Transportation 2040

toward a sustainable transportation system

MAY 20, 2010

Puget Sound Regional Council

Puget Sound Regional Council

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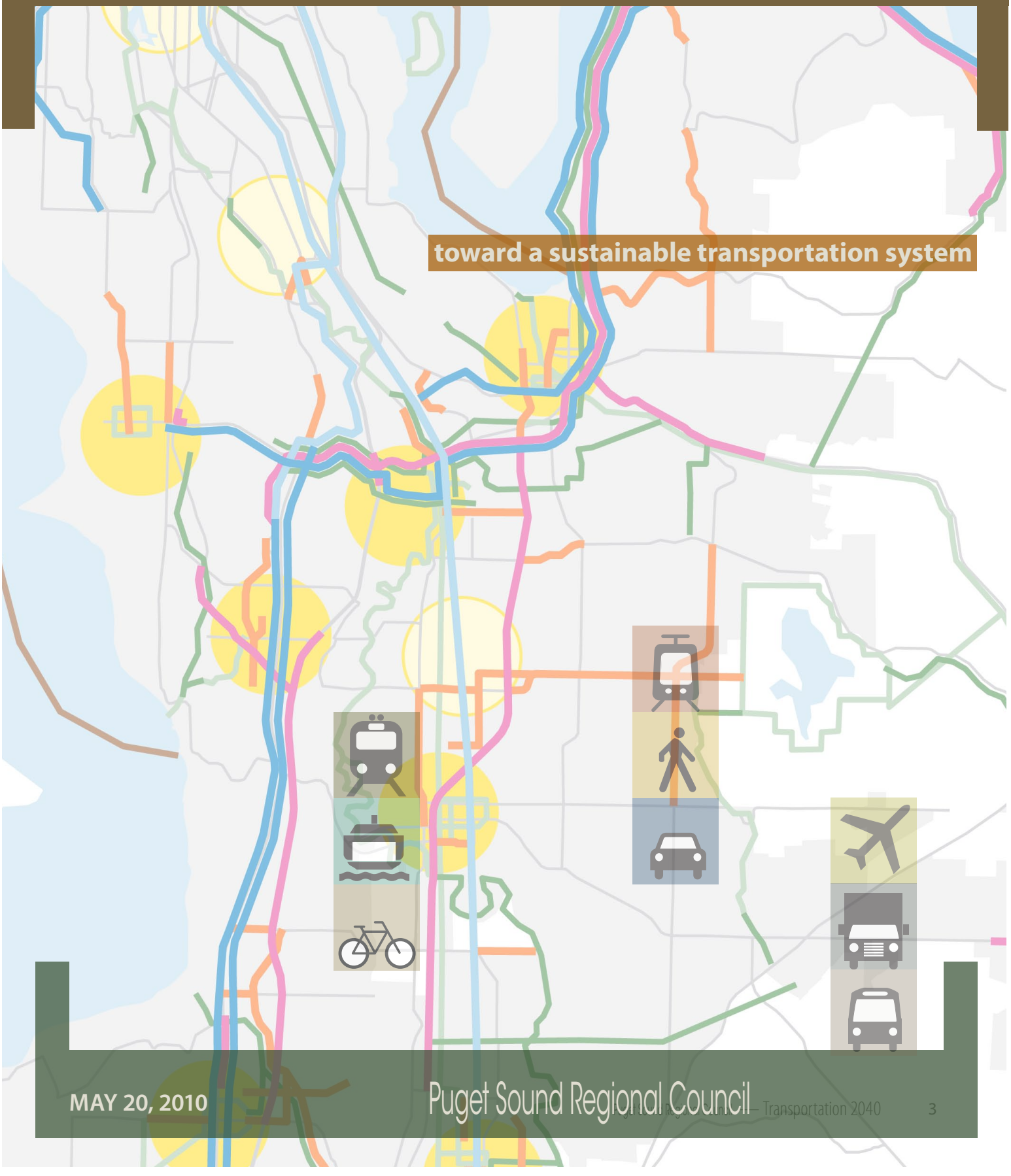
Transportation 2040



toward a sustainable transportation system

MAY 20, 2010

Puget Sound Regional Council

Tacoma Narrows Bridge

Resolution No. PSRC-A-2010-02

A RESOLUTION of the Puget Sound Regional Council Adopting Transportation 2040 (the 2010 Metropolitan Transportation Plan)

WHEREAS, the Puget Sound Regional Council is designated by local governments and the Governor of the State of Washington, under federal and state laws, as the Metropolitan Planning Organization (MPO) and Regional Transportation Planning Organization (RTPO) for the central Puget Sound region encompassing King, Kitsap, Pierce, and Snohomish counties; and

WHEREAS, the Interlocal Agreement signed by all Regional Council members establishes the Council as a forum for collaborative work on regional growth management, transportation and other issues requiring regional coordination and cooperation; and

WHEREAS, as the MPO and RTPO for the four-county region, the Regional Council has specific responsibilities under federal and state laws, including the federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and Clean Air Act, and the state Growth Management Act (GMA) and Commute Trip Reduction law, as well as responsibilities pursuant to the Interlocal Agreement signed by all members; and

WHEREAS, in 2008 the Regional Council adopted VISION 2040, the long-range environmental, growth management, economic development, and transportation strategy for the central Puget Sound region; and

WHEREAS, state legislation requires Regional Transportation Planning Organizations to work with local jurisdictions to establish regional guidelines and principles to assist local jurisdictions in developing their local transportation plans; and

WHEREAS, VISION 2040 multicounty planning policies constitute the regional guidelines and principles for the central Puget Sound region; and

WHEREAS, federal and state laws require that the Regional Council periodically review and update its Metropolitan Transportation Plan to reflect progress and changes regarding plan implementation directions using the latest forecasts of regional demographic and development patterns; and

WHEREAS, in 2001 the Regional Council adopted Destination 2030 to comply with transportation capacity needs of the central Puget Sound region; and

WHEREAS, the 2007 Destination 2030 Update was adopted in 2007 as a limited scope update of Destination 2030 that addressed new federal SAFETEA-LU requirements, new state Commute Trip Reduction law requirements, an updated project list and financial strategy, and minor language and technical changes to update the plan, and was subject to various minor amendments in subsequent years by Executive Board action as provided for in the plan; and

WHEREAS, from May 2007 through March 2010, the Regional Council's Transportation Policy Board directed development of a new Transportation 2040 metropolitan transportation plan in compliance with federal and state laws, and developed a draft "Transportation 2040" document; and

WHEREAS, consistent with federal and state mandates, state environmental requirements, and with the Regional Council's Interlocal Agreement, Public Participation Plan, and other operating procedures, the Regional Council has worked with local, state and federal jurisdictions and agencies in a continuing, cooperative and comprehensive planning process; has made draft documents available for public review; has conducted informational mailings, workshops, open houses, and other efforts including providing extensive data and information related to the plan update on the Regional Council's website, to involve communities, agencies, businesses, interest groups, and individuals in order to facilitate their ability to provide input, discussion and review of Transportation 2040; and has incorporated the work of local governments, and the suggestions of citizens, businesses, and interests throughout the region in the plan document; and

WHEREAS, the Regional Council has prepared a draft and final environmental impact statement ("EIS") on Transportation 2040 pursuant to the State Environmental Policy Act and the Regional Council's *Procedures and Policies Implementing the State Environmental Policy Act*; and

WHEREAS, the Regional Council is to certify that Transportation 2040 complies with all the applicable requirements of the Federal Transit Act, Clean Air Act, Civil Rights Act, the Americans with Disabilities Act, SAFETEA-LU, the state Commute Trip Reduction law, and all other applicable state and federal laws and regulations; and

WHEREAS, Transportation 2040 is to serve as the required regional transportation plan under state law and as the metropolitan transportation plan under federal law; and

WHEREAS, based on analyses, Transportation 2040 will provide transportation, land use and economic benefits to the region; and

WHEREAS, on October 28, 2009, the Washington State Department of Transportation published *Least Cost Planning Guidance* for regional transportation planning organizations, and Regional Council staff have reviewed such guidance and determined that Transportation 2040 conforms with state requirements and has documented this determination in the *Benefits-Cost Analysis: General Methods and Approach* report; and

WHEREAS, Transportation 2040 supersedes the 2007 Destination 2030 Update adopted in 2007 and amended in 2008;

NOW, THEREFORE BE IT RESOLVED, that the Regional Council General Assembly adopts Transportation 2040 and its plan Appendices as the functional transportation element of VISION 2040, to serve as the region's official regional and metropolitan transportation plans, and finds Transportation 2040 to be in conformity with the Clean Air Act, SAFETEA-LU requirements, the state Commute Trip Reduction law, and state Regional Transportation Planning Organization requirements, and the requirements of the State Environmental Policy Act.

BE IT FURTHER RESOLVED, that the Regional Council General Assembly adopts the federally required 2011-2014 Coordinated Transit-Human Services Transportation Plan and thereby incorporates the plan into Transportation 2040 as Appendix K;

BE IT FURTHER RESOLVED, that the Regional Council hereby certifies that Transportation 2040 complies with all applicable requirements of the Federal Transit Act, Clean Air Act, Civil Rights Act, the Americans with Disabilities Act, SAFETEA-LU, and other applicable state and federal statutes and regulations;

BE IT FURTHER RESOLVED,that the Regional Council's Executive Board is authorized to make minor amendments to Transportation 2040 and its Appendices;

BE IT FURTHER RESOLVED, that the Regional Council's Executive Director is authorized to transmit Transportation 2040 to the Federal Transit Administration and the Federal Highway Administration to make the conformity determination in accordance with the federal Clean Air Act and the Environmental Protection Agency's transportation conformity regulations, and for review based on the planning process requirements of SAFETEA-LU and other federal statutes;

BE IT FURTHER RESOLVED, that the Regional Council's Executive Director is authorized to transmit Transportation 2040 to the Governor and the Washington State Department of Transportation in compliance with Regional Transportation Planning Organization requirements;

BE IT FURTHER RESOLVED, that the Regional Council staff is directed to prepare, reproduce and distribute the final Transportation 2040 plan document with any final minor corrections that may become necessary.

ADOPTED by the Assembly this 20th day of May, 2010.

Mayor Ray Stephanson, City of Everett
President, Puget Sound Regional Council

ATTEST:
Bob Drewel, Executive Director

APPROVED AS TO FORM: *Melody McCutcheon, Hillis Clark Martin & Peterson P.S.*

Contents

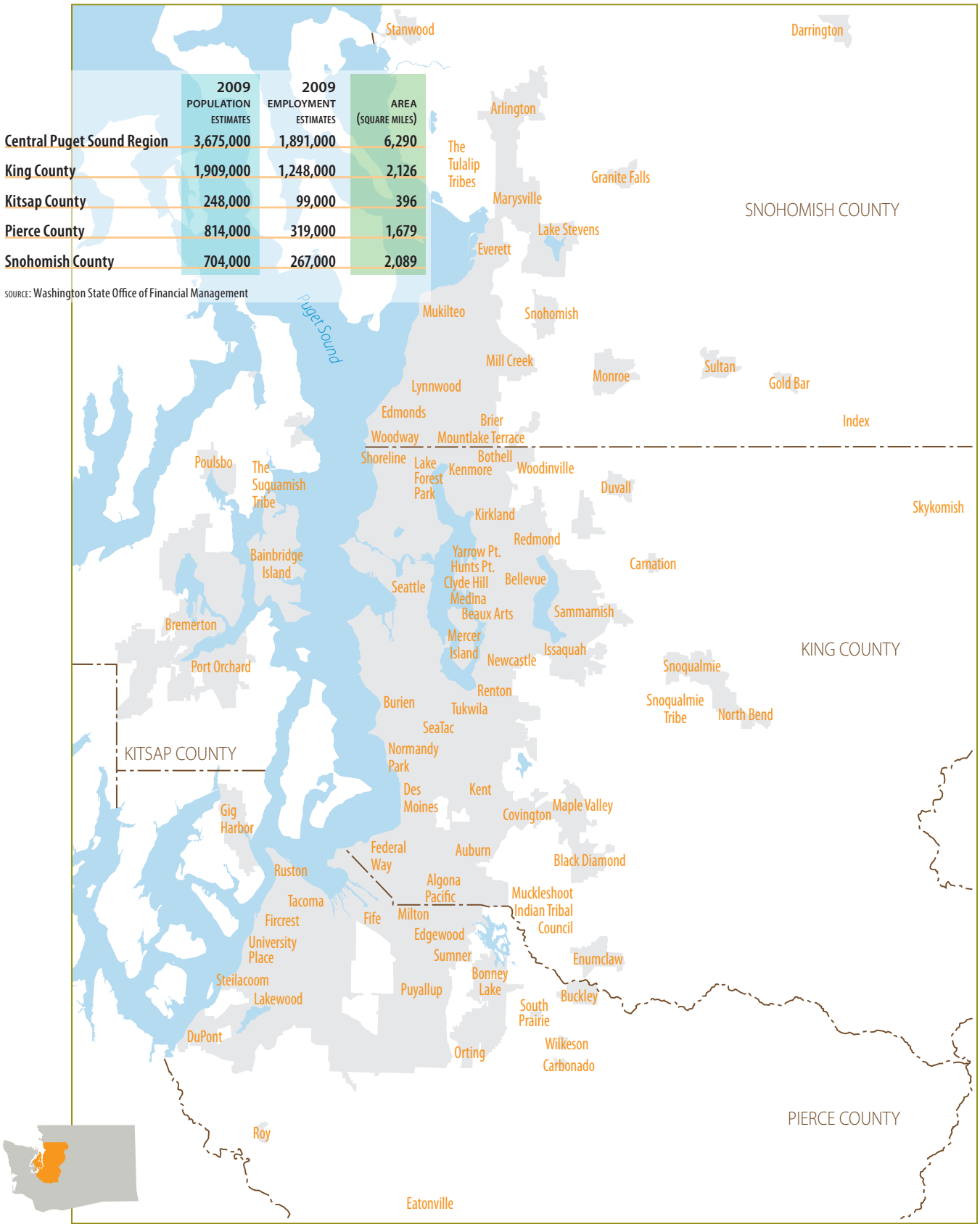
Appendices **(UNDER SEPARATE COVER)**

Figures

FIGURE 1. Central Puget Sound Region

	2009 POPULATION ESTIMATES	2009 EMPLOYMENT ESTIMATES	AREA (SQUARE MILES)
Central Puget Sound Region	3,675,000	1,891,000	6,290
King County	1,909,000	1,248,000	2,126
Kitsap County	248,000	99,000	396
Pierce County	814,000	319,000	1,679
Snohomish County	704,000	267,000	2,089

SOURCE: Washington State Office of Financial Management



What is the Puget Sound Regional Council?

The Puget Sound Regional Council is the regional planning organization for the four-county central Puget Sound region of Washington state. PSRC is committed to creating a great future for the region through planning for regional transportation, land use and economic development, under authority embodied in state and federal laws. PSRC maintains a common vision for the region's future, expressed through three connected major activities: VISION 2040, the region's growth strategy, Transportation 2040, the region's long-range transportation plan, and the Prosperity Partnership, which develops and advances the region's economic strategy. PSRC also distributes about $160 million a year to transportation projects and provides regional data for planning.

Othello Station, Sound Transit

PSRC is designated under federal law as the Metropolitan Planning Organization (required for receiving federal transportation funds) and under state law as the Regional Transportation Planning Organization for King, Kitsap, Pierce and Snohomish counties. PSRC also supports the work of the region's federally designated Economic Development District (EDD).


Mt. Rainier

The Central Puget Sound Region

The central Puget Sound region is one of the principal metropolitan regions in the Pacific Northwest of the United States. It includes King, Kitsap, Pierce and Snohomish counties and their 82 cities and towns, covering an area of nearly 6,300 square miles (16,300 square kilometers). The region's geography is diverse, and includes urban, rural, and resource lands. Numerous hills, mountains, and lakes provide significant variety to the topography of the region, which ranges in elevation from sea level at Puget Sound to over 14,000 feet (more than 4,000 meters) at Mount Rainier.

Mandates and Requirements

Transportation 2040 is the functional transportation plan that implements VISION 2040, the long range environmental, growth management, economic development, and transportation strategy for the central Puget Sound Region. It responds to Washington's Growth Management Act and conforms to federal transportation planning requirements. As the region's Metropolitan Transportation Plan and state-required Regional Transportation Plan, Transportation 2040 replaces Destination 2030, and meets substantive and procedural requirements of Section 47.80.030 of the Revised Code of Washington.

In addition, state legislation requires Regional Transportation Planning Organizations to work with local jurisdictions to establish regional guidelines and principles. These products assist local jurisdictions in developing their local transportation plans. The guidelines and principles also enable the Regional Transportation Planning Organization to determine whether the transportation elements in local plans are consistent with the regional transportation plan (RCW 47.80). VISION 2040 multicounty planning policies constitute the regional guidelines and principles for the central Puget Sound region. See Appendix C for the complete text of the region's adopted multicounty planning policies.

Transportation 2040 addresses federal mandates that were first contained in the 1991 Intermodal Surface Transportation Efficiency Act (often referred to as ISTEA). ISTEA was reauthorized in 1998 as the Transportation Equity Act for the 21st Century (TEA-21), and again in 2005 as the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Like ISTEA and TEA-21, SAFETEA-LU requires that urban regions link comprehensive planning programs with funding decisions for transportation projects. It also provides a context for linking transportation planning and programs with growth and development considerations. SAFETEA-LU adds new requirements to plan for transportation users with special needs, system security, safety, management and operations, and environmental mitigation.

SAFETEA-LU requires that Metropolitan Planning Organizations make regular updates to their Metropolitan Transportation Plans every four years. Under state law, the region's transportation plan must also be formally reviewed and updated or revised every four years. The adoption of Transportation 2040 establishes a 30-year planning horizon for the region's Metropolitan Transportation Plan.

Federal Requiremets for Metropolitan Transportation Plans

- *Plans must be developed through an open and inclusive process that ensures public input and seeks out and considers the needs of those traditionally under-served by existing transportation systems.*
- *Plans must be for a period not less than 20 years into the future.*
- *Plans must reflect the most recent assumptions for population, travel, land use, congestion, employment, and economic activity.*

- *Plans must be financially constrained, and revenue assumptions must be reasonable in that funds can be expected to be available during the time frame of the plan.*
- *Plans must conform to the Clean Air Act and its amendments, and to applicable State Implementation Plans for regional air quality.*

Planning Factors Required by SAFETEA-LU

- *Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency.*
- *Increase the safety of the transportation system for motorized and non-motorized users.*
- *Increase the security of the transportation system for motorized and non-motorized users.*
- *Increase the accessibility and mobility of people and for freight.*
- *Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.*
- *Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.*
- *Promote efficient system management and operation.*
- *Emphasize the preservation of the existing transportation system.*

State Factors for Regional Guidelines and Principles

The region's Multicounty Planning Policies serve as its guidelines and principles. See Appendix C. Guidelines and Principles must, at a minimum, address the following factors:

- *Freight transportation and port access.*
- *Development patterns that promote pedestrian and non-motorized transportation.*
- *Circulation systems, access to regional systems, and effective and efficient highway systems.*
- *Transportation demand management.*
- *Present and future railroad right-of-way corridors.*
- *Intermodal connections.*
- *Concentrations of economic activity.*
- *Residential density.*
- *Development corridors and urban design that support high capacity transit.*
- *Ability of transportation facilities and programs to retain existing and attract new jobs and private investment to accommodate growth in demand.*
- *Joint and mixed-use development.*

PSRC has developed materials to assist local governments in addressing VISION 2040, Transportation 2040, the region's guidelines and principles and other planning requirements. These materials, including examples for local planning, are online at www.psrc.org/growth/planreview.

Ferry on Puget Sound

CHAPTER 1

Toward a Sustainable Transportation System

Bremerton Ferry Terminal

Regions across the country face common challenges when it comes to improving transportation. The old ways of paying for and delivering transportation investments are proving unsustainable. Funding is short, urban projects are complex and costly, and citizens are increasingly concerned about the environmental consequences of construction and more traffic.

Transportation 2040 lays out a set of measured steps that are designed to improve transportation in the region. It helps to move people and goods, improve the quality of the region's air and water, and strengthen our comparative economic advantages in a sustainable manner. Implementing this plan will test the region's resolve, and in the end may require embraceing some changes that right now might seem a bit unfamiliar. Some of these changes involve how transportation is paid for, some involve the kinds of vehicles that are driven, and some the ways people travel, shop and work. But the values that lie behind these ideas are very familiar. The region must steward the environment for future generations, grow economic opportunities for everyone, invest in neighborhoods and marketplaces, foster innovation, and recognize the importance of personal choice.

Building on VISION 2040, Transportation 2040 is the result of almost three years of research, analysis, deliberation, and debate. It lays out a vision for the future of transportation in the central Puget Sound region, while ensuring the plan meets the diverse needs of citizens across the four counties.

Transportation 2040 establishes three integrated strategies for addressing: (1) congestion and mobility, (2) the environment, and (3) transportation funding. These strategies address the need for a large and sustainable investment in the region's transportation system to meet the needs of a growing population — more transit, more biking and walking facilities, more ferries, and more complete roadways.

That sustainable mobility must extend to the movement of freight, which is the circulatory system of the region's economy. The Puget Sound region is a major North American gateway for trade with Pacific Rim countries and is the major economic engine for Washington state. A transportation system that provides for the efficient movement of freight and goods is critical for the region's economic prosperity.

Transportation 2040 prioritizes investments for those parts of the region expected to accommodate the most growth, especially centers and compact urban communities. It implements the VISION 2040 Regional Growth Strategy by targeting transportation

investments that provide capacity for 5 million people in 2040, ensuring that people can get to work and recreation, that freight and goods movement can supply businesses and factories, and that ports can continue to function as regional and global gateways.

Transportation 2040 envisions a sustainable transportation system that meets the region's diverse mobility needs. It calls for a system that is safe, secure, and efficient. Sustainable transportation involves moving people and goods in ways that support a healthy environment and a strong economy. It recognizes the opportunity to address past harms to the natural environment, and to improve water and air quality. It includes the design of walkable cities and bikable neighborhoods, as well as facilitation of telework and other options to reduce or eliminate trips. If transportation programs and projects are to support social and economic activity, they must also contribute to the health and vitality of human and natural environments. Sustainable transportation means relying on cleaner and renewable sources of energy. It means employing innovative design and construction methods — as seen in green streets and pervious paving materials — that can minimize environmental impacts.

Transportation 2040 sets the region on course to significantly reduce greenhouse gas emissions consistent with state goals through a flexible and balanced approach of land use, pricing, choices, and technology. This approach positions the region well to take advantage of federal programs that might be created to support efforts in this area.

Tukwila International Blvd. Station, Sound Transit

Finally, Transportation 2040 takes steps to move the region toward a sustainable financial future, breaking with historic and increasingly unreliable funding approaches and identifying new financing strategies that not only provide needed revenue, but also reduce vehicle miles traveled and delay, improve reliability, and support more choices for the people who use the system to meet their daily needs.

Supporting VISION 2040

VISION 2040, adopted in 2008, serves as the region's long-range growth management, environmental, economic and transportation strategy. VISION 2040 is an integrated, long-range strategy for maintaining a healthy region — promoting the well-being of people and communities, economic vitality, and a healthy environment.

In adopting VISION 2040, the region established a Regional Growth Strategy for accommodating an additional 1.5 million people and 1.2 million new jobs expected by the year 2040. VISION 2040 promotes an environmentally friendly growth pattern that contains the expansion of urban growth areas, conserves farm and forest lands, supports compact communities where people may both live and work, and focuses new employment and housing in vibrant urban centers.

VISION 2040's multicounty planning policies (required by the Growth Management Act) provide an integrated framework for addressing land use, economic development, transportation, public facilities, and environmental issues. These policies provide the framework for Transportation 2040, promoting the development of a coordinated multimodal transportation system that is integrated with and supported by more balanced and varied land use patterns. The strategy's preferred pattern of urbanization has been designed to support economic prosperity, promote affordable housing, improve mobility, and make efficient use of existing and planned infrastructure. See Appendix C for the complete text of adopted multicounty planning policies.

The Foundation: Land Use and Transportation

The central Puget Sound region has long recognized the fundamental link between land use and transportation. Supportive land use patterns include the appropriate intensity, configuration, and proximity of housing, jobs, stores, and schools. Land use patterns are also shaped by roads, pathways, trails, sidewalks, rail and other public transportation infrastructure. Locating shops, offices, and services near homes, and ensuring that our transportation infrastructure is well-connected and provides for a variety of transportation types, can promote walking, bicycling, transit use and greatly contribute to improved accessibility and mobility. These are some of the central goals of VISION 2040. See Appendix C, MPP-DP-14, MPP-DP-35 and MPP-T-11.

Physical Design Guidelines

A group of physical design guidelines are established in Transportation 2040 to better articulate the relationship between land use and transportation, pursuant to Growth Management Act requirements (RCW 47.80). Local jurisdictions should seek to foster these characteristics and conditions as they permit development and build transportation infrastructure, particularly in designated centers and transit station areas. The guidelines are intended to advance fundamental design principles and site development characteristics that can serve as a starting point to achieving successful and mutually supportive connections between land use and transportation.

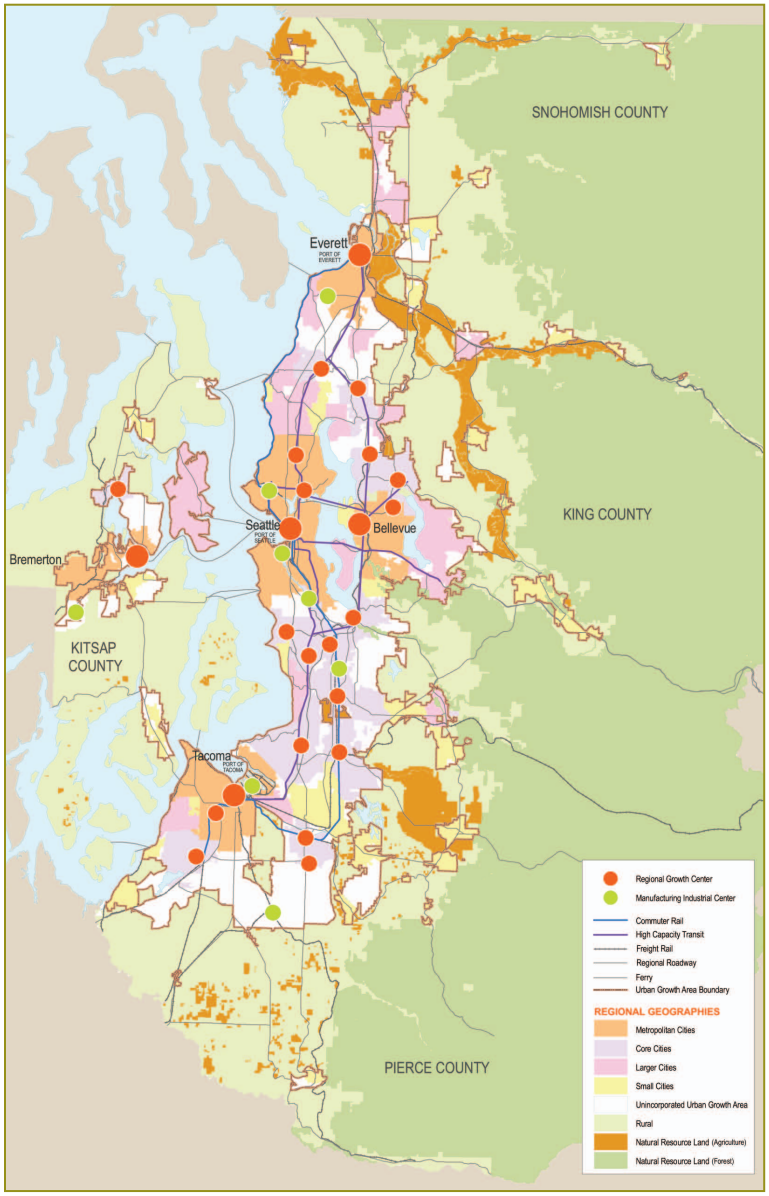
All plans for regional growth centers and high-capacity transit station areas shall address these guidelines. See Appendix C, MPP-T-20, MPP-T-21, MPP-DP-37 and MPP-DP-40. For additional guidance on urban form, site design, parking, and accessibility see www.psrc.org/growth/tools/.

1. *Encourage a mix of complementary land uses, particularly uses that generate pedestrian activity and transit ridership.*
2. *Encourage compact growth by addressing planned density.*
3. *Link neighborhoods; connect streets, sidewalks, and trails.*
4. *Integrate activity areas with surrounding neighborhoods.*
5. *Locate public and semipublic uses near high capacity transit stations in designated urban centers and activity centers.*
6. *Design for pedestrians and bicyclists.*
7. *Provide usable open spaces for the public.*
8. *Manage the supply of parking.*
9. *Promote the benefits of on-street parking.*
10. *Reduce and mitigate the effects of parking.*

VISION 2040 and Transportation 2040 recognize that the linkage between land use and transportation also has critical implications for the environment and the economy. VISION 2040 makes a strong connection between the region's natural environment and the built environment. In terms of transportation, this means moving into a cleaner, more sustainable future to address our mobility and accessibility needs. VISION 2040 states "sustainable transportation involves the efficient and environmentally sensitive movement of people, information, goods and services, with attention to health and safety." Sustainable transportation includes minimizing the impacts of transportation activities, reducing carbon and other emissions, and protecting water quality by relying on cleaner modes of travel and alternative energy resources.

Transportation 2040 builds on the legacy of the region's earlier metropolitan transportation plan, Destination 2030, and its innovative approach to emphasize land use practices and planning tools that are as important to improving mobility and accessibility — if not more so — as are investments in traditional transportation projects and programs. Land use regulatory reforms, financial incentives, and development strategies can leverage local planning to focus growth into centers and compact communities, where walking, bicycling, and transit provide increasingly viable alternatives to driving. These places should have a variety of housing types to accommodate our increasingly

FIGURE 2. VISION 2040 Regional Growth Strategy



diverse households — the mix of singles, single-parent households, starter-households and seniors. VISION 2040 further promotes urban form and design principles that create more vibrant and livable communities. Design is especially important — and is much more than aesthetics and visual character. Good design addresses functions and systems, as well as economic and social objectives, such as allowing people to remain an active part of their communities as they get older — to "age in place."

REGIONAL GROWTH STRATEGY

Transportation 2040 has been designed to support and implement VISION 2040's *Regional Growth Strategy*, which advances a development pattern that will:

- Enhance the region's existing communities.
- Reduce incompatible development in rural areas.
- Preserve the natural environment.
- Provide a wider variety of affordable housing choices.
- Better connect all people with jobs services, and recreational opportunities. See Appendix C, MPP-T-9 through MPP-T-22.

The Regional Growth Strategy provides guidance for the distribution of growth to *regional geographies*, which are categories for the different types of cities and unincorporated areas that play distinct roles in the region. Cities, towns, and neighborhoods of various sizes and character will continue to offer a wide choice of living options.

VISION 2040 has established the following Regional Geographies:

- Metropolitan Cities
- Core Cities
- Larger Cities
- Small Cities
- Unincorporated Urban Growth Areas
- Rural Areas
- Natural Resources Lands

The Regional Growth Strategy focuses the majority of the region's population and employment growth (53 percent and 71 percent, respectively) into Metropolitan Cities and Core Cities. Significant population and employment growth (40 percent and 26 percent, respectively) will also occur collectively in Larger Cities, Small Cities, and the Unincorporated Urban Growth Area. Transportation 2040 supports development and transportation investments in all of these geographies and the creation of appropriate regional financial tools to support such investments.

Figure 2 illustrates the Regional Growth Strategy. The Regional Growth Strategy contains numeric guidance adopted for counties, cities and towns to use as they develop new population and employment growth targets and update local comprehensive plans. These land use assumptions serve as the basis for local and regional transportation planning.

CENTERS

Transportation 2040 supports development of centers throughout the region. Centers are locations with compact, pedestrian-oriented development and a mix of different commercial, civic, entertainment and residential uses. While relatively small geographically, centers are strategic places identified to receive a significant proportion of future population and employment growth when compared to the rest of the urban area. Concentrating growth in centers allows cities and other urban service providers to maximize the use of existing infrastructure, make more efficient and less costly investments in new infrastructure, and minimize the environmental impact of urban growth. Transportation 2040 supports accessibility and mobility for walking, biking, and transit to and within centers. See Appendix C, MPP-D-5 through MPP-DP-13.

Regional Growth Centers. Regional growth centers are major focal points of higher density population and employment, served with efficient multimodal transportation infrastructure and services. By the year 2040, *Metropolitan Cities* and *Core Cities* (the 18 cities that have one or more regional growth centers — along with unincorporated Silverdale) are expected to accommodate a significant portion of the region's residential growth (53 percent) and employment growth (71 percent). See VISION 2040, pp. 47-51.

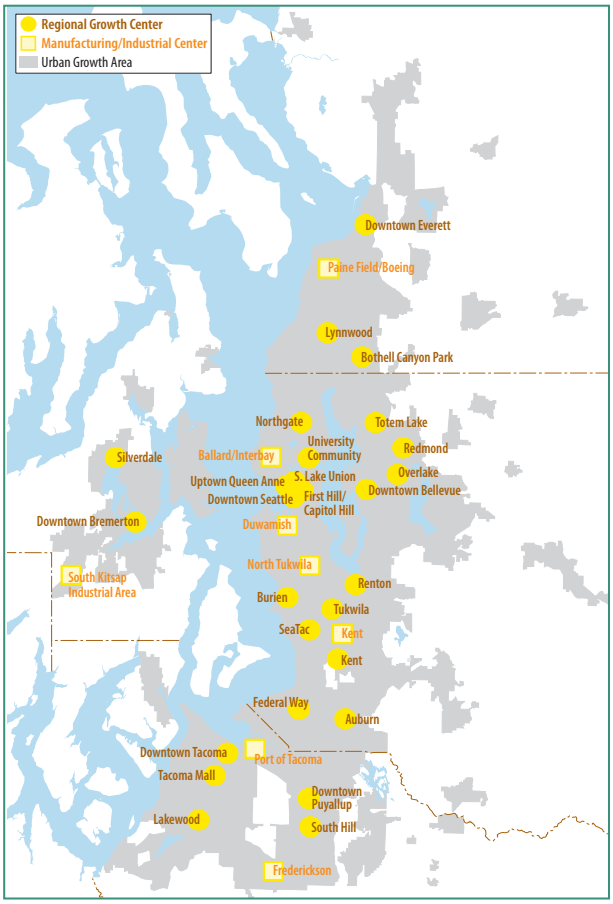
Transportation 2040 links regionally designated centers within these regional geographies with a highly efficient transportation network, and prioritizes regional transportation investments to serve regional centers. PSRC commits to addressing this core policy objective as it periodically updates the policy framework for regionally managed funds. See Appendix C, MPP-DP-7, MPP-DP-10, MPP-DP-13, and MPP-T-12.

Manufacturing and Industrial Centers. The region also contains eight designated regional *manufacturing and industrial centers* (MICs). These are employment areas with intensive, concentrated manufacturing and industrial land uses that cannot be easily mixed with other activities. These areas are intended to continue to accommodate a significant amount of regional employment growth. Figure 3 maps the region's designated centers. See Appendix C, MPP-DP-8 through MPP-DP-10.

Subregional Centers. Subregional centers, including downtowns in suburban cities and other neighborhood centers, are also strategic locations for concentrating jobs, housing, shopping, and recreational opportunities. See Appendix C, MPP-DP-13.

Moreover, other growth strategy concepts, such as compact communities, mixed-use districts, and transit station areas, remain an integral part of the overall vision for growth in the region. These concentrations may act very much like designated regional growth centers, and can also benefit from programs used for center enhancement and development, including strategic transportation and infrastructure investments. See Appendix C, MPP-DP-14 and 15.

FIGURE 3. Regional Centers



OUTCOMES

Transportation 2040 supports development in high-growth regional geographies like *Metropolitan Cities* and *Core Cities*, putting particular emphasis on connecting designated regional growth centers and manufacturing industrial centers. Transportation 2040 contains investments that reduce the length of vehicle trips, increase transit ridership, focus new transportation infrastructure in already-urbanized

areas, and provide additional information and tools to help implement the growth strategy. Transportation 2040 promotes development approaches that assist centers and station areas to be more attractive, thereby fostering housing growth in transit supportive environments, and helping the region to meet its goals for housing affordability and development in centers.

Constrained Plan investments are included in the financially constrained portion of the plan, which the region reasonably expects to fund by 2040. The Full Plan includes additional actions beyond the investments in the financially constrained plan. For more detail, see Chapter 4.

When Transportation 2040's investments were analyzed using the region's integrated transportation and land use models, approximately 97 percent of growth occurred within designated urban growth areas, in a manner consistent with the Regional Growth Strategy.

Growth in and within a quarter mile of designated regional growth center boundaries was also modeled. As displayed in Figure 4, future development in these areas is projected to be strong, such that by 2040 an additional 175,000 people and 475,000 jobs will more than double the current activity in areas within and surrounding designated regional growth centers.

Investments in transportation can improve the development opportunities in urban places by reducing the transportation costs for firms and households within these neighborhoods. When examining the benefits that result from the plan's investments, on a per trip basis these neighborhoods fare better than the region as a whole. Figure 5 displays per trip benefits (compared with making no changes to the transportation system) for regional growth centers and manufacturing industrial centers, and for the region as a whole. The gains to growth centers are an important result of implementing Transportation 2040.

FIGURE 4. Population and Employment in Designated Growth Centers, 2000 and 2040

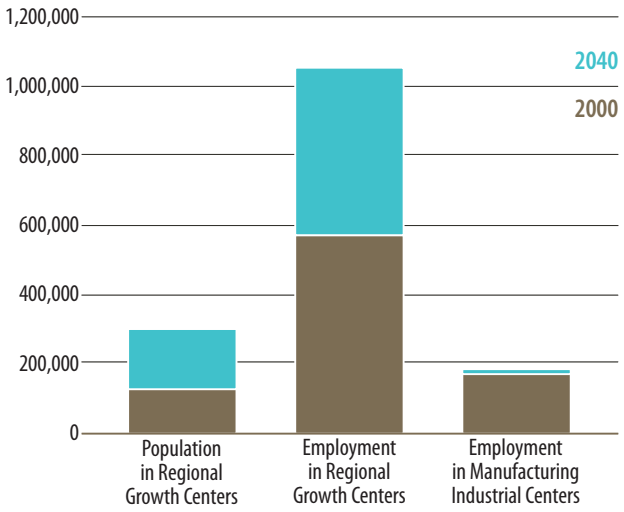
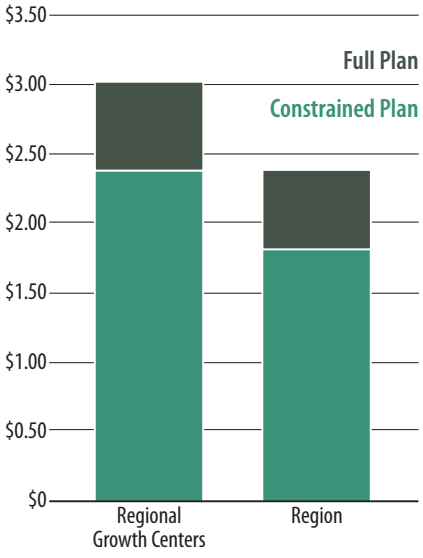


FIGURE 5. Per Trip Benefits for Regional Growth Centers Compared with 2040 Baseline



TRANSIT-ORIENTED COMMUNITIES

Transportation 2040 supports the development of transit-oriented communities in conjunction with implementation of the region's transit system. A majority of existing and planned transit station areas are located in or serve the region's designated growth centers. The development of the region's high capacity transit system offers an important opportunity to create and enhance these areas and other station communities to further regional growth objectives.

The transit station serves as a critical link in the region's transportation infrastructure, connecting residents and workers to jobs and services in the rest of the region and offering access to nearby civic and public spaces. Well-designed transit-oriented communities can lead to a range of substantial social and environmental benefits. Transit-oriented communities have the potential to:

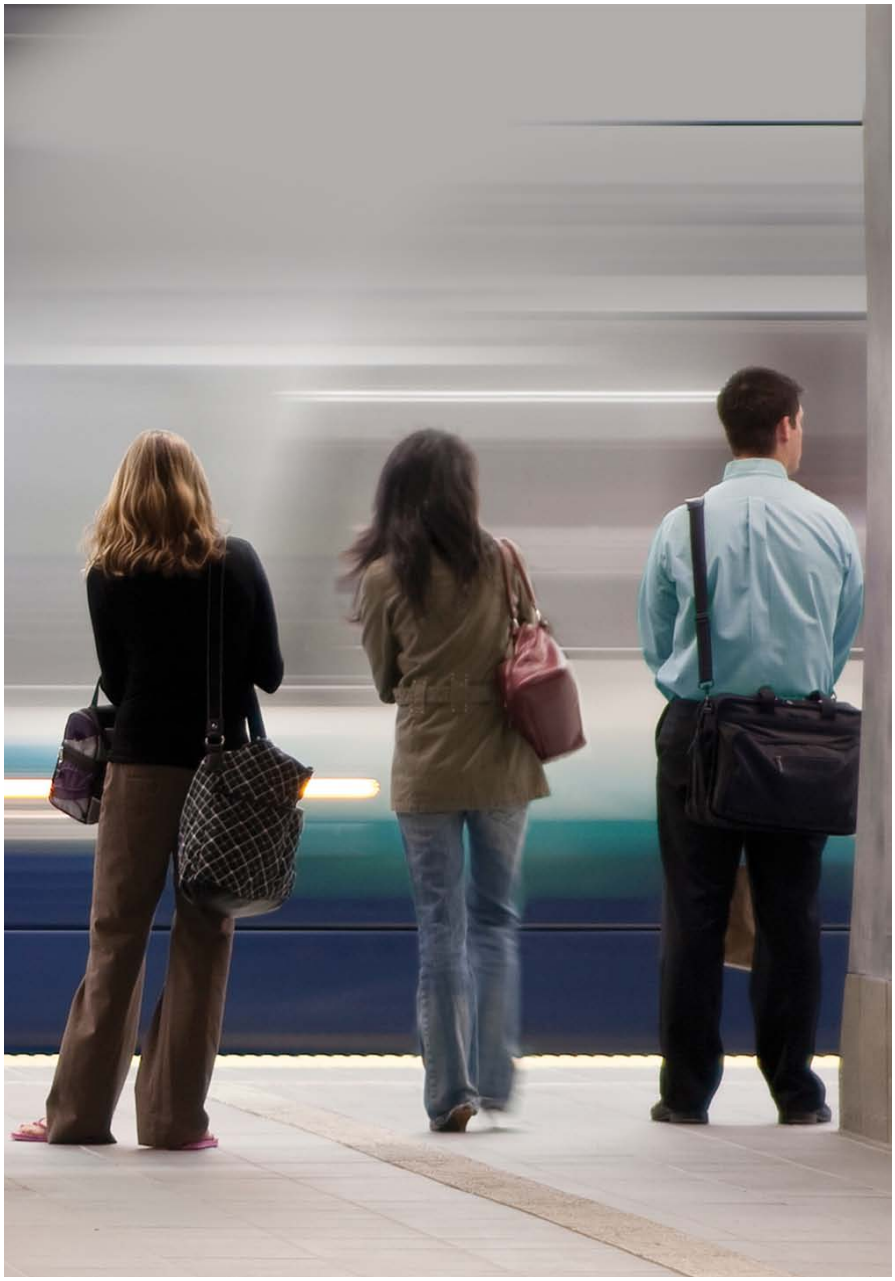
- Promote health by encouraging walking and biking, cutting air pollution, and reducing motor vehicle accidents.
- Lower household expenses for transportation.
- Reduce municipal infrastructure costs.
- Help meet the growing demand for "walkable communities."

- Curb land consumption and thereby help conserve farms and natural ecosystems, and protect water quality.
- Cut energy consumption and greenhouse gas emissions associated with both transportation and the built environment.

The central Puget Sound region is in a position to capture these benefits and get a high return on its investments in regional transit facilities. Sound Transit's light rail line and Sounder commuter rail, King and Snohomish counties' Rapid Ride and Swift bus rapid transit lines, and the City of Seattle street car station locations offer a tremendous opportunity to accommodate population and employment growth. Figure 6 illustrates a selection of existing and planned transit station areas. Additional transit station areas will likely be identified as planning and implementation of the region's high capacity transit system progresses.

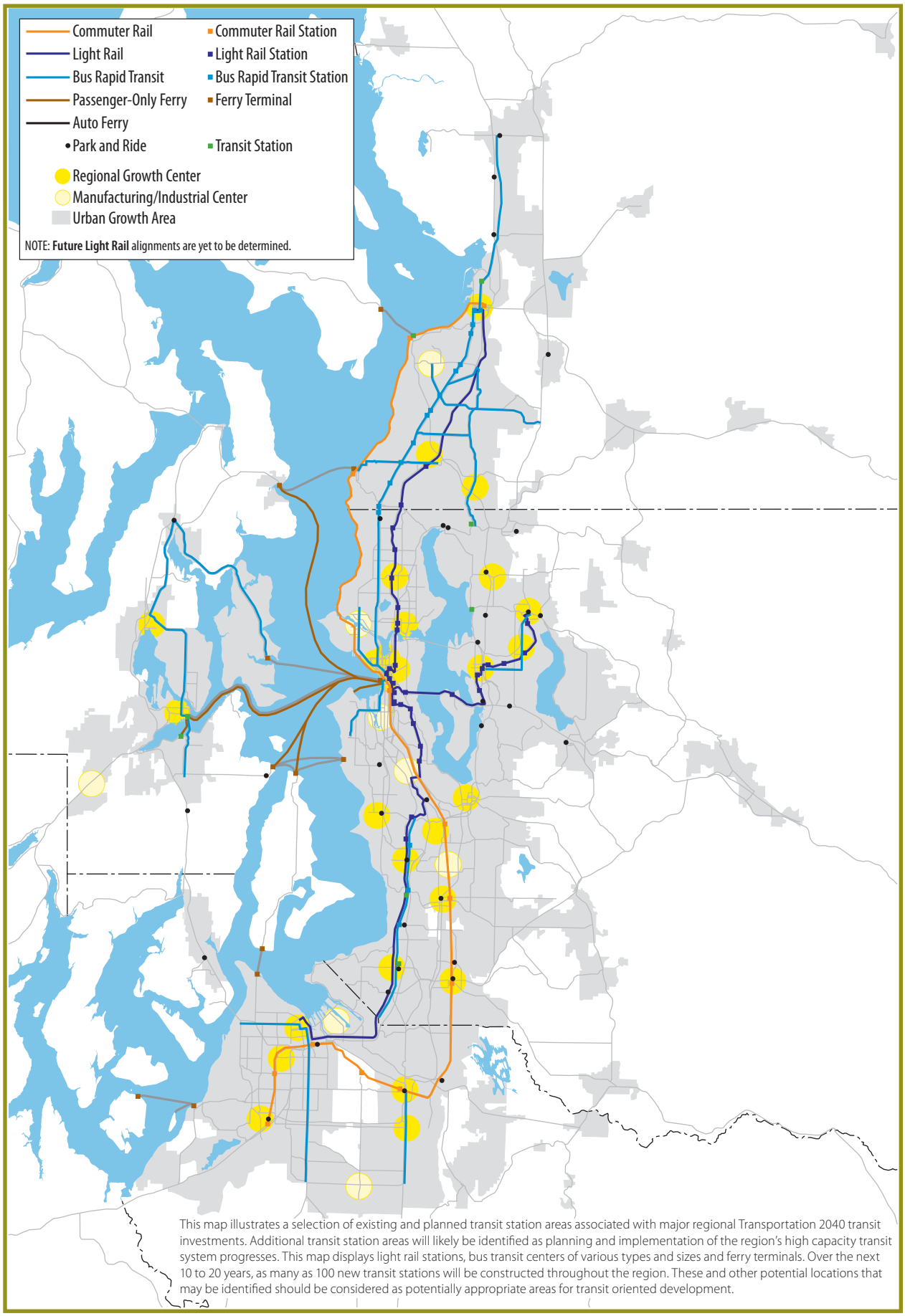
Land use and development patterns in the vicinity of passenger ferry terminals can contribute to the success of a regional passenger ferry system. Mixed-use developments can build ferry ridership and increase accessibility to passenger ferry services. To support future passenger ferry service, Transportation 2040 recommends the region and local jurisdictions develop land use and zoning policies to support transit-oriented development associated with water-borne transportation.

Station area planning. Local jurisdictions, in collaboration with regional transit agencies and PSRC, are encouraged to conduct comprehensive sub-area planning for high-capacity transit station areas, typically to cover the area defined by a half- to three-quarter mile walking distance radius around the station site. For areas in which the station area is a part of a larger sub-area plan — such as a regional growth center subarea plan — the local jurisdiction should devote special attention to the station area. Station area planning should consider the fine-grained issues and opportunities that help transit-oriented communities function well, such as attractive and functional walking and bicycling, and thoughtful design standards for architecture, site design, street trees, street furniture, and open spaces. As it works to help implement Transportation 2040, PSRC will provide leadership on these issues, and continue to investigate ways to provide support to station area planning efforts at the local jurisdiction level.



Beacon Hill Station, Sound Transit

FIGURE 6. Selected Existing and Potential Transit Station Areas Map



This map illustrates a selection of existing and planned transit station areas associated with major regional Transportation 2040 transit investments. Additional transit station areas will likely be identified as planning and implementation of the region's high capacity transit system progresses. This map displays light rail stations, bus transit centers of various types and sizes and ferry terminals. Over the next 10 to 20 years, as many as 100 new transit stations will be constructed throughout the region. These and other potential locations that may be identified should be considered as potentially appropriate areas for transit oriented development.

Supporting the Regional Economic Strategy

The Puget Sound region is a leading center of trade, high-tech industries and commerce. Talented and energetic people have flocked to the region for opportunities to work and live in a place of natural beauty and abundant cultural amenities. But continued prosperity in an increasingly competitive global economy is not assured. The key success factor for regional economic development is no longer simply the availability of natural resources or access to markets; rather, it is a talented and diverse workforce. New economic centers are rapidly emerging throughout the world as leaders recognize these dynamics and take the initiative needed to adapt to them. Metropolitan areas increasingly see the need to invest in creating places that can attract and retain the talent necessary to support their economies.

Also guided by VISION 2040's multicounty planning policies, the *Regional Economic Strategy* contains detailed action initiatives focused on strengthening our region's leading industry clusters and rebuilding the foundations of our economy. An efficient, well-functioning transportation system is critical for a strong economy. A central concern is supporting a vital economy while avoiding environmental damage that has accompanied growth in the past.

Adopted by the region's Economic Development District in September 2005, the *Regional Economic Strategy* is a federally required "comprehensive economic development strategy" (CEDS). It also serves as the economic functional plan of VISION 2040. The strategy takes a two-pronged approach to supporting the region's economy:

- Cluster Initiatives: Specific action initiatives were identified to grow and sustain our region's leading industry clusters. Industry clusters are geographically concentrated groupings of competing and complementary industries that create wealth in a region by selling products or services to outside markets, thereby generating income that fuels the rest of the economy. The *Regional Economic Strategy* focuses on seven of our region's leading industry clusters: aerospace, clean technology, information technology, life sciences, logistics and international trade, military, and tourism.
- Foundation Initiatives: Initiatives were also developed to rebuild the fundamental economic foundations that support our region's leading industry clusters: education, technology commercialization, new and small business support, tax structure, social capital and quality of life, and transportation.

During the development of the *Regional Economic Strategy*, a lack of transportation choices and congestion were cited as among the top constraints to doing business in the region. Transportation investments must address the diverse needs of the region's economy and support key employment sectors, including established and emerging industry clusters, industries involved in trade-related activities, startups, and new businesses. More convenient and varied transportation options, and improved travel reliability, were also seen as fundamental to maintaining quality of life in the region for workers and supporting local businesses. Finally, a transportation system that better serves communities with high concentrations of low income people and people of color — easing travel to and from education and employment centers — is also a high regional priority.

Accordingly, investing in transportation infrastructure — from roads to rail to air — has been a continuing focus of the Prosperity Partnership, the coalition of business, government and community organizations that drives the implementation of the *Regional Economic Strategy*. First, the Prosperity Partnership has supported additional funding for roads and transit targeted to benefit both the region's key industry clusters, as well as the economy as a whole.

Second, the Partnership has strongly advocated for the development of a transportation system that implements VISION 2040's Regional Growth Strategy, which calls for focusing a significant share of economic growth in designated regional growth centers, seeks to bolster the region's designated manufacturing and industrial centers, and advances a closer balance between jobs and housing. The industry clusters identified in the *Regional Economic Strategy* are highly correlated with the region's designated regional growth and manufacturing industrial centers. Supporting these centers with an expanded and efficient transportation system will provide lasting benefits to the economy of the central Puget Sound region. Third, since protecting and enhancing the environment — both natural and built — helps the region remain both competitive and livable, the Partnership has backed regional policies that call for sustaining and respecting the area's environmental quality and unique attributes through focusing and sustaining growth in the region's centers and already urbanized areas.

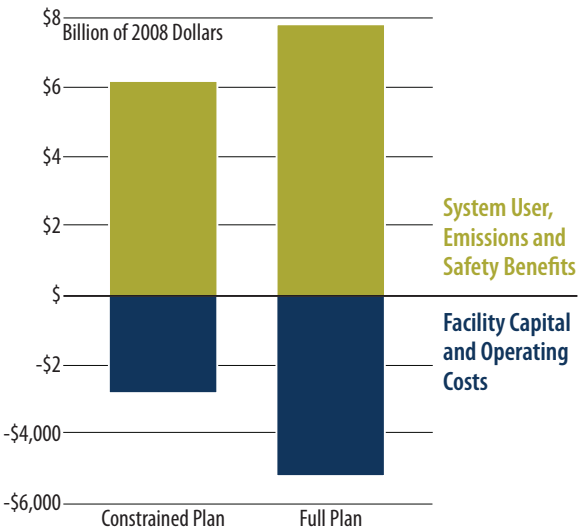
The region's transportation system must facilitate the movement of intermediate and finished products within

the region, and the expansion of global trade and export activities. And the system must efficiently move people between where they live and where they work. Transportation 2040 makes advances in supporting the *Regional Economic Strategy*, emphasizing investments tailored to improve mobility benefits to the region's growth centers and industry clusters. It provides personal mobility options that have fewer energy requirements, intensively manages transportation systems to reduce congestion and vehicle emissions, advances technical innovations that minimize transportation's carbon footprint, and supports growth in existing communities. All of these approaches serve to support and implement the *Regional Economic Strategy*.

OUTCOMES

Transportation is extremely important to economic growth. Transportation 2040's mix of investments will produce tangible benefits to people and freight in terms of travel time savings, decreased costs, improved travel reliability, and more choices. In addition, Transportation 2040 recognizes the need to secure transportation funding that does not unnecessarily burden the economy. By having the users of the transportation system pay for the investments, a sustainable financial framework will be built that will guarantee that we can get the most out of our transportation improvements.

FIGURE 7. Benefits and Costs of the Plan*



** Annual regional benefit in 2010*

As illustrated in Figure 7, expected benefits from investments and programs substantially exceed their costs. This will promote a healthy economy essential to achieving other regional objectives, including creating vibrant urban places, providing economic opportunities to all citizens, and making investments in the preservation of our unique regional environment. Transportation 2040's improved travel times produce real economic benefits within the broader economy.

Delay due to congestion or other disruptions on major regional roadways can affect the timely and predictable movement of freight within and through the region. Infrastructure and programmatic improvements contained in Transportation 2040 reduce rail freight and general-purpose traffic conflicts through grade separation projects, enhance safety, and result in less congestion on the region's roadways. Rail track improvements allow more efficient joint operation of passenger and freight rail services. Analysis shows significant benefits to freight users due to travel time improvements and increased reliability, amounting to over $2 billion per year by 2040.

FIGURE 8.
Per Trip Benefits for Locations with Target Industry Concentrations

Investments in transportation can improve the regional economic climate by reducing the transport costs for firms and households. These lower costs can result in increased productivity, employment, output and wages. Transportation 2040 accomplishes this and does so in a way that directly supports the region's economic goals of strengthening economic clusters, freight and high wage industries. Figure 8 displays per trip benefits (compared with not implementing the plan — or doing nothing) for neighborhoods with high concentrations of these industries and to the region as a whole. The gains to industry clusters are an important result of implementing Transportation 2040.

Supporting People

Transportation 2040 was developed to provide accessible, affordable, and convenient mobility to all people in the region. Transportation 2040 is about ensuring that everyone has access to goods, services and jobs. It places a priority on an effective system, rather than on a specific mode of transportation. Cars, buses, bicycles, streetcars, walking, and trains are all modes of transportation that meet individual needs.

Transportation 2040 and Equity. Equity was one of the seven key criteria used to evaluate alternatives and develop Transportation 2040. PSRC examined equity in four ways: (1) the geographic distribution of benefits and adverse impacts by county and county subarea, (2) the distribution of benefits and adverse impacts by income groups, (3) the distribution of benefits to freight and passenger vehicles, and (4) an accounting and comparison of benefits of investments to minority and low-income residents. See Appendix D for more detailed policy analysis and discussion of criteria used to evaluate the plan.

About Environmental Justice

The concept of environmental justice is rooted in Title VI of the Civil Rights Act of 1964, which prohibits discrimination based on race, color, or national origin. In response to a concern that low-income or minority populations bear a disproportionate amount of adverse health and environmental effects of public projects, and to reinforce the fundamental rights and legal requirements contained in Title VI, President Clinton issued Executive Order 12898: ***Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*** *(1994). It directs each federal agency to make environmental justice part of its mission.*

Following Executive Order 12898, ***USDOT issued Order 5610.2: USDOT Order to Address Environmental Justice in Minority Populations and Low-Income Populations*** *(1997). It provided guidelines for how environmental justice analyses should be performed and how environmental justice should be incorporated into the transportation decision-making process. The USDOT Order requires federal agencies to do the following:*

- *Explicitly consider human health and environmental effects related to transportation projects that may have a disproportionately high and adverse effect on low-income or minority populations*
- *Implement procedures to provide "meaningful opportunities for public involvement" by members of those populations during project planning and development (USDOT 1997, §5[b][1]).*

Federal environmental justice guidelines define minority populations to include Black, American Indian and Alaskan Native, Asian, Native Hawaiian and Other Pacific Islander, and Hispanic people and low-income populations to include anyone who is at or below the U.S. Department of Health and Human Services poverty guidelines. The locations of minority and low-income populations are based on residential locations from the U.S. Census.

Transportation 2040 and Environmental Justice. PSRC took special care to ensure that all residents of the region would benefit from improved mobility and adverse impacts would not be disproportionately borne by low-income, minority and vulnerable populations.

As part of public outreach during development of the plan, PSRC conducted a series of ten roundtable discussions with community leaders and service providers representing minorities, seniors, youth, people with low incomes and special transportation needs, and people with limited-English proficiency (LEP). The purpose of these discussions was to understand how potential plan elements would benefit or adversely affect these populations. PSRC documented the outcomes of these discussions and addressed many of them in Transportation 2040. See the Transportation 2040 Final Environmental Impact Statement Appendix D for more detailed policy analysis and discussion of the criteria used to evaluate the plan. See plan Appendix G for more detailed environmental justice analysis conducted for Transportation 2040.

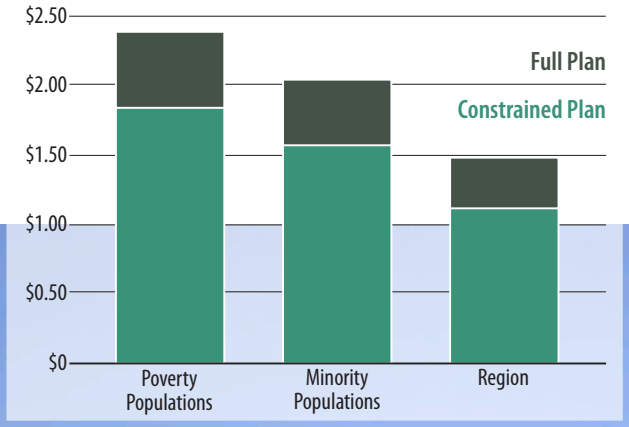
OUTCOMES

Compared to other alternatives analyzed during plan development, the mix and distribution of programs, projects and investments in Transportation 2040 yielded the greatest benefits, and resulted in fair distributions to all counties, county subareas, and all income groups.

Compared to the other alternatives, Transportation 2040 provides the greatest benefits to minority and low-income populations and the least disparity between these populations and the entire regional population as a whole.

Figure 9 shows changes in total user benefits per passenger trip for poverty and minority populations and the region as a whole.

FIGURE 9. Changes in Total User Benefits per Passenger Trip



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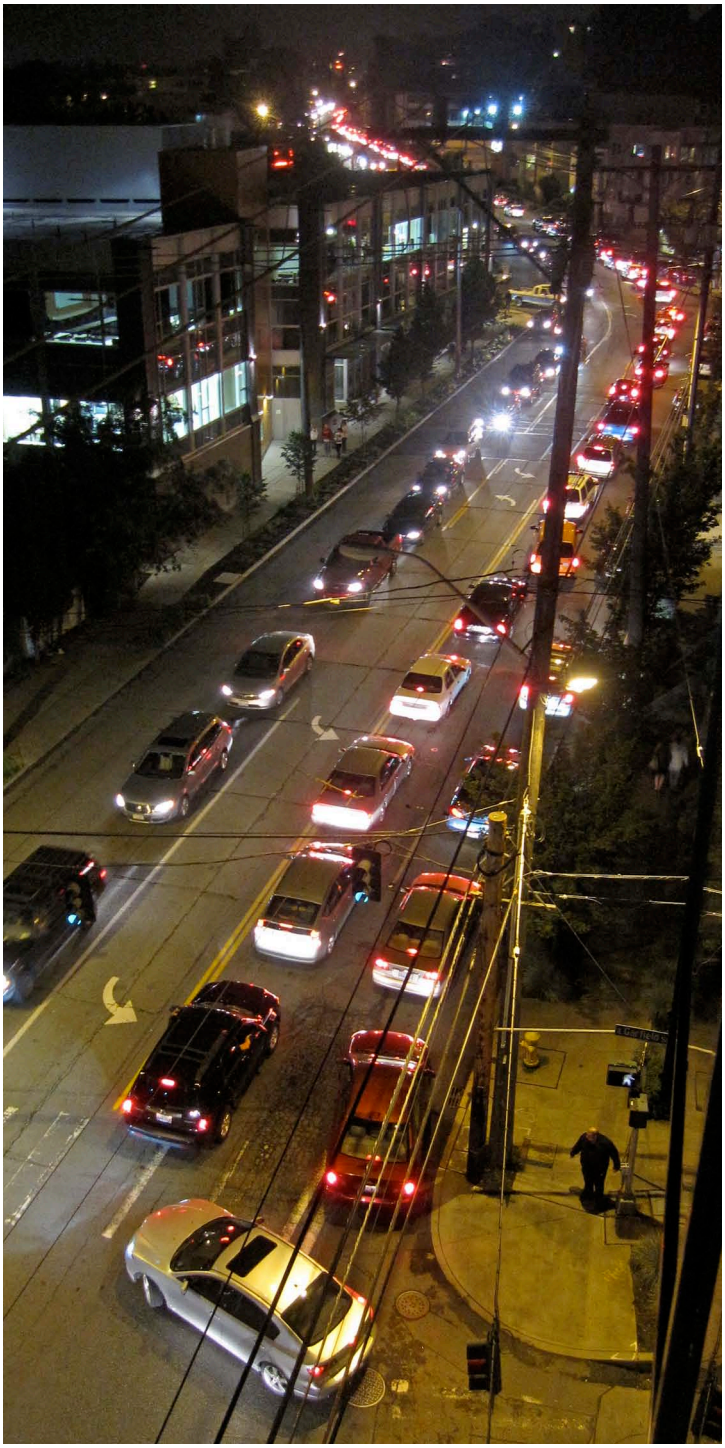
CHAPTER 2

A Strategic Approach to Regional Mobility



Eastlake Avenue, Seattle

As the region's population has grown, so has travel. Between 1970 and 1990, the rate of growth in daily vehicle miles traveled was extraordinary. This was a result of population and employment growth, an increase in two-worker households, more dispersed trip patterns, and increased suburban development. The growth in trips outpaced investments in transportation, leading to mobility problems and congestion.

Travel forecasts for the year 2040 predict that, without changes to the transportation system and trip-making behavior, daily trips will grow by 40 percent and vehicle miles traveled will grow by 30 percent to more than 102 million miles per day. While the per person growth rate of vehicle miles traveled has stabilized since 1990, total growth in travel associated with population and economic growth will strain our transportation system.

While the region has had a number of recent successes in funding key transportation programs, major challenges remain. The plan development process showed that it's time to think differently about the future of transportation.

Building on the VISION 2040 framework, Transportation 2040 has been shaped by three key strategies:

- Improving mobility
- Protecting and enhancing the environment
- Identifying sustainable funding

These core strategies provide the framework for establishing the direction of the program areas in Transportation 2040, and for selecting and evaluating individual transportation projects. Figure 10 illustrates the approach used to develop Transportation 2040. Building on VISION 2040, projects and programs have been identified by first prioritizing investments in preservation, maintenance and operation of the existing transportation system. Investments to improve the safety and security of the transportation system are identified next, followed by investments that improve the efficiency of existing infrastructure. Finally, strategic capacity projects have been identified.

FIGURE 10. Transportation 2040 Plan Framework

Travel Trends

- *In 2006, the region's population of more than 3.5 million generated more than 80 million miles of travel every day, or 21.5 miles per person.*
- *The region's average daily vehicle travel speed was 41 miles per hour (mph) on freeways and 22 mph on arterials.*
- *Each day, the region experienced 280,000 hours of delay on freeways and 560,000 hours of delay on arterial streets — a total of 840,000 hours of delay each day. This translates to an average daily delay of 14.4 minutes per person. Delay is defined as average travel occurring below the posted speed limit.*
- *According to the PSRC 2006 Household Travel Survey, between 1999 and 2006, the region experienced a shift in travel mode shares, with the percentage of trips in single-occupant vehicles (SOV) dropping slightly from 43.7 percent to 43.5 percent, and high-occupant vehicle (HOV) trips decreasing from 42.8 percent to 40.3 percent.*
- *All other modes increased in this period: transit grew from 3.3 percent to 4.1 percent, and walking trips increased from 5.9 to 7.6 percent, the largest percentage increase by mode.*
- *Between 1988 and 2006, the region's home-based work trips using transit nearly doubled (from 6.3 percent to 12.3 percent). In 2006, the central King County subarea had the region's highest proportion of work trips using transit (23.4 percent) and total trips using transit (8.6 percent). The region's highest rates of transit ridership are in the central King County/Seattle, east King and Kitsap County (Kitsap numbers include ferry riders who walk on board).*

Travel Forecasts

- *The region's population will increase to nearly 5 million by 2040, a 36 percent increase from 2006.*
- *By 2040 there will be approximately 1.2 million new jobs in the region, a 51 percent increase.*
- *Without dramatic changes in travel options and/or behavior, vehicle miles traveled is projected to increase by nearly 30 percent over the next 30 years, from 80 million daily vehicle miles traveled to over 102 million daily vehicle miles traveled by 2040.*
- *Total daily person trips in the region are projected to increase 40 percent by 2040.*
- *The region has begun to turn the tide in the amount of per person vehicle miles traveled. Over the life of the plan, per person vehicle miles traveled is expected to stabilize near current levels, for several reasons: (1) regional land use and development trends are causing a redistribution of jobs and housing, bringing them closer together, (2) growth management planning is reducing sprawl by encouraging growth inside the designated urban growth area, (3) the region is developing alternatives to single-occupant vehicle travel, and (4) increasing costs and congestion are changing travel behavior.*

Congestion Management Process: Sustainable Mobility

As the Metropolitan Planning Organization (MPO) serving the central Puget Sound region, PSRC has a federal mandate to improve mobility by developing and maintaining a Congestion Management Process (CMP). This process presents a systematic and comprehensive approach to improving regional mobility and reducing congestion that provides information on transportation system performance, identifies strategies to alleviate congestion, and helps to prioritize investments to enhance the mobility of persons and goods to levels that meet state and local needs.

On the current path, regional forecasts suggest that congestion will grow substantially over the next 30 years, affecting all users of the system. The region faces a 40 percent increase in population, and each person will have their own mobility needs. Adding significantly more vehicles to the current traffic mix could bring the region to a standstill and result in environmental damage. Transportation 2040 includes considerable actions designed to make sure that individuals' needs can be met without sacrificing the environment or leading to crippling congestion on our roadways.

Today, the average person dedicates approximately 50 minutes to traveling about the region each day. Of that time, 28 percent is spent in traffic. Compared with today, the average speeds on the region's roads are projected to drop by about 10 percent by 2040. Without changes in travel options or behavior, by 2040 the average traveler could spend nearly 35 percent of their travel time in traffic. Without implementation of new transportation strategies and supportive development patterns, congestion will affect the movement of people and goods, increase stress on critical infrastructure, cause delay, decrease safety, and impact our economy. It could also result in more impacts to the natural environment, such as increased pollution in stormwater runoff and additional greenhouse gas emissions.

Simply adding capacity does not solve congestion challenges. Other cost effective solutions must be a large part of the region's strategy. As part of the region's long-range transportation plan, decision-makers have addressed congestion and mobility issues within the constraints of available revenue, while balancing the need to support the areas where we anticipate future growth, as well as sustaining the environment. This requires a careful balancing of competing objectives, such as creating and supporting livable and healthy communities, maintaining and stimulating the region's economy, and providing enhanced accessibility and mobility for all of the region's residents. Transportation 2040 includes a congestion relief strategy which combines (1) land use planning, (2) managing system demand, (3) Transportation System Management and Operations, and (4) strategically adding capacity to the system.

Land Use Planning. Through VISION 2040, the region has adopted the Regional Growth Strategy and policies that promote a more compact urban land use pattern, with a wider variety and mix of uses in close proximity to both homes and employment sites. A denser, mixed urban form can reduce need for and length of personal trips, resulting in improved mobility. Local jurisdictions are ultimately responsible for facilitating the development of a more compact urban region. See Appendix C, MPP-DP-2, MPP-DP-4 through MPP-DP-32, and MPP-T-11 through MPP-T-16.

Managing System Demand. The region also looks to manage demand on the existing system by making alternatives to driving alone easier and more convenient. Programs that manage travel demand, such as providing bus passes to workers, encouraging telecommuting, and facilitating vanpooling, can alter trip patterns and reduce the need for travel overall. Properly balancing transportation rights-of-way to welcome cyclists, pedestrians and transit users in dense urban areas — and keeping them safe — will be important. See Appendix C, MPP-T-2, MPP-T-3, MPP-T-23, and MPP-T-24.

Transportation System Management and Operations. Research has shown that non-recurring events, such as accidents or special events, account for up to 60 percent of congestion. Recent advances in Intelligent Transportation Systems (ITS) technologies have shown that our current systems can be operated much more efficiently — effectively restoring capacity lost to congestion. Transportation 2040 continues to invest in these types of cost effective programs. See Appendix C, MPP-T-3 and MPP-T-18.

Strategic Capacity Expansion. Transportation 2040 recognizes that strategic capacity expansion in transit, roadway, ferry and nonmotorized facilities is also needed, particularly in centers and between centers. Capacity expansion should take place after efforts have been made to optimize capacity and use of existing facilities. See Appendix C, MPP-T-26.

SMART CORRIDORS

Regional planners are working with cities, counties, transit agencies and the Washington State Department of Transportation to develop a set of "SMART" corridors in 12 regional subareas, listed in Figure 11 below. These corridors and subareas are designed to represent real people's commutes and freight distribution patterns. They provide a mechanism to monitor and track transportation system performance at a narrower scale, and to evaluate alternative solutions to particular congestion and mobility problems. Figure 12 maps these SMART Corridors.

FIGURE 11. SMART Corridors

Seattle/SeaShore Subarea Corridors	**Snohomish County Subarea Corridors**
North King	West Snohomish
South Seattle	East Snohomish
Cross Lake	Cross Sound
Cross Sound	Portions of Seattle/SeaShore, Eastside, and Northeast King
East King County Subarea Corridors	**Pierce County Subarea Corrdidors**
Southeast King	West Pierce
Northeast King	East Pierce
Cross Sound	Cross Sound
Eastside	
Cross Lake	
South King County Subarea Corridors	**Kitsap County Subarea Corridor**
Southeast King	Kitsap
South Seattle	
Cross Sound	

Careful assessment of conditions in these corridors can point to "smarter" solutions to transportation issues. SMART stands for:

Sustainable (communities, environment, finance, economy). "Sustainable Communities" are vibrant, healthy and safe. They are mixed-use neighborhoods with highly connected streets promoting mobility for all users. Financially sustainable transportation investments must address the realities of financial resources both today and in the future. Finding transportation solutions that support the economy and minimize or reverse harm to the environment is a clear priority to the central Puget Sound region.

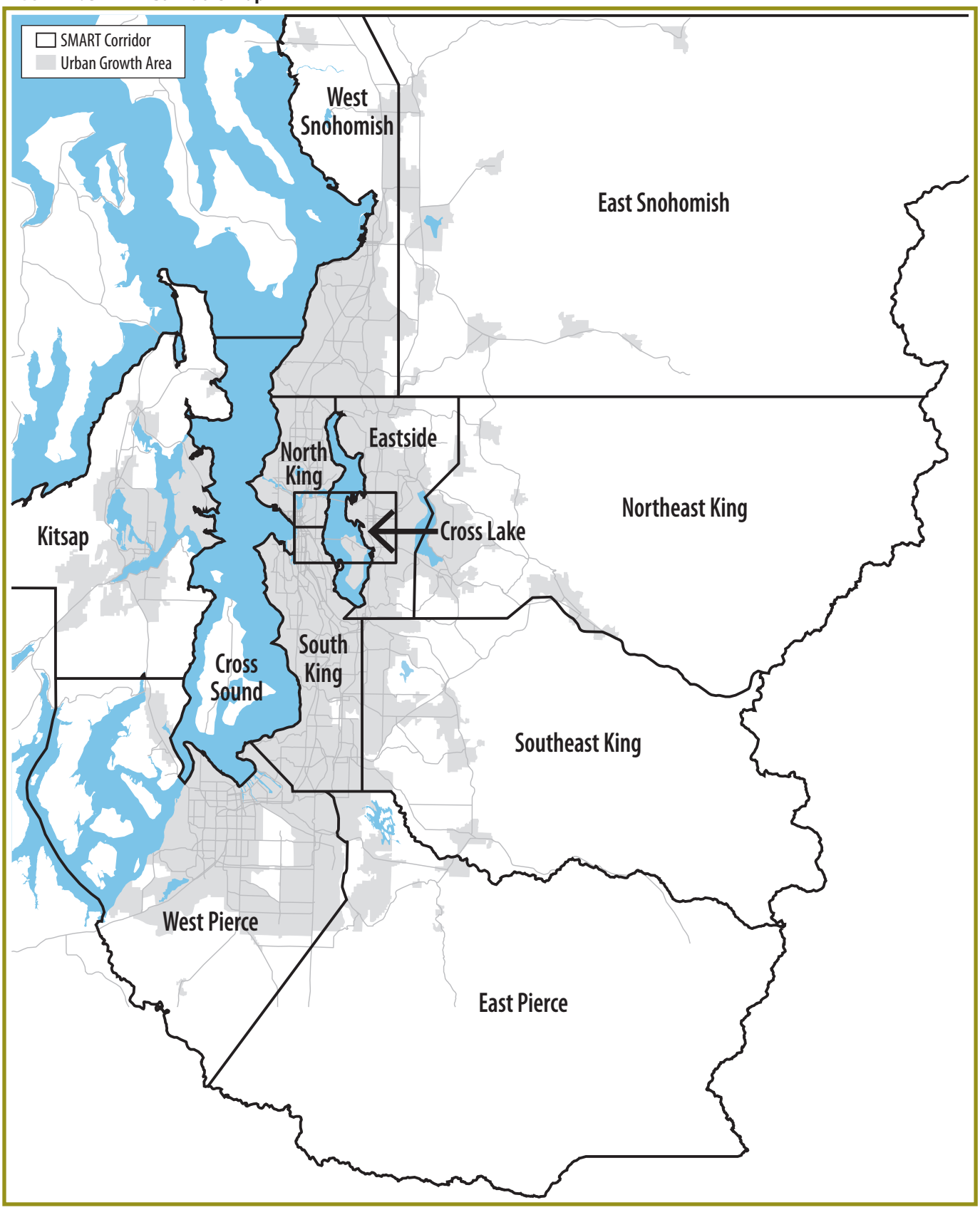
Multimodal. Provide transportation that offers viable and convenient mode choices to the traveling public.

Accessible. Provide mobility to all people in all parts of the region, as well as maximizing existing facilities to support multiple modes of transportation.

Reliable. The movement of people and goods is crucial to our ever-growing economy. The region's transportation system must reliably move people and goods. This also includes a resiliency in times when one key facility may be unavailable.

Technology. We must make the most of our existing transportation system. This requires managing our assets 24 hours a day, seven days a week as efficiently as possible. It also includes the deployment of the most efficient technologies to provide information to the traveling public and to operators so they can make informed, smart transportation choices.

FIGURE 12. SMART Corridors Map



Data for SMART corridors have been consistently collected and maintained since 2006. In addition to land use, demographic and other contextual data, this information includes, but is not limited to (1) travel time information and stop-and-go conditions on roadways, (2) identification of priority freight routes, (3) identification of arterial priority Intelligent Transportation System (ITS) corridors, and (4) transit congestion.

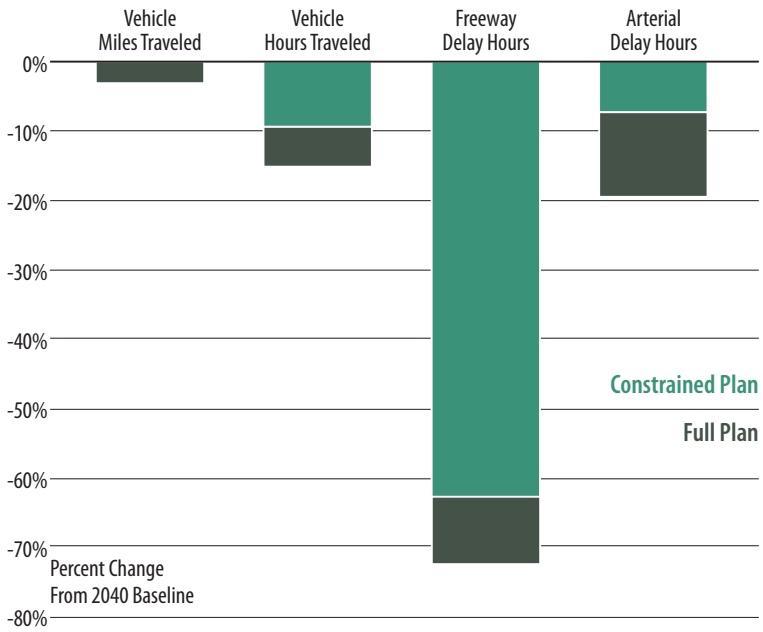
Performance data is collected, and regular SMART Corridor Reports are produced to monitor existing conditions at the corridor scale. These reports serve as a baseline for monitoring system performance at a regional scale, and help to identify new approaches to address congestion and improve mobility that meet local needs at the corridor level. Information and data generated through this ongoing program will support future updates of Transportation 2040.

To reinforce this relationship, the projects and programs in Transportation 2040 are organized and sorted by the 12 SMART Corridors described above. See Appendix B.

OUTCOMES

Transportation 2040 improves regional mobility and accessibility. The capital investments, tolling, new services and system management practices contained in the plan address growing travel demand in a responsible manner. Resources are scarce and investments need to be strategic.

FIGURE 13. Vehicle Miles Traveled, Vehicle Hours Traveled, and Delay



Transportation 2040 improves all modes of travel: expanded local and regional transit service; better bicycle and pedestrian facilities connecting and within urban centers, transit stations and activity areas; and strategic roadway capacity improvements. This strategic approach helps achieve the regional goal of converting major urban corridors from auto-oriented commercial strips into mixed-use environments that support a variety of travel choices, a key goal of VISION 2040. In addition, Transportation 2040 embraces an investment program that focuses new capacity in areas where the need is greatest. In the end, the focus of the plan is on the transportation system users and the benefits to these users in the form of better mobility.

As a result the region is better positioned to grow gracefully, without sacrificing the environment, and in a manner that sustains a vital economy.

As illustrated in Figure 13, with Transportation 2040, roadway speeds not only improve dramatically compared to the baseline, but actually improve over today's conditions. Under Transportation 2040, the average person will dedicate under 45 minutes to traveling about the region each day — down from over 50 minutes today. Daily per person traffic congestion is reduced by 40 percent compared with not implementing the plan.

As illustrated in Figure 14, as a result of the plan's projects and actions, the region's households and businesses would realize over $6 billion in annual travel time savings in the year 2040. A substantial portion of these benefits result from more efficient movement of freight traffic. Passenger vehicle users, including transit patrons, also enjoy large mobility benefits.

Total daily person trips in the region are projected to increase by 40 percent by the year 2040. As shown in Figure 15, transit, walking and biking will be substantially better options as a result of the programs that are part of Transportation 2040. Single-occupant vehicle trips are expected to grow less than population while transit and walk trips are expected to grow considerably faster.

FIGURE 14. Mobility Benefits per Trip Relative to the 2040 Baseline

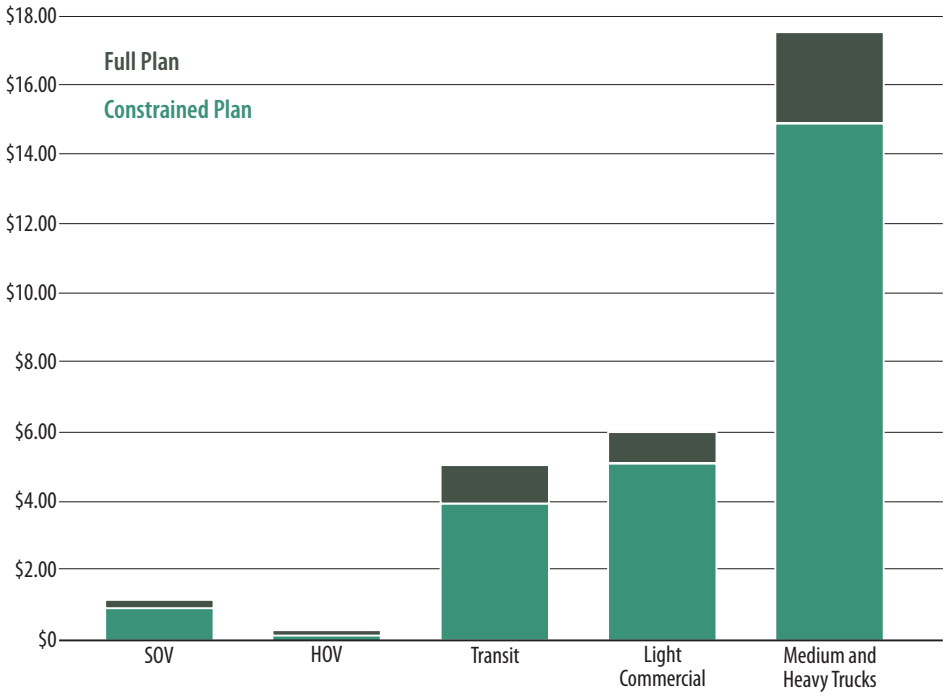
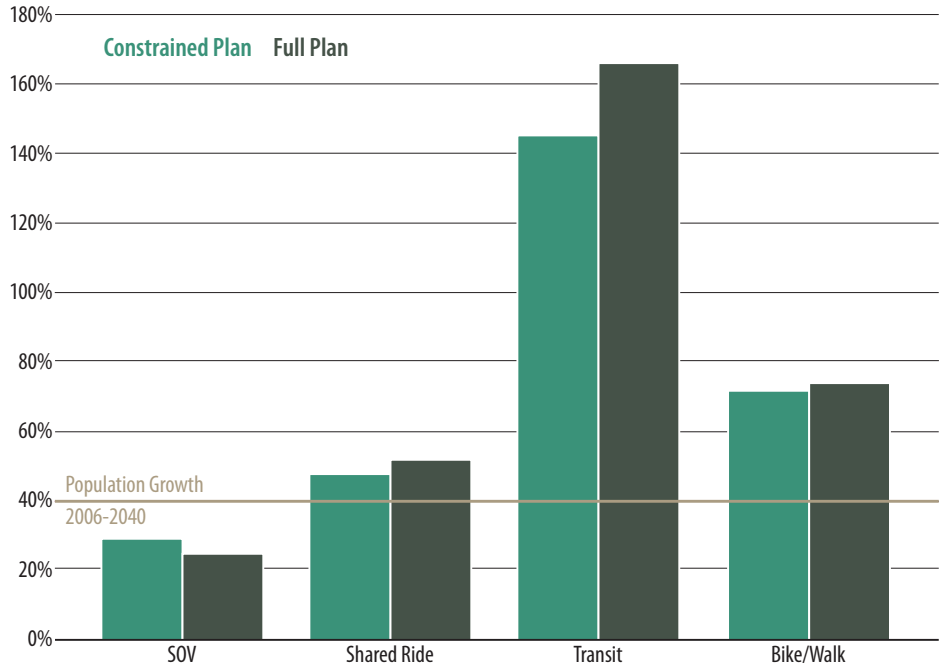


FIGURE 15. Growth in Trips by Travel Mode, 2006-2040



Mobility for Those with Special Needs

Special needs transportation is an integral part of the long-range transportation vision contained in Transportation 2040. Special needs transportation services provide a range of mobility options for those who cannot or do not drive. In the central Puget Sound region, such transportation is generally provided by three types of agencies: (1) public transportation providers that operate both fixed-route and demand response services, (2) community-based operators, and (3) private operators. Community and private operators provide mostly demand response service, supplemented through means such as vouchers and volunteer driver programs. Student transportation services may be provided by public transportation agencies or by school districts.

Special Needs Populations

Special needs populations are those whose mobility is affected due to age, income, disability, or physical condition. In the state of Washington, people with special transportation needs are defined in Revised Code of Washington 47.06B as those, "including their personal attendants, who because of physical or mental disability, income status, or age are unable to transport themselves or purchase transportation."

According to the Federal Transit Administration, nearly one-third of the population in the United States does not drive a car. The estimate is similar for the central Puget Sound region. Included are those who do not want to drive, seniors who no longer have licenses, people with disabilities who depend on transit or other transportation services, lower-income people who cannot afford a car, and children under the driving age.

Everett Transit

A LARGE AND INCREASING NEED

Traveling to work, school, and medical appointments, shopping and doing errands, visiting friends and family, attending activities, such as going to church or visiting a museum — in essence, going about daily life — is significantly affected if one does not drive an automobile or have someone who can transport him or her. According to the 2000 Census, up to one-third of the region's population has a greater need for transportation services due to income status, age, or disability. Of these, more than 19 percent have a disability, more than 11 percent are over the age of 65, nearly 10 percent have been classified as low-income, and more than 20 percent are children aged 5 through 16. Some of these individuals may be in multiple groups — such as a senior with a disability. Appendix K describes implications of an aging population on transportation needs in more detail.

The region will continue to experience an increase in elderly residents as the baby-boomer generation ages. People are increasingly outliving their ability to drive — men by an average of six years and women by an average of 11 years. Regional forecasts show the population aged 65 and over reaching 17 percent of the total regional population by 2040 — double the number compared to 2006. The elderly also represent the group with the largest proportion of those needing special needs transportation, so with an increase in seniors the region will see a greater increase in demand for such services. The number of children will also continue to grow. An increase in the overall number of people living in poverty will also have implications for a greater need for transit service for those without access to automobiles.

Paratransit. While the region continues to invest in public transportation as a practical mobility option, there will always be segments of the special needs population who cannot rely on fixed-route transit as a primary mode of travel. These individuals rely on alternative forms of

transportation, such as paratransit or community-based services. Transportation 2040 calls for ongoing work to coordinate disparate funding programs and services and prioritize goals and implementation strategies to improve transportation options for special needs populations. As described above, additional funding for special needs transportation services proportional to the growth of special needs populations is incorporated into the Transportation 2040 financial strategy.

Fixed-Route Services. A fixed-route transportation system is one that operates along a prescribed route according to a fixed schedule. A demand responsive system is any other transportation system. Fixed-route systems typically include city bus systems, commuter and over-the-road bus systems, subways, light and commuter rail systems, and intercity rail transportation.

Fixed-route transit service is the primary way by which people with special needs go about their daily lives. Having frequent, reliable, and safe transit service, which does not require multiple and lengthy transfers, is the foundation of special needs transportation services. Chapter 5 contains a description of the different types of fixed-route transit service. All the fixed-route service types provide mobility options to all users. Increases to frequent, all-day core transit service, however, best aligns with special needs transportation users' requirements. Community Connector service, which operates through areas with less density but that the transit operator has chosen to serve to provide basic accessibility, also provides mobility options to those who cannot drive a car.

Demand Response Service.[1] Some segments of the special needs population cannot effectively use fixed-route transit as a primary mode of travel; therefore, many of the region's residents rely on alternative forms of public transportation, such as paratransit or community-based services. These services are scheduled or dispatched upon demand, providing "point-to-point" transit service. Ongoing work in the region aims to coordinate disparate funding programs and services as well as prioritize goals and implementation strategies.

THE *COORDINATED TRANSIT-HUMAN SERVICES TRANSPORTATION PLAN*

Through the Special Needs Transportation Committee, PSRC promotes and maintains an open dialogue between special needs transportation funding agencies, providers, and brokers in the region by facilitating discussions at the regional and local levels. This is of paramount importance to providing coordinated transportation for those with special needs.

As part of that coordination, PSRC has adopted a regional plan addressing special needs transportation services, the *PSRC Coordinated Transit-Human Services Transportation Plan* ("*Coordinated Plan*"). The *Coordinated Plan* serves as a unified, comprehensive strategy for public transportation service delivery that identifies the transportation needs of individuals with disabilities, older adults, and individuals with limited incomes. The *Coordinated Plan* is the region's implementing plan for special needs transportation.

The specific priorities and strategies contained in the *Coordinated Plan* are developed to enhance the existing special needs transportation network, and to provide unified direction guiding near-term and long-term transportation investments. A more detailed discussion of special needs transportation, including an inventory of existing services, an assessment of transportation needs for the special needs population, and strategies to address existing gaps and unmet needs can be found in Appendix K.

The *Coordinated Plan* lays out strategies for meeting those needs, and prioritizes services and implementation strategies to guide investment decisions, particularly for the federal Job Access and Reverse Commute program (JARC) and New Freedom program. The *Coordinated Plan* is incorporated into Transportation 2040 as Appendix K. Also see www.psrc.org. These programs provide dedicated federal funding for special needs transportation.

In addition to the regional planning efforts of PSRC, the central Puget Sound region has three local coordinating coalitions: King County Mobility Coalition, Pierce County Coordinated Transportation Coalition (PCCTC), and the Snohomish County Special Needs Transportation Coalition (SNOTRAC). Kitsap County has a similar group called Kitsap Information Referral Network (KIRN). The groups' primary responsibility is to assess the needs of their local community and current transportation network and provide recommendations to improve the system, serving as the first step towards improvement. This local information is provided to the PSRC in its updates to the *Coordinated Plan*. Further, these groups serve an important role in the coordination of special needs transportation services, where they may use a combination of federal, state, and local funds to provide services to meet needs

[1] 49 CFR Part 37 Transportation for Individuals with Disabilities (ADA).

Aging in Place

Population Facts

- *By 2030, nearly one in five Americans — 7 1.5 million people — will be over age 65.*
- *Today, there are more than 35 million Americans aged 65 or above — a tenfold increase in the 65 and over population since 1900. Over the next 25 years, that number will double.*
- *Contrary to popular belief, only a small minority move to warmer climates upon retirement. Fewer than 5 percent of the 65 and over population reside in nursing homes. Instead, most Americans choose to age in place, within the same communities where they have long lived.*

Transportation Facts

- *Only 3 percent of all trips taken by Americans aged 65 and above are by bus or train.*
- *55 percent of Americans say they would prefer to walk more and drive less.*
- *Individuals with health impairments or disabilities often have difficulty using fixed-route transit systems, because of factors such as poor pedestrian accessibility or the lack of accessible design features at buses and rail stations.*
- *People outlive their ability to drive: men do so by an average of six years and women by an average of 11 years.*
- *One in five Americans aged 65 and above does not drive.*

Source: www.aginginplaceinitiative.org

and fill gaps that exist. All four counties are represented on PSRC's Special Needs Transportation Committee.

Federal transportation legislation requires that the *Coordinated Plan* be updated every four years. This frequent update cycle allows the region to adapt quickly to emerging trends and respond meaningfully with funding priorities. Transportation 2040 calls for adding funding for special needs transportation services into its financial strategy in proportion to the forecasted special needs population growth. See Appendix C, MPP-T-22 and 25. For additional background analysis on Transportation 2040 and low-income and minority populations, see Appendix G.

A variety of federal and state agencies fund a wide range of transportation services for special needs populations. They each have their own authorizing statutes, purposes, target populations, eligibility criteria, rules and regulations, administrative structures, funding processes, reporting requirements, and system for delivering services. This results in transportation funding that is confusing, inefficient (through duplications, for example), and disconnected, resulting in transportation service that fails to meet comprehensive transportation needs. Until and unless there are changes to the way that special needs funding is programmed, the burden will be on the providers to attempt to supply comprehensive, efficient, and coordinated services.

Freight Mobility

Transportation 2040 is built on the principle that the movement of freight and goods is a vital function for the regional transportation system. An efficient freight transportation system helps to maintain the region's quality of life, ensures that businesses can deliver products and services to market, strengthens our economy, and makes the most of the central Puget Sound region's strategic position as a critical gateway for international trade. Freight and goods mobility is multi-functional, multimodal, and intermodal. In the central Puget Sound, freight and goods move primarily by truck, rail, air, and water, and require connections between modes. Transportation 2040 is designed to support three aspects of freight movement: (1) acting as a gateway for international trade, (2) meeting the freight movement needs of businesses in the region, and (3) enabling the local delivery system. Infrastructure and operational solutions will be needed to cope with significant regional and state growth and larger impacts of globalization. Projects have been identified to enable freight to move more reliably and safely, and to serve the region's ports.

The Regional Freight Strategy, included as Appendix J, builds upon VISION 2040 to more clearly articulate actions and investments needed to ensure the region is able to efficiently move freight and goods in the future.[2] The Transportation 2040 Freight Strategy is structured around the following framework issues:

Congestion and Mobility

[2] See Appendix C for multicounty planning policies addressing freight: MPP-T-17 through MPP-T-19; DP-12, DP-15, DP-16, DP-17, DP-51, Ec-4, Ec-6, and Ec-17.

- Preserve and maintain the region's existing multimodal freight transportation system to increase reliability and efficiency and to prevent degradation of freight mobility.
- Coordinate regional planning with private sector railroad capacity expansion plans and support capacity expansion compatible with state, regional, and local plans.
- Complete key roadway projects to enhance freight mobility, such as SR 509 extension, SR 167 Extension, and SR 704 (Cross Base Highway).
- Complete strategic freight mobility projects (known as the Freight Action Strategy Corridor Partnership — "FAST") to improve access to the region's deep water ports and address some of the most critical rail and roadway conflicts along the I-5 corridor from Everett to Tacoma. These projects include grade separations that help improve freight mobility in some of the region's busiest manufacturing and industrial centers at strategic locations in Kent, Auburn, Fife, Pierce County, and Seattle.
- Invest strategically in other facilities used intensively by freight, such as I-5, U.S. 2, SR 18, and SR 9 among others.

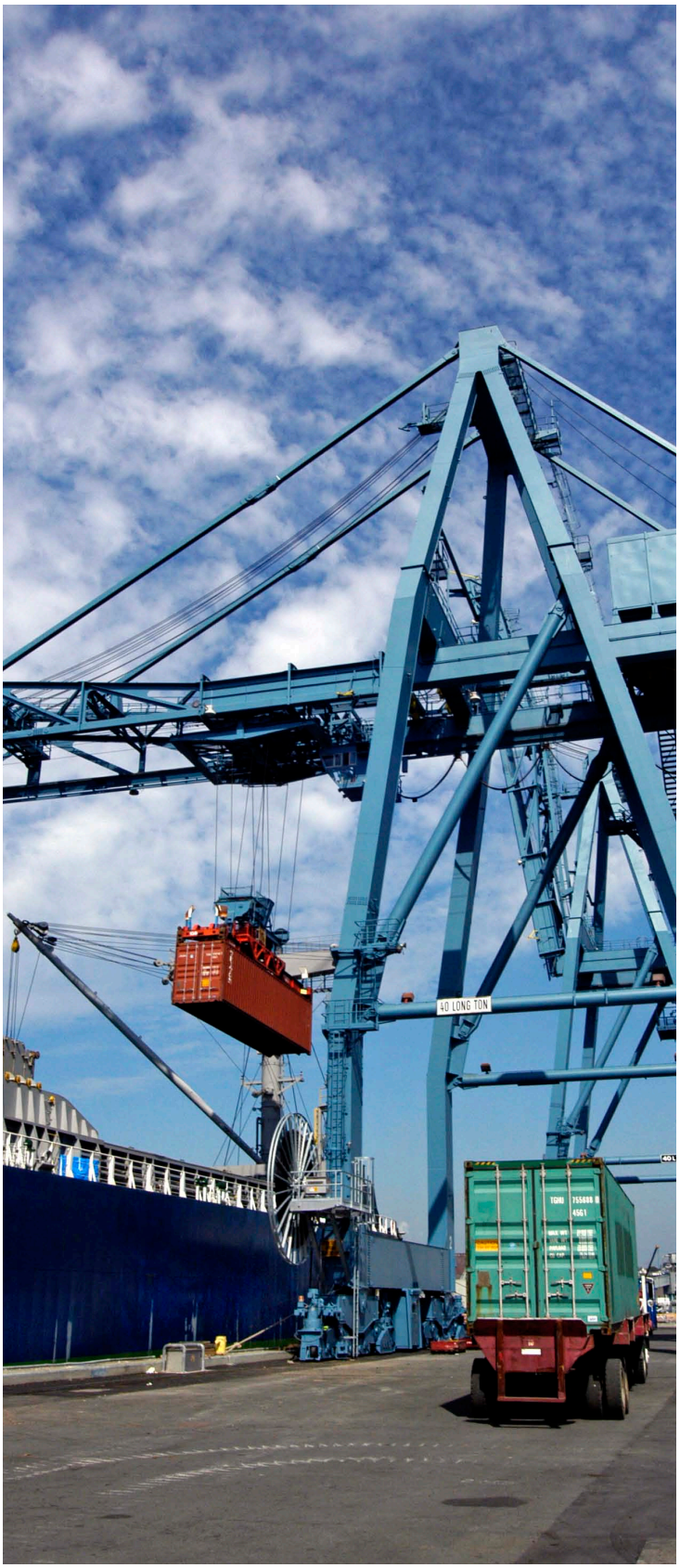
Economy

- Recognize freight resources that are unique and that give the central Puget Sound region a strategic advantage, such as container ports, and Class 1 railroads.
- Prioritize investments that support efficient performance and accessibility of those resources.
- Demonstrate positive benefits of logistics industries to the region.
- Make freight mobility investments that help the region retain and grow its job base and strengthen the region's overall economy.

Environment

- Continue to work with private sector freight providers to plan and implement measures to ensure environmental protection.
- Ensure that the impacts or consequences of environmental regulations are understood in the region's planning efforts. A good example can be seen in the Environmental Protection Agency's diesel reduction program.
- Ensure that regional long-range plans and implementation strategies are created within a framework that reflects growing global environmental concerns and issues.

Land Use



Port of Everett

- Support Manufacturing and Industrial Centers, as well as key regional assets, such as the Deep Water Container Ports, and the services of two Class 1 Railroads.
- Ensure that industrial and freight-related land uses are supported in regional and local plans.

Preservation and Maintenance

- Recognize the role of transportation facilities that serve as the "last mile" in terms of supply-chain connectivity.
- Protect and preserve existing infrastructure, including access within and to the region's manufacturing and industrial centers.

Planning and Analysis

- Through groups of regional freight stakeholders, continue to improve prioritization processes and identify gaps in the regional freight and goods transportation system.

Safety and Security

- Study the issue of truck safety on the region's roadway network. An example of a useful study is the North Bend Truck Parking proposal.
- Ensure that transportation security efforts (such as those contained in the 9/11 Commission recommendations) are understood and recognized in regional planning efforts.
- Ensure safety in designated Manufacturing Industrial Centers. Projects that increase public safety in these strategic areas play an important role in a successful centers strategy.

Sustainable Funding

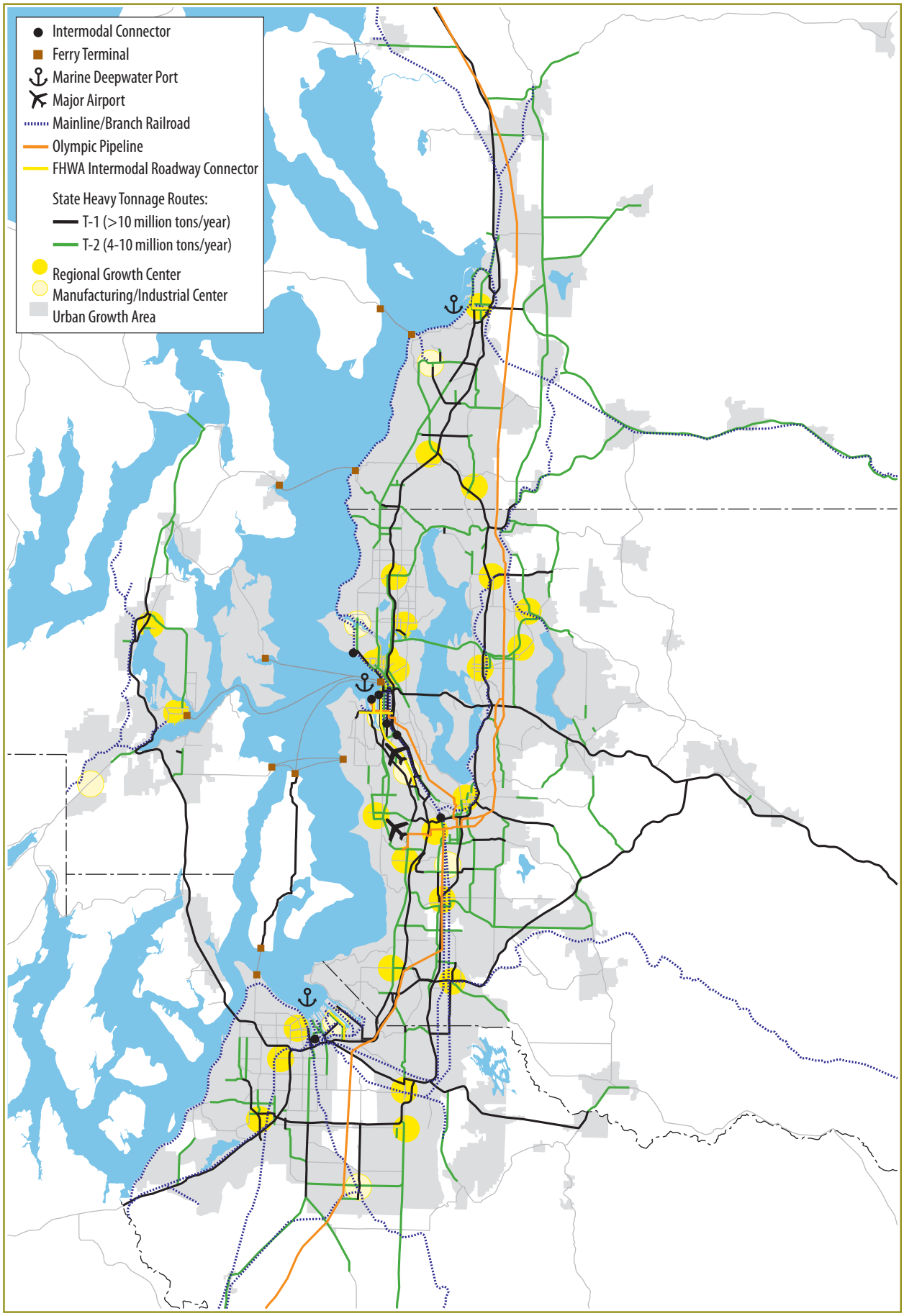
- Identify sufficient and sustainable funding sources for planned freight mobility improvements.
- Demonstrate a clear nexus between user fees paid by freight and the benefits received.
- When considering tolling or user fees for truck freight, investigate the ability of different truck operators to pass such costs on to the consumer.
- Monitor the status of SAFETEA-LU reauthorization and examine opportunities for freight investments in the next surface transportation bill.

As described in this and in the Support the Regional Economic Strategy section of Chapter 1, Transportation 2040 strategies and investments will result in significant benefits for freight and goods movement operators in the region, amounting to over $2 billion per year by 2040. The full set of recommendations is available in the Regional Freight Strategy, Appendix J.

Figure 16 illustrates the existing freight and goods transportation system.

Port of Seattle

FIGURE 16. Existing Freight and Goods Transportation System (FGTS), 2007



Kayak Point Park, Snohomish County

CHAPTER 3

A Sustainable Environment

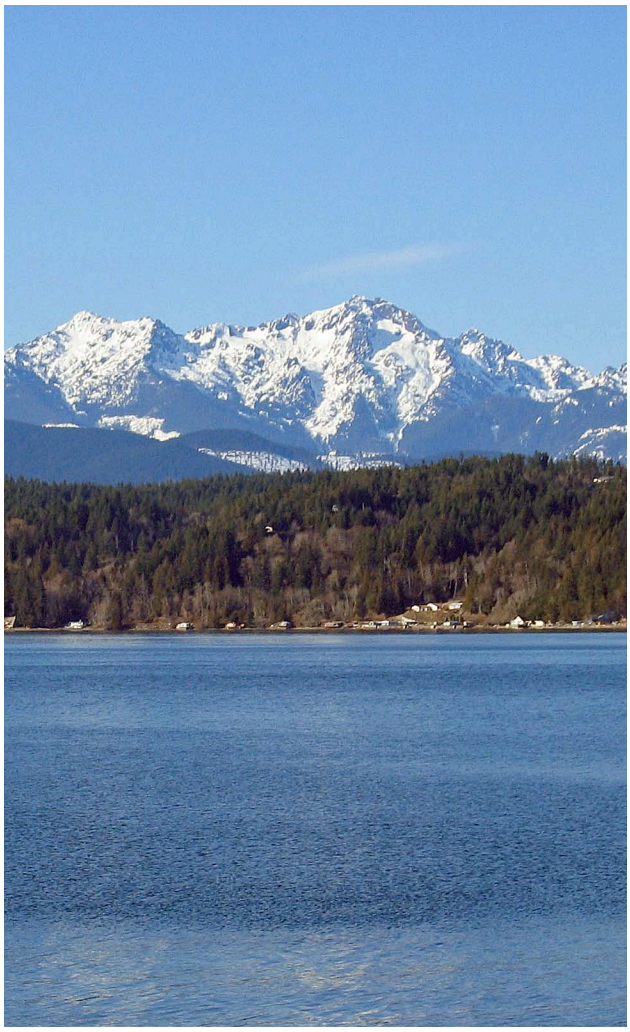
The geographic features that uniquely define central Puget Sound, located between the Cascade and Olympic mountain ranges and bisected by its namesake saltwater estuary, create an outstanding natural setting and support a richly diverse ecology. The region's forests, wetlands, maritime waterways and fisheries are not only natural economic resources but also attractions for people whose daily lives are closely linked to vistas and access to mountains, beaches, rivers and lakes. The region's environment serves as a key foundation for growing clusters of the regional economy, making nurturing and sustaining the environment an economic priority vital to sustaining a high quality of life.

The region's topography also limits lands suitable for development and imposes complex and often expensive infrastructure requirements. Cities and towns are reshaping aging infrastructure to transform urban environments into more livable places, and are building new centers for additional job and employment growth.

This complex and rich environment shapes Transportation 2040. The plan is designed to keep the region's air and water healthy, sustain the region's overall ecology, assist in coordinated efforts of the Puget Sound Partnership to protect and restore the health of the region's watersheds, and lead in the development of emerging federal and state initiatives to reduce overall greenhouse gas emissions to address global climate change.

Transportation 2040 commits to supporting a heightened awareness of the relationship between transportation and the environment, consistent with the regional environmental sustainability framework established by VISION 2040. The plan has been designed with a central focus of reducing the potential environmental impacts associated with both transportation infrastructure and operation. See Appendix C, MPP-En-2 and 3, MPP-En-8 through 15, MPP-En-17 through MPP-En-19, MPP-En-23, MPP-DP-27, and MPP-T-28.

Squire Creek Park, Snohomish County



Olympic Mountains and Hood Canal

Environmental Review

Alternative approaches to developing a regional transportation system were evaluated in the ***Environmental Impact Statement for Transportation 2040*** *(EIS). Preparation of the EIS included extensive agency coordination and public comment over many months, and has been guided by PSRC's Transportation Policy Board and Growth Management Policy Board. The Transportation 2040 Environmental Impact Statement contained information that allowed regional decision-makers to craft a transportation plan that addresses critical regional policy objectives, including improved air quality, reduced greenhouse gases, improved water quality, public health and mobility, and support for the VISION 2040 Regional Growth Strategy. The EIS identifies specific potential measures to mitigate impacts associated with the implementation of Transportation 2040. For full documentation of the environmental analysis supporting Transportation 2040, see www.psrc.org.*

Maintain and Improve Air Quality

The region has made great strides in improving air quality over the past several decades, even with growth in both population and vehicle miles traveled. However, emissions of certain pollutants have been on the rise in recent years, and there are new and continuing challenges ahead.

To protect human health and the environment, the Environmental Protection Agency has set National Ambient Air Quality Standards (NAAQS) for six "criteria" pollutants under the Clean Air Act. These pollutants are ground-level ozone, carbon monoxide, particle pollution (or particulate matter), sulfur oxides, nitrogen oxides, and lead. Levels of many of these pollutants have been declining in our region, but emissions of fine particulates and elements that form ground-level ozone are still a concern. While emissions of these pollutants come from a variety of sources, motor vehicles account for a significant share in the central Puget Sound region.

TRANSPORTATION CONFORMITY

Air quality is monitored and areas are designated according to whether or not they meet the air quality standards for each pollutant. Geographic regions that meet the standards are referred to as attainment areas; areas that do not meet the standards are designated nonattainment to that standard. Once designated nonattainment, the Clean Air Act requires the preparation of an attainment plan to demonstrate how an area will thereafter meet and maintain established standards. Once a nonattainment area has subsequently met the standards for a period of time, the area may be redesignated as a maintenance area. To demonstrate that the standards will continue to be met in the future, a maintenance plan is required for these areas.

Parts of the region are designated as maintenance areas for particulate matter less than 10 microns in diameter (PM_{10}) and carbon monoxide (CO). Under federal and state air quality statutes and regulations, there are special requirements in maintenance areas to ensure that proposed transportation activities — plans, programs and projects — do not

cause new, or contribute to existing, air quality problems. Compliance with these statutes and regulations (referred to as conformity) requires analyses that demonstrate compliance with existing air quality control plans and programs. A positive finding of conformity is required by the federal Clean Air Act and its amendments, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and the Clean Air Washington Act. Positive conformity findings allow the region to proceed with implementation of transportation projects in a timely manner. In the absence of a positive conformity finding, only those projects which are exempt (such as safety or transit projects) will be allowed to proceed using federal transportation funds.

As shown in Figure 17, the projects and programs in Transportation 2040 are well within the established limits for the two pollutants for which conformity currently applies in the region, CO and PM_{10}. The formal conformity analysis and finding for Transportation 2040 is included as Appendix E.

FIGURE 17. Transportation Conformity Analysis Summary

	Motor Vehicle Emissions Budget*	Transportation 2040
CO (daily tons)	2,512.0	1,188.5
PM_{10} (daily pounds)		
Kent	231.5	84.4
Duwamish	844.4	287.8
Tacoma	460.8	240.1

* From the Central Puget Sound Region Maintenance Plans for each pollutant.

While the region is currently designated as being in attainment with the federal standards for the other criteria pollutants, the South Tacoma (Wapato Hills/Puyallup River Valley) area has violated the fine particulate matter standard ($PM_{2.5}$) and was designated nonattainment in December 2009. The Washington State Department of Ecology, in cooperation with the Puget Sound Clean Air Agency, is developing an attainment plan to demonstrate how the area will come back into compliance with the standard. The primary source of fine particulate matter emissions in this area is wintertime wood burning activities, but mobile sources also represent a portion of the emissions. The region is also facing a potential redesignation to the newly proposed ground-level ozone standard. In recent years the region had exceeded the existing standard, but had not yet officially violated the standard. On December 21, 2009, EPA released a proposed new ground-level ozone standard, which is more stringent than the existing standard. The new standard is expected to be finalized by August 2010, with area designations made by August 2011. Given the monitoring data in recent years, the region may be at risk of being designated nonattainment to the new standard.

The region is committed to maintaining the air quality standards in our region by continuing to reduce emissions of air pollutants through the use of cleaner fuels and vehicles, increasing alternatives to driving alone, and land use strategies. The region continues to monitor these air quality issues, and Transportation 2040 has been crafted to maintain compliance with all air quality and transportation conformity regulations.

Reduce Greenhouse Gas Emissions

Climate change has become a significant issue at the gobal, national, state, regional and local level. Washington state has taken numerous steps to begin addressing climate change, including the passage of legislation, which established goals for the reduction of greenhouse gases, and which sets benchmarks for the reduction of vehicle miles traveled (VMT) per capita (RCW 70.235.020, RCW 47.01.440).

Because the consequences of climate change are serious, the central Puget Sound region has committed to take aggressive action to reduce its transportation-related emissions. Throughout the process of creating Transportation 2040, climate change has been identified as one of the key issues needing to be addressed in the plan.

VISION 2040 calls for the region to reduce its overall production of harmful elements that contribute to climate change, and commits the region to comply with state directives. An evaluation of greenhouse gas emissions and vehicle miles traveled per capita was conducted in the process to develop Transportation 2040. The results of this analysis and additional research have produced a four-part greenhouse gas strategy that is a central part of Transportation 2040.

Climate Change

Climate change is defined as a significant change in the earth's long-term weather patterns. Increased levels of greenhouse gases in the atmosphere trap heat, causing the earth's surface to warm to a greater extent than usual; as temperatures rise, the climate changes. The burning of fossil fuels is a significant contributor to greenhouse gases.

Washington State Legislation

RCW 70.235.020 established the following limits for state greenhouse gas emissions:

- *To 1990 levels by 2020*
- *To 25 percent below 1990 levels by 2035*
- *To 50 percent below 1990 levels by 2050*

In addition, two key pieces of legislation were subsequently passed:

- *RCW 47.01.440 establishes statewide annual per capita reduction benchmarks for vehicle miles traveled. The legislation established the forecast baseline of statewide vehicle miles traveled of 75 billion by the year 2020, exempting trucks over 10,000 pounds.*
  - *By 2020, decrease by 18 percent*
  - *By 2035, decrease by 30 percent*
  - *By 2050, decrease by 50 percent*
- *RCW 36.70A.580 and 5801 aim to address the impacts of climate change through the Growth Management Act, and direct the Department of Commerce to work with the Department of Transportation to reduce vehicle miles traveled.*

In 2009, the Governor signed Executive Order 09-05, which directs the state to continue work on a variety of important climate change activities, including working with the federal government on a climate program, reducing greenhouse gas emissions from stationary sources, reducing greenhouse gas emissions from transportation (including recommendations on vehicle miles traveled benchmarks and working with organizations such as PSRC), and adapting and preparing for unavoidable impacts.

Regional Policies

VISION 2040 established a wide variety of specific regional greenhouse gas reduction goals, policies, and actions committing the Puget Sound region to meet all state and federal targets for greenhouse gas emissions reductions. See Appendix C, MPP-En-3, MPP-En-16 through MPP-En-25, MPP-DP-45, MPP-Ec-15, MPP-T-5, MPP-T-6, MPP-T-22, MPP-T-23, MPP-T-25, MPP-PS-1, MPP-PS-12 and MPP-PS-13. See also En-Action-6, DP-Action-9 and T-Action-14.

In the United States, the transportation sector contributes 28 percent of all greenhouse gas emissions. In Washington state, transportation is responsible for 45 percent of greenhouse gas emissions, and in the Puget Sound region, the figure increases to approximately 50 percent. This difference among sectors can be explained in part due to our heavy use of hydropower for electricity, as opposed to coal and other fossil fuels in the rest of the country.

Within the transportation sector, passenger vehicles are responsible for roughly half of all emissions. While motor gasoline is the largest contributor to emissions among fuel types, the shares from diesel and jet fuel have grown over the last several decades. Reducing emissions from the transportation sector involves three components: (1) the type of fuel used, (2) travel behavior (especially as it relates to vehicle miles traveled), and (3) energy efficiency. However, analyses show that the growth in vehicle miles traveled due to population growth over the next four decades will outpace the improvements from the recently adopted fuel economy standards (a 35.5 mile per gallon fleet average by 2016). Even with more aggressive fuel economy improvements, the established greenhouse emission reduction goals will not be reached without some reduction in overall travel.

FOUR-PART GREENHOUSE GAS REDUCTION STRATEGY

The analysis for Transportation 2040 included research into the potential impacts to emissions from various levels of pricing, system management and demand management strategies, as well as strategic expansion of all modes including roadways, transit, and bicycle and pedestrian facilities.

The realization that it will require a variety of strategies and tools to effectively reduce emissions from the transportation sector led to the development of a four-part greenhouse gas strategy:

- *Land Use:* Build upon the VISION 2040 Regional Growth Strategy to further the goal of providing an improved jobs-housing balance, and pursue additional refinements through strategies such as transit-oriented development.
- *User Fees:* Recognize the critical role of price in reducing vehicle miles traveled and emissions, transition the region over time to a user fee/roadway pricing system.

- *Choices:* Provide travelers options to single-occupant vehicles, and continue to research the costs and benefits of various strategies.
- *Technology:* Recognize that improvements to vehicles and fuels will play a crucial role in reducing emissions. PSRC has undertaken research with the Department of Ecology on the potential technological advances that may be likely in our region by the year 2040.

Transportation 2040 includes programs and investments that encompass all four of these strategies, including land use actions, roadway pricing, providing more transportation choices, and vehicle and fuel technology. Transportation 2040 supports the following specific actions:

Land Use. In order to achieve the greenhouse gas reduction benefit from land use, the region must achieve a growth pattern similar to the one adopted in the VISION 2040 Regional Growth Strategy. Analysis conducted for the development of VISION 2040 indicated that the increased shift to a more compact and concentrated growth pattern, and a better jobs/housing balance within the region's four counties, will reduce greenhouse gas emissions by about 6 percent from the trend.[3] A compact development pattern is a foundation of the region's greenhouse gas reduction strategy.

Pricing and Choices. Transportation 2040 embraces pricing strategies that would be phased in over the life of the plan, with the effect of reducing vehicle travel and associated greenhouse gas emissions. These pricing approaches, supported by the full plan's peak period 132 percent increase in local transit service (108 percent increase off-peak), the extension of regional light rail, and investments in walking and biking facilities, together result in a 9 percent reduction in regional greenhouse gas emissions from the trend.

Technology. Transportation 2040 makes assumptions about the market penetration of electric and other alternative fuel vehicles, less carbon-intensive fuels, and improved fuel efficiency of the overall passenger and freight fleets. In collaboration with the Washington State Department of Ecology, PSRC developed two technology scenarios: a "likely" scenario, which is probable given current trends and conservative assumptions about fuel prices and other incentives to change technology, and an "aggressive" scenario, which assumes a higher degree of concerted effort to transition the vehicle fleet to a more energy efficient approach. These scenarios, based on extensive national research and consultation with the Environmental Protection Agency, the Washington State Department of Transportation and the Puget Sound Clean Air Agency, are identified in Figure 17 below. The "likely" scenario results in an additional 25 percent reduction of greenhouse gas emissions, and the "aggressive" scenario results in an additional 43 percent reduction in emissions. Appendix L provides additional details on the technology assumptions contained in the Four-Part Greenhouse Gas Strategy.

Nissan LEAF electric vehicle

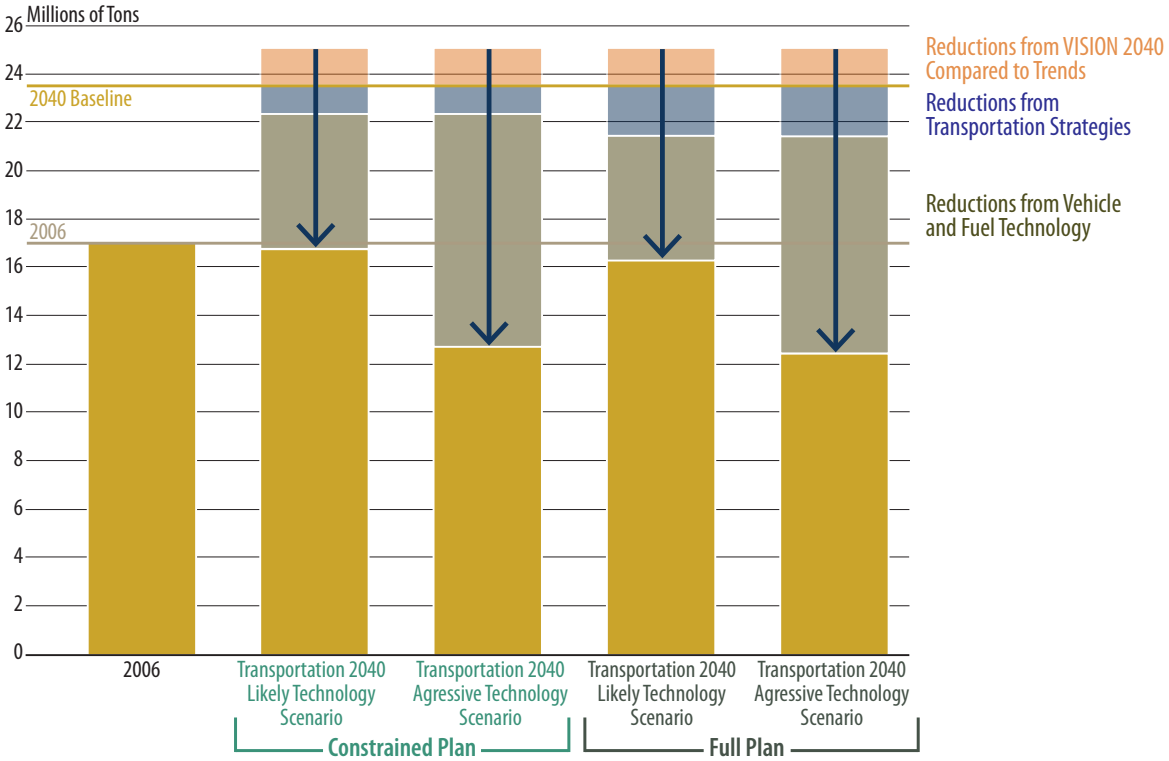
[3] Value obtained from the analyses conducted for the VISION 2040 Environmental Impact Statement. The alternatives analysis for VISION 2040 evaluated various growth patterns compared to the historic trend, using the investments contained in the existing long-range transportation plan, *Destination 2030*.

OUTCOMES

The results of the investments and strategies contained in Transportation 2040 are illustrated in Figure 18. The combination of the four-part strategy results in a range of emissions reductions (between 5 percent likely technology scenario and 28 percent aggressive technology scenario) below 2006 modeled emissions.[4] As compared to the 2040 Baseline trend, the preferred alternative results in emissions reductions between 31 percent and 48 percent.

PSRC's 2010 Action Strategy will include a strategy to work with WSDOT and local and regional jurisdictions by December 2011 to improve analysis methodologies and identify additional strategies to reduce greenhouse gas emissions, when WSDOT is required to report to the Governor on the status of regional transportation plans. When state targets are set for the transportation sector and regions, PSRC should revisit its greenhouse gas reduction strategy.

FIGURE 18. Greenhouse Gas Emissions (CO2 Emissions in Millions of Tons)



ADAPTATION

In addition to reducing the impacts from the transportation sector on climate change, it is also important for the region to address the impacts from climate change. This concept is referred to as "adaptation to climate change." Beyond transportation, a wide variety of impacts from long-term climate change may be expected in Washington state and the Puget Sound region. These include rising sea levels, increased flooding, and an increase in the frequency and severity of storms and other weather events, droughts, wildfires, impacts to water availability and quality, and impacts to crops. Specific to transportation, impacts could include the accelerated deterioration of roadways, issues related to flooding and increased stormwater, bridge damage, rail buckling, and reduced water levels in some water bodies that could affect the passage of ships and barges.

This is an emerging area of study, but the state and region are being proactive in planning for potential impacts on transportation. These activities include the state's work called for in Executive Order 09-05 and RCW 43.21M, which

[4] The Washington State greenhouse gas emissions reduction goals are set to a baseline 1990 level; PSRC does not at this time have a 1990 model year, so 2006 is used as a surrogate for comparison. The approximate increase in emissions from 1990 to 2006 are incorporated into findings.

direct the departments of Ecology, Health, Agriculture, Commerce, Fish and Wildlife, Natural Resources and Transportation to work with scientific experts and stakeholders to develop an integrated climate change strategy by December 2011. King County, in collaboration with the University of Washington and the International Council for Local Environmental Initiatives (ICLEI)-Local Governments for Sustainability, released "Preparing for Climate Change: A Guidebook for Local, Regional and State Governments." The King County Wastewater Division has also conducted an analysis of vulnerability of wastewater facilities to sea level rise.

PSRC has evaluated these potential impacts to transportation infrastructure in the Puget Sound region, including the port areas which would be most affected by rising sea levels. Appendix L contains a white paper on adaptation to climate change for transportation planning in the Puget Sound region.

Improve Water Quality

Maintaining and improving water quality is a regional priority. See Appendix C, MPP-En-13 and 14. The transportation system is a significant source of pollutants that affect water quality. The Puget Sound Partnership Action Agenda identified several sources of water pollution from the transportation system, including land-based vehicles, planes, and recreational and commercial ships. Roads and rail systems contribute pollutants from impervious road surfaces, brake pads, oil leaks, vehicle emissions, and maintenance of rights of way. Aviation contributes emissions, de-icing compounds, and oil/fuel leaks, and ships contribute anti-fouling compounds, oil/fuel leaks, personal care products, pathogens, sewage, and ballast water. Vehicles — including buses, trains, and ferries — are a source of greenhouse gas emissions and particulates. Although these initially enter the air, they can also settle in and contaminate surface waters.

In developing Transportation 2040, the potential impacts of different transportation systems to water quality were evaluated. A key finding was that as the region implements the system envisioned in Transportation 2040, it must do so in a way that avoids and mitigates harm to the region's precious water resources.

Transportation 2040 recommends that mitigation of transportation-related impacts to water quality can be accomplished in a number of ways:

Cleaner Transportation. Reducing vehicle miles traveled decreases the amount of pollutants generated by vehicles. The use of innovative technologies can also help control potential water pollution at the source, as could programs that promote cleaner fuels and vehicles. A combination of incentives and disincentives could be used to promote clean vehicles, such as higher taxes on dirty fuels or tax credits for clean fuels and vehicles. Transportation programs that are designed to address issues such as congestion, emissions, fuel use, or waste management can indirectly benefit water quality through reduction of pollutants entering the environment.

Treatment. The treatment and detention of stormwater runoff from operating the transportation system will be particularly important, due to increased new impervious surfaces associated with preservation of existing facilities and new capacity. Potential stormwater impacts should be mitigated by designs that minimize the amount of impervious surface and use low-impact materials such as pervious pavers to manage runoff volumes. Collection, treatment and reuse of stormwater and other runoff is recommended to maximize the use of scarce water resources. Other approaches include use of natural systems such as wetlands to manage water flow, and measures to restore buffers and natural channels for streams alongside transportation facilities.

Retrofit. Many existing facilities lack modern systems for water quantity or quality management. As projects replace, improve, or extend existing facilities, an opportunity exists to improve their environmental performance compared to today. For example, culverts and other drainage facilities associated with transportation infrastructure can be designed and operated to facilitate fish passage. Transportation 2040 supports the opportunity for the region to create innovative, low-impact, environmentally friendly transportation infrastructure, and to address and correct the harm we have already done.

Improve and Promote Health

Health and well-being factor prominently in VISION 2040. Multicounty planning policies call for improving opportunities for walking and biking, as well as for addressing health in regional and local planning and decision-making processes (MPP-DP-43 and MPP-DP-44). The region's transportation system is to be developed in a manner that minimizes impacts to human health (MPP-T-7). Transportation 2040 addresses public health from several perspectives, the most common of which are impacts to air and water quality and promotion of physical activity. As described above, Transportation 2040 has been designed to minimize impacts to air and water quality, which will yield positive health benefits.

Public health concerns have traditionally focused on preventing the spread of disease, protecting people from unsafe water, polluted air, hazardous waste, and helping people live healthy lives. In recent years, however, public health agencies, local land use planners, and transportation staff have begun to focus increased attention on the health implications of the built environment and the way people travel. Research findings from the Centers for Disease Control (CDC) link the country's obesity epidemic in part to both community design and travel choices. Physical inactivity is a growing health problem in the United States, contributing not only to obesity, but also to chronic disease, osteoporosis, depression, and premature death. Several CDC studies indicate that communities that feature a mix of land uses, are connected by pedestrian and bicycle infrastructure and transit, and rely less on driving are more conducive to physical activity.

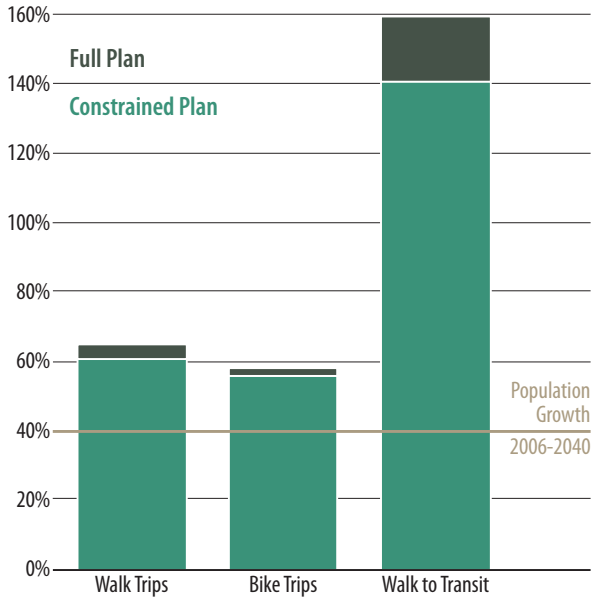
Transportation 2040 promotes programs and investments that provide alternatives to driving, especially to improve the walkability and bikability of the region's communities. These alternatives can result in mobility choices that are healthier and safer. The region's built environment, including the design of communities, the completeness of sidewalk networks, and the provision of open space, affects not only physical well-being, but also mental well-being. Transportation 2040 holds that the region should take a "complete streets" approach to operating transportation rights-of-way. This involves making attractive, safe space for all system users, especially in dense urban areas. See Appendix C, MPP-T-14 and MPP-T-15.

OUTCOMES

Transportation 2040 supports the reintegration of public health into planning and implementation of transportation projects as a way to ensure the region's communities are more sustainable and truly provide opportunities for improved quality of life.

Projects and programs were selected to reduce emissions, minimize impacts to water bodies, emphasize investment in trails and walkways, complete local street networks, and minimize trip distances and congestion. As illustrated in Figure 19, modeling of Transportation 2040 showed increases in walk and bike trips at rates significantly higher than population growth, providing conditions that encourage physical activity.

FIGURE 19. Bike and Walk Activity



CHAPTER 4

A Sustainable Financial Framework

Transportation 2040 presents a forward-looking strategy to address the sizable challenges associated with financing transportation investments. It is critically important that the region deliberately moves forward in developing new ways to pay for transportation projects and programs. Improving the transportation system is about achieving a broad range of other important objectives: cleaning up the environment, visiting with friends and families, making the most of our neighborhoods and common infrastructure, and pursuing education, recreational and employment opportunities. Investments in mobility are integral to the creation and maintenance of our economic and social well-being.

Citizens want better mobility, yet as the costs of providing new transportation capacity continue to increase, the effectiveness of that capacity is often quickly compromised by growing traffic. The public appetite for funding that capacity is waning. Limited public financial capacity for transportation infrastructure investment has encouraged transportation professionals and regional policy makers to begin discussing the potential benefits associated with reforming the way transportation is paid for. The future of the fuel tax as a road finance approach is limited. Advances in vehicle technology and constant erosion of purchasing power from inflation have demonstrated the need to find other ways to pay for transportation investments. Business leaders, national experts, and state legislators are all coming to similar conclusions: traditional tax-based financing measures will not, by themselves, be sufficient to solve our transportation problems.

In the central Puget Sound region, decision-makers have been deliberately examining an approach to fund transportation through fees and tolls that apply to users of the transportation systems and services. Transportation 2040 sets out broad direction that moves the region toward a sustainable future in which investments can be made when they are needed, in a predictable manner, with revenues generated from those who benefit from the investments. This change

Tacoma Narrows Bridge electronic tolling, WSDOT

cannot occur overnight, but rather will only be the result of many individual steps, including legislative actions at the state and federal level. The specific path to a more sustainable approach to transportation finance cannot be known in advance with certainty, but the broader goals and outcomes represent a shared vision. Transportation 2040 presents a general scenario for the future of transportation finance in the central Puget Sound region, but recognizes there are still many important unanswered policy questions, and embraces the need for flexible thinking about how these changes may come about.

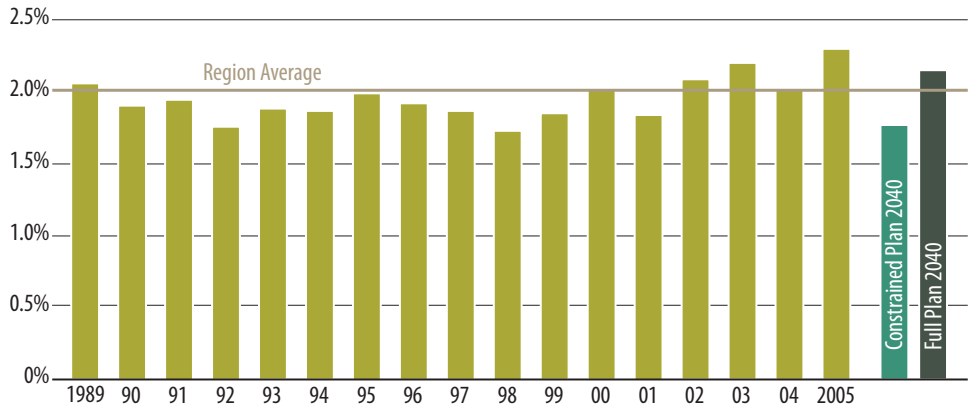
Under federal law, the regional transportation plan must make reasonable financing assumptions, accounting for existing or new revenue sources which can be expected to be available over the life of the plan (Title 23 USC 134). Transportation 2040 does this, and outlines a set of conditions and assumptions that constitute a financial strategy for implementing the plan.

Growth and Transportation Funding

Investments in transportation infrastructure and services are strongly linked to growth in the broader economy. As the central Puget Sound region grows over the next 30 years, it will be important to ensure that there is the fiscal capacity to make investments in transportation systems. Getting the most out of transportation investments requires that the interplay between transportation investments, growth in economic activity, wealth generation, and public financial capacity shape the means through which the investments are financed.

But what level of total investment is enough? Over a period of nearly 20 years the central Puget Sound region has dedicated approximately 2 percent of its personal income to outlays on public sector transportation, and considerably more on private investments in personal and freight mobility. See Figure 20. Transportation investments should be made when their benefits exceed their costs, but public sector budgets will define the limits of investment, so maintaining this level of historical effort can be seen as a minimum target for a sustainable transportation investment program. In particular, the region's fiscal capacity must be sufficient to support specific transportation needs associated with a growing regional economy.

FIGURE 20. Transportation Expenditures as a Percentage of Regional Personal Income



The principal tax bases for transportation have traditionally been retail sales, registered motor vehicles, taxable motor fuel consumption, and the taxable value of motor vehicles. The allowable uses of nearly all existing transportation funding sources in the region are restricted to specific uses, by source, by expenditure, and often by geography or jurisdiction. Transportation infrastructure costs have been on the rise over the last few decades because of increases in material and labor costs, the costs of mitigating environmental impacts, and increased urban land values. Insufficient public resources have led to an increase in the unfunded backlog of maintenance projects, which then have higher overall costs in the future, and are often compounded by increased safety concerns. Meanwhile, existing transportation revenues are not keeping pace with travel demand and the infrastructure investments needed to support this growing demand.

As the region grows and matures, so do its transportation assets. Aging infrastructure requires regular and predictable investments in maintenance, preservation, and operations. Much of the region's infrastructure was built many decades

ago and will require significant efforts in preservation, or will need to be replaced over the next three decades. And system investments that were started years ago need to be completed, such as pieces of the high-occupancy vehicle network, and missing links in the road system. New urban infrastructure is expensive, so providing new ways of moving freight and people around on existing infrastructure is increasingly important as our region continues to urbanize. In the end, it is the growing peak travel periods that will be most compromised by growth if we fail to address the underlying demand for business-related movement of people and goods.

Peak-period demand drives the need for new investments in roadway and transit infrastructure. Urban transportation systems are sized and built primarily in response to peak-period use. Serving and managing peak demand will require a broad range of approaches including strategic investments in new infrastructure, high-occupancy services, time-of-day tolling, land use and development coordination, and other innovative strategies. Each of these needs has its own unique set of funding requirements, and some will necessitate new approaches to funding transportation altogether.

The period of reliance upon fuel tax financing may be coming to a close within the next few decades. Changes in vehicle technology and inflation continue to compromise the purchasing power of fuel tax proceeds. This path is unsustainable and new sources of reliable funding must be developed and phased in over time. There is growing interest in various approaches to replacing fuel taxes, and the central Puget Sound region has been at the forefront in some of the leading research. Vehicle charging technology is already available to allow a transition to another form of direct charging for road use. But many policy and program design issues remain unaddressed at this point. The central Puget Sound region and Washington state have some specialized experience with this topic. In 2006, PSRC conducted a pilot project, the Traffic Choices study, to see how travelers change their travel behavior in response to variable charges for road use (variable or congestion-based tolling). The project observed driving patterns, but also learned about vehicle charging technology, some key policy issues and program design. A major piece of future work must involve a comprehensive design of a structural replacement for fuel taxes.

I-90 Two-Way Transit & HOV Operations Project, Mercer Island, WSDOT

Emerging Issues in Transportation Finance

Successful implementation of Transportation 2040 is dependent upon fulfilling the new revenue expectations of the financial strategy. Success on this front requires addressing a range of underlying issues facing the future of transportation finance, and require the region and state to develop new and innovative approaches to project finance and implementation. Some cross-cutting issues in transportation finance include the following:

- ***The Future of Fuel Taxes.*** *In the face of inflationary pressures and alternately fueled vehicles, the future of a fuel tax-based approach to highway finance may be limited. Alternate approaches to collecting user fees have been contemplated for many years. Technical advances have revolutionized road user fee collection approaches and may someday offer a replacement alternative for fuel taxes. As the transportation sector strives to disentangle personal and freight mobility from carbon emissions, taxes on motor fuels will become an even less viable means of funding future investments.*
- ***Bond Financing.*** *Capturing future value in order to make investments today is a significant issue in transportation planning and investment. Historically transportation systems in the U.S. have been financed on a pay-as-you-go basis. This is no longer working well in high-growth urban regions.*
- ***Reliance upon Non-transportation Related Tax Sources.*** *Tax based approaches to transportation finance, as differentiated from use fees, may always result in inadequate revenues relative to anticipated investment needs. This is largely due to the poor relationship between the fee charged and the costs the users of the system impose. Increased reliance on non-transportation related revenue sources, such as the sales taxes and municipal general funds, exposes transportation systems to greater revenue uncertainty and fails to ration scarce transportation resources and services.*
- ***Geographic Equity for Statewide and Regional Sources.*** *Politics lends itself to geographic divides, and these divisions have been a source of debate relating to the question of whether transportation dollars are distributed fairly. The issue of returns of statewide transportation revenues to the regions of Washington state will continue to be a focus of discussion. This is also true of the sub-regional investment policy that is part of Sound Transit program planning.*
- ***Cost Burden Across User Groups.*** *Who bears the costs of keeping our transportation system operational is an important question. It not only relates to issues of fairness and political viability, but also has implications for efficient transportation system management. Some users of the transportation systems impose greater costs on the system and other users than others. Heavy vehicles create more pavement and structural damage; commuters on busy roadways during the peak travel period impose delay on other users. The financial systems that support investments in transportation need to reflect these cost structures.*
- ***Investment Rules and Prioritization.*** *Plan financial constraint implies that investments may need to be prioritized if insufficient revenues become available to make all desired investments. Lack of consistently applied approaches to project selection and prioritization can make preserving financial constraint in the plan a challenge. Historically, and especially in other parts of the world, benefit-cost analysis has been employed successfully for transportation project evaluation.*

Current State of Transportation Finance

Transportation funding in the central Puget Sound region draws mainly from a few primary tax bases. These include motor fuels sales, retail sales, motor vehicle market value, assessed property valuation, and vehicle registrations and licenses. In addition to taxes on these tax bases, transportation revenues are drawn from a combination of other sources, such as operating income and sources comprising city and county general funds.

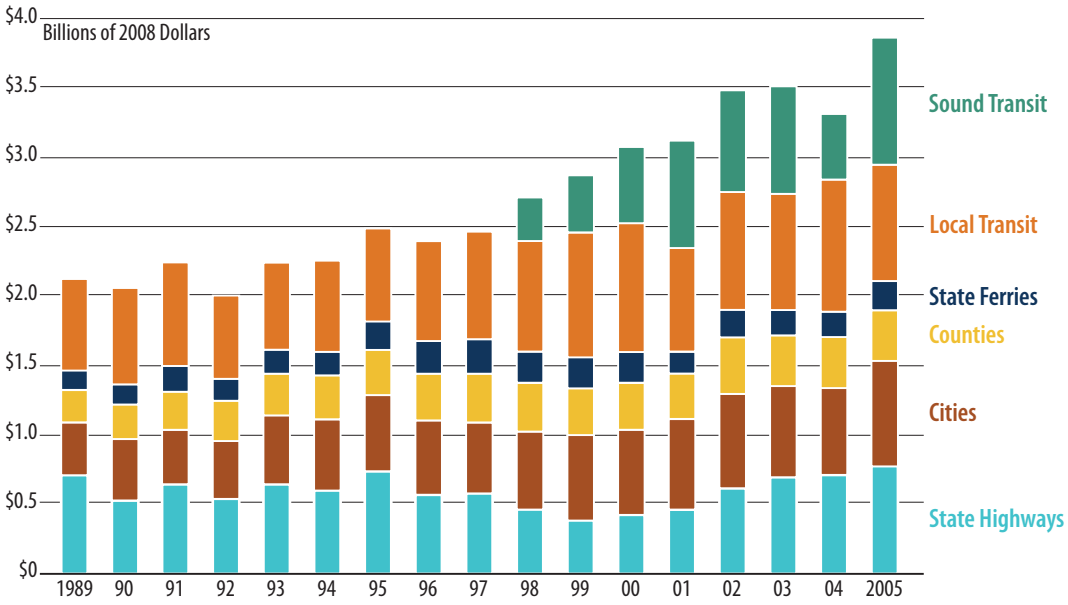
Cities and counties support transportation investments from a wide variety of funding sources. The state Legislature has authorized a number of local option taxes that have, in many instances, proved difficult to implement. At the same time, a number of tax limiting initiatives and growing demands for general fund dollars have made local commitments to transportation a challenge to sustain.

Local transit authorities' primary source of funding is the sales tax. With the loss of Motor Vehicle Excise Tax revenues, the local transit operators are increasingly dependent upon the sales tax, which is a less stable source of revenue, rising and falling with other economic factors. Due to the recession that began in 2008, local and regional transit agencies have experienced significant reductions in sales tax revenues, causing many agencies to increase fares and cut transit service. Because the base year of Transportation 2040 is 2006, these impacts are not included as part of the base financial assumptions in the plan.

The Washington State Ferries has also been affected by the loss of Motor Vehicle Excise Tax as well as the declining purchasing power of the fuel taxes. The result is an increasing reliance upon tolls for operations and state budget allocation for capital investments. The state highway program is heavily dependent upon fuel tax revenues, from both state and federal taxes.

Historical revenue information for major transportation programs is displayed in Figure 21.

FIGURE 21. Transportation Revenues in the Central Puget Sound Region



The starting point in the development of the Transportation 2040 financial strategy is an estimate of future revenues that will be available under current revenue law. When compared with plan investment costs, the current law revenue estimate provided the basis for determining the scope of new revenue strategies that need to be part of the plan.

Current law revenues derive from forecasts of the principal transportation tax bases. The principal transportation tax bases are retail sales, registered motor vehicles, taxable motor fuel consumption, and the taxable value of motor vehicles. Future annual values for these tax bases are forecast using a series of models. The resulting forecasts of revenues are then converted to program revenue estimates, taking into account the distribution of revenues to each program, due either to legislated dedications or allocations, or past practice, and the percent of generated revenues that are returned to this region. Figure 22 displays current law revenue estimates by transportation program and decade.

FIGURE 22. Current Law Revenues, 2010-2040 (millions of 2008 dollars)

Program	2010-2020	2020-2030	2030-2040	2010-2040
Counties	3,200	2,800	2,900	8,800
Cities	6,900	6,500	6,700	20,100
Local Transit	10,500	14,900	19,100	44,500
Sound Transit	15,100	7,200	10,100	32,400
State Ferries	1,900	1,700	1,900	5,400
State Highways	6,800	4,200	3,100	14,100
Total	44,400	37,100	43,600	125,200

Plan Investment Needs

The transportation investments included in Transportation 2040 are described in some detail in Chapter 5 of this document. The plan contains investments that are covered under the plan's financial strategy or constrained plan, but also contains investments that are as yet unprogrammed and not covered by the financial plan. The rest of this chapter focuses primarily on the financially constrained portion of the regional plan. Cost information about these investments has been assembled from detailed cost estimation methodologies appropriate to both broad programs of investments and individual projects. Transportation 2040 contains a database of transportation projects, each with information about project costs and year of implementation. Programmatic estimates of the resources required to maintain and operate city, county, and transit programs have also been developed in a detailed manner that reflects the timing of these investment needs. Figure 23 presents investments that are covered under the financial strategy for the major transportation programs by decade.

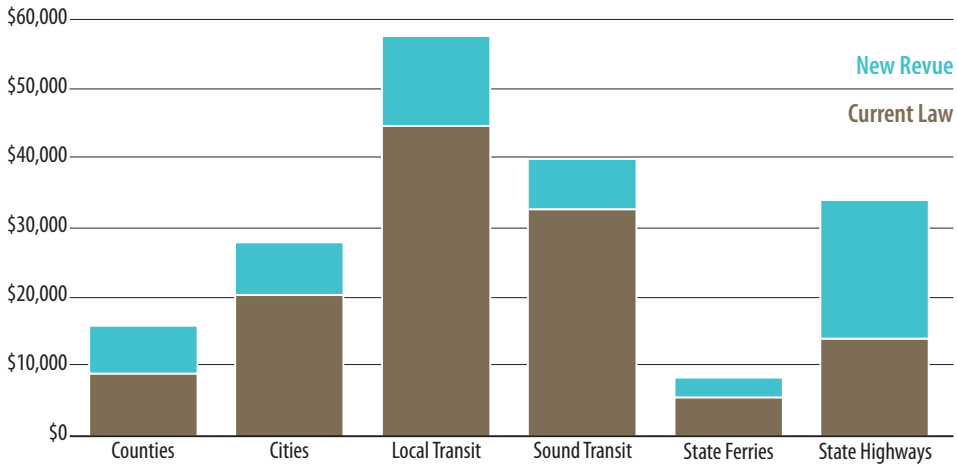
FIGURE 23. Financially Constrained Cost Summary, 2010-2040 (millions of 2008 dollars)

	Constrained 2010-2020	Constrained 2020-2030	Constrained 2030-2040	Constrained 2010-2040
Counties	4,400	5,100	6,200	15,700
Cities	9,000	9,300	9,400	27,600
Local Transit	11,200	17,300	28,700	57,300
Sound Transit	15,100	12,400	12,400	39,900
State Ferries	2,100	2,300	3,800	8,200
State Highways	16,000	6,700	11,000	33,800
Passenger-Only Ferries	200	200	200	5 00
ITS/Operations	500	500	500	1,400
Demand Management	700	400	400	1,500
Regional Non-motorized	200	100	100	3 00
Toll System	400	1,100	1,500	3,000
Other Subtotal	1,900	2,200	2,700	6,800
Total	59,700	55,300	74,200	189,300

New Revenue Requirements

A comparison of plan investment needs with current law revenues provides a picture of the new revenue requirements across the various transportation programs. New revenue requirements by program are displayed in Figure 24.

FIGURE 24. New Revenue Requirements (MILLIONS OF 2008 DOLLARS)



A General Funding Scenario

Transportation 2040 calls for the following guidance to be used as the region moves into a new approach for financing transportation:

- Securing funding to maintain and operate our current assets and services should be the highest priority. Approximately 60 percent of planned investments will simply maintain and operate the current system. This priority includes securing near-term revenue to maintain local transit operations, a growing backlog of local maintenance and preservation needs, and capital preservation needs of the state ferry and highway assets.
- Traditional tax financing (gas tax, etc.) will still play a central role in transportation finance, especially in the early years of the plan.
- There should be a nexus between new taxes, fees, or tolls and the uses to which the revenues are put. The revenue instruments should relate in some manner to the benefits the users receive and/or the costs that these users impose on the system and other users.
- There should be an increased reliance on road tolls that are phased in as new investments in capacity and alternatives are implemented, and as toll system technology and user acceptance evolves over time. To support this evolution, the tolls should be set in a manner that strives to improve travel benefits to all users (freight and people) of the transportation system, and the use of toll revenues should also evolve over time towards increasingly broader uses.
- The plan's financial element should be based on a "general scenario" that allows flexibility in implementation.

Such a new revenue "general scenario" will require legislative action across a broad range of governments, including cities, counties, the state and the federal government. As the regional planning body for the central Puget Sound region, PSRC will work collectively with its partners to advance appropriate legislative actions. The general funding scenario has three primary elements: (1) early revenue actions that support state, local, and regional investments, (2) a phasing in of new revenue sources that are based on the use of the transportation system, and (3) guidance on the use of tolling revenues.

Road Tolling as a Critical Element of the Financial Strategy

In 1995 PSRC created a Transportation Pricing Task Force to contribute to public dialogue about the long-range financing and pricing of transportation investments. The Task Force concluded that a transportation financing structure based on variable roadway charging could provide significant benefits to society, and suggested it would be possible to better balance transportation supply and demand through price, much as is done in most other areas of our economic lives. The Task Force recommended that the region should:

- *Promote transportation financing methods that are based on use, and help optimize system efficiency with the long-term goal of introducing variable roadway pricing.*
- *Continue to explore and adopt transportation demand modeling improvements and other analytical tools that better assess traffic management strategies.*
- *Work with communities, WSDOT, and local authorities to plan, design and implement a demonstration program prior to 2006.*
- *Develop and help fund a detailed outreach effort which seeks to inform, engage and build regional consensus around implementation of transportation pricing.*

Much has happened since 1995 in the area of road tolling, both in the central Puget Sound region, and nationally. But the underlying structural problems in transportation finance remain. State and federal sources of transportation funding are designed to meet broad needs across diverse geography and are not always adequate to address the unique requirements associated with investing in growing urban regions. For example, the current system of highway finance relies heavily on flat fees: the motor-vehicle fuel tax (and licensing and registration fees). This system of flat fees necessarily has the effect of undercharging peak use, and overcharging off-peak use, at least in relative terms. The result is that:

- *Roads are overused and experience queuing (congestion) during the peak periods.*
- *Users lose valuable time sitting in congestion.*
- *Use of the roads by High-Occupancy Vehicles (HOVs) such as carpools and buses is less than it would otherwise be.*

These problems, in turn, affect the investment incentives and fiscal balance of the transportation system. Congestion provides a misleading signal as to which facilities or routes need more capacity, which, in turn, may cause road authorities to build some roadway capacity that the users themselves would not be willing to pay for. One solution to this fiscal dilemma is to raise gasoline tax or other broad revenue sources, which can exacerbate underlying issues of fairness. Another is to use congestion tolling to explicitly recognize the true, differential cost of different road segments. The latter solution improves the management of current and new investment at the same time it helps resolve the transportation fiscal problem.

An economic principle for the efficient use of resources is that the users of those resources should pay their incremental or marginal cost. Applied to transportation, road users should bear the costs that their travel (use of the road resource) imposes on the roadway system. A comprehensive congestion-based tolling system would institute a structure of fees varying by time of day, type of road, and type of vehicle. Setting congestion prices correctly is important if the policy is to be fair and produce economic benefits. Congestion tolls should be viewed as tools for giving signals to people about the costs of their use of the system allowing them the opportunity to make sensible decisions based on those costs.

Generally, the effectiveness of congestion tolling is the greatest with broad geographic coverage. Broader coverage can reduce the problem of ***diverted traffic****: traffic that is "tolled-off" the priced facility and now is using and congesting other roadways. A particularly bad form of this problem is* ***cut-through*** *traffic on local streets. Though barriers and policing can reduce the problem, the more efficient and fair way to deal with it is to correctly price the roadway and/or toll the alternative routes.*

Making users pay, directly and immediately, for costs their use engenders encourages them to economize on costly activity. But implementing congestion tolling does not affect just price levels. The setting of tolls has to be coordinated with the highway investment process. Properly applied congestion tolling requires that the revenues be utilized in the most economically efficient manner. With tolling, there is a more direct relationship between the revenues and costs for individual road segments or projects, which facilitates doing feasibility analysis on a segment-by-segment basis. That makes it easier to rely on financial criteria to evaluate roadway projects since it will be clearer who pays and who benefits.

Congestion tolling, however, has the major disadvantage of not being a standard procedure. It is different, and raises new issues. Will it really work? Can the technology work reliably and at what cost? What about privacy: Should government be trusted with information about where citizens (or at least their vehicles) are at a certain time? Does congestion tolling create opportunities that the rich can afford but the poor cannot, and, if it does, is that fair? The answers to these and other questions are starting to take shape, but the next decade of experiences will provide a much better set of answers and public policies.

For more background and detail on the development of the region's financial strategy, see Appendix F.

EARLY ACTION TO SUPPORT STATE, LOCAL, AND REGIONAL INVESTMENTS

Within the first decade of the planning period for Transportation 2040, it will be necessary to identify additional transportation revenues that can address near-term requirements across a broad array of transportation programs.

Cities and counties will need to take action to increase transportation-related taxes and will need viable new local options for transportation funding. Local actions could include road and property tax levy adjustments, impact and development fees, the implementation of taxes on parking and more coordinated parking pricing. Cities and counties also will need to work with the state Legislature to identify additional local option taxes and fees, and to secure a direct distribution of new statewide transportation taxes in a manner consistent with past practice.

Local transit operators will face significant near-term challenges just to maintain existing service without additional funding. Some operators still have the option of locally approved sales tax increases, but others do not. And a continued reliance upon sales tax revenues as a nearly sole source of non-operating revenues leaves these operators vulnerable to swings in the economic markets. Local transit operators will need to work with the state Legislature to secure a stable source of supplemental funding. Also, operators could begin to raise fares in the near term in an effort to provide a stronger operating foundation. In the near term, Sound Transit will be focused on the delivery of the *Sound Transit 2* program of investments, with funding secured by a recent public vote. Sales tax revenue volatility will continue to be a monitoring issue for the Sound Transit capital program as well as for near term operations.

In the near term, the state highway and ferry programs will also require additional funding beyond current law. The Washington State Ferries has a new long-range plan and long-term finance study. And while long-term capital requirements present the largest financial issues for the ferry system, the near-term still requires additional operating revenues and adjustments to state funding practices. The highway program has a large amount of capital investment in the initial decade of the plan. Additional statewide funding, such increases to the state fuel tax, will need to be identified in order to keep the highway program on track even as tolls and other user fees are being introduced.

THE PHASING IN OF TOLLS AND OTHER USER FEES

Transportation 2040 sets out broad direction that moves the region toward a sustainable future in which investments can be made when they are needed, in a predictable manner, with revenues generated from those who benefit from the investments. This change cannot occur overnight, but rather will only be the result of many individual steps, including legislative actions at the state and federal level. The specific path to more sustainable transportation finance cannot be known in advance with certainty, but the broader goals and outcomes represent a shared vision.

The future of the fuel tax has been explored by numerous studies,[5] all with an eye toward identifying options for its eventual replacement. A general consensus is emerging around how best to address long-run issues in transportation finance that reaffirms the general principle of user financing, although the design of a specific tax or fee program is likely a number of years away.

In the central Puget Sound region, significant early steps to begin to address this structural issue are underway, including the implementation of a high-occupancy lanes pilot project on SR 167 and plans to toll the existing SR 520 Bridge in an effort to help finance its replacement. The evolution of tolling will likely continue on this pathway, with additional high-occupancy toll lanes brought into operation in the first decade of the plan. Also, major highway capacity projects will be at least partially financed through tolls.

Eventually, in the later years of the plan, the intent is to manage and finance the highway network as a system of fully tolled facilities. The idea that the variable tolling of roads can result in substantial improvements in traffic conditions is unfamiliar to most motorists. There is a natural skepticism about how this might work, and how individuals might be affected by such an approach to road financing. The Traffic Choices Study, however, has demonstrated that households and motorists faced with variable tolls do make the modest adjustments in their travel that will translate into large-scale reductions in roadway congestion. The sum total of individual decisions can be shown to result in important shifts in the time, amount, and mode of travel so as to minimize the amount of time the region's residents would be stuck in traffic.

[5] TRB Special Report 285: The Fuel Tax and Alternatives for Transportation Funding; Federal Surface Transportation Policy and Revenue Study Commission; Federal Surface Transportation Infrastructure Finance Commission.

GUIDANCE ON THE USE OF TOLLING REVENUES

A major portion of the benefits from any application of road tolling are a result of the revenues that are generated. How these revenues are utilized is clearly a significant determinant of the value of the tolling program, and is an important part of gaining public approval.

Transportation 2040 advances the notion that road tolling must come with a strong commitment to dedicate revenues to the purpose of improving mobility, in the form of direct investments in transportation systems, or offsetting other existing transportation taxes and fees. Beyond this basic commitment, there are likely to be other specific constraints that get placed on the use of revenues from road pricing. Possibilities include at least the following:

- Limit the use of revenues to the corridor, or geography from which the revenues are generated.
- Constrain revenues to only road investments.
- Allow revenues to be used to support multimodal investments, including transit, other high-occupancy vehicle services, pedestrian and bicycle improvements, and transportation demand strategies in the corridor or geography from which revenues are generated, provided road investments in the tolled corridor are planned to be completed as set forth in the Metropolitan Transportation Plan.
- Remit some, or all, revenues to users of the transportation system through a reduction in, or elimination of, other transportation-related taxes and fees.

All of the above uses of revenues provide direct benefit to some of the users of the transportation system. Some approaches are more supportive of the toll payers themselves; others provide additional incentives for people to modify their travel behavior away from paying tolls. A major conclusion, however, is that how revenues are used has a profound effect upon most of the important dimensions of policy related to road tolling. As toll policy is developed, consideration must also be given to the equity implications of the application of tolls and the use of revenues.

In the near term, tolling will take the form of high-occupancy toll lanes and individual facility toll financing. In these instances toll revenues are essentially dedicated to making the investments in these corridors possible, and supporting the operations of these corridors directly, or indirectly. Supporting investments might include transit services, nonmotorized transportation improvements, or transportation demand strategies within the corridor that provide an alternative mobility option.

In the longer term, when a larger network of highway facilities is managed and financed with tolls, a broader consideration of possible uses for toll revenues may be warranted. It is even possible that it will be desirable to offset existing taxes and fees (say the elimination of a state tax on fuels, or vehicle fees) with toll revenues.

Figure 25 displays a representation of the general strategy for new transportation revenue that reflects the above assumptions and guidance. It should be noted that this is a general representation of a very large number of individual revenue actions that will be required to implement Transportation 2040. The timing and exact nature of each action can only be defined in strategic terms given the inherent uncertainty involved. Various risks associated with revenue strategies are explored in more detail in Appendix F.

FIGURE 25. New Revenue General Scenario (MILLIONS OF 2008 DOLLARS)

FUNDING CATEGORY	2010-2020	2021-2030	2031-2040	2010-2040
Local Sources				
Road Levy (PROPERTY TAX)	1,000	1,000	1,100	3,100
Other Local Sources (PARKING, LICENSE, AND IMPACT FEES)	2,300	2,600	2,900	7,800
Transit Specific Sources				
MVET (TRANSIT)	800	1,300	1,800	3,900
Sales tax increase for local transit	0	900	2,800	3,700
Sales tax increase for Sound Transit (BONDED)	0	5,100	2,400	7,500
Increases in Transit and Ferry Fares	100	400	500	1,000
Fuel Taxes, State Fees and Fuel Tax Replacements				
State Fuel Tax and Bonding Net Proceeds	4,100	1,000	800	5,900
Fuel Tax Replacement	1,100	2,100	2,700	5,900
HOT Lanes and Facility Toll Revenues				
HOT and Facility Toll Proceeds	5,600	1,100	0	6,700
Highway System Tolls (VARIOUS MODELED)	0	2,700	24,700	27,400
Offsetting fuel tax	0	0	(8,800)	(8,800)
Total New Revenue	**15,000**	**18,200**	**30,900**	**64,100**

Figure 26 summarizes the financial information in a single table, with investment needs, current law revenues, and new revenues identified for each of the major programs.

FIGURE 26. Financial Summary, 2010-2040 (MILLIONS OF 2008 DOLLARS)

	NEEDS			REVENUES			
	BASIC	NEEDS EXPANSION	TOTAL	CURRENT LAW	NEW REVENUE	TOTAL	UNPROGRAMMED INVESTMENTS
Counties	6,800	9,000	15,700	8,800	6,900	15,700	700
Cities	14,200	13,400	27,600	20,100	7,600	27,700	200
Local Transit	52,400	4,900	57,300	44,500	12,800	57,300	4,900
Sound Transit	17,600	22,300	39,900	32,400	7,500	39,900	18,600
State Ferries	6,700	1,500	8,200	5,400	2,800	8,200	–
State Highways	10,600	23,200	33,800	14,100	19,700	33,800	8,800
Other Regional	–	6,800	6,800	–	6,800	6,800	3,300
Total	108,200	81,100	189,300	125,200	64,100	189,300	36,500

Thea Foss Waterway, Tacoma

CHAPTER 5

Regional Programs and Projects

The regional vision for transportation is to have a safe, clean, integrated, sustainable, highly efficient multimodal transportation system that supports the regional growth strategy, promotes economic and environmental vitality, and enhances public health.

VISION 2040's multicounty planning policies for transportation are structured around three broad areas: (1) Maintenance, Management, and Safety, (2) Supporting the Growth Strategy, and (3) Greater Options and Mobility. These policy areas address getting more out of current systems and past investments, the critical link between transportation and land use planning, economic development, the environment, and an approach to improving mobility through a variety of viable travel choices. The multicounty planning policies provide a framework for long-range transportation planning by integrating transit, bicycling, freight, ferries, highways, local roads and walking. For the complete text of the multicounty planning policies, see *Appendix C*.

This chapter describes the programs and projects that have been designed to implement the region's sustainable strategies for mobility, the environment, and transportation finance.

Metropolitan Transportation System

Transportation 2040 updates the region's Metropolitan Transportation System. Transportation 2040 focuses on regionally significant transportation investments and promoting coordination among transportation providers and local governments as they make investments on the Metropolitan Transportation System (MTS).

The Metropolitan Transportation System consists of regionally significant multimodal transportation facilities and services that are crucial to the mobility needs of the region. The Metropolitan Transportation System serves as a planning tool used to identify regional transportation problems, and analyze and develop regional solutions. The MTS also serves as a focus for required state and regional transportation system performance monitoring, particularly for the federally required congestion management process.

MTS facilities and services are defined both functionally and geographically. A facility or service is part of the MTS if it provides access to any activities crucial to the social or economic health of the central Puget Sound region. Facilities that weave parts of the region together by crossing county or city boundaries are critical to the MTS. Any link that accesses major regional activity centers, such as an airport, is also a critical element of the MTS. Specific facilities or services are included in the MTS based on their function within the regional transportation system rather than their geometric design or physical characteristics. Facilities in the MTS include those from the following seven transportation systems, supported by management services:

- Roadway System
- Freight and Goods System
- Ferry System
- Intercity Passenger Rail
- Transit System
- Regional Aviation
- Nonmotorized System
- Transportation System Management
- Transportation Demand Management and Operations

See Appendix D for more detailed definitions of the components of the Metropolitan Transportation System.

The programs and projects described in this chapter support the long-range vision for the region. This includes focusing investments in places where growth is planned to occur, minimizing impacts on the natural environment, promoting businesses and institutions, giving

people more time with their families, and improving transportation choices.

Investments must address the urgent task of repairing and maintaining existing transportation assets, building a more well-rounded transportation network, and making the current system work more efficiently and safely. Investments also focus on modern and affordable public transportation, safe places to walk and bicycle, and smarter highways that use technology and tolling to generate revenue and better manage congestion.

The implementation of Transportation 2040 is dependent upon the successful development of new funding mechanisms that are flexible enough to facilitate investment in a full array of regional transportation priorities, allowing for a wide variety of transportation choices.

The Full Plan: Constrained and Unprogrammed Investments

Transportation 2040 identifies the programs and projects that operate at a regionally significant scale and can influence the region's long-term growth, development and quality of life. These regional transportation systems are part of larger systems that connect to other parts of the state and nation, as well as part of local systems that provide access to land and daily activity. Transportation 2040 coordinates state, regional, and local planning efforts tor transportation, and fosters the development of and operation of a highly efficient, multimodal system that supports the regional growth strategy. See *Appendix C, MPP-G-1 and MPP-T-9*.

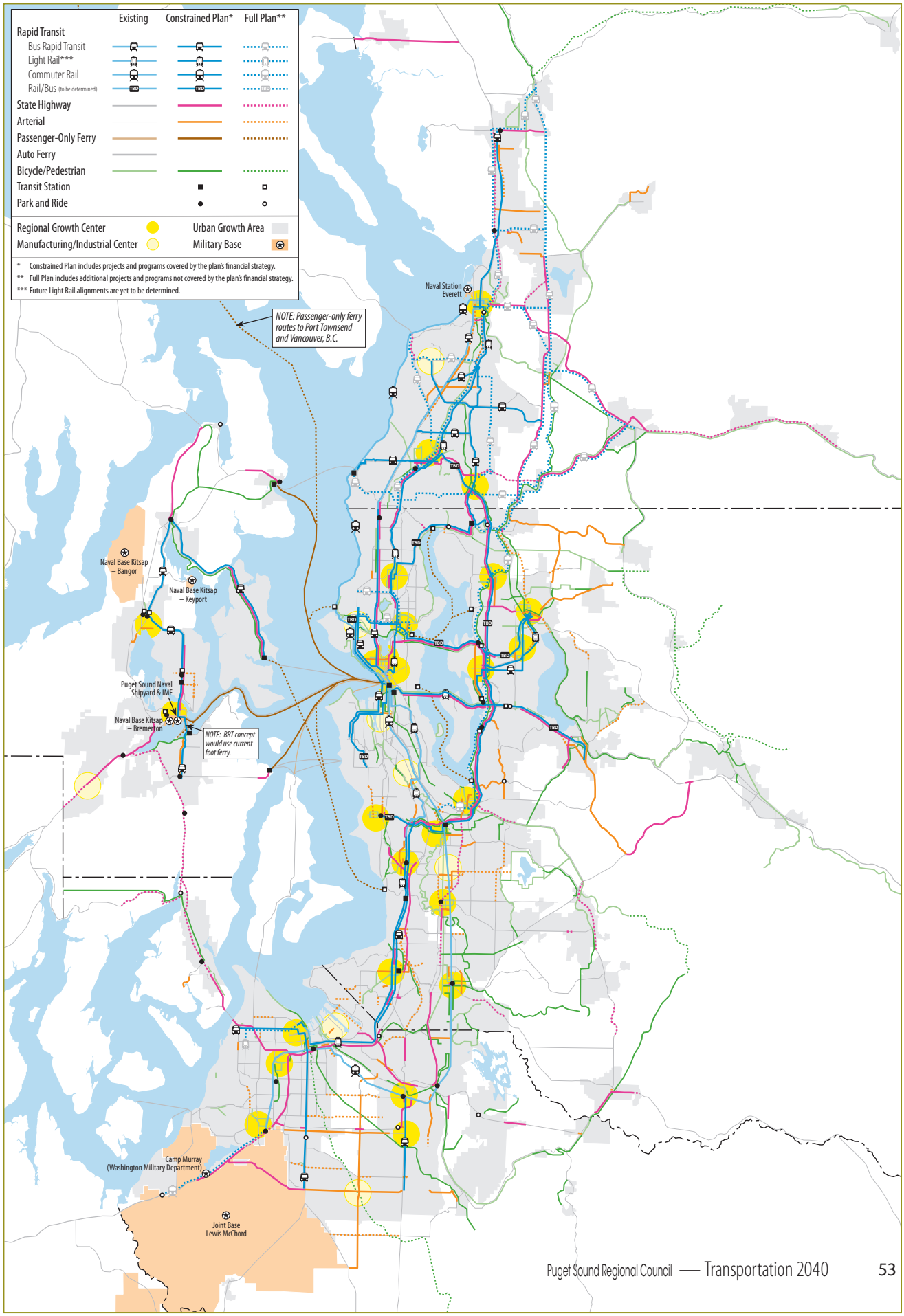
Transportation 2040 includes investments in projects and programs that increase travel alternatives, complete regional systems, and address transportation choke points. Transportation 2040 also plans for longer-term investments through the year 2040. The region recognizes, however, that long-term investment needs are more uncertain, that project and program needs change as more information becomes available, and that the cost of the region's projected needs exceeds the region's reasonably expected funding.

The full Transportation 2040 plan includes two broad categories: (1) "Constrained" and (2) "Unprogrammed." See Figure 27. Constrained investments are funded in the plan's financial strategy by a combination of currently available and reasonably expected new revenue sources. Unprogrammed investments identify needs for which additional financial details and other analysis remain to be performed before admission to the "Constrained" portion of the plan (see *Chapter 7 section on "Plan Amendment and Prioritization"*). While the financial strategy covers all Constrained regional and local investments, the plan itemizes capacity projects on Metropolitan Transportation System (MTS) facilities for planning, programming and analysis purposes. Appendix D defines the MTS and Appendix M includes the itemized investment list. Investments not in the itemized list are described programmatically in the plan text and financial strategy. Appendix B summarizes the itemized and supporting programmatic investments from both the Constrained and Unprogrammed parts of the plan to provide a holistic view of the plan's strategies at a subregional corridor level. The Improvement maps contained in this chapter illustrate at a regional scale the Constrained and Unprogrammed Plan investments listed in Appendices B and M by program area. Figure 28 maps all Transportation 2040 itemized investments.

FIGURE 27. Transportation 2040 Plan Elements

Transportation 2040 retains PSRC's existing requirement that MTS capacity investments be approved by PSRC before proceeding to implementation. Investments in the Constrained portion of the plan therefore have "Candidate," "Approved," or "Conditionally Approved" status. Candidate investments are within the plan's financial strategy, but still have one or more planning requirements that must be satisfactorily addressed before they are eligible for approval. Approved projects have addressed all planning requirements and have been formally approved by the PSRC Executive Board. Approved projects are eligible to be included in the regional Transportation Improvement Program (TIP) for full project action/implementation phases such as final design, right-

FIGURE 28. Transportation 2040 Investments Map



of-way acquisition, and construction. Appendix M provides further details on the project approval process and the TIP eligibility of Candidate projects. PSRC will respect the due processes by which the sponsors of major projects have achieved Approved status, and will only reconsider Approved status if project/program conditions have conclusively changed such that the project sponsor is incapable of continuing project/program implementation in the general form in which it was originally approved.

Transportation 2040 commits the region to future action to refine the plan's project admission and prioritization processes; changes to the approval process will be considered as part of those discussions (see Chapter 7 section "Plan Amendment and Prioritization").

Separate from Transportation 2040, PSRC tracks new transportation studies that may address future transportation needs. These are identified as "concepts," which, after further evaluation, study and development, may at some point be admitted to the plan.

Tacoma Narrows Bridge

Maintenance, Preservation, and Operation

Federal and state transportation policies prioritize maintenance, management, preservation, safety, and optimization of existing transportation infrastructure and services. The region's multicounty planning policies and Transportation 2040 respond to those mandates by emphasizing efficient maintenance, preservation, and operation of the transportation system. These types of investments can often be highly cost-effective and help to ensure that current assets continue to function properly and sustain regional mobility for both people and goods into the future. Maintenance, preservation and operations program represent approximately 60 percent of the Constrained portion of the planned total costs.

Transportation 2040 commits as a top priority to fully funding the maintenance, preservation and operation of existing infrastructure in a safe and usable state. If transportation maintenance and preservation needs are to be effectively addressed, dedicated and comprehensive funding for these purposes must be established.

All agencies and jurisdictions should be encouraged to demonstrate the use of maintenance management systems and, for roadways, pavement management systems. Preservation and maintenance needs on all facilities (including non-MTS facilities) are included as part of Transportation 2040's financial strategy. Individual preservation and maintenance projects are therefore considered to be part of the Transportation 2040 plan. See Appendix C, MPP-T-1 through MPP-T-8.

Local Streets, Roads, and Pathways. The central Puget Sound region has an extensive network of local streets and roads, bridges, sidewalks, and bike paths that provide mobility for a wide variety of users. Much of this network was originally built decades ago. Like any type of infrastructure, these local arterials, collectors, neighborhood streets and bridges have aged over the years and are now in need of significant investment to preserve and maintain them in a safe and useable condition. These local streets, roads and bridges often serve as critical truck routes in the system that brings goods to market and to customers. Furthermore, numerous local streets and

roads were built to different standards and lack bicycle and pedestrian facilities, or cannot adequately accommodate the needs of current or future transit service. Improvements to non-MTS facilities are included as part of Transportation 2040's financial strategy. Transportation 2040 includes all local roadway preservation needs that may be funded through transportation benefit districts or other such mechanisms. Individual projects on these local facilities will not be listed explicitly as projects in Transportation 2040, but will be found consistent with the plan once reviewed against VISION 2040 policies. These types of investments will impose significant additional costs as local roads are maintained and preserved. It is estimated that the pavement and non-pavement maintenance needs for the central Puget Sound region's local streets and roads — including bikeways and pedestrian paths — total approximately $21 billion through the year 2040.

State Highways. The state highway system serves as a critical backbone for our transportation system, linking our region to neighboring states and provinces from south to north, across the Cascade Range to Eastern Washington, and connecting the region across Puget Sound.

The majority of this system was built in the 1950s, 1960s and 1970s to serve the growing population and economy. Today, some of these infrastructure assets are aging beyond their useful life, and are in need of rehabilitation, reconstruction, or replacement. A good example is the central spine of the region — Interstate 5 — which is due for major rehabilitation and repaving after 50 years of increasing heavy daily use. Increasing demand by passenger vehicles, buses, and freight users has contributed to a faster rate of pavement deterioration, and more hours of traffic congestion. A lack of maintenance funding and the rise of construction costs have led to deferred maintenance, project delays, accelerated deterioration, and ultimately higher project costs.

The Washington State Department of Transportation estimates that over $10 billion is needed for basic maintenance and preservation of highways in the central Puget Sound region through the year 2040. This estimate does not include costs associated with major corridor projects such as replacement of the Alaskan Way Viaduct or the SR 520 floating bridge.

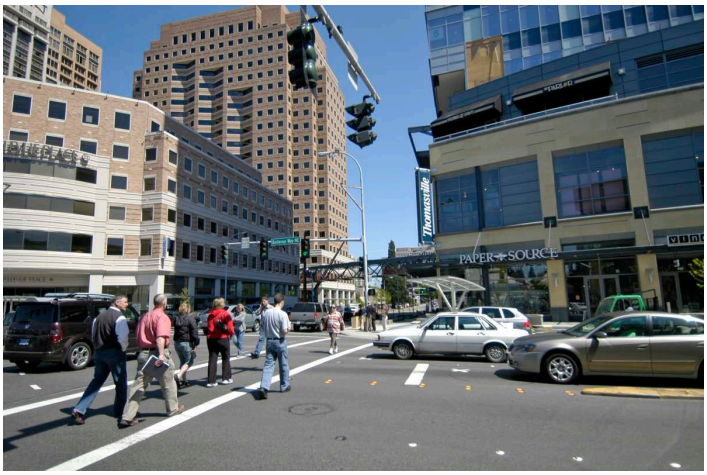
Transit. Buses, trains, ferries, light-rail vehicles and streetcars provide mobility for people without cars — those who are low-income, elderly, disabled, or too young to drive. Transit also provides a viable alternative to driving for hundreds of thousands of the region's residents who own cars but choose not to drive. By reducing the number of vehicles on the roads, public transit helps reduce congestion and curb greenhouse gas emissions.

Given the importance of transit, it is imperative to maintain and sustain the network. Traditional transit financing sources, such as the sales tax, have proved to be a somewhat unreliable source of revenue, particularly in times of economic downturn. The cost of buying fuel and paying the drivers, mechanics, dispatchers and others necessary to operate a transit system — and paying for the replacement of buses, train cars, tracks, fare machines and other capital equipment — far outpaces available funds. And just as with local streets and roads, delayed maintenance leads to even costlier rehabilitation down the road. Transportation 2040 makes funding for replacement and rehabilitation of transit vehicles and facilities a high investment priority.

Over the next 30 years, operating and capital replacement costs for local public transit providers are projected to total nearly $42 billion. This includes $38 billion in operating costs, plus $4 billion for capital replacement. Sound Transit estimates a need for $16 billion for operations and capital replacement in this time period.

Ferries. As is true of the entire transportation system, state and local ferry operators face growing service demands and financial challenges. Washington State Ferries (WSF) owns and operates the nation's largest ferry system: 22 vessels serve 20 terminals on 10 routes with nearly 500 daily sailings. Much of the state ferry system is located within the central Puget Sound region. Pierce County operates ferries between Steilacoom, Anderson Island, and Ketron Island, with six daily round trip sailings and three weekend round trip sailings.

Vessels. The current state ferries are aging, and significant financial resources will be required to maintain and preserve the fleet. Over the life of the Transportation 2040 plan, a major ferry vessel replacement program will be needed to continue current levels of service over the long term. The state is building new boats to replace the nearly 80-year old steel electric boats, which were recently taken out of service. By the year 2040, the state ferry system will need to replace 16 boats (including the steel electrics cited above)



City of Bellevue

to maintain current service levels. In addition, there is an ongoing need for maintenance and restoration of boats that will remain in the fleet. The state ferry system's Final Long Range Plan (June 30, 2009) cost estimate for ferry boat maintenance, preservation, and replacement to the year 2030 is $6.7 billion (in year of expenditure dollars). In addition, between the years 2030 and 2040, the state will need to replace another eight large boats (144-car capacity) at a cost of $3.4 billion (in year of expenditure dollars).

Terminals. Of the state ferry system's 20 ferry terminals, 11 are located in the PSRC region. Like the ferry boats, these terminals will require significant investments to maintain and preserve existing assets. In addition, by the year 2040 three major terminals (Mukilteo, Seattle-Colman Dock, and Edmonds) are planned for replacement. The Mukilteo and Edmonds terminals are planned to be rebuilt in new locations, while Seattle's Colman Dock will be rebuilt in its current location. The cost of the statewide terminal preservation and replacement program (to the year 2030) is estimated at just under $1 billion (in year of expenditure dollars).

Figure 29 summarizes Transportation 2040 basic maintenance, preservations and operations needs.

FIGURE 29. Maintenance, Preservation, and Operations Summary

PROGRAM AREA	ESTIMATED NEED
Local Streets and Roads	**$21 billion**
State Highways	**$10 billion**
Transit Operating	**$58 billion**
State and Local Ferries	**$6 billion**
Total	**$95 billion**

A SAFE TRANSPORTATION NETWORK

Federal transportation planning guidelines call for increasing the safety of the transportation system for all users. Safety issues address the design and operation of the system, as well as threats from harmful acts and natural disasters. Areas of primary concern are vehicle-related deaths and injuries, as well as pedestrian and bicyclist deaths and injuries. Projects that separate roadways from rail crossings and cyclists from vehicle travel lanes can dramatically improve safety for all users. A safe and secure regional transportation system pays careful attention to design and operation of facilities, as well as multiagency coordination and communication. *See Appendix C, MPP-T-4.*

Law enforcement and transportation organizations in the Puget Sound region actively improve the safety of the region's transportation system. These efforts could potentially be even more effective if there was greater coordination between organizations. Transportation 2040 safety goals address regional safety priorities, while reflecting the goals and objectives of the state's strategic highway safety plan (SHSP) process.

Washington state's strategic highway safety plan, *Target Zero*, helps to assess the safety needs for both the state and for the region, encouraging and promoting good safety practices in the design and operation of the transportation system, as well as promoting safety by system users. Focusing on 12 emphasis areas (key elements), *Target Zero* promotes safer roadways, safer walkways/pathways for pedestrians and bicyclists, improved response systems, and passenger and driver behavior improvement. These key elements within *Target Zero* are discussed further below, and complement regional efforts in making this region a safer place to travel.

The region explicitly aligns its policies and program direction at the regional level with the state's *Target Zero* plan. The plan focuses on five key areas:

1. Driver Behaviors
2. Other Users (Pedestrians, Bicyclist, Motorcyclists, and Freight)
3. Roadway Improvements
4. Emergency Medical Services
5. Traffic Management

The region supports the state's *Target Zero* goal, and will annually review available safety data for the central Puget Sound region and develop regional program direction that will best contribute to the state's overall goal.

High Point, City of Seattle

A SECURE TRANSPORTATION NETWORK

Transportation 2040 and the region's multicounty planning policies emphasize security of the transportation system. Over the past decade, security requirements have taken on a new meaning and emphasis. Federal and state agencies have been created to assess the vulnerability of infrastructure systems and support security strategies and measures. These agencies include the President's Commission on Critical Infrastructure Protection (PCCIP), the Office for Domestic Preparedness (ODP) and the Department of Homeland Security (including the Transportation Security Administration and a refocused Coast Guard), among others. In 2005, with the passage of SAFETEA-LU, Congress added security as a new stand-alone planning factor to be considered in metropolitan plans. See Appendix C, MPP-T-8.

The majority of security planning is performed by emergency response agencies, first-responder agencies such as police and fire, service providers such as airports, seaports, and transit providers, or state transportation departments. Transportation 2040 identifies investments that increase monitoring for operations, management and security of the metropolitan transportation system. These types of investments will enhance existing coordination and communication efforts. PSRC will convene and facilitate discussions to improve coordination and public understanding of regional security planning programs.

PSRC and its regional partners in emergency management planning will continue to work cooperatively in facilitating regional discussions to include issues such as emergency management coordination, and addressing the needs of vulnerable populations.

One of the larger regional security initiatives is the Regional Catastrophic Preparedness Grant Program (RCPGP.) The program is funded through the Department of Homeland Security and has awarded grants to the Puget Sound region as well as 10 of the highest risk urban areas to conduct regional-scale preparedness planning. The Puget Sound region, encompasses the four PSRC counties, as well as Mason, Skagit, Island and Thurston counties. The eight-county team, referred to as the Regional Catastrophic Planning Team (RCPT), has created several preparedness and recovery plans which all fold under the umbrella of the Regional Coordination Plan. PSRC is represented on the RCPT. Some of the initial goals of the program include a Transportation Recovery Plan, Evacuation and Sheltering Plan, Regional Structural Collapse Rescue Plan and Regional Resource Management and Logistics Plan. Elements of these plans, in particular the Transportation Recovery Plan, have been taken into account through the Transportation 2040 planning process.

The Transportation Recovery Plan being developed through the program will help to enhance preparedness for a catastrophic disaster in addition to smaller emergency situations and day-to-day operations. The objectives of the plan are to examine existing transportation recovery plans, assess vulnerabilities and identify short-, mid- and long-range solutions for a social and economic recovery and prioritize restoration needs. The plan identifies 50 high-priority potential disruption scenarios and a set of solutions to address the disruptions through a toolbox of options such as rerouting, intelligent transportation systems, transportation demand management, and availability of multiple modes of transportation that provide redundancy.

A number of PSRC advisory committees have coordinated and provided input for the program as part of the identification of the corridors selected for the Transportation Recovery Plan scenarios. Similarly they have worked with the emergency management community as part of the key arterials identified in the Regional Intelligent Transportation Implementation Plan.

Implement Efficiency Improvements

The region has a critical need to make optimal use of existing facilities. The region is operating in an environment of scarce public resources, difficulty associated with making large new infrastructure investments within mature urban areas, environmental and social constraints on building new facilities, and consideration of the urban growth implications of adding transportation capacity. Transportation 2040 includes programs that manage and operate transportation systems for more efficiency, and offer opportunities to meet travel demand through shorter, higher-occupancy, off-peak vehicle trips (or using no motorized vehicle at all). These include vehicle trip reduction programs, as well as guidelines and tools to encourage transit and pedestrian-supportive urban design and development. Transportation system management services and technologies also help to manage the overall system. Existing transportation facilities should be managed efficiently even while the region makes strategic investments in new capacity. See Appendix C, MPP-T-3, MPP-T-23 and MPP-T-24.

Commute Trip Reduction Law

Washington's Commute Trip Reduction Law (RCW 70.94.521-555) was enacted and incorporated into the state's Clean Air Act. The program is aimed at reducing drive-alone work commutes in the most congested areas of the state. Its base program requires major employers with 100 or more employees commuting to a single worksite between 6:00 and 9:00 a.m. to implement programs to reduce their employees' vehicle commutes and vehicle miles traveled. 2006 amendments include a provision for more aggressive programs in the most congested urban growth areas. The goal of the program, which affects all four counties in the central Puget Sound region, is to reduce congestion, delay, air pollution, and fuel consumption through programs that decrease the number of commute trips made by people driving alone.

TRANSPORTATION DEMAND MANAGEMENT (TDM)

Transportation 2040 supports the development of transportation demand management strategies targeted towards employers, commuters, and residents through a focus on education, incentives, requirements, innovative partnerships, and policies that promote ridesharing and efficient land-use. While Transportation 2040 contains specific programs and projects, the plan is supportive of all integrated and complementary demand management efforts from both the public and private sectors as they directly support regional environmental and congestion relief goals.

Transportation 2040 includes an aggressive mix of demand management programs and tools. These tools offer multiple benefits, including reduced congestion, road and parking facility cost savings, support for transit market share, consumer cost savings, pollution reduction, increased physical activity with attendant health benefits, and support for more efficient land use. While not every transportation demand strategy supports every objective, most support several. The fundamental approach to transportation demand management is to maintain current efforts on the Metropolitan Transportation System (MTS) that are viable, sustainable, and effective while introducing refinements that increase program visibility and overall impact. The plan also supports the implementation of new regional programs that go above and beyond "business as usual" for TDM in our region. Elements such as regional telework outreach programs, residential marketing and one-on-one technical assistance take aim at emerging markets and promoting new technologies to achieve trip reduction goals.
See *Appendix C, MPP-T-3 and MPP-T-23.*

Programs and projects included in Transportation 2040 can be grouped into the following categories:

- Employer-based programs/ Commute Trip Reduction
- Centers-based TDM
- Regional Programs and Technical Assistance
- Transportation Options
- Land Use
- Parking Pricing and Management

Varying levels of planned TDM strategies such as telework outreach and transportation management associations are included in Transportation 2040's Constrained and Unprogrammed plan investments, depending upon the unique characteristics of each program.

Employer Programs / Commute Trip Reduction. Transportation 2040 includes the continued implementation of WSDOT's Commute Trip Reduction (CTR) Program and supports exploring ways in which the program can become streamlined and targeted to make a greater impact on the percentage of individuals commuting in

peak periods via single-occupant vehicles (SOV). As a result of the 2006 CTR Efficiency Act, the Puget Sound Regional Council maintains a considerable role in the development of local and regional CTR plans, as well as the future of the program itself. This regional framework presents a greater opportunity than previously existed for coordinating local CTR plans and the integration of the CTR program into regional planning efforts.

Centers-Based Transportation Demand Management. In 2006 the Washington State Legislature passed the CTR Efficiency Act. One outcome of this legislation was the development of the Growth and Transportation Efficiency Center (GTEC) concept. These geographically defined areas within designated regional growth centers are an innovative connection between land use and transportation planning. Each implementing agency has developed a work plan consisting of various TDM strategies targeted at local businesses and residents to reduce the percentage of single-occupant vehicles traveling to, through, and from the region's activity centers. As of 2006 there are seven designated GTECs within the central Puget Sound region: Downtown Seattle, Downtown Bellevue, Redmond Overlake, Kirkland Totem Lake, Tukwila, Downtown Tacoma, and Downtown Puyallup. Transportation 2040 supports the continued implementation of each program as well as expansion in regional growth centers throughout the region, beginning with establishing GTECs in all regional growth centers located in the region's five Metropolitan Cities.

Regional Programs and Technical Assistance. Transportation 2040 includes two new regional TDM programs designed to educate, promote, and incentivize alternative modes of transportation. The first program targets employers to promote the practices of flexible scheduling and telework. This program would maintain an online telework toolkit and implement education and outreach campaigns, targeted messaging, and one-on-one employer consultations to increase the use of these and other employer strategies for reducing commute trips.

Off-peak trips comprise the majority of travel in the central Puget Sound. We cannot ignore potential efficiencies in this market and as such should implement a new residential-based trip-reduction marketing, education, and incentive program along with one-on-one mobility planning assistance. This program should be modeled after the Smart Trips programs implemented in both Portland, OR and Whatcom County. The target of 22,500 households annually should be met in a coordinated fashion as investments in transit and nonmotorized facilities are made.

Transportation Options. Providing transportation options directly supports the region's greenhouse gas reduction strategy and congestion and mobility strategy. The region can promote the use of alternative modes in a variety of ways, including the provision of tools to facilitate private rideshare arrangements as well as providing necessary capacity in walking, bicycling, transit, and ridesharing modes to accommodate additional users. Transportation 2040 supports increased ridesharing through investments in tools that facilitate creating carpools and vanpools as well as aggressively expanding public vanpool programs. The plan also supports the provision of carshare and bike share services as well as "safety net" transportation services for those individuals who travel via alternative modes.

Working From Home

Local and national research has demonstrated that accelerating opportunities for telework can support economic development, transportation efficiency, and the reduction of greenhouse gas emissions. For example, the Kitsap Telework Pilot Project found that:

- *Telework has real potential as a traffic mitigation strategy during highway and bridge construction.*
- *Telework can make a significant contribution toward the state's greenhouse gas emissions reduction benchmarks.*
- *Telework can help businesses and public agencies continue operations in the event of a disaster.*
- *Telework helps strengthen the business community.*
- *Telework helps strengthen families and communities.*

See www.teleworktoolkit.com/

Land Use. As discussed in VISION 2040, land use patterns can have a dramatic impact on the need to travel lengthy distances for goods and services. VISION 2040's Regional Growth Strategy calls for land use changes to reduce auto-dependency, and help the region to focus where and when vehicle trip reduction programs will be most effective. Strategies included in Transportation 2040 build on those identified in VISION 2040 and aim to reduce vehicle travel by promoting programs and policies that encourage the provision of nonmotorized facilities and increased density near the region's transit

Seattle Streetcar, South Lake Union

hubs. See discussions of the Regional Growth Strategy and *Transit-Oriented Communities* in Chapter 1.

Parking pricing and Management. The price of parking has often been cited as the primary factor in an individual's decision to drive or take alternative modes of transportation. Transportation 2040 supports jurisdictions implementing market-based pricing of all on- and off-street facilities within regional growth centers and other areas as their growth achieves densities and activity patterns that would make a priced market viable. In addition to the market rate, a five percent regional surcharge should be analyzed for both on- and off-street facilities within these activity centers to further manage demand and provide a sustainable source of revenue for local programs and projects.

Transportation 2040 calls upon jurisdictions with regional growth centers and areas of the region where a private parking market has developed to make a series of parking policy decisions related to the following areas:

- Pricing where appropriate
- On- and off-street management policies
- Shared parking
- Parking minimums and maximums
- Unbundle parking from leases
- Parking cash-out

PSRC will work with stakeholders to develop a regional transportation demand management implementation plan based on the vision and strategies described above. The implementation plan will discuss these programs in greater detail and will comprehensively evaluate the TDM environment to further identify supporting strategies and essential actions necessary to fully implement transportation demand management programs.

TRANSPORTATION SYSTEM MANAGEMENT AND OPERATIONS

The efficiency of the region's existing transportation system is identified as one of the highest priorities in Transportation 2040. One way to improve system efficiency is with transportation system management and operations strategies. These strategies, also referred to as intelligent transportation systems (ITS), are meant to optimize the efficiency and effectiveness of the metropolitan transportation system by managing congestion, increasing reliability and providing convenient connections for people and goods. See *Appendix C, MPP-T-2 and 3*.

The technologies and mechanisms now exist so that ITS projects can be further developed, evaluated and implemented across the region in a coordinated fashion to maximize their benefit. The Puget Sound has long been using ITS strategies throughout the region and has a strong foundation of ITS deployments in place. Major initiatives in Transportation 2040 are traffic signal system coordination, transit signal priority, and regional traffic operations and ITS.

In addition to the Regional ITS architecture and the Washington State Department of Transportation's statewide ITS Plan, two complementary regional arterial signal management plans have been developed for the central Puget Sound region:

- *Regional Intelligent Transportation System Implementation Plan.* This plan identifies arterial corridors that are crucial to local jurisdictions, freight providers, transit agencies and emergency management. It includes a broad range of corridor technologies which, when applied to the current transportation system, improve safety, reduce congestion, enhance mobility, minimize environmental impacts and improve economic productivity. Many of the arterial management strategies in Transportation 2040 are derived from this plan, along with the designation of 25 priority arterials among 135 key arterial corridors.
- *Regional Concept of Transportation Operations.* The goal of this project is to reach consensus among regional partnering agencies and jurisdictions on the operational and management strategies for coordinated signal operations.

By 2040 the following strategies will be more fully deployed and integrated within the region:

- ITS applications and operational improvements will be implemented as a lower cost option for easing congestion and maximizing efficiency in congested corridors.
- ITS will be implemented in the first phases of projects.
- Long-term funding of operational support for transportation system management and monitoring will be secured.
- ITS implementation will be regionally coordinated and better integrated across transportation system modes and between agencies.
- Efficiency, safety and security will be maximized by making system performance information easily available.
- Recommendations and information from the Regional ITS Implementation Plan and the Regional Concept of Operations will help guide development of Intelligent Transportation Systems with an emphasis on key arterials.
- Regional ITS Architecture or open technology standards will be used when installing new systems.
- Data will be operable with ITS applications outside of the region.
- The region will continue to be a national leader and early implementer in transportation technology, such as IntelliDrive℠, looking toward the development of more advanced ITS systems.

Arterial Management. The efficiency of the arterial system will be improved for multiple modes by updating, interconnecting and re-timing traffic signals, establishing signal priority for transit and installing devices to detect and verify incidents with an emphasis on identified key arterials. Intelligent improvements will increase vehicle throughput, reduce delay, and increase dependability for transit and automobiles.

- Maintain existing re-timing and maintenance programs.
- Expand transit signal priority on key transit arterials and bus rapid transit routes.
- Improve incident detection and response.
- Implement regionally coordinated arterial system management on the metropolitan transportation system arterial network, emphasizing key arterials.
- Expand and construct traffic management centers and work toward center-to-center communication.
- Expand incident detection and response, emphasizing key arterials.

Freeway Management. Continue the expansion of the freeway management system as part of construction and efficiency projects.

- Complete metering of freeway ramps on core freeways.
- Install additional dynamic message signs for traveler information using Active Traffic Management Techniques such as speed harmonization and queue warning.
- Expand and construct traffic management centers and work toward center-to-center communication
- Expand incident detection and response.
- Begin initial deployment of Integrated Corridor Management (ICM) on I-5 from I-90 to SR 900, and expand as applicable. This balances the demand on the system by using ITS technologies to inform drivers of traffic flow and travel mode alternatives available.

Transit Operations. Transit operations will be improved by implementing technology applications that improve the comfort, convenience, safety, and reliability of transit service, while reducing operating expenses, environmental impacts, and reliance on single-occupancy vehicles. Applications will:

- Continue and expand fare collection by implementing the Regional Fare Coordination Project and reducing the time spent at bus stops to load passengers.
- Continue inter-county bus routes through Regional Automated Trip Planning project.
- Improve and expand vehicle location and identification through the development and implementation of new vehicle tracking technologies.
- Provide better safety monitoring by installing closed-circuit cameras on buses and at park-and-rides.
- Improve and integrate transit information available to travelers at transit stations and over the Internet.
- Expand projects and technologies to improve passenger loading efficiencies.

Information Exchange and Integration. Agencies will take advantage of the information available from newly implemented and existing ITS applications. They will work towards providing integrated multimodal information to internal operations, other agencies, travelers and freight operators so that travel decisions can be made as efficiently as possible based on the developed Regional ITS Architecture.

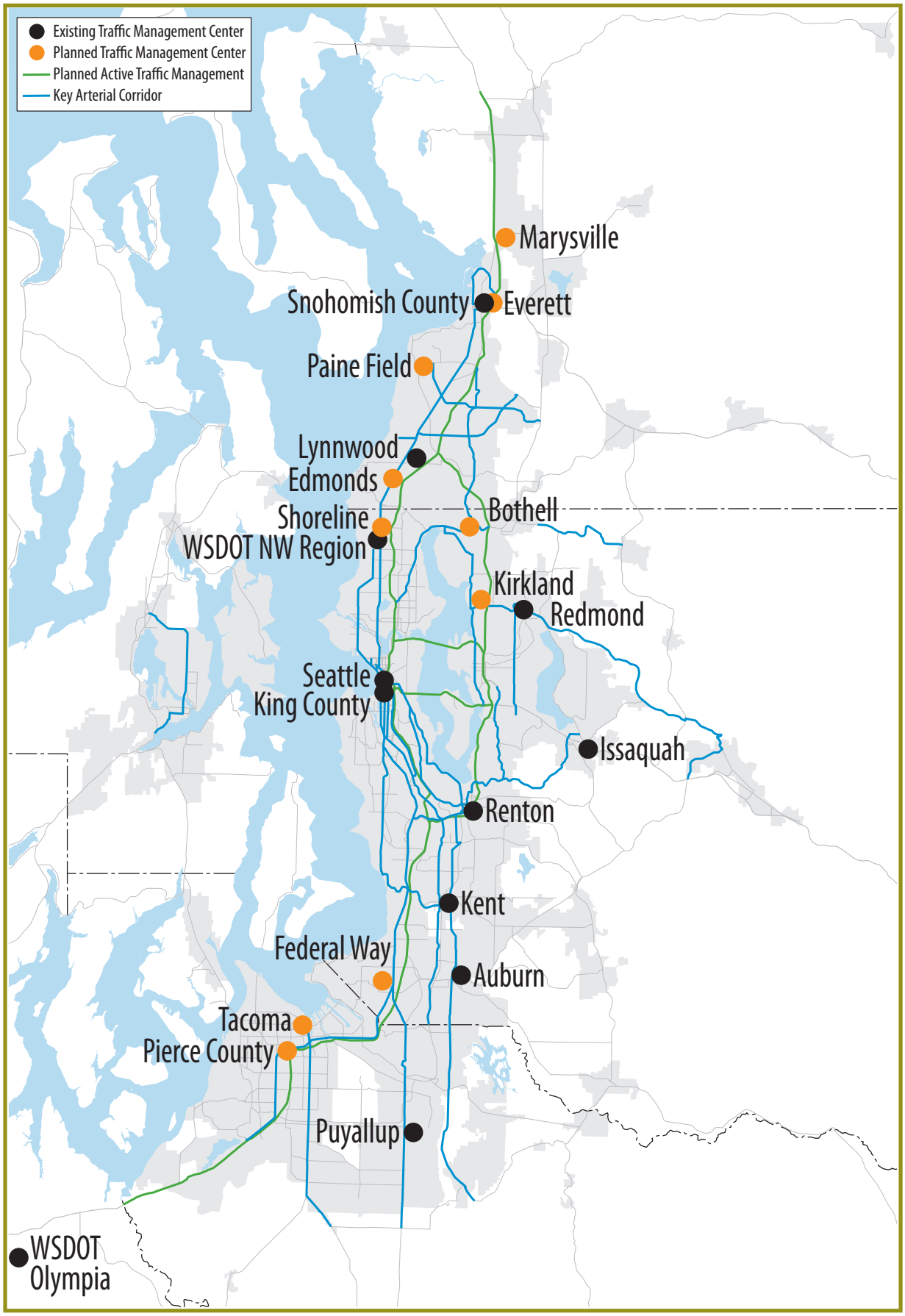
- Maintain and expand existing travel information outlets and trip planning guidance, such as 511, Internet sites, handheld devices, and kiosks. Strive towards fully integrated service through regional partnerships and coordination.
- Establish direct fiber links from management centers to a regional communications network and its associated hardware.
- Develop software systems to allow existing and future ITS systems to communicate and archive data.

Innovations in Transportation Technology. Transportation 2040 supports the development of improvements in intelligent vehicles and roadways. This includes improvements in wireless communications to provide connectivity that can deliver safety, mobility, and environmental improvements in surface transportation. This includes applications that provide 360-degree awareness to inform a driver of hazards and situations and, ultimately, it may lead to crashless vehicles and provide complete information about the transportation network's performance for travelers and transportation managers.

List of major Transportation System Management and Operations investments included in Transportation 2040 are available in *Appendix B* and *Appendix M*.

Figure 30 illustrates a selection of Transportation System Management and Operations investments.

FIGURE 30. Transportation System Management and Operations Investment Map



Improve Mobility Through Strategic Capacity

Quality of life and economic prosperity in the central Puget Sound region depend on efficient mobility for both people and goods. Transportation 2040 will provide more travel options and improved mobility investing in a variety of transportation modes — such as regional and local transit, ferry services, trails, bicycle lanes, and passenger rail. Capacity expansion for all types of travel augments other investments in demand and system management to maximize the efficiency of our investments. See Appendix C, MPP-T-26.

Concurrency

Concurrency requirements underlie a fundamental premise of growth management — namely, that development should occur where adequate facilities and infrastructure already exist or are to be provided in the near future. Under Washington's Growth Management Act, part of the concurrency requirement is the establishment of level-of-service standards for arterials, transit service, and other facilities. These standards are to be used to determine whether a proposed development can be served with available facilities, or whether mitigation of some sort may be required.

Transportation 2040 embraces the flexibility that the Act provides to local governments concerning how to apply concurrency provisions. It also advocates addressing transportation-related concurrency problems with multimodal solutions, such as transit, walking or biking, system efficiencies, and transportation demand management. Ultimately, the goal is to improve the mobility of people and not just capacity to move vehicles.

Multicounty planning policies in VISION 2040 call for jurisdictions to address nonmotorized, pedestrian, and other multimodal types of transportation options in their concurrency programs. These options should be both part of the assessment and part of the mitigation to improve the people-carrying capacity of transportation facilities (MPP-DP-55). Cities with designated centers should tailor their concurrency programs to encourage development that can be supported by transit (MPP-DP-56). See Appendix C.

Transportation 2040's major transit, roadway, and rail networks are focused within the urban area, and are designed to support the Regional Growth Strategy by serving the region's growth and manufacturing and industrial centers.

The region's aggressive, long-range growth management and transportation goals depend on providing more efficient and effective public transportation services. Achieving these goals also requires better access to these services. Evolving from an automobile-dependent region to a region where numerous travel options are available and attractive requires ongoing investment in fixed-route, rideshare, and demand-response systems and services. One step in this direction was taken with the completion of the initial phase of investment in the regional high-capacity transit system by Sound Transit.

Missing links in the region's bicycle, pedestrian, and local street networks will be completed to improve local and regional connections. Relatively inexpensive projects will provide connections between existing facilities to increase capacity and enhance access to a variety of transportation modes on surrounding streets, sidewalks, and trails.

Capacity enhancements are needed to improve mobility on the region's highway and arterial networks, especially in parts of the region where transit and other alternatives are lacking or aren't as feasible as they may be elsewhere. Roadways in the region serve multiple purposes and accommodate different types of travel. Projects that address existing bottlenecks — such as substandard exits, on-ramps, and interchanges — can optimