and activities to improve enforcement and addressing potential spillover impacts.

Value Pricing

Value pricing – sometimes called congestion pricing - involves the application of market pricing (through variable tolls, variable priced lanes, area-wide charges or cordon charges) to the use of roadways at different times of day. Value pricing has been successful in other parts of the U.S. and internationally at managing peak use on limited roadway infrastructure by providing an incentive for drivers to select other modes, routes, destinations or times of day. By shifting discretionary peak hour travel to other transportation modes, routes or to off-peak times of day helps the system to operate more efficiently. In addition, those drivers who choose to pay the toll can benefit from significant savings in time. Similar variable charges have been utilized in other industries that use airline tickets pricing, telephone rates and electricity rates to allocate resources during peak usage. Value pricing is the only demand management tool that is location and time-of-day specific, making it uniquely effective in improving mobility and reliability of the transportation system while limiting vehicle miles traveled and congestion-related auto emissions. In addition, value pricing may generate revenues to help with needed transportation improvements.

GLOSSARY OF TERMS

Accessibility – The ability to move easily from one mode of transportation to another mode or to a given land-use destination. The more places that can be reached, the greater the accessibility. Of equal importance is the quality of travel choices to a given destination. Accessibility is governed by both land-use patterns and the number of travel alternatives provided by the transportation system.

Access management – Measures regulating access to streets, roads and highways from public roads and private driveways. Measures may include but are not limited to restrictions on the siting of interchanges, restrictions on the type and amount of access to roadways, and use of physical controls, such as signals and channelization including raised medians, to reduce impacts of approach road traffic on the main facility.

Alternative transportation mode – This term refers to all passenger modes of travel except for single-occupancy vehicle, including bicycling, walking, public transportation, carpooling and vanpooling.

Americans With Disabilities Act (ADA) of 1990 – Civil rights legislation enacted by Congress that mandates the development of a plan to address discrimination and equal opportunity for disabled persons in employment, transportation, public accommodation, public services and telecommunications. TriMet's ADA transportation plan outlined the requirements of the ADA as applied to TriMet services, the deficiencies of the existing services when compared to the requirements of the new act and the remedial measures necessary to bring TriMet and the region into compliance with the act. Metro, as the region's metropolitan planning organization (MPO) is required to review TriMet's ADA Paratransit Plan annually and certify that the plan conforms to the Regional Transportation Plan. Without this certification, TriMet cannot be found to be in compliance with the ADA. ADA also affects the design of pedestrian facilities being constructed by local governments.

Arterials - Streets that have the function of linking communities within the region and interconnecting major activity centers and industrial areas to the throughway system. These routes link major commercial, residential, industrial and institutional areas. Major arterials function to serve longer distance, through trips and serve more of a regional traffic function. Minor arterials function to serve shorter, more localized travel within a community. As a result, major arterials usually carry more traffic than minor arterials. Arterial streets are usually spaced about one mile apart and are designed to accommodate bicycle, pedestrian, and transit travel.

Bicycle – A vehicle having two tandem wheels, a minimum of 14 inches in diameter, propelled solely by human power, upon which a person or persons may ride. A three-wheeled adult tricycle is considered a bicycle. In Oregon, a bicycle is legally defined as a vehicle. Bicyclists have the same right to the roadways and must obey the same traffic laws as the operators of other vehicles.

Bicycle boulevards - Sometimes called a bicycle priority street, a bicycle boulevard is a low-traffic street where all types of vehicles are allowed, but the roadway is modified as needed to enhance bicycle safety and convenience by providing direct routes that allow free-flow travel for bicyclists at intersections where possible. Traffic controls are used at major intersections to help bicyclists cross major streets. Typically these modifications will also calm traffic and improve pedestrian safety.

Bicycle facilities – A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities, all bikeways and shared roadways not specifically designated for bicycle use.

Bike lane – A portion of a roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bikeway – A bikeway is created when a road has the appropriate design treatment for bicyclists, based on motor vehicle traffic volumes and speeds. On-road bikeways include shared roadway, shoulder bikeway, bike lane or bicycle boulevard design treatments. Another type of bikeway design treatment, the multi-use path, is separated from the roadway.

Bus rapid transit - Bus Rapid Transit (BRT) service uses buses in their own guideway or mixed in traffic with limited stops and a range of transit priority treatments to provide with speed, frequency and comfort. This service runs at least every 15 minutes during the weekday and weekend mid-day base periods. Passenger infrastructure are concentrated at transit centers. Regional rapid bus passenger infrastructure include schedule information, ticket machines, special lighting, benches, covered bus shelters and bicycle parking.

Capacity – The maximum number of vehicles (vehicle capacity) or passengers, bicyclists or pedestrians (person capacity) that can pass over a given section of roadway or transit line in one or both directions during a given period of time under prevailing roadway design and traffic conditions.

Carsharing – A transportation demand management strategy that shares the use of one or more vehicles among a group of people. Reported benefits include a reduction in vehicle ownership, a reduction in parking needs, an increase in non-drive-alone trips and improved accessibility. Implementation in the Portland region includes public/private partnerships and a private sector membership organization.

Central city - The downtown and adjacent portions of the city of Portland. See the Growth Concept map and text.

Collector streets - Collector streets serve neighborhood traffic and commercial/industrial areas. Collectors provide local circulation alternatives to arterials, balancing movement with access to land uses. They provide both circulation and access within residential and commercial areas, helping to disperse traffic that might otherwise use the arterial system for local travel. Collectors may serve as local bike, pedestrian and freight access routes, providing local connections to the arterial and transit network. Collector streets are usually spaced at half-mile intervals, or midway between arterial streets. Speeds and volumes on collector streets are moderate.

Commuter rail - Commuter rail is the use of existing freight railroad tracks either exclusively or shared with freight use, for passenger service. The service is typically focused on peak commute periods but can be offered other times of the day when demand exists and where rail capacity is available. The stations are typically located one or more miles apart, depending on the overall route length. Stations offer basic infrastructure for passengers, bus and LRT transfer opportunities and parking if supported by adjacent land uses.

Concept planning – A planning process to create a blueprint for the future of land brought inside the urban growth boundary for urbanization. The process is required to address the provisions listed in Title 11 of the Urban Growth Management Functional Plan. These provisions include, but are not limited to a minimum level of residential units per acre, a diversity of housing stock, an adequate transportation system, protection of natural resource areas and needed school facilities.

Corridors (2040 design type) - While some corridors may be continuous, narrow bands of higher intensity development along arterial roads, others may be more “nodal”, that is, a series of smaller centers at major intersections or other locations along the arterial which have high quality pedestrian environments, good connections to adjacent neighborhoods and good transit service. So

long as the average target densities and uses are allowed and encouraged along the corridor, many different development patterns - nodal or linear - may meet the corridor objective.

Cross-regional travel - longer trips that span the region, including interstate and intrastate travel, but occur within the larger metropolitan travelshed.

Developed areas - These are areas of the region that are primarily developed, with most new development occurring through refill and redevelopment.

Developing areas - These are areas of the region where new development will occur through a combination of greenfield, refill and redevelopment.

Exceptional habitat quality - "For the purpose of transportation planning, exceptional habitat quality may be defined as (1) riparian-associated wetlands identified under Title 3, locally or regionally significant wetlands, (2) locally or regionally rare or sensitive plant communities such as oak woodlands, (3) important forest stands contributing multiple functions and values to the adjacent water feature habitats of sensitive, threatened or endangered wildlife species, or (4) habitats that provide unusually important wildlife functions, such as (but not limited to) a major wildlife crossing/runway or a key migratory pathway.

Employee Commute Options (ECO) Rules - The rules direct the Department of Environmental Quality to institute an employee auto trip reduction program. The rules require employers with more than 100 employees at a single site to implement a program designed to reduce 10 percent of commute auto trips among their employees. The ECO Rules are part of the region's Ozone Maintenance plan and were originally part of House Bill 2214, adopted by the 1992 Oregon Legislature and written into Oregon Administrative Rules Chapter 340, Division 242.

Employment areas - Areas of mixed employment that include various types of manufacturing, distribution and warehousing uses, commercial and retail development as well as some residential development. Retail uses should primarily serve the needs of the people working or living in the immediate employment area. Exceptions to this general policy can be made only for certain areas indicated in a functional plan.

End-of-trip facilities – This part of transportation demand management considers the needs of bicyclists, walkers, carpoolers and others. Examples include parking spaces striped for rideshare vehicles only, bike parking, locker rooms and showers.

Equitable access - Having equal opportunities to access the regional transportation system.

Freight intermodal facility – An intercity facility where freight is transferred between two or more modes (e.g., truck to rail, rail to ship, truck to air, etc.).

Freight mobility - The efficient movement of goods from point of origin to destination.

Frequent bus: Frequent bus service provides local bus service that is more frequent than rapid bus, but is somewhat slower because it makes more stops, providing corridor service rather than nodal service along selected arterial streets. This service runs at least every 10 minutes and includes transit preferential treatments such as reserved bus lanes and transit signal priority and enhanced passenger infrastructure along the corridor and at major bus stops such as covered bus shelters, curb extensions, special lighting and median stations.

Green streets - Streets that are designed to include features like street trees, landscaped swales, pervious curb treatments and special paving materials to limit stormwater runoff, which, in turn, helps improve water quality and protect stream habitat.

Habitat conservation areas - Highly ranked riparian habitat areas within the current urban growth boundary identified by the regional fish and wildlife protection program. "Habitat conservation areas" are to be protected by appropriate development standards contained in Title 13 of the Urban Growth Management Functional Plan or through other equivalent approaches by local jurisdictions. As new areas are added to the urban growth boundary, highly valued upland habitat areas will also be identified as habitat conservation areas. Habitat conservation areas are designated based habitat value, with protection level adjusted depending on the area's economic importance to the region.

High capacity transit network - High capacity transit provides the backbone of the transit network connecting the Central City, Regional Centers, and passenger intermodal facilities. It operates on a fixed guideway within an exclusive right-of-way to the extent possible. High levels of passenger infrastructure are provided at transit stations and station communities including real-time schedule information, ticket machines, special lighting, benches, shelters, bicycle parking, and commercial services. Speed and schedule reliability are preserved using transit signal priority at at-grade crossings and/or intersections. This network includes: light rail, commuter rail, bus rapid transit and intermodal passenger facilities (e.g, Amtrak and Greyhound)

Housing affordability - The availability of housing such that no more than 30 percent (an index derived from federal, state and local housing agencies) of the monthly income of the household need be spent on shelter.

Impervious surfaces - Hard surfaces that do not allow water to infiltrate into the ground, and instead, rely on piped stormwater drainage systems that convey runoff directly to streams. The majority of total impervious surfaces are from roads, sidewalks, parking lots and driveways. A conventional stormwater management approach uses storm sewer pipes beneath the street to quickly convey storm runoff to stream channels that are also managed for stormwater conveyance.

Individualized marketing – A transportation demand management strategy that increases accessibility by providing customized travel choice information based on a person's interest-level while providing support programs. Examples include TravelSmart™ and SmartTrips. A TravelSmart™ project in North and Northeast Portland provided transit information, bike and walking maps, guided walks and rides, customized trip planning and in-home assistance to help residents get started walking, biking, or riding transit.

Industrial areas - An area set aside for industrial activities. Supporting commercial and related uses may be allowed, provided they are intended to serve the primary industrial users. Residential development shall not be considered a supporting use, nor shall retail users whose market area is substantially larger than the industrial area be considered supporting uses.

Infrastructure - Roads, sidewalks, water systems, sewage systems, systems for storm drainage, telecommunications and energy transmission and distribution systems, bridges, transportation facilities, parks, schools and public facilities developed to support a community. Areas of the undeveloped portions of the environment such as floodplains, riparian and wetland zones, groundwater recharge and discharge areas and Greenspaces that provide important functions related to maintaining the region's air and water quality, reduce the need for infrastructure expenses and contribute to the region's quality of life.

Inner neighborhoods - Areas in Portland and the older cities that are primarily residential, close to employment and shopping areas, and have slightly smaller lot sizes and higher population densities than in outer neighborhoods

Intelligent transportation systems (ITS) – Techniques and strategies that use technology to manage and operate the transportation system. ITS includes managing traffic signal timing along a

corridor to minimize stop-and-go driving. ITS also includes transit signal priority, real-time traveler information, and variable message signs that rely on in pavement sensors or video survelliance cameras that quickly detect congestion to warn drivers. Technology also helps to increase transportation safety through the use of monitoring devices collect and transmit real-time weather information that is then shared with the general public. Having accurate information about dangerous conditions on the mountain passes helps fleet dispatch managers steer their drivers away from delays and the risk of loss or damage to the cargo. Dozens of ITS projects have been implemented around the Portland metropolitan area, many of them involving multi-agency coordination.

Intermodal facility – A transportation element that accommodates and interconnects different modes of transportation and serves the statewide, interstate and international movement of people and goods. For example, an intermodal yard is a railyard that facilities the transfer of containers or trailers. See also passenger intermodal facility and freight intermodal facility definitions.

Inter-city bus - Inter-city bus connects points within the region to nearby destinations, including neighboring cities, recreational activities and tourist destinations. Several private inter-city bus services are currently provided in the region.

Level of service (LOS) – A qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level of service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, convenience and safety. An LOS rating of "A" through "F" describes the traffic flow on streets and highways and at intersections. The following table describes general traffic flow characteristics for each level of service on a street or highway:

LOS	Traffic Flow Characteristics
A	Virtually free flow; completely unimpeded
B	Stable flow with slight delays; reasonably unimpeded
C	Stable flow with delays; less freedom to maneuver
D	High density but stable flow
E	Operating conditions at or near capacity; unstable flow
F	Forced flow, breakdown conditions
Greater than F	Demand exceeds roadway capacity, limiting volume than can be carried and forcing excess demand onto parallel routes and extending the peak period

Sources: 1985. Highway Capacity Manual (A through F descriptions)
Metro (>F Description)

Light rail transit - Light rail transit (LRT) is a frequent and high-capacity service that operates on a fixed guideway within an exclusive right-of-way to the extent possible, connecting the central city with regional centers. LRT also serves existing regional public attractions such as the Washington County Fair Grounds, Civic Stadium, the Oregon Convention Center, Oregon Zoo, Metropolitan Exposition Center and the Rose Garden, and station communities. LRT service runs at least every 15 minutes during the weekday and weekend midday base periods with limited stops and operates at higher speed outside of downtown Portland. A high level of passenger infrastructure are provided at transit stations and station communities including schedule information, ticket machines, special lighting, benches, shelters, bicycle parking and commercial services. The speed and schedule reliability of LRT can be maintained by the provision of transit signal priority at-grade

crossings and/or intersections and grade separation where it is appropriate from the surrounding built environment.

Local bus - Local bus lines provide coverage and access to primary and secondary land-use components. Local bus service runs as often as every 30 minutes on weekdays and may be more frequent during hours of peak demand. Weekend service is provided as demand warrants.

Local streets - The local street system is used throughout the region to provide for local circulation and access. Local streets connect to collector streets and provide access to small activity centers, homes and neighborhoods. Regional regulations require local street spacing of no more than 530 feet in new residential and mixed-use areas, and cul-de-sacs are limited to 200 feet in length. These connectivity requirements are needed to ensure that a lack of adequate local street connections does not result in the arterial street system becoming congested.

Local transit network - The local transit network provides basic service and access to the regional and high capacity transit networks. It also offers coverage and access to primary and secondary land-use components. Transit preferential treatments and passenger infrastructure are appropriate at high ridership locations. Sidewalk connectivity and protected crosswalks are critical elements of the local transit network. This network includes: tram, streetcar, local bus, park-and-ride lots, mini-bus and para-transit.

Main streets - Neighborhood shopping areas along a main street or at an intersection, sometimes having a unique character that draws people from outside the area. NW 23rd Avenue and SE Hawthorne Boulevard in the City of Portland are examples of established main streets.

Marine facility – A facility where freight is transferred between water-based and land-based modes.

Mini-bus - Mini-bus service provides coverage in lower density areas by providing transit connections to primary and secondary land-use components. Mini-bus services, which may range from fixed route to purely demand responsive including dial-a-ride, employer shuttles and bus pools, provide at least a 60-minute response time on weekdays. Weekend service is provided as demand warrants.

Mobility – The ability to move people and goods from place to place, or the potential for movement. Mobility reflects the spatial structure of the transportation network and the level and quality of its service. Mobility is determined by such characteristics as road capacity and design speed.

Modal targets - Targets for increased walking, biking, transit and shared ride as a percentage of all trips. The targets apply to trips *to, from and within* each 2040 Design Type. The targets reflect mode shares for the year 2040 needed to comply with Oregon Transportation Planning Rule objectives to reduce reliance on single-occupancy vehicles.

2040 Regional Non-SOV Modal Targets

2040 Design Type	Non-SOV Modal Target
Central city	60-70%
Regional centers **Town centers** **Main streets** **Station communities** **Corridors** **Pasenger Intermodal Facilities**	45-55%
Industrial areas **Freight Intermodal facilities** **Employment areas** **Inner neighborhoods** **Outer neighborhoods**	40-45%

Mode choice – The ability to choose one or more modes of travel, including motor vehicle, walking, bicycling, use of transit and shared ride.

Off-peak period – The hours of the day outside of the primary commuting time periods, generally between 9 a.m. and 3 p.m. and between 6 p.m. and 7 a.m.

Outer neighborhoods - Areas in the outlying cities that are primarily residential, farther from employment and shopping areas, and have larger lot sizes and lower population densities than inner neighborhoods.

Para-transit - Para-transit service is defined as non-fixed route service that serves special transit markets, including “ADA” service throughout the greater metro region.

Park-and-ride - Park-and-ride facilities primarily provide convenient auto access to regional transit trunk routes for people from areas not directly served by transit. Vanpools also use park-and-rides as a common meeting place and sometimes a destination. Transit services, transit transfer and passenger drop off and pick-up areas are incorporated in site design. Bicycle and pedestrian access as well as parking and storage accommodations for bicyclists are considered in the siting process of new park-and-ride facilities. In addition, the need for a complementary relationship between park-and-ride facilities and regional and local land use goals exists and requires periodic evaluation over time for continued appropriateness.

Parking cash-out – This term refers to a transportation demand management strategy where the market value of a parking space is offered to an employee by the employer. The employee can either spend the money for a parking space, or pocket it and then use an alternative mode to travel to work. Measures such as parking cash-out provide disincentives for commuting by single-occupancy vehicles.

Passenger intermodal facilities: Passenger intermodal facilities serve as the hub for various passenger modes and the transfer point between modes. These facilities are closely interconnected with urban public transportation service and highly accessible by all modes. They include Portland International Airport, Union Station, Oregon City Amtrak station and inter-city bus stations.

Passenger rail - Inter-city high-speed rail is part of the state transportation system and extends from the Willamette Valley north to British Columbia. Amtrak already provides service south to California, east to the rest of the continental United States and north to Canada. These systems should be integrated with other transit services within the metropolitan region with connections to passenger intermodal facilities. High-speed rail needs to be complemented by urban transit systems within the region.

Peak periods – The hours of the day that correspond to primary commuting time periods, generally between 7 a.m. and 9 a.m. and 4 p.m. to 6 p.m.

Pedestrian – A person on foot, in a wheelchair or other health-related mobility device or walking a bicycle.

Pedestrian connection – A continuous, unobstructed, reasonably direct route between two points that is intended and suitable for pedestrian use. Pedestrian connections include but are not limited to sidewalks, walkways, accessways, stairways and pedestrian bridges. On developed parcels, pedestrian connections are generally hard surfaced. In parks and natural areas, pedestrian connections may be soft-surfaced pathways. On undeveloped parcels and parcels intended for redevelopment, pedestrian connections may also include rights-of-way or easements for future pedestrian improvements.

Pedestrian district - A pedestrian district is a comprehensive plan designation or implementing land use regulations designed to provide safe and convenient pedestrian circulation, with a mix of uses, density, and design that support high levels of pedestrian activity and transit use. The pedestrian district can be a concentrated area of pedestrian activity or a corridor. Pedestrian districts can be designated within the 2040 Design types of Central City, Regional and Town Centers, Corridors and Main Streets, as designated in local plans. Pedestrian districts emphasize a safe and convenient pedestrian environment, and facilities to support and integrate efficient use of several modes within one area (e.g., pedestrian, auto, transit, and bike).

Pedestrian facility – A facility provided for the benefit of pedestrian travel, including walkways, crosswalks, plazas, signs, signals, illumination and benches.

Pedestrian plaza – A small semi-enclosed area usually adjoining a sidewalk or a transit stop which provides a place for pedestrians to sit, stand or rest. They are usually paved with concrete, pavers, bricks or similar material and include seating, pedestrian scale lighting and similar pedestrian improvements. Low walls or planters and landscaping are usually provided to create a semi-enclosed space and to buffer and separate the plaza from adjoining parking lots and vehicle maneuvering areas.

Plazas are generally located at a transit stop, building entrance or an intersection and connect directly to adjacent sidewalks, walkways, transit stops and buildings entrance or an intersection and connect directly to adjacent sidewalks, walkways, transit stops and building. A plaza including 150-250 square feet would be considered "small."

Pedestrian-scale - An urban development pattern where walking is a safe, convenient and interesting travel mode. It is an area where walking is at least as attractive as any other mode to all destinations within the area. The following elements are not cited as requirements, but illustrate examples of pedestrian scale: continuous, smooth and wide walking surfaces; easily visible from

streets and buildings and safe for walking; minimal points where high speed automobile traffic and pedestrians mix; frequent crossings; storefronts, trees, bollards, on-street parking, awnings, outdoor seating, signs, doorways and lighting designed to serve those on foot; well integrated into the transit system and having uses which cater to people on foot.

Posted speed – This term refers to the posted speed limit on a given street or the legal speed limit as defined in ORS 811.105 and 811.123 when a street is not posted.

Preliminary design – An engineering design that specifies in detail the location and alignment of a planned transportation facility or improvement.

Principal arterial - These facilities form the backbone of the motor vehicle network. Motor vehicle trips entering and leaving the urban area follow these routes, as well as those destined for the central city, regional centers, industrial areas or intermodal facilities. These routes also form the primary connection between neighbor cities and the urban area. Principal arterials serve as major freight routes, with an emphasis on mobility.

Rail main line – Class I rail lines (e.g., Union Pacific and Burlington Northern/Sante Fe).

Reasonably direct – Either a route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for likely users.

Regional bus - Regional bus service is provided on most arterial streets. This type of bus service operates with maximum headways of 15 minutes during most of the day and may be seven days per week with conventional stop spacing along the route. Transit preferential treatments and passenger infrastructure such as bus shelters, special lighting, transit signal priority and curb extensions are appropriate at high ridership locations.

Regional centers - Areas of mixed residential and commercial use that serve hundreds of thousands of people and are easily accessible by walking, biking and different types of transit service. Local residents, employees and others can meet their needs with relatively shorter trip distances. People from around the region can access these areas. Examples include traditional centers such as downtown Gresham and new centers such as Gateway and Clackamas Town Center.

Regional mobility corridors - Transportation corridors centered on state and interstate highways, but more broadly defined to include complementary arterial streets, transit routes and multi-purpose paths that combine to form a larger mobility corridor.

Regional multi-use trails with transportation function: Multi-use paths with a transportation function are paved, off-street facilities connections that accommodate pedestrian and bicycle travel and meet the requirements of the Americans with Disabilities Act. These connections are likely to be used by people walking or bicycling to work or school, to access transit or to travel to a store, library or other local destination. Regional multi-use paths that support both utilitarian and recreational functions are included as part of the regional transportation system. These paths are generally located near or in residential areas or near mixed-use centers. Bicycle/pedestrian sidewalks on bridges are also included in this definition. In terms of design, multi-use paths are physically separated from motor vehicle traffic by open space or a barrier, and are either within the road right-of-way or within an independent right-of-way. Bicyclists, pedestrians, joggers, skaters and other non-motorized travelers use these facilities.

Regional transit network - The regional transit network relies on transit service headways of 15-minutes or less on all arterial roadways (all day and weekends when possible). This service also includes preferential treatments at regional transit stops and high ridership locations such as transit signal priority and enhanced passenger infrastructure such as covered bus shelters, curb

extensions and special lighting. This network includes: frequent bus, regional bus, streetcar, park-and-ride lots and regional transit stops.

Regional transit stops - Regional transit stops are intended to provide a high degree of transit passenger comfort and access. Regional transit stops are located at stops on light rail, commuter rail, rapid bus, frequent bus or streetcar lines in the central city, regional and town centers, main streets and corridors. Regional transit stops may also be located where bus lines intersect or serve intermodal facilities, major hospitals, colleges and universities. Regional transit stops shall provide real-time schedule information, lighting, benches, shelters and trash cans. Other features may include real time information, special lighting or shelter design, public art and bicycle parking.

Regional transportation system - The regional transportation system is the interconnected network of throughways, arterials, air, marine, pipeline and rail systems, high capacity and regional transit services, regional multi-use trails with a transportation function and bicycle and pedestrian facilities that are located on or connect directly to other elements of the regional transportation system.

Reload facility – An intermediary facility where freight is reloaded from one land-based mode to another.

Rideshare – A transportation demand management strategy where more than one person shares a trip in a vehicle to a common destination or along a common corridor. Private passenger vehicles are used for carpools and some vanpools receive public/private support to help commuters. Carpooling and vanpooling provide travel choices for areas under-served by transit or at times when transit service is not available.

Right-of-way (ROW) – This term refers to publicly-owned land, property or interest therein, usually in a strip, within which the entire road facility (including travel lanes, medians, sidewalks, shoulders, planting areas, bikeways and utility easements) must reside. The right-of-way is usually defined in feet and is acquired for or devoted to multi-modal transportation purposes including bicycle, pedestrian, public transportation and vehicular travel.

Roads – This term is used to collectively refer to throughways, regional and community arterials, collectors and local streets.

Shared roadway – A type of bikeway where bicyclists and motor vehicles share a travel lane.

Sidewalk – A walkway separated from the roadway with a curb, constructed of a durable, hard and smooth surface, designed for preferential or exclusive use by pedestrians.

Single-occupancy vehicle (SOV) – This term refers to vehicles that are carrying one person.

Station Communities - The area generally within a 1/4- to 1/2-mile radius of light rail stations or other high capacity transit that is planned as a multi-modal community of mixed uses and substantial pedestrian accessibility improvements.

Streetcar - Street cars provide fixed-route transit service mixed in traffic for more locally oriented trips in higher density mixed-use centers or between higher density mixed-use centers. Streetcar services often provide local circulator service and also serve as a potent incentive for denser development in centers. This service runs at least every 15 minutes and may include transit preferential treatments such as transit signal priority and enhanced passenger infrastructure along the corridor such as covered bus shelters, curb extensions and special lighting.

Stewardship - A planning and management approach that considers environmental impacts and public benefits of actions as well as public and private dollar costs.

Sustain - To cause to continue (as in existence or a certain state, or in force or intensity); to keep up, especially without interruption, diminution, flagging, etc.; to prolong.

Sustainable development - Development that meets the needs of the present without compromising the ability of future generations to meet their own needs and involves the simultaneous pursuit of economic prosperity, environmental quality and social equity.

Sustainability - Using, developing and protecting resources in a manner that enables people to meet current needs without compromising the ability of future generations to meet future needs, balancing environmental, economic and community objectives. This definition of sustainability encompasses ideas, aspirations and values that continue to inspire public and private organizations to become better stewards of the environment, our economy and our communities. The 2001 Oregon Sustainability Act and 2007 Oregon Business Plan maintain that these principles of sustainability can stimulate innovation, advance global competitiveness and improve quality of life in communities throughout the state.

Telecommute – Also known as "Telework," this term refers to a transportation demand management strategy whereby an individual substitutes working at home, or a satellite office located closer to home, for commuting to a work site on either a part-time or full-time basis.

Throughways - Limited-access facilities designed for interstate, intrastate and cross-regional travel. Throughways are classified as a principal arterial and have the function of connecting major activity centers within the region, including the central city, regional centers, industrial areas and intermodal facilities to one another and to points outside the region. These routes also form the primary connection between neighbor cities and the urban area and the region to other parts of the state, California and rest of the Pacific Northwest and Canada.

Town centers - Areas of mixed residential and commercial use that serve tens of thousands of people. Examples include the downtowns of Forest Grove and Lake Oswego.

Traffic – The number of motor vehicles, bicyclists or pedestrians in a given location at a given point in time.

Traffic calming – A transportation system management technique that aims to prevent inappropriate through-traffic and reduce motor vehicle travel speeds on a particular roadway. Traditionally, this technique has been applied to local residential streets and collectors and may include speed bumps, curb extensions, planted median strips or rounds and narrowed travel lanes.

Transit–oriented development – A mix of residential, retail and office uses and a supporting network of roads, bicycle and pedestrian ways focused on a regional transit stop designed to support a high level of transit use. The key features include:

(a) A mixed use center at the transit stop, oriented principally to transit riders and pedestrian and bicycle travel from the surrounding area;

(b) High density of residential development proximate to the transit stop sufficient to support transit operation and neighborhood commercial uses within the TOD;

(c) A network of roads, and bicycle and pedestrian paths to support high levels of pedestrian access within the TOD and high levels of transit use.

Transportation demand management (TDM) – Actions that are designed to change travel behavior in order to improve performance of transportation facilities and to reduce need for additional road capacity. Methods may include but are not limited to the use of alternative modes, ride-sharing and vanpool programs, car sharing, individualized marketing, and trip-reduction

ordinances. Public and private partners of the Regional Travel Options (RTO) Program implement TDM.

Transportation disadvantaged/persons potentially underserved by the transportation system – Individuals who have difficulty in obtaining transportation because of their age, income, physical or mental disability.

Transportation facilities – Any physical facility that moves or assist in the movement of people or goods including facilities identified in OAR 660-012-0020 but excluding electricity, sewage and water systems.

Transportation management associations (TMA) – This term refers to non-profit coalitions of local businesses and/or public agencies dedicated to reducing traffic congestion and pollution and improving commuting options for employees.

Transportation service – A service for moving people and goods, such as intercity bus service and passenger rail service.

Transportation system management (TSM) – Strategies and techniques for increasing the efficiency, safety, capacity or level of service of a transportation facility without increasing its size. Examples include, but are not limited to, traffic signal improvements, traffic control devices including installing medians and parking removal, channelization, access management, re-striping of HOV lanes, ramp metering, incident response, targeted traffic enforcement and programs that smooth transit operations.

Transportation system plan (TSP) – A plan for one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas.

Travel options – The ability to choose one or more modes of travel, including motor vehicle, walking, bicycling, riding transit and carpooling. Telecommuting is sometimes considered a travel option because it replaces a commute trip with a trip not taken.

Truck terminal – A facility that serves as a primary gateway for commodities entering or leaving the metropolitan area.

Undeveloped areas. These are areas of the region that are primarily new communities and recent additions to the urban growth boundary.

Urban form - The net result of efforts to preserve environmental quality, coordinate the development of jobs, housing, and public services and facilities, and inter-relate the benefits and consequences of growth in one part of the region with the benefits and consequences of growth in another. Urban form, therefore, describes an overall framework within which regional urban growth management can occur. Clearly stating objectives for urban form and pursuing them comprehensively provides the focal strategy for rising to the challenges posed by the growth trends present in the region today.

Urban growth boundary – The politically defined boundary around a metropolitan area outside of which no urban improvements may occur (sewage, water, etc.). It is intended that the UGB be defined so as to accommodate all projected population and employment growth within a 20-year planning horizon. A formal process has been established for periodically reviewing and updating the UGB so that it accurately reflects projected population and employment growth.

Urban Growth Management Functional Plan - A regional functional plan with requirements binding on cities and counties in the Metro region, as mandated by Metro's Regional Framework

Plan. The plan addresses such issues as accommodation of projected regional population and job growth, regional parking management, water quality conservation, retail in employment and industrial areas and the regional fish and wildlife protection program.

Vehicle miles of travel (VMT) – Automobile vehicle miles of travel. Automobiles, for purposes of this definition, include automobiles, light trucks, and other similar vehicles used for movement of people. The definition does not include buses, heavy trucks and trips that involve commercial movement of goods. VMT includes trips with an origin and a destination within the MPO boundary and excludes pass through trips (i.e., trips with a beginning and end point outside of the MPO) and external trips (i.e., trips with a beginning or end point outside of the MPO boundary). VMT is estimated prospectively through the use of metropolitan area transportation models.

Walkway – A hard-surfaced transportation facility intended and suitable for use by pedestrians, including persons using wheelchairs. Walkways include sidewalks, surfaced portions of accessways, paths and paved shoulders.

Wide outside lane – A wider than normal curbside travel lane that is provided for ease of bicycle operation where there is insufficient room for a bike lane or shoulder bikeway.

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 07-3793, FOR THE PURPOSE OF ACCEPTING THE CHAPTER 1 REGIONAL TRANSPORTATION POLICY FRAMEWORK AS THE PROVISIONAL DRAFT FOR THE PURPOSE OF COMPLETING PHASE 3 OF THE 2035 REGIONAL TRANSPORTATION PLAN (RTP) UPDATE

Date: March 1, 2007 Prepared by: Kim Ellis

BACKGROUND

Metro is the regional government responsible for regional land use and transportation planning under state law and the federally designated metropolitan planning organization (MPO) for the Portland metropolitan area. As the MPO, Metro is charged with developing the Regional Transportation Plan (RTP) that defines regional transportation policies that will guide transportation system investments in the Portland metropolitan region needed to achieve the 2040 Growth Concept. The RTP must be updated at least every 4 years, and be consistent with guiding federal, state, and regional transportation and land use policy and requirements. The RTP also serves as the threshold for all federal transportation funding in the Portland metropolitan region and describes how federal and state funds for transportation projects and programs will be spent in the region. An MPO must create an RTP that identifies the transportation investments it will make with those funds for at least a 20-year planning period, consistent with federal and state air quality requirements.

The Metro Council initiated the 2035 RTP Update on September 22, 2005 with approval of Resolution No. 05-3610A (For the Purpose of Issuing a Request for Proposals to Develop a Work Scope for an Expanded 2005-08 Regional Transportation Plan Update that Incorporates the "Budgeting for Outcomes" Approach to Establishing Regional Transportation Priorities). On June 15, 2006, the Metro Council and the Joint Policy Advisory Committee on Transportation (JPACT) initiated Phase 2 of the 2035 RTP update with approval of Resolution No. 06-3661 (For the Purpose of Approving A Work Program For the 2035 Regional Transportation Plan (RTP) Update and Authorizing the Chief Operating Officer to Amend Contract No. 926975).

The RTP is a key tool for implementing the Region 2040 vision as expressed by the 2040 Fundamentals. The 2035 RTP update work program and process relies on the eight 2040 Fundamentals as an expression of what the citizens of this region value to provide focus for what the RTP will address and monitor over time and to measure whether the plan is helping to maintain quality of life for the citizens of the region.

The 2035 RTP update represents the first significant update to the plan in six years. The update is anticipated to be complete by November 2007 to allow adequate time to complete air quality conformity analysis and federal consultation before the current plan expires on March 5, 2008.

Phase 2: Research and Policy Development (June 2006 to March 2007)
Since approval of the Regional Transportation Plan (RTP) update work program in June 2006, staff and the ECONorthwest team conducted research on the current transportation system. The research includes:

- Targeted public outreach through the website, Councilor and staff presentations to business and community groups, a series of five stakeholder workshops and public opinion research,

- An analysis of current regional transportation system conditions and policies, and relevant finance, land use, environmental, economic and demographic trends.

Chapter 1 Regional Transportation Policy Framework

Three working drafts of the Chapter 1 Regional Transportation Policy Framework were released on January 5 and February 15, 2007, respectively, that respond to the research findings, stakeholder outreach and public opinion research. Refinements have been made to respond to comments and issues raised by the Metro Council, Oregon Transportation Commission, Federal Highway Administration Division Office staff, the Joint Policy Advisory Committee on Transportation (JPACT) and other Metro Advisory Committees, including the Transportation Policy Alternatives Committee (TPAC), Regional Freight and Goods Movement Task Force, Metro Technical Advisory Committee (MTAC) and the Metro Policy Advisory Committee (MPAC). The comments and recommended refinements are summarized in Attachment 1 to the staff report.

MPAC and JPACT Differences on 2040 Design Type Hierarchy

The two committees differed on the recommendation for amending Table 1, which establishes a hierarchy for the 2040 design types. JPACT favored a narrower definition of primary land use components while MPAC favored more broadly defining primary land use components to include some main streets and town centers that would normally fall into the secondary land use components category.

The Chapter 1 Regional Transportation Policy Framework reflects the narrower definition recommended by JPACT. The relative trade-offs between these policy directions will not be able to be fully evaluated within the scope of the RTP update and should be examined in the New Look effort as well.

Phase 3: System Development and Analysis (March to August 2007)

Approval of this resolution accepts the Chapter 1 Regional Transportation Policy Framework as the provisional draft for the purpose of completing Phase 3 of the Regional Transportation Plan update work program. The Chapter 1 Regional Transportation Policy Framework will be used to guide the Phase 3 development and analysis of the 2035 RTP from March to August 2007. Phase 3 activities include:

- Create inventory of transportation needs that responds to policy framework system design and management concepts.
- Develop case studies that apply policy framework system concepts in select locations in the region to demonstrate applicability.
- Develop performance measures for RTP systems analysis and evaluation of the Chapter 1 Regional Transportation Policy Framework system concepts.
- Develop revenue forecast and project solicitation process procedures and selection criteria.
- Solicit regional projects and program investments that best meet the Chapter 1 Regional Transportation Policy Framework goals and objectives for the regional transportation system.
- Evaluate projects submitted by ODOT, TriMet, and local governments based on project solicitation procedures and selection criteria, and conduct system analysis.

Recommendations from the Phase 3 analysis will be forwarded to the larger New Look process and be used to develop a discussion draft Regional Transportation Plan to be released for public comment in September 2007. The Chapter 1 Regional Transportation Policy Framework will be updated and refined to reflect key findings from the Phase 3 work program.

Phase 4: Adoption Process (September to November 2007)
The discussion draft RTP will be released for a formal 45-day public comment period in September 2007. Public hearings will be held around the region. Refinements will be made to the plan to address comments received. MPAC, JPACT and the Metro Council action on the recommended 2035 RTP, will be pending air quality analysis to conducted during Phase 5.

Phase 5: Air Quality Conformity Analysis (December 2007 to February 2008)
The financially constrained system of projects and programs will be analyzed for effects on air quality to demonstrate the recommended 2035 RTP financially constrained system of projects conform to the Clean Air Act. A 30-day public comment period will be held on the analysis and subsequent conformity determination to gather input. Staff will seek approval of the conformity determination and RTP planning process from Federal Highway Administration and Federal Transit Administration by March 6, 2008, when current plan expires.

Post-RTP Adoption Activities and Periodic Review
The New Look planning process may recommend refinements to the 2040 design types and investment priorities as it moves forward to prepare for Metro's next periodic review. Refinements will be addressed to the extent possible in this RTP update, but may also be addressed during future amendments or updates to the RTP.

ANALYSIS/INFORMATION

1. **Known Opposition -** No known opposition.

2. **Legal Antecedents** - On September, 22, 2005, the Metro Council initiated Phase 1 (Scoping) to update the RTP with approval of Resolution No. 05-3610A (For the Purpose of Issuing a Request for Proposals to Develop a Work Scope for an Expanded 2005-08 Regional Transportation Plan Update that Incorporates the "Budgeting for Outcomes" Approach to Establishing Regional Transportation Priorities). On June 15, 2006, the Metro Council initiated Phase 2 of the 2035 RTP update with approval of Resolution No. 06-3661 (For the Purpose of Approving A Work Program For the 2035 Regional Transportation Plan (RTP) Update and Authorizing the Chief Operating Officer to Amend Contract No. 926975). The RTP update fulfills both state and federal transportation planning requirements, and will result in continued compliance with federal regulations that require the RTP to be updated at least every four years, and state regulations that require the RTP to be updated every five to seven years.

3. **Anticipated Effects –** Approval of this resolution accepts the Chapter 1 Regional Transportation Policy Framework as the provisional draft for the purpose of completing Phase 3 of the Regional Transportation Plan update work program. The Chapter 1 Regional Transportation Policy Framework will be used to guide the Phase 3 development and analysis of the 2035 RTP from March to August 2007. The Chapter 1 Regional Transportation Policy Framework will be updated and refined to reflect key findings from the Phase 3 work program.

4. **Budget Impacts -** None.

RECOMMENDED ACTION

Staff recommends approval of Resolution 07-3793, with Council direction to reconcile differences between the JPACT and MPAC recommendations on the hierarchy of 2040 design types, as shown in Table 1 of Exhibit "A," as part of the RTP Update Phase 3 RTP work program and as part of the New Look.

ATTACHMENT 1
Staff Report to Resolution No. 07-3793

METRO

Chapter 1 Regional Transportation Policy Framework
Summary of Comments Received and Recommendations
(comments received January 5 through February 14, 2007)

This document summarizes comments received in writing and during discussions of the Metro Council, Metro advisory committees and the Oregon Transportation Commission. Except where noted, recommendations were incorporated into the Recommended Draft (dated February 15, 2007).

Comment #	Comment	Source	Recommendation
1.	Expand preface to describe proposed changes from cover memo and rationale for a new approach for the RTP	Metro Council	Added language.
2.	Vision is over used throughout overview – 2040 is the vision. Add language that RTP is also a capital plan, implementation strategy and binding document that directs expenditures in the region.	Metro Council	Added language and reference to Chapter 1 as a policy framework.
3.	Vision section needs to be clear and focused. Subsequent sections should flow from vision to goals to objectives and performance measures	City of Beaverton	Added language.
4.	Expand notion of economic competitiveness beyond the region to be "global competitiveness." The Portland region's transportation system is critical to the state's economy and global competitiveness and serves as a global gateway for trade and tourism.	Oregon Transportation Commission, Freight Task Force	Added text to this effect in executive summary and new Goal 2.
5.	Page 1 - Add "and threatens the environment and quality of life" to the first bullet	Metro Council	Added language.
6.	Define the major transportation system (page 3)	City of Tualatin and City of Milwaukie	Changed text to refer to "regional transportation system" and added definition to glossary.

Comment #	Comment	Source	Recommendation
7.	Add language to the preface that the region now has a better understanding of the relationship between an efficient transportation system and economic health.	Port of Portland	Added language.
8.	Expand notion of economic competitiveness beyond the region to be "global competitiveness."	Oregon Transportation Commission, Freight Task Force	Added text to this effect. in preface and new Goal 2.
9.	Clarify the goals and measurable objectives are provisional to be used to analyze RTP scenarios and may be refined based on findings from this research.	Metro Council	New language to be added describing this. Currently addressed in cover memo.
10.	Add language to the preface that the region now has a better understanding of the relationship between an efficient transportation system and economic health.	Port of Portland	Added language.
11.	Clarify that RTP vision recognizes that some capacity investments will be necessary.	TPAC workshop, Freight Task Force, Oregon Transportation Commission, JPACT	Added new language describing this.
12.	Memo, Page 3 - First bullet describes a reasonable approach for transit, but may be incomplete. Overlapping radial systems make sense, especially on the Westside where a grid system is not easily carved out, but only if and when centers mature to the point where they can generate enough demand. A roadway network that is relatively complete and more grid-like, however, is preferred as it affords easy transfers at route intersections and allows travel from almost any point to almost any point without out-of-direction travel through a center. We suggest rephrasing this description to something more like: "The transit system map will be expanded to reflect a design and management approach for providing service that allows convenient movement to, from, and between 2040 centers. In parts of the region where development focuses on centers, the approach will move more toward providing radial systems serving centers, with overlap and connections providing the complex web of transit options necessary to serve growing demand. In areas where development focuses on Mainstreets and within larger regional centers, the approach	Trimet	Added language to executive summary and transit concept sections as proposed.

Comment #	Comment	Source	Recommendation
	will be to complete grid systems allowing convenient transfers for multi-destination trips."		
13.	Memo Page 3 - First bullet describes a reasonable approach for transit, which TriMet has been moving to since the early 1980's as we developed regional transit centers and more crosstown bus service. The description in the rationale is misleading. Suggest new wording as follows: " Significant growth in population and jobs in the areas outside the Central City are difficult to serve with the Central City focused hub-and-spoke system that developed for most of the 20th century. Beginning in the 1980's with a major redesign of the eastside bus routes and continued development of transit centers throughout the region, TriMet began to respond to changing travel patterns in the region. This statement represents a deepening commitment to this approach, especially in parts of the region outside the older neighborhoods of Portland's eastside, where the road infrastructure and topography do not easily lend themselves to such a grid system. RTP background research demonstrated growing demand and desire for a web of convenient travel service connections between suburban areas of the region that remain also linked to the Central City. This is also consistent with dispersing travel patterns and more demand for transit trips that do not involve the Central City throughout the country, even though Central City demand remains high. The RTP vision retains...." (continue as written originally)"	Trimet	Added language to executive summary and transit concept sections as proposed.
14.	It is difficult to find the transportation focus in this opening chapter of the Regional Transportation Plan. The current focus is about land use and attaining land use goals through other means, specifically by controlling transportation. A transportation plan should first and foremost include transportation goals, and meet transportation needs while also considering other factors and needs, such as land use, human health, and the environment.	FHWA	The draft framework is very much about the regional transportation system and its role in shaping our communities and our region to achieve the Region 2040 vision. In the Portland metropolitan region, the RTP serves as the Metropolitan Transportation Plan under federal law, but also as a regional transportation system plan under state law and a regional functional plan under the Metro charter. All of the goals and measurable objectives represent goals for

Comment #	Comment	Source	Recommendation
			the regional transportation system that recognize that investments in the transportation system cannot be made in isolation and need to go beyond merely "considering other factors and needs such as land use, human health and the environment." We believe recent changes in federal legislation – including approval of SAFETEA-LU and efforts to better link NEPA and transportation planning - support more meaningfully addressing these important, and publicly valued, components of our region in addition to the economy, which was not mentioned in your comments. Language has been added to the Version 2.0 draft to further emphasize this focus.
15.	Clarify transportation decisions are land use decisions and vice-versa.	Metro Council	Added language to executive summary and following Table 1.
16.	Ethics of sustainability overlap with 2040 Fundamentals and are confusing given public outreach focused on the 2040 Fundamentals	ODOT	Deleted section.
17.	Map the eight goals back to the 2040 fundamentals for consistency and clarity.	ODOT	Added new Table 4 showing how RTP goals relate to 2040 Fundamentals.
18.	Employment areas should be considered a secondary priority land use	TPAC workshop	Revised Table 1.
19.	The land use design types listed do not match Metro's own hierarchy of 2040 design types, which only identifies the Central City, Regional Centers, Regionally Significant Industrial Areas (RSIAs), and Intermodal Facilities as Primary land use components. Other Industrial Areas, Station Communities, Town Centers, Main Streets and Corridors are secondary land use components. Employment Areas rank last along with Inner and Outer neighborhoods. In addition, the list of priority land use design types is simply too long to meaningfully prioritize transportation investments. There is likely not enough money to meet the transportation needs of all the Regional Centers, RSIAs and Intermodal	ODOT	Added new language added to clarify recommended investment priorities. Moved employment areas to secondary land use components. Application of this hierarchy to new urban areas with adopted concept plans is also described.

Comment #	Comment	Source	Recommendation
	Facilities, let alone the secondary or tertiary land use components. Metro must decide what its policy is for prioritizing between investments that benefit certain land use design types, between developed, urban areas and newly urbanizing areas, and between intraregional circulation versus mobility of through traffic.		
20.	Page 3, second paragraph: We agree that generally transportation is a means to an end, not a goal in itself. However, the description of Quality of Life seems incomplete: people do value the ability to get to all the wonderful things the region and the state have to offer. The proximity and accessibility of the natural, cultural, community and social amenities of the region are very much part of the quality of life, and this has been expressed in some of the workshops we have attended. Conversely, congestion is seen as a detriment to quality of life.	ODOT	New language added to connect quality of life impacts to congestion.
21.	Page 6, third paragraph: the bulleted items are called "outcomes", but it is not clear what the purpose of this paragraph is. It seems to be yet another listing of the same words that are found under sustainability, 2040 fundamentals, and RTP Goals.	ODOT	Deleted bulleted items as they are repetitive of goal statements that followed.
22.	Expand 2040 Fundamental #2 that a healthy economy also supports the region's gateway function for the rest of the state."	Port of Portland	Added this idea to new Goal 2 , Objective 2.2 and the preface.
23.	Clarify that the primary mission of the RTP is to support and implement the region 2040 vision, not managing growth.	Port of Portland and JPACT	Added language to overview in Section 1 and after Table 2.
24.	Include Institutions in list 2040 Design Types throughout document (Table 1, 2040 Fundamentals, Objective 1.1, Objective 1.3, Objective 3.2.1, Objective 3.2.4, and Objective 7.3).	Thomasina Gabrielle	No change. This comment has been forwarded to the New Look process. The RTP responds to the current 2040 design types – which does not specifically call out institutions.
25.	Chapter 1, Page 1 - Paragraph after the quote, first sentence. Suggest simplifying to: "This preamble to the Metro Charter, especially the emphasized passage above, lays the groundwork...". (continue as before)	TriMet	Revised language as proposed.
26.	Page 4 - Just a note that may be worth stating. The 6 fundamentals all fit into the RTP in terms of providing access	TriMet	Added language as suggested.

Comment #	Comment	Source	Recommendation
	and mobility, but access (e.g., enabling good clustering of land uses, walkability, etc.) is different from mobility (driving, even transit in some ways). The distinction can get lost.		
27.	Table 1 - a new category is needed for "regionally significant industrial areas" and for "intermodal facilities" to guide the RTP. They can still be Primary Land Use Components, but they have such different needs than the Central City and Regional Centers, we're fooling ourselves to try to lump them together. Suggest Primary Industrial/Employment (which would incorporate Regionally significant industrial areas, as well as all freight-focused intermodal facilities) be separated from Primary Mixed-Use (Central City, Regional Centers and passenger focused intermodal facilities). Also, provide some clarity for where passenger-focused facilities like PDX and Union Station come in.	TriMet	Added language and definitions to address this comment.
28.	Clarify "regional" system includes: limited-access facilities (throughways), regional and community arterials, regional transit service as defined in the draft and bike and pedestrian facilities on all regional streets.	TPAC workshop and Lake Oswego	Added this definition to the glossary and text and expanded to include freight rail, marine and air systems.
29.	Describe RTP vision for the local street system in more detail. Clarify role of local and collector streets in supporting the larger regional system.	TPAC workshop	Added current RTP language.
30.	Clarify what parts of the policy framework apply to local transportation system plans (TSPs)	TPAC workshop	Added language that entire chapter directs all transportation planning and project development activities in the Portland metropolitan region, and are therefore enforceable in local transportation system plans.
31.	Freight rail needs to be a key part of the RTP as well as freight movement to the region, not just within the region.	Oregon Transportation Commission	Added language on the importance of rail connections in the executive summary and new Goal 2. Forwarded comment to the Regional Freight and Goods Movement Plan effort, which will more specifically address freight rail needs in the region and make recommendations to the RTP process.
32.	The plan should allow for highway expansion as a viable	FHWA	Agreed. The proposed framework does not

Comment #	Comment	Source	Recommendation
	alternate. The transportation solution for a large and vibrant metropolitan region like Metro should include additional highway capacity options along with maximizing use of the existing system and land use choices.		preclude "highway capacity options" as suggested in this comment. The RTP policy framework, similar to the Oregon Transportation Plan, is focused on maximizing the efficiency of the existing system prior to expanding right-of-way. New road and capacity construction is an important option after system management, demand management and land use strategies are exhausted.
33.	The plan should acknowledge that automobiles are the preferred mode of transport by the citizens of Portland…they vote with their cars everyday.	FHWA	Added language to the executive summary to better explain trends and research findings related to this comment. The RTP does acknowledge that automobiles are the preferred mode of transportation for the majority of the residents of the Portland metropolitan region as evidenced by current mode shares in the region. However, SAFETEA-LU, the Oregon Transportation Plan and the Oregon Transportation Planning Rule require the provision of multi-modal transportation options that includes walking, bicycling and transit to respond to transportation needs of people who cannot rely on the automobile to get around. The importance of this strategy was re-affirmed in our scientific public opinion research and series of stakeholder workshops that we conducted. The RTP has a responsibility to all the residents of the region – and not everyone in the region can afford to own and operate a car. In addition, U.S. census data shows a significant portion of the region is under the age of 18 and increasingly over the age of 65. System balance, as proposed in the current plan and emphasized in the policy framework, is also important to that

Comment #	Comment	Source	Recommendation
			relationship because it relieves the burden off any one mode of travel – most notably highways and regional arterials, and helps keeps business and commerce moving reliably. Finally, our last travel behavior survey demonstrated that if people have convenient options other than driving they will use them.
34.	The plan should not make sweeping statements about fewer funds available now than in the past. There are more funds in federal programs with each passing reauthorization.	FHWA	Language has been added to the executive summary of the draft framework to better explain the trends and research findings related to this comment. Despite more funds being included with each passing reauthorization, the point being made is that Federal and state transportation sources are not keeping up with growing needs for a variety of reasons. Federal funding in this region has gradually declined since the 1950s when states such as Oregon received 90 cents of federal money for every 10 cents a state spent on interstate highways. In addition, at current spending levels and without new sources of funding, the federal highway trust fund is anticipated to go broke in 2009. State purchasing power is steadily declining because the gas tax hasn't increased since 1993 and is not indexed to keep up with inflation. Combined with rising prices for all petroleum products—not just fuel—the funding situation in this region (and state) has risen to crisis levels.
35.	Create separate goals for Compact Urban form and Economic competitiveness.	Metro Council, TPAC workshop, JPACT, ODOT, City of Beaverton, Washington County,	Added new Goal 2 on sustainable economic competitiveness and prosperity.

Comment #	Comment	Source	Recommendation
		Freight Task Force, Sreya Sarkar (TPAC citizen), TriMet	
36.	• Move objectives 1.2, 1.3 and 1.4 to new Economic prosperity and global competitiveness goal. • The importance of mobility and the economy are described well in the text, but the framework lacks objectives that tie the two topics. • There needs to be clear illustration of how the Transportation system implied by these policies will positively contribute to a Healthy Economy	TPAC workshop and Washington County	Changed objective 1.2 to new Goal 2 and moved Objective 1.4 to be under new Goal 2.

37.	• There should be clearer policy guidance regarding priorities for investments.
	• How should the RTP phase/prioritize investments to achieve desired "end state" and still be flexible throughout sub-areas of region?
	  • What criteria should be used to prioritize investments—does network concept leave behind or support investments in centers and other 2040 priority land uses (e.g., industry) as well as bike and pedestrian improvements?
	  • How should critical freight connections be defined and investments prioritized? Performance measures for freight but without a freight corridor definition, what is a freight improvement over any other type, how do you prioritize?
	  • What is the hierarchy of system links within the network concept and 2040 uses overall? Main streets are important and have competing service needs and design challenges.
	  • What is the process for prioritizing projects and how will jurisdictions be involved?
		TPAC workshop, JPACT, ODOT, Oregon Transportation Commission, Clackamas County and City of Beaverton	Added new language from current RTP and advisory committee discussions to establish priorities. The objectives establish investment priorities within each goal. The highest priority investments would be those that are cost-effective and meet multiple goals and objectives. Language has been added to describe this better.

38.	Transportation management goals should define peak and off-peak travel time objectives.	City of Tualatin	Added to Objective 4.1.
39.	Describe how person-trip capacity will be defined.	City of Tualatin	This measure is under development and will be further defined during Phase 3. It will rely

Comment #	Comment	Source	Recommendation
			on current measures of capacity and volumes for a specific corridor.
40.	Consider measures on non-freight product or value of products for Objective 1.2	City of Tualatin	To be addressed by Regional Freight TAC during Phase 3.
41.	Clarify Objectives 3.2.6 and 3.2.7 for bike and pedestrian facilities apply to regional streets, not all streets.	TPAC workshop and Lake Oswego	Added "regional" to the text.
42.	Need to balance between development of existing centers and new centers; UGB expansion; [current framework puts] repeated reference to "compact urban centers" puts too much emphasis on existing centers at the expense of new centers; too much emphasis may encourage inappropriate infill and push growth outside the UGB	City of Gresham	Updated goal 1 to focus on great communities, of which compact urban form is a part, and added language describing Table 1 as applying to existing UGB and UGB expansion areas with adopted concept plans.
43.	Add street car to objective 3.2.4	Michael Powell, Freight Task Force	Added language.
44.	Page 20, Goal 7: the Goal statement uses the words "maximize public investment in infrastructure". Is the intent here to say "maximize return on public investment"?	ODOT	Revised text as proposed.
45.	Page 20, Objective 7.3: there needs to be more clear direction and performance measures for protecting public investments in transportation. This is where the Region needs to take a policy position about access management on both throughways and arterials. There should be a policy that there will be no interchange improvements without an Interchange Area Management Plan.	ODOT	These are important actions and implementation strategies that will be have been added as potential actions that will be refined during Phase 3 of the process.
46.	Page 21, Goal 8 and Objective 8.1: representative decision-making should encompass much more than geographic distribution of JPACT and MPAC. There should also be mention of representation by gender, age, race, minority status, income, and stakeholder interest (e.g., business, freight, neighborhoods). Accountability does not seem to be the right word for the notion of a seamless system that this Goal covers. The OTP refers to this as "an integrated transportation system across jurisdictions, ownerships and modes".	ODOT	Goal 8 is intended to get at the notion of a seamless system. This goal is calling out the idea that it is the collective responsibility of the system owners and operators to ensure that happens as part of being accountable to residents and businesses in the region. Additional proposed measures under Objective 8.1 will be developed.
47.	Objectives 1.1 and 7.3 speak to reinforcing growth in certain land use areas, but does not actually state that	ODOT	Added new language to establish priorities.

Comment #	Comment	Source	Recommendation
	transportation investments that serve those areas are a higher priority than investments that do not serve "centers, industrial areas, intermodal facilities, corridors and employment areas".		
48.	Goal 1: Compact Urban Form seems vague in its intent, referring to "integrated decisions" rather than a transportation system that supports a compact urban form.	ODOT	Refined goal and objective language to be more specific.
49.	Page 7, Objective 1.5: Travel Choices: this does not belong under Compact Urban Form and Economic Competitiveness. Maybe Travel Choice is a Goal in itself, with both a person travel and freight component.	ODOT	Moved Objective 1.5 to under Goal 3 and added new objective to new .Goal 2 addressing freight travel choices.
50.	Page 9, Mobility and Reliability Goal: The title of this goal is not reflected in the underlying text, which only talks about connectivity and travel choices. The goal should to address the movement of people and goods.	ODOT	Revised title of goal to be "Reliable People and Goods Movement."
51.	Page 9, Mobility and Reliability: Objective 3.1 and 1.4 are duplicative. Access to industrial areas and through movement of freight should be addressed under this goal, as well as the economic costs of congestion.	ODOT	Deleted objective 3.1.
52.	Goal 3 Mobility and Reliability – While Mobility is identified in the Goal, it doesn't seem to show up in the policies at all. And what happened to accessibility? Please don't just jettison old terms and adopt new ones. Keep old ones, and make sure ALL terms have clear definitions that all can understand.	Washington County	Expanded glossary and added language on accessibility.
53.	Page 9, Goal 3: the Goal is about Mobility and Reliability, yet all the Objectives are about Connectivity. While connectivity is a good thing, it is not sufficient to address mobility. The connectivity objectives and measures must be supplemented with measures for mobility 1) to demonstrate that the system will actually work; 2) to comply with the Oregon Highway Plan, and 3) to guide transportation investment decisions in all those instances where a fully connective multimodal system does not exist and is not likely to be developed due to existing land use, topographic, and/or environmental constraints, and 4) to prioritize investment decisions between now and the buildout of the envisioned fully connected system.	ODOT	Added new objective for system connectivity, mobility, system management, and demand management.. Measures from Freight TAC work will be incorporated into performance measures.

Comment #	Comment	Source	Recommendation
	Specifically, Objective 3.2, 3.2.1 and 3.2.5 on page 9 must include specific measures recommended by the Freight TAC and Task Force. The "percent of industrial areas and intermodal facilities served by direct arterial connections to throughways" is an accessibility measure, not a connectivity measure. What does "direct arterial connection" mean? ODOT supports inclusion of a measure of accessibility for industrial areas and intermodal facilities, but this should be expressed in terms of travel time (not as a percentage), and should be supplemented with a measure for through mobility on key regional freight routes. For businesses and freight interests it is not enough to physically be able to get to the freeway – they have to be able to do so reliably, in a reasonable amount of time, and they must be able to maintain a certain reasonable travel speed once on the freeway, at least during off-peak times.		
54.	It is not clear how the proposed alternative measures will apply to facility design. There is language under "Street Design Elements" on page 12 to suggest that freeways and highways should be 4-6 lanes, and Regional Arterials should be four lanes, but the language appears to be descriptive rather than directive. There is no clear legal policy language (i.e. Goal, Objective, or Performance Measure language) addressing street design. Page 9, Goal 3: the street design concepts on page 12 should be expressed in terms of Policy (Goal, Objective, or Performance Measure) language in order to be legally enforceable.	ODOT	Added language that entire chapter directs all transportation planning and project development activities in the Portland metropolitan region, and are therefore enforceable in local transportation system plans. In addition, added new language that clarifies the concepts are ideals that may not be applicable in all desired locations because of streams, existing development patterns and topography.
55.	Page 9, Goal 3: there should be an Objective for Local Street Connectivity, similar to the current RTP.	ODOT	Added local street connectivity objective from current RTP.
56.	Page 11, Objective 5.2: this seems like an incomplete list of the types of natural environments to protect.	ODOT	Expanded list to include wildlife and fish habitat and corridors.
57.	Page 11, Objective 5.4: the top 4 measures listed do not measure or contribute to human health. Add a measure about walk and bike trips to school.	ODOT and DEQ	Added proposed measure.

Comment #	Comment	Source	Recommendation
58.	Page 16, Transportation Management Concept: the text says that the first 5 Goals and Objectives also address System Management, but they do so only in a very incomplete way. There needs to be a specific Policy or Goal similar to the OHP Major Improvements Policy to state that before adding new capacity one must demonstrate that feasible TSM, TDM, and modal alternatives have been applied to the maximum extent possible, consistent with the Multi-Modal Corridor Capacity Concept. In addition, performance measures for TSM and TDM must be developed.	ODOT	Added new objectives specifically addressing system and demand management concepts. Performance measures will be developed during Phase 3.
59.	Equitable access and mobility should be brought under one category. Important and should be highlighted.	Sreya Sarkar, TPAC	No change recommended to emphasize access and mobility as separate goals in Goals 3 and 4.
60.	Safety and Reliability could be put under one goal. Safety should address not only accidents/crash on roads but also safety at the bus/train stations, especially at very early and late hours Human health might be somewhat related to the safety goal.	Sreya Sarkar, TPAC	Added language to expand security objective to get at personal safety.
61.	Under Goal 2's objectives (p. 8) Objective 2.2 states that providing a *"coordinated system that is barrier-free and serves the transportation needs for all people, including low income…"* is one of the objectives. Has there been any investigation that brings out the main transportation 'barriers' of the low income and minority population?	Sreya Sarkar, TPAC	No change recommended. The series of stakeholder workshops and other documents RTP research identified barriers that will be addressed during Phase 3 as part of the system development and analysis.
62.	Effective people and goods movement (3.2): Corridor approach needs more discussion.	City of Gresham	Added language to more clearly describe the corridor approach in executive summary and system design concept discussion. The corridor approach is a system evaluation and monitoring tool and will use the system gap inventory and such performance measures, delay and volume-to-capacity to inform phasing of investments.
63.	Objective 4.2 appears to duplicate objectives 4.1 and 4.3	City of Beaverton	Deleted Objective 4.2.
64.	Consider percent of culverts that are fish friendly instead of number of culverts for Objective 5.2	City of Beaverton	Updated measure to include "percent."

Comment #	Comment	Source	Recommendation
65.	Objective 5.3 should be broadened to have emissions reductions as a goal.	City of Beaverton	Updated objective.
66.	Goal 3 – Add services to list of destinations.	Thomasina Gabrielle	Added reference to Goal 3.
67.	Goal 6, Objective 6.3 and Goal 8 – Add institutions to the list of participants.	Thomasina Gabrielle	Added references to Goal and objectives.
68.	There is no adequate measure for the transportation system's contribution to job creation and economic growth and competitiveness. Recommend a measure of economic benefits of transportation improvements (or conversely – economic costs of failing to make certain transportation improvements) along the lines of the "Cost of Congestion Study" to help prioritize transportation investments.	ODOT	Added a placeholder "Cost of congestion measurement" as potential performance measure that will be further defined in Phase 3. The draft policy framework also calls out the need develop measures for the economic value of freight and goods movement, 2040 centers and other priority land uses and bike tourism and other recreational uses.
69.	The plan should include a measure of the movement of people on the highways in both the peak and off-peak periods. The objective is to efficiently and effectively move people, goods, services, and information. A potential performance measure only relates to tons of freight movement off-peak. Performance measures should also include freight travel time, person travel time, and hours of peak and off-peak congestion on major facilities, and a measure to assess peak spreading.	FHWA	Agreed. Updated objectives under a new Goal 2 and Goal 4 address this in part. Additional freight and goods movement-related measures will be developed through the Regional Freight and Goods Movement TAC and Task force. These measures along with other measures to assess peak-hour spreading will be integrated into the policy framework during Phase 3.
70.	Measuring freight delays at regional freight corridors may miss the complete picture. Freight has to serve the region at the collector level to improve connectivity. There are also more sophisticated measures of reliability than daily truck delay that should be employed.	FHWA	Agreed. Additional freight and goods movement-related measures will be developed through the Regional Freight and Goods Movement TAC and Task Force. These measures will be integrated into the policy framework during Phase 3. The Task Force will also recommend a freight system plan to prioritize and protect critical freight links.
71.	The plan should provide convenient and safe parking spaces in sufficient numbers at reasonable prices.	FHWA	No change recommended. The RTP does not provide parking, local governments do through local comprehensive plans and land use decisions. Parking management is

Comment #	Comment	Source	Recommendation
			appropriately included as an objective under Goal 1. Metro's 2005 Modal Targets study found that parking management is one of the most effective strategies for supporting transit-supportive development, increasing walking, bicycle and use of transit and minimizing impacts on the environment by using land more efficiently.
72.	Part of providing security is preventing crime on all modes of transportation, including transit.	FHWA	Agreed. Objective 5.3 has been revised to include a reference to crime specifically.
73.	There should be a goal of reducing transportation fatalities, injuries, and accidents for all modes. Look at frequency and exposure (travel) measures, not just per capita.	FHWA	Agreed. Goal 5 and updated Objective 5.1 addresses this comment.
74.	The plan should strive to improve the flow of mixed mode facilities for all vehicles. This includes the provision of bus bays for loading and unloading.	FHWA	Agreed. The draft policy framework is focused on improving the flow of mixed mode facilities for all modes of travel. TriMet and local governments already implement road design treatments such as bus bays in some locations, depending on a variety of factors. The RTP appropriately does not direct when those treatments should be applied.
75.	There should a measure of the cost per person trip in Goal 7.	FHWA	Agreed. This measure has been added to the list of possible performance measures. A final recommended set of measures will be developed and integrated into the policy framework during Phase 3.
76.	Goal 8 should measure congestion, safety, freight movement.	FHWA	Agreed that these are important measures; however, these types of measures are more appropriately included under Goal 2, Goal 4 and Goal 5.
77.	Add land use objective to transportation choices goal.	TriMet	Objective to be added.
78.	Page 5, Goal 3 – This should go a step further to include "livable streets" with complete pedestrian and bike features.	TriMet	No change recommended. This is described in street system concepts descriptions
79.	Page 8, Measures for Objective 2.1 - suggest adding: Percent of homes and parks within one-half mile access (via	TriMet	Added as recommended.

Comment #	Comment	Source	Recommendation
	neighborhood streets) of bike lanes or bikeways.		
80.	Page 8, Measures for Objective 2.2 – Suggest a revision to "Percent of seniors and people with disabilities within one-quarter *mile via continuous sidewalks/protected crosswalks* of regional transit service."	TriMet	Added as recommended.
81.	Page 9, Measures for Objective 3.1 - Add words "off-peak" and consider both auto and transit.	TriMet	Added as recommended.
82.	Page 9, Goal 3 statement – As noted at the January 29th JPACT retreat, need to be clearer about what (limited access) throughways really are. This looks like the RTP is calling for freeways to every industrial area. Consider separating industrial areas and freight intermodal facilities into separate objective that allows calling for truck-route access to throughways, rather than direct throughway access to all.	TriMet	Added language to clarify the type of access desired for these areas in the regional freight and goods movement concept. This will be further refined during Phase 3 during development of the critical freight corridors map and application of the system concepts to=o identify transportation needs and support 2040 land uses..
83.	Page 9, Objective 3.2.4 - Consider two-tier 1/4 mile and 1/2 mile distances. 1/2 mile is still only a ten-minute walk - if there are sidewalks and still may have a level of acceptability in places where densities do not otherwise support a more dense transit network.	TriMet	Added as recommended.
84.	Page 9, Objective 3.2.5 - Consider adding access to rail as a potential measure, given the preferred performance of rail for long-distance freight movement. Also, how does small-truck freight (which may not need a "throughway") play into this objective?	TriMet	Added as recommended.
85.	Page 9, Objective 3.2.2 - While 1/2-mile access to transit is a widely considered standard, it may be inappropriate to call for regional transit service on all arterial streets. We must look at spacing and coverage instead. More frequent service on fewer streets that still allows walk access is far better than less frequent service on every arterial. This is probably mostly an issue only in eastside grid. Change "all" to "most."	TriMet	Added as recommended.
86.	Page 9, Objective 3.2.6 - Some measure of bikeway continuity should also be included.	TriMet	Added as recommended.
87.	Page 9, Objective 3.2.7 - Should also recognize the importance of continuity of the sidewalk network. Another measure should be intervals of safe (controlled) crossings of major arterials (1/2-mile minimum?).	TriMet	Added as recommended.

Comment #	Comment	Source	Recommendation
88.	Page 10, Objective 3.10 - Continuity should be considered as well.	TriMet	Added as recommended.
89.	Page 10, Objective 4.1 - Add ped/bike injuries fatalities as a separate measure.	TriMet	Added as recommended.
90.	Page 10, Objective 4.2 - Specify time span for SPIS locations addressed (in last five years?).	TriMet	Added as recommended.
91.	Page 10, Objective 4.3 – Framework should include measures of personal safety and of national security / independence from foreign oil.	TriMet	Added placeholder measures to be further defined during Phase 3 as recommended. These objectives will be difficult to meaningfully measure.
92.	Page 11, Objective 5.1- Possible measure percentage growth in centers vs undifferentiated areas/urban fringe. Could also measure the percent of zoning capacity utilized by redevelopment – similar to some of the analysis used in the streetcar "Hovee" study.	TriMet	Added as recommended.
93.	Page 11, Objective 5.3 - Any way to track air quality-related health incidents (incidence of childhood asthma or cancers?)	TriMet	Added as suggested.
94.	The aspirational street design elements seem to make sense where a region has much land yet to develop, but not in a region where the network already substantially exists and functions a certain way based on the existing land use.	FHWA	Phase 3 of the RTP update will apply these aspirational design elements to the region to identify gaps for each mode of travel - including freight and motor vehicle system capacity needs/bottlenecks as well as gaps in the transit, bike, and pedestrian networks.
95.	There typically are challenges when an MPO uses a classification system that differs from the highway functional classification system utilized by FHWA and the States. Preferably the same system should be used, but if not, there should be clear translation to delineate consistently how one MPO classification falls into one in the FHWA/State system.	FHWA	Agreed. A table will be developed as part of the federal and state findings documenting how the RTP classification system matches up and is consistent with the highway functional classification system used by FHWA and ODOT.
96.	Describe how street design elements will apply to areas with existing development, streams and topography and new urban growth boundary expansion areas.	City of Tualatin , City of Portland, Clackamas County and TPAC workshop	Added language to better describe the design elements as being aspirational ideal and that application of them will need may not be appropriate in all areas due to existing development patterns, topography and other environmental considerations.
97.	Add cross-section illustrations of the street design elements.	TPAC workshop	Added illustrations.

Comment #	Comment	Source	Recommendation
98.	Page 12 through 18: what is the legal meaning of the text on pages 12 through 18 and how do these concepts apply to the actions of transportation providers when they are not expressed in legally adopted policy language?	ODOT	Added language that entire chapter directs all transportation planning and project development activities in the Portland metropolitan region, and are therefore enforceable in local transportation system plans.
99.	All streets, including Collector and Local streets should comply with AASHTO design widths.	FHWA	AASHTO establishes guidelines not standards that should be considered by local governments in the design of local and collector streets. Metro's Livable Streets handbooks are consistent with AASHTO guidelines.
100.	The transportation management chapter should acknowledge that this is a limited concept and that eventually added demand will necessitate system capacity improvements.	FHWA	Agreed. Added language that capacity will be needed.
101.	Page 12, Throughways: We are not sure what it means that freeways and highways are described as "4 – 6 lanes". Does that include auxiliary lanes? Does that mean there can never be more than 6 through travel lanes? This needs to be discussed more. Perhaps should be wider [in certain cases]. Page 12 - For throughways, clarify number of lanes in each direction. This definition doesn't square with a desire to get these to every industrial area (see comment above for Objective 3.2.1). A suggestion would be to change or eliminate Objective 3.2.1.	TPAC workshop, ODOT, TriMet, JPACT	Added language that describes the ideal throughway design as six <u>through</u> lanes. Auxilliary lanes would be in addition to the six lanes. The purpose of the policy is not to design every facility, but rather, to establish an expectation of what is typical in sizing the system. A process for exceptions to this typical design will be developed during Phase 3 and will be included in Chapter 7 of the plan.
102.	There is a new over-emphasis on efficiency, and it is potentially at the expense of roadway capacity and safety. All three need to be carefully considered in deciding what projects to include in the plan. For example, the working draft appears to limit "throughways" to 6 lanes. Demand in some circumstances may warrant more lanes and extra capacity. While the LOS policy needs to be re-examined, applying a systems network exclusively as a beginning tool suggests all existing capacities are adequate and the congestion issues can be addressed by improving efficiency.	Washington County	Added language to state that some capacity will be needed to achieve the regional street system concept. The systems concept is not intended to imply that all existing capacities are adequate or that congestion will only be addressed by improving efficiency. The policy framework does describe the need to implement management strategies to optimize performance of the system. The concept does not throw out LOS. The

Comment #	Comment	Source	Recommendation
	This may not necessarily be correct. Throwing out LOS as a measure to use in a new policy seems premature.		framework recommends LOS be used as a diagnostic tool to monitor the system and inform project development activities.
103.	Capacity and Level Of Service measures are route and mode specific and cannot be applied collectively to the disparate highway types and modes in a corridor. Total person trip capacity does not reflect the actual capacity or congestion in the region. All trips are not transferable between/among modes. The available capacity in one mode may not reflect system conditions. LOS still serves an important purpose for roadway system performance and is a good indicator of current and projected service conditions of the facility.	FHWA	That is correct, and the reason why LOS is not proposed to be eliminated as suggested by this and other comments. LOS is retained as an indicator to monitor and evaluate current and future road system performance. Language has been added to the policy framework to more clearly describe this. The proposed person-trip capacity measure will be volume and capacity based, but applied to a series of interrelated corridors. This measure is recommended to complement LOS along with other measures. Additional work will be conducted to develop this new measure.
104.	Page 14 -15, High Capacity Transit: distinguish between BRT on separate lanes vs. shared lanes. This affects the speed and reliability of the transit, and is of great importance for the owners of the roadways to know the right-of-way implications of the "planned capacity, function, and level of service" of any transit service that the road is supposed to accommodate. The treatment of transit should be incorporated into the street design descriptions where applicable.	ODOT	New figure added to show the right-of-way implications of different types of transit services. Glossary definitions also updated.
105.	Street car should not be included in the Regional Transit Network- it is more appropriately part of the local transit network.	Sreya Sarkar, TPAC	Added streetcar to list of local transit service types and expanded glossary definition to acknowledge role streetcar can serve as part of local and regional transit networks. Streetcar plays an important function in serving locally oriented circulation in higher density, mixed-use centers and leveraging 2040 centers development as a permanent transit feature. It is appropriately part of the regional transit network as a tool to connect higher-density mixed use centers as well as circulation within these centers that can also

Comment #	Comment	Source	Recommendation
			result in significant ridership increases because of the quality of service provided.
106.	Consider concept of high-density transit where street car can be operated as a regional and local transit service.	Chris Smith	Added streetcar to list of local transit service types. See Comment #104.
107.	Consider that there is a two-dimensional framework that places the capacity of the mode on one axis and the ROW treatment on the other. Almost any mode can be placed in this 2-D framework.	TriMet	Added graphic displaying this framework.
108.	Figure 1 mentions 2-mile interchange spacing; the text refers to "no less than 1 mile." Apart from this inconsistency, we need to distinguish between policy for new interchanges and policy that might drive us to remove an interchange.	ODOT	Updated language to state interchanges should be "no less than 2 miles apart."
109.	Page 16, second paragraph of the Overview: The last sentence states that "managing the system ….is a necessary step before investing in further expansion of transportation infrastructure". This is not always true, particularly for those areas where the existing infrastructure does not meet the regional street system concept and its connectivity measures or where new areas are brought into the UGB it is likely to be necessary to expand the transportation infrastructure, because the existing system does not serve those areas.	ODOT	Deleted clause at end of sentence.
110.	Clarify that bike gaps on regional streets could be addressed through projects off the regional street system.	TPAC workshop	Added language.
111.	Page 16, System Management Elements - It is not always true that lower speeds or traffic signals reduce capacity.	City of Beaverton	Deleted example.
112.	Page 18, Mode Choice: it would be good to include definitions of "mode choice" and "travel options" in the Glossary of Terms.	ODOT	Definitions to be added to the glossary.
113.	• Transit system goals and priorities need more detail and clarity. • Should the RTP call out an "end state" for the regional transit concept? • What should the role of the streetcar be in regional transit service and 2040 Growth Concept? Role of streetcar is relatively new in region and has been focused in the City of Portland. Important to distinguish and clarify how to prioritize.	TPAC workshop and City of Beaverton	Added new language describing more detail on the Regional Transit System Concept. See also comments #105 and #106. Triggers for transit service expansion will be defined during Phase 3.

Comment #	Comment	Source	Recommendation
	• What threshold should trigger expansion of high capacity transit and regional transit service in growing areas? The draft framework shifts focus from being Portland central city centric to be more multi-center centric, and needs to address reality of bringing services to regional centers that are not yet fully transit-supportive in terms of density and mix of uses.		
114.	Freight component is unclear (although Freight Committee is working on this and a freight map)	City of Beaverton	Added new Regional Freight System Concept to more clearly describe the freight component. In addition, the Regional Freight and Goods movement planning effort has started to identify critical freight corridors to be included in the RTP. This map will be developed during Phase 3.
115.	There has been much discussion about pricing in the region over the past several years. However, Chapter 1 does not mention pricing. Some policy discussion early on in the RTP may be helpful.	TPAC workshop, ODOT and Washington County	Added language calling out value pricing as a system management tool that should be considered. Additional policy discussion of how and when this tool should be applied will occur during Phase 3.
116.	Clarify how parkways and expressways fit in.	JPACT	Both facility types are part of the principal arterial system (also called throughways in the policy framework). Expressways generally correspond to the “Highway” design concept in the policy framework. Parkways include regional multi-use trails and sometimes greenways as part of their design. Additional work will be completed in Phase 3 to describe strategies for achieving the design and operational objectives of these facilities.
117.	Page 12 - For both definitions of regional arterials, add a phrase at the end "at safe speeds" to clarify the "high traffic volumes" statement.	TriMet	Added as recommended.
118.	Page 13, Figure 1 - Add further caption: Idealized concept showing preferred spacing of facilities and illustration of multi-modal corridor for capacity analysis,	TriMet	Added as recommended.
119.	Page 13, Regional Street System Concept - Should be noted	TriMet	Added as recommended.

Comment #	Comment	Source	Recommendation
	somewhere that cross-arterials (the ability to move between different facilities in the corridor to respond to congestion) is essential.		
120.	Page 14, Figure 3 - Remove all cul-de-sacs, leaving those streets disconnected with larger blocks remaining.	TriMet	Added as recommended.
121.	Page 15 - Regional Transit Network, replace statement in parentheses with "all day and weekends when possible".	TriMet	Added as recommended.
122.	Page 15 – While streetcar can be used in a regional mode (Lake Oswego planning), it has thus far been used as a local circulator mode. You could list it in both places.	TriMet	Added as recommended.
123.	Page 15, Local Transit Network - Here would be a good place to mention the vital role of sidewalk connectivity and protected crosswalks.	TriMet	Added as recommended.
124.	Page 16 -Overview, 2nd paragraph – Stocking buying analogy is not appropriate.	TriMet	Added as recommended.
125.	Page 17- 2nd paragraph under Application in the Portland metro region, last sentence - Add word in all caps as follows: "This simple approach to system management does not require any ADVANCED technology..."	TriMet	Added as recommended.
126.	Page 17- At the end of the sentence under “Ongoing” add "...as TriMet currently does."	TriMet	Added as recommended.
127.	Page 18, Choice of route and timing – You might insert in here that these systems can also help select among modes – for example, the latest version of Google Maps compares transit and auto travel times AND cost.	TriMet	Added as recommended.
128.	Page 20, Objective 7.2 - Need more explanation about the "relative cost comparison for roadway and transit operations and maintenance". What's the goal and do we find ourselves comparing costs between modes?	TriMet	No change recommended. The measure is intended to give a rough cost approximation of the cost to maintain and operate the proposed road and transit systems, not to compare between modes.
129.	Important to consider intersection treatments and signalization techniques (e.g., the people factor).	City of Beaverton and Clackamas County	Language to be added to version 3.0 draft on this.
130.	Unclear whether regional mobility concept proposes throughways every two miles.	Washington County	Text will be updated to better describe the primary purpose of this concept – as an evaluation tool – not a throughway spacing design tool. Regional mobility concept and 2-mile example shown in Figure 2 is

Comment #	Comment	Source	Recommendation
			intended to show that throughways interact with parallel arterials and evaluation of these important corridors should include those parallel routes. The policy framework and system concepts do not recommend a spacing standard for throughways. TPAC will help define the regional mobility corridors to be evaluated in Phase 3 and monitored between RTP updates.
131.	Corridors term is used throughout document in different ways. Need to define more clearly.	City of Wilsonville	Added as recommended.
132.	Page 22, Glossary, Local bus, second sentence - Add: "... as often as every 30 minutes on weekdays AND MAY BE MORE FREQUENT DURING HOURS OF PEAK DEMAND."	TriMet	Added as recommended.
133.	Page 23, Glossary, Park-and-ride - While most park & rides have some attention given to bike and pedestrian connections, the nexus is not very relevant. Those facilities are more associated with major bus stops and transit centers, which tend to be in pedestrian-oriented environments. Also, be more direct, add sentence: "Avoid large park-and-rides in centers where possible, or provide for shared-use or conversion to local uses over time."	TriMet	Added as recommended.
134.	Page 23, Glossary - Passenger intermodal facilities: Should Oregon City Amtrak station be added?	TriMet	Added to list.
135.	Page 24, Glossary - Passenger rail, delete "up to 79 miles per hour". We should hope for more.	TriMet	Added as recommended.
136.	Page 24, Glossary, Streetcar - Add new 2nd sentences: "Streetcar service often provide local circulator service and also serves as a potent incentive for denser development in centers"	TriMet	Added as recommended.
137.	Page 24, Glossary, Streetcar - Add new 2nd sentences: "Streetcar service often provide local circulator service and also serves as a potent incentive for denser development in centers"	TriMet	Added as recommended.
138.	There needs to be a measure that assures the system will in fact work, that is useful for making investments, operations and design decisions, and that works when applied to development review decisions. Metro must demonstrate that	ODOT	System analysis phase will include creation of a transportation needs inventory, development of performance measures and testing the concepts to evaluate

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	the connectivity or street system design and multimodal corridor capacity concepts and their proposed performance measures together will ensure that the system will function adequately to meet identified state and regional transportation needs.		effectiveness. Refinements will be made as needed to address the findings of the analysis.
139.	Clarify how the proposed concepts and alternative performance measures will fit into/address the TPR and OTP: • Clarify how the proposed alternative performance measures will apply to plan amendment and development review proposals consistent with 060 of the TPR: • What are the implications of RTP adoption on local TSPs (e.g, timing)? Local jurisdictions may be caught in the middle while State and Metro are trying new ideas and locals still pushing local agenda. Important to keep known ahead of time, don't want to get stuck in double compliance, have RTP as compliance manual, approved by state.	TPAC workshop, JPACT, MTAC, Port of Portland and ODOT	Additional legal research and consultation with the Oregon Transportation Commission and the Land Conservation and Development Commission will be conducted during Phase 3 as part of the system evaluation and development of findings that document compliance with state requirements. Under the TPR, local governments will have one year from adoption of the RTP by ordinance to update local transportation system plans.
140.	The Draft RTP chapter 1 does not incorporate the notion of identifying and improving bottlenecks as a way to prioritize investments and to ensure freight mobility and reliability consistent with the OTP and FHWA initiatives.	ODOT and Port of Portland	A potential action has been added to call out the need to identify and address bottlenecks in the system. If the bottleneck is the result of a gap in system capacity under the proposed policy framework, then these gaps are appropriately addressed through capacity investments. If the bottleneck is on a facility that already meets the aspirational capacity defined in the system concept, then the policy framework calls for addressing bottlenecks in the context of the effects on the broader corridor rather than only focusing on spots of congestion. This would be accomplished through completing other system connectivity gaps and implementation of TSM and TDM strategies in the broader corridor (e.g., regional mobility corridor concept). Addressing

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			bottlenecks will be part of strategies (including the identification of gaps and corresponding projects) for how to achieve the goals and measurable objectives identified in the policy framework. The strategies will be refined during Phase 3.
141.	Under the Governance section, we need to add an objective to distinguish what part of the system is primarily a "regional" responsibility and what part is primarily a "local" responsibility. For example, where do bike lanes and sidewalks along roads fall? What about collector streets, community streets or community boulevards?	Washington County	This will be addressed in action strategies during Phase 3 of the RTP.
142.	Need more specifics on outcomes measures; measures need to match up with goals and objectives. Do we have reliable data upon which to base performance measures? Who is responsible for collecting? Performance measures need to be thoughtful without creating a bureaucracy of measurement.	Clackamas County, City of Beaverton and DEQ	Specific measures will be developed during Phase 3 that better match the goals and objectives. In some cases, reliable data may not be available. Data collection- related strategies, and responsibilities for different data needs, will be identified in those cases.
143.	Describe how this approach will result in bike and pedestrian gaps being identified and addressed.	TPAC workshop	The policy framework defines the roads of regional significance as being throughways and arterials that are also complemented by a network of off-street regional multi-use trails with a transportation function. A map will be developed showing all of these together - by classification. By inference, the arterials would also be the bicycle and pedestrian routes of regional significance. The map would also identify pedestrian districts (which correspond to the 2040 centers). Bike and pedestrian network gaps will be identified during Phase 3 as part of creating a needs inventory through application of the design concepts on the existing transportation system. The regional sidewalk inventory and Bike There map will be used to inform this gap analysis. ODOT, local governments and

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			special districts will be asked to identify projects to address these and other identified gaps. Future RTPs would monitor completion of these system gaps.
144.	What role should scenarios play and how can they be designed to inform RTP framework? • How will RTP scenarios inform investments that will achieve ~2040 vision for centers and other 2040 land uses? • Concepts needs to be evaluated to demonstrate they will work and if they do not work, we will need to develop alternative concept that will.	TPAC workshop	This will be addressed during Phase 3 as part of system development and analysis.
145.	What are the implications of RTP framework on New Look and future urban growth boundary planning processes? • What are the implications of land use decisions being made today (in new and existing areas) and future UGB expansions if we are limited to the FC system of projects (e.g., "ripple effect" on neighbor cities and "greater region")? • How do you deal with the land use of the future that is not currently covered by the regional transportation system? • What if 2040 hierarchy changes as a result of New Look?	TPAC workshop, City of Portland and Port of Portland	The draft policy framework uses the current 2040 design types. The 2040 hierarchy, adopted in the 2004 RTP, has been updated to further prioritize 2040 land use areas for purposes of regional transportation investments to address comments that the draft framework did not adequately establish priorities. The New Look process will also consider new 2040 design types and investment priorities. To the extent possible, policy recommendations from the New Look will be incorporated into the RTP during Phase 3. New Look recommendations that cannot be incorporated into the updated RTP due to the aggressive timeline will be reconciled through follow-on RTP amendments, after the RTP update is complete. The RTP is updated every four years. A footnote has been added to the 2040 Growth Concept discussion to acknowledge this.
146.	How does the "built system" approach fit with our fiscal constraint emphasis? • Does a fiscally constrained RTP shift the funding burden to local governments? • How to balance fiscal constraint requirement with	TPAC workshop	This will be addressed as part of the RTP finance policy discussions and development of finance strategies during Phase 3.

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	aspirations/needs for achieving 2040 that will exceed FC revenue forecast—can aspirations be tied to FC system if region commits to raising additional money? • What are the implications of land use decisions being made today (in new and existing areas) if we are limited to the FC system of projects (e.g., "ripple effect" on local governments for raising/re-tooling financing mechanisms in region).		
147.	Does the multi-modal corridor concept "grandfather" current highway or transit projects?	TPAC workshop	No projects are recommended to be grandfathered into the RTP. Many current RTP projects will meet the updated goals and objectives and address the system gaps to be inventoried during Phase 3.
148.	Concern regarding the involvement of community groups that represent the traditionally under-represented populations including ethnic minority and low-income individuals and families. It was not clear from the draft or the discussions held till date about the draft, how much the community groups participated in this process.	Sreya Sarkar, TPAC	The public participation plan was approved by JPACT and the Metro Council as part of the RTP update work program in June 2006. TPAC reviewed and discussed the work program prior to that approval. Traditional "open houses" in the past have not attracted these voices to the discussion. We elected to conduct two stakeholder workshops with people representing minority and low-income persons in different parts of the region, one of which was conducted in Spanish at Centro Cultural in Cornelius. A third workshop was conducted with people who are interested in the connection between transportation and health—both disease prevention and health promotion — including elderly and people with disabilities. A fourth workshop was held with representatives from community-based organizations that are members of the Coalition for a Livable Future. A fifth workshop was held with private business, education and other institutional service providers and economic-

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			development interests. Private business and economic development organizations were also included in forum held early in the scoping phase of the RTP update to gather input on what the update should address. A second forum was held in June that included not only these private business interests, but also a variety of community groups and advocacy organizations, as well as any interested individuals who wanted to attend.
149.	Concern about the participation of employers (non-government), professional associations and businesses in setting the main goals and objectives.	Sreya Sarkar, TPAC	In addition to the response to #148, the Regional Freight and Goods Movement Task Force and a separate technical advisory committee have been established, meeting regularly on this topic. These committees include significant employers and business representation. Recommendations from these committees will be forwarded to the RTP update process, including refinements to the draft policy framework.
150.	Connection between VMT and equitable access unclear. How does plan relate to portions of the population that have choices versus those that have to use alternative?	JPACT retreat	See also recommendation # 33. The plan goals and objectives, particularly Goal 3 and related objectives, emphasize providing affordable and reliable choices to all residents of the region. Providing choices, compact urban form and services that inform residents about their choices can help reduce drive alone trips and VMT.
151.	Address region's role in accommodating through trips on its highways.	Regional Freight and Goods Movement Task Force	Language has been added.
152.	Address the need for more freeway capacity to address congestion.	Regional Freight and Goods Movement	Language has been added strategic capacity investments will be needed to

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		Task Force	address congestion and other desired outcomes for the transportation system.
153.	Address peak hour reliability not just off-peak reliability.	Regional Freight and Goods Movement Task Force	Expanded freight reliability objective to also evaluate peak hour reliability.
154.	System design concept is supply-based for sizing. Need to also consider demand to avoid under- or over-sizing the road network. Need to acknowledge exceptions where more intensive land uses are planned. Policy should state what happens in places where supply sizing won't work. What is the unit of measure for system performance?	Regional Freight and Goods Movement Task Force	Language has been added that a process for exceptions to the system design/sizing of facilities will be identified in Chapter 7 of the plan during phase 3. Multiple measures are proposed to assess system performance and demand, including travel time variability, levels of congestion (e.g., volume/capacity) and delay, travel speeds, mode shares, vehicle miles traveled per capita and transit ridership.
155.	Not clear on how LOS will be used.	Regional Freight and Goods Movement Task Force	LOS is not proposed to be eliminated as suggested other comments. LOS is retained as an indicator to monitor and evaluate current and future road system performance. Language has been added to the policy framework to more clearly describe this. The proposed person-trip capacity measure will be volume and capacity based, but applied to a series of interrelated corridors. This measure is recommended to complement LOS along with other measures. Additional work will be conducted to develop this new measure.
156.	What happens to the functional classification maps?	Regional Freight and Goods Movement Task Force and City of Portland	The functional classification maps will be consolidated into two functional classification maps – a motor vehicle system map and a transit system map. These maps will use the existing RTP functional classifications as a starting point and update them as part of applying the System Design Concepts. They are proposed to be included in Chapter 3 of the

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			RTP as part of the needs assessment. A third map of critical freight routes will also be developed as part of applying the Regional Freight Network Concept to assist in prioritizing freight investments. For purposes of the RTP, the regional bicycle and pedestrian networks correspond to the arterial street network and identified regional multi-use trails with a transportation function. The regional pedestrian network also includes infrastructure in pedestrian districts that correspond to 2040 centers and station communities. Bikeway gaps on arterials may be addressed through bikeways or bicycle boulevards off the regional system on parallel facilities when right-of-way constraints exist or when the regional arterial system does not meet arterial spacing standards.
157.	How does the transportation system concept related to the 2040 land uses?	Regional Freight and Goods Movement Task Force	Application of the system concepts will respond to varying needs of 2040 land uses.
158.	How will system design concept be used to make decisions about investments?	Regional Freight and Goods Movement Task Force	Transportation needs will be identified where gaps are identified when the system design concept is applied for all modes of travel during Phase 3. This will include the identification of bottlenecks, missing sidewalk and bikeway connections, needed capacity and new street connections. Those investments that achieve multiple goals (e.g., safety, connectivity, reliable people/goods movement, clean air) will be identified as the priority for investments..
159.	Address economic competitiveness. Give priority to corridors that benefit the economy.	Regional Freight and Goods Movement Task Force	Language has been added to better address economic competitiveness, expanding notion beyond freight mobility to also include worker access to jobs, a healthy

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			environment and quality of life.
160.	Talking about (congestion) pricing muddies the water. Figure out how to make the system design concept function without making pricing an element. Separate issue.	Regional Freight and Goods Movement Task Force	Language has been added to state that pricing is not a widely accepted tool at this time. However, the draft policy framework takes a system perspective that requires the use of all the tools in the "tool box" to achieve the goals and objectives of the plan. Pricing and other system and demand management tools will need to be used in combination with the system design concept to effectively optimize the regional transportation system for people and goods movement as well as to meet other plan goals. The extent to which pricing should be considered and/or applied in this region will be the subject of future policy discussion by JPACT and the Metro Council during Phase 3.
161.	Will implementation of the system design concept recapture some of the lost capacity on arterials the converted to boulevard design?	Regional Freight and Goods Movement Task Force	A potential action has been added to specifically address freight needs during transportation studies. Refinements to the potential actions will be made during Phase 3. As proposed, the policy framework would be applied in future transportation studies – and would call for applying the system design and management concepts as appropriate. Boulevards are an important design component in 2040 centers and mixed-use areas. The Regional Freight and Goods Movement Plan will also make recommendations for how to better address freight movement and freight loading needs as part of boulevard designs in these areas. These recommendations will be incorporated into future updates of the Livable Streets handbooks.
162.	Too multimodal on basic street design. Not every street can	Regional Freight and	Multi-modal design is a center piece of the

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	be everything to everybody.	Goods Movement Task Force	system approach described in the policy framework language. Language has been added to clarify the emphasis of different design elements changes to respond to the function of the facility and the land uses it is intended to serve.
163.	How do does the system design concept address to shorter-term marketplace changes? Need adaptability. Example railroads use off-peak scheduling and peak hour pricing to address capacity issues.	Regional Freight and Goods Movement Task Force	These are potential actions that would be identified under the system management concepts.
164.	How can the marketplace be connected to the ongoing monitoring of the system? How do we account for economic change?	Regional Freight and Goods Movement Task Force	The RTP is updated every four years. Performance monitoring will occur as part of the periodic updates. Demographic, economic and financial trends will be re-evaluated through future updates to ensure the plan is responsive and adaptive to changing conditions.
165.	Set an upper threshold on specific corridors as a backstop to prevent failure – missing investment criteria.	Regional Freight and Goods Movement Task Force	Investment/project prioritization criteria will be developed during Phase 3 to implement the Goals and Objectives identified in the draft policy framework.
166.	Optimization models used in private sector a tool to compare efficiency benefits of one route to another.	Regional Freight and Goods Movement Task Force	This comment will be addressed to the extent possible during Phase 3 as part of development of measures to analyze system performance. Current analysis tools limit our ability to evaluate efficiency benefits of one route versus another.
167.	How do you prioritize corridors? What are criteria for determining which corridors are most critical.	Regional Freight and Goods Movement Task Force	Corridors and investments will be prioritized based on the Goals and Objectives and supporting functional classification maps and critical freight route map to be defined during Phase 3.
168.	Separate analysis of corridors moving people from corridors moving freight.	Regional Freight and Goods Movement Task Force	No change recommended. It is important to look analyze the corridors for all modes of travel to the extent possible because reducing the number of people trips on

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			critical freight corridors will be part of the overall strategy to manage congestion and improve freight reliability.
169.	Tools need to identify bottlenecks based on economic impact.	Regional Freight and Goods Movement Task Force	Identification of bottlenecks for freight movement will be conducted in Phase 3. Performance measures will be refined during Phase 3 and will try to assess economic impact at a system level, not on a project by project basis.
170.	What is the backstop if the system is not working?	Regional Freight and Goods Movement Task Force	The policy framework calls for aggressive management of the system, strategic investments that provide new and expanded infrastructure and services that support all modes of travel, and raising new revenue to fund needed investments. The RTP is updated every four years to allow for future course corrections to respond to findings from the system monitoring that will occur in between updates.
171.	Reconcile data/policy conclusions with existing body of work, such as surveys.	Regional Freight and Goods Movement Task Force	The draft policy framework responds to the RTP background research on the transportation system, stakeholder workshops and public opinion research.
172.	There may be merits in adding discussion on the following: a definition of "freight"; integration of RTP with existing city/county RTPs; education section; existing data and reports and their relationship to each other, (e.g., explain discrepancies in recent surveys); identification of policy areas to be targeted for review/discussion; for example, at the retreat, the JPACT Chair mentioned existing data predicts substantial increases in truck traffic and noted perhaps a policy to consider may be getting the freight onto rail. This would appear to be a major policy shift; absent supporting or rejecting merits of the policy, it may be one of many policy calls that simply need to be addressed. Other such policies may be limits on truck size distinction between light and heavy freight, etc. The suggestion was not	Regional Freight and Goods Movement Task Force	Possible “policy” actions have been identified for each goal and objective in the draft policy framework. These potential actions and strategies are intended to serve as a starting point will be further refined and addressed during Phase 3 and post-RTP adoption implementation activities.

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	necessarily to identify all these policies at this time (this will be part of the process of writing the RTP), rather to incorporate a section discussing policies, which are different than goals, objectives, and measurement tools.		
173.	Include a **½ mile grid network of low-traffic routes prioritized for non-auto travel in** Goal 4.2.6 and 4.2.8 and revise p. 12, 26-27 to reflect these changes.	Bicycle Transportation Alliance	The current RTP local connectivity requirements will be refined during Phase 3 to better integrate the notion of providing low-traffic routes for walking and bicycling. Connectivity of the street system is critical because the arterial, collector and local street networks provide the backbone for bicycle and pedestrian travel in the region. The RTP has a responsibility to provide continuous bicycle and pedestrian connections on all arterials where possible, recognizing there may be locations in the region where existing development, natural features or other circumstances may cause right-of-way constraints. This, in turn, requires designing the transportation system to have a well-connected network of four-lane arterials, where possible, that are supported by a well-connected network of collector and local streets that are a local responsibility, not an RTP responsibility.
174.	Metro currently recommends a **Community Collector** every mile. We are concerned that these Collector routes will still have travel volumes and speeds that exceed that optimal level for bicyclists; every other ½ mile the Collector is an Arterial or Thoroughfare, these classifications will not adequately serve the larger majority of *potential* cyclists. Therefore, **we recommend that the ½ mile network be identified as "new lines" on the local street network maps that fall in between the Arterials and Collectors.** The Regional Trail System can be overlaid on and be part of this network.	Bicycle Transportation Alliance	Collectors are recommended every half-mile. The current RTP local connectivity requirements will be refined during Phase 3 to better integrate the notion of providing low-traffic routes for walking and bicycling. The draft policy framework calls for arterials spaced one mile apart (not collectors) where possible, that are supported by a well-connected network of collector and local streets that are a local responsibility, not an RTP responsibility. Bikeway gaps on arterials may be addressed through bikeways or bicycle boulevards off the

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			regional system on parallel facilities when right-of-way constraints exist or when the regional arterial system does not meet arterial spacing standards.
175.	Metro **create a new design standard for low-traffic bicycle boulevards,** p.31.	Bicycle Transportation Alliance	A definition of bicycle boulevard has been added to the glossary, but development of design standards for bicycle boulevards is beyond the scope of the current RTP update.
176.	**new priority pedestrian network should be identified for centers and main streets.** We believe that pedestrian access in the Centers is critical to Metro's 2040 Plan. The RTP must include policy statements about pedestrian circulation in and to the centers. Goal 4.2.7 and 4.2.8, p. 26-27 should be revised to reflect these changes.	Bicycle Transportation Alliance	Language has been added to clarify what is considered part of the Regional Pedestrian Network and potential actions have also been developed to address this. For purposes of the RTP, the regional pedestrian network corresponds to the arterial street network, identified regional multi-use trails with a transportation function, and infrastructure in pedestrian districts (e.g., wider sidewalks, pedestrian-scale lighting, benches, and other features). The pedestrian districts correspond to 2040 centers and station communities.
177.	***Executive Summary*** It should be stated that the Portland Metro region has one of the best performing transportation systems in the nation.	Bicycle Transportation Alliance	Revised as recommended.
178.	*Framing the Crossroads* The impact of congestion per Metro's report should be more accurately stated as the following: "in 2025 the impact of congestion will increase freight costs by $422 million and $422 million in worker productivity will be lost due to increased in travel time."	Bicycle Transportation Alliance	Revised as recommended.
179.	***Goal 2 Sustainable Economic Competitiveness and Prosperity*** This goal as written only relates to freight movement and transportation access, but does not discuss the impact of other transportation investments on the economy and job creation and retention, especially related to Return on	Bicycle Transportation Alliance	Added language to describe and acknowledge, collectively, freight reliability, protecting the environment and providing access to centers and industry are important for retaining the region's economic competitiveness. The framework also now

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	Investment of transportation investments in centers. We strongly urge Metro to add objectives that ties the 2040 Plan, investments in Centers, back to economic competitiveness.		includes an action to try to develop a method to measure this.
180.	**Timing/coordination with the New Look** Is the RTP getting out in front of the New Look? Should this RTP be an interim update without major changes until the New Look catches up?	City of Portland	The RTP is updated every four years. Policy direction from the New Look will be incorporated in the RTP to the extent possible and through future updates to the RTP. A footnote has been added to the 2040 Growth Concept discussion to acknowledge this.
181.	**Interchanges and Bridges** The RTP needs to establish regional policies (and hence agreement with ODOT) about interchanges and bridges. These are both major facilities that provide important regional services, but may have substantial local impacts. Should there be a regional approach or model language regarding IAMPs? Are there enough bridges in our regional plan? How do we prioritize, design and pay for them?	City of Portland	Added language in potential actions section of Goal 4 and Goal 8to call this out. More discussion of this will occur during Phase 3 to better address this issue in the policy framework, needs assessment and prioritization criteria.
182.	What are the implications of dropping pedestrian, bicycle, and motor vehicle maps? Especially for local jurisdictions related to inter-jurisdictional coordination. For example, resolving street purpose and classification differences between adjoining jurisdictions where a regional street connects between both. There could also be funding implications in terms of how competing pedestrian projects are scored for MTIP. Why does transit, freight and trails warrant separate maps? The transit system map continues to focus on vehicle type rather than function. What do the bike and pedestrian communities have to say about such changes? How does the Federal Functional Classifications interface with the RTP if the RTP does not have functional maps?	City of Portland	The motor vehicle, freight and transit maps will be developed in Phase 3 and are proposed to be included in Chapter 3 as part of the needs assessment. For purposes of the RTP, the regional bike and pedestrian network will be the arterial system, pedestrian districts that correspond to the 2040 centers and station communities designations and regional multi-use trails with a transportation function. A new table has been added that identifies network function for each regional street type and new text has been added to better describe the function of different transit elements.
183.	If Creating Livable Streets will be the “standard” for street design and function, the documents need to have more	City of Portland	The urban road design types are proposed to be eliminated to simplify the design

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	weight than guidelines and need to be updated to acknowledge situations were ROW is highly constrained. Creating Livable Streets may also overlook the special needs of freight and functional realities of some streets now classified as Urban Roads. (What happened to Urban Roads?)		concepts. The Regional Freight and Goods Movement Plan will identify refinements to the Livable Streets handbooks to better address freight needs. The handbooks are still appropriately guidelines and do acknowledge situations where ROW is constrained, providing guidance on what elements to emphasize depending on the function and land use a street is intended to serve.
184.	Concerns with lack of details in terms of developing criteria and performance measures as surrogates for LOS, connectivity, bottlenecks, recognizing the importance of freight movement, completing a regional system network, etc.	City of Portland	Criteria and performance measures will be developed during Phase 3. The recommended draft includes some potential actions to help guide this work.
185.	Jurisdictions want to know the implications of new policy language before signing on to it. For example, is Objective 1.3, Parking Management going to result in new parking mandates or is it a continuation of previous requirements for minimum and maximum parking ratios?	City of Portland	This objective has been moved to "potential actions" under Goal 1, Objective 1.1 and is intended to be in addition to current Title 2 parking requirements. In 2005, the 2040 Modal Targets study recommended expanding parking management strategies to include more active management of parking to help the region achieve the modal targets for 2040 centers.
186.	Highest Priority – there are over 10 objectives that are portrayed as "highest priority". Not only is this confusing, if true, but doesn't actually help - what is the highest priority if there is one? How does the "highest priority" relate to funding? Fiscal Stewardship – highest priorities are competing.	City of Portland	The objectives establish investment priorities within each goal. The highest priority investments would be those that are cost-effective and meet multiple goals. Language has been added to describe this better.
187.	Too much use of jargon phrases. For example, "business access to the workforce" – does this imply that the jobs go to the workers? "regional mobility corridor" – this appears to be a key point in the new RTP, but there is no definition.	City of Portland	Definitions have been added to recommended draft and "jargon" has been eliminated to the extent possible.
188.	Transit Concept – Not clear on how the transit network is proposed to change. Figures 12 and 13 are new, but not helpful in clarifying. There is a need to understand if there is	City of Portland	This discussion has been expanded to better describe what is envisioned and how

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	a fundamental shift in transit service and coverage. Concept does not fit with realities of TriMet service. For example, when new LRT is added, bus service is limited or dropped. Arterials in outer SE and parts of SW do not have service or service that does not meet the concept. How does the new concept change this practice? Regional Transit Concept- Seems scattered throughout the document and doesn't really explain the concept. How is it different from the current policy/concept? The document talks about vehicle types more than service quality and coverage. How do we build on the existing system? How do we serve ever increasing densities in centers while serving under served populations? Should reliance on park and rides continue? Is the "local transit" discussion the same as objective 4.2.4.? If so, why do they have different names? If streetcar is a viable part of the Regional Transit Network and the "local transit network" then Figure 13 is incorrect and the streetcar bubble should be an elongated bubble along with the "fully dedicated guideway/priority treatment in mixed traffic".		it is proposed to be implemented. The concept proposed to use the current RTP transit elements but integrates them in a way to better serve growing transit service demand that is not always destined for the Portland central city. Potential actions have also been identified to describe some of the land use and service provision coordination that will be needed.
189.	Arterial Spacing – A hierarchy of streets and connective goals are good, but it appears that an arbitrary spacing of arterials is difficult if not impossible to achieve. How would this be implemented? How does it carry out 2040? Shouldn't there be a tighter grid of streets in high dense parts of the region? (That carry a denser network of transit?) And less dense grid of arterials in low-density areas?	City of Portland	This is true for higher density parts of region as well as lower density to better support travel by all modes of travel and help manage congestion on the region's throughway system by spreading out traffic. Current RTP connectivity requirements call for a more highly connected local and collector street network in new residential and mix-used areas.
190.	Clarify pedestrian and bicycle networks – where are the maps? Difficult to comment and recommend approval with placeholders. 4.2.6 says bikeways on all regional streets, surely this is not intended to relate to limited access throughways (I-5, etc.). Same goes for pedestrian facilities – are throughways part of the regional system or not? Is there a map of the regional ped and bike system?	City of Portland	Language has been updated to call for bikeways and pedestrian facilities on all arterials, noting that in some cases the bikeway may be provided on a parallel route due to right-of-way or other constraints.

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191.	5.5 System Management – given the nature of the objective – shouldn't the system management concepts be described here rather than referenced to a discussion 14 pagers later?	City of Portland	System management has been moved to earlier section with other "system concepts."
192.	5.5 System Security - How does Metro propose to reduce vulnerability to crime? And what "measure of personal safety" would capture this? Is crime an issue on the regional system? Preparation and response to natural disasters and other emergencies are legitimate goals.	City of Portland	Actions to reduce vulnerability to crime have been added. These will be further refined in Phase 3.
193.	6.1 Natural Environments. More clarity is needed as this objective is poorly worded and doesn't reflect current knowledge about air quality, eg benzene.	City of Portland	Objective 6.1 has been re-worded as proposed. Air quality is captured in Objective 6.2.
194.	The discussion of mobility and access seems to have terms confused. The glossary has definitions that seem much clearer. Spacing of regional and community arterials speaks more to mobility than accessibility. Where is the discussion of the regional street concepts that this section is titled for?	City of Portland	This section has been revised to clarify the distinction and now includes a description of functional classifications and their relationship to street design.
195.	Figure 1 and discussion of mobility and accessibility not consistent– are "4-lane arterials" community or regional collectors? Please use same definitions and language/labels in text as on figures. Unclear what type of streets text is referring to.	City of Portland	This section has been revised to clarify that four lane arterials correspond to a "major arterial" functional classification. Collectors are no longer considered part of the regional system and are referenced to call out their importance to supporting the arterial system.
196.	Appears that a local street and a collector are treated the same in term of connectivity –true? (Figure 3?) Define local connections.	City of Portland	Definitions have been added. Their connectivity spacing requirements are the same.
197.	Also Figure 1 – the note at the bottom related to "respond to congestion" appears to be the "replacement" for LOS? If so, why is it a note on a figure that is confusing? Please put the arterial connections and response to congestion up front and center if that is the replacement for LOS.	City of Portland	Level-of-service is not proposed to go away, but instead be used as a tool to evaluate and monitor system performance.
198.	What are "complementary facilities" – names/labels in figures should be same as in text.	City of Portland	Complementary facilities provide a supportive role in achieving a well-connected, multi-modal system.
199.	Figure 2 – does not illustrate anything about regional mobility. What do the small boxes represent? Modal types? Vehicle types? Needs a legend to clarify. Also should	City of Portland	This figure is for illustrative purposes only to show what elements of regional mobility

Comment #	Comment	Source	Recommendation
	Regional be next to throughway?		corridors should be monitored and evaluated from a system perspective to ensure the regional mobility objective is being met. Clarifying language has been added. A better illustration will be developed and actual corridors to be monitored identified during Phase 3.
200.	Figure 3 – Doesn't show much and there are a lot of gaps in connectivity. Has the bike/ped connectivity at smaller intervals been dropped?	City of Portland	This figure is for illustrative purposes only and reflects that connectivity requirements may not be met in all cases due to existing development, streams, topography or other constraints. Current RTP requirements for bike and pedestrian connectivity at smaller intervals will be retained. Better illustrations will be developed during Phase 3.
201.	Figure 12 – Doesn't show connections between centers as described in 4.2.3 and 4.2.4. If it's supposed to show transit types, why doesn't it show the community/local system? Is it local or community – conflicting graphics.	City of Portland	This figure is intended to show the regional transit system which includes the high capacity transit network and regional transit network. The community transit network functions in a similar, supporting role that the local/collector street system serves.
202.	Parking Management – It should be key tool in managing congestion and was an important part of our land use and transportation goals in UGMFP. Now seems to be a mere placeholder – what is status?	City of Portland	A definition has been added to describe its role and it is now included in the potential actions under Goal 1, Objective 1.1 and is intended to be in addition to current Title 2 parking requirements. In 2005, the 2040 Modal Targets study recommended expanding parking management strategies to include more active management of parking to help the region achieve the modal targets for 2040 centers. No change to the current Title 2 of the urban growth management functional plan is proposed at this time, but may be recommended during Phase 3 of the RTP update or through the New Look process.
203.	Value Pricing – Should be bolder here. Look to ODOT and	City of Portland	This will become an important policy

Comment #	Comment	Source	Recommendation
	OTP as model.		discussion during Phase 3. Application of this has been added to potential actions to be considered.
204.	Governance. Is there a better term for this that doesn't sound so paternalistic? Needs to reflect partnership between Metro and local jurisdictions.	City of Portland	No change recommended. Governance is broader than cooperation between Metro and local jurisdictions. The concept includes effective public involvement, ensuring transportation decisions do not disproportionately impact different communities and being stewards of the public's money. This has been clarified in the recommended draft.
205.	2040 Regional NON SOV – this used to a key performance measure for the RTP that local jurisdictions were required to adopt into their comp plans. Is that no longer required? Replaced by performance measure for Objective 6.3?	City of Portland	Non-SOV modal targets are still a key performance measure for the RTP and are referenced in Objective 3.1. The objective has been revised to more specifically describe that as the desired outcome.
206.	Page 10. The second paragraph under 2040 Growth Concept describes how 2040 design types areas can be grouped into a hierarchy and that certain design types (such a regional centers) "provide the best opportunity for public policy to shape development and are, therefore, the best candidates for immediate transportation system investments. The second highest investment priority land uses for transportation investments are the secondary land use components." This seems to suggest system investments are limited to projects within the design type area. A more outcome based approach would be to determine what the region wants to achieve and how transportation investments will help that happen. A project that happens to be located in an inner neighborhood but provides a critical link to the regional center from an industrial district or town center may be more likely to produce the desired outcome for the regional center than a project within the regional center would have. It is important to realize that the regional centers have a wide	City of Gresham	Current analysis tools limit our ability to evaluate the full impact of smaller investments (e.g., sidewalk or local street connections) in supporting growth in regional centers. This RTP update is also trying to provide a more clear distinction between what is of regional significance and what should be more of a local responsibility when making transportation investments. This comment will be considered during the development of the project solicitation and prioritization process during Phase 3.

Comment #	Comment	Source	Recommendation
	market area and that the success of the regional centers depends on access to the regional center from the surrounding market area.		
207.	Page 11. Table 1. We would suggest that Industrial Areas (there are no "local" industrial areas in the Functional Plan) are as important to the region's ability to provide employment, wages and added economic value as RSIA. For example, the Title 11 compliance report for the Springwater UGB expansion areas found that the Springwater industrial lands as opposed to the RSIA lands provide about 1.5 more jobs per acre. In Springwater the industrial district is targeted to industrial and related employment opportunities that take place in office buildings. These will include knowledge-based industries and research and development facilities. These will provide high value and complement the much larger RSIA in Springwater. We would suggest moving Industrial lands in the same hierarchy as RSIA.	City of Gresham, JPACT, MTAC, MPAC and TPAC	Revised as recommended. Regionally significant and local industrial areas have been grouped together in the Primary Land Use Components category.
208.	Page 11. 2040 Fundamentals. There is no description in this chapter about the UGB expansion areas. The region has enacted significant expansions since 1998 that are expected to accommodate many of those 1 million new people that are projected to come to the region. The RTP discussion about how to create a regional transportation system in those areas has to be fundamentally different than the discussion about how manage capacity in the existing centers. Development of the UGB areas (and the centers located within them) as they have been planned is critical to the success of the 2040. Existing centers will not be able to accommodate all growth (otherwise Metro would not have expanded the UGB). If appropriate and well planned growth is not accommodated in UGB expansion areas, there will be significant development pressure in inappropriate locations or at inappropriate densities as well as pressures to allow inefficient and sprawl-like development on the edge (or even outside the UGB). We would recommend that there be a very specific description of the UGB expansion areas in this section. This should lead to deliberate decisions about how	City of Gresham	Added language to the 2040 Growth Concept section describing the 1998 and 2002 urban growth boundary expansions. Language has also been added in a new Table 2 that acknowledges different parts of the region are at different development stages, and as a result, may have different transportation investment priorities. Additional discussion of this issue will also occur during Phase 3 to define additional strategies and funding mechanisms to address the needs in these areas as well as the developed and developing areas.

Comment #	Comment	Source	Recommendation
	investments will be made in those areas and the regional transportation system created.		
209.	Page 16 (Objective 1.2); page 17 (objective 2.1); page 21 (Objectives 4.3, 4.4); and page 22 (objective 5.1). Each of the objectives state placing the highest priority on making investments for each of the respective objectives. How will investment priority decisions work across these different objectives. Not everything can be "the highest priority." For example, it is important to discuss how to deal with placing the highest priority on investments "that provide access to and within Central City and regional centers and intermodal facilities" versus "maintaining travel time reliability …on the regional freight network." Also how do these priority objectives match with the hierarchy in Table 1?	City of Gresham	Added language to clarify that those investments that help achieve multiple objectives and goals should be the highest priority to get the best return on public investments. The prioritization criteria and process will be developed during Phase 3 to screen projects forwarded to the RTP process by ODOT, local governments and special districts. 2040 land use designations in Table 1 will also be part of the prioritization methodology.
210.	Policy framework seems to not recognize the need and aspiration to raise new revenues to fund transportation needs.	City of Beaverton,	Language has been added to more clearly state new revenues are needed in the executive summary, governance concept and in Goal 8. The policy framework also recognizes that because raising new revenue is so difficult, a prudent step is first to demonstrate to the public that they're currently getting a good return on investment for their tax dollars. More specific revenue raising policy discussions will occur during Phase 3 as part of developing the financially constrained revenue forecast and long-term finance strategy to fund needed transportation investments.
211.	Need to involve engineers more in level-of-service discussion how it should inform decision-making process. .	Clackamas County	Agree. During Phase 3, Metro will convene a special workshop of interested engineers to help inform application of LOS in RTP system development and analysis.
212.	Need to emphasize managing capacity of the existing transportation system.	Multnomah County	Agree. Policy framework emphasizes.
213.	Safety is not prominent enough in policy framework.	City of Portland, City of Beaverton	Goal 5 focuses on safety and language has been added to more emphasize safety.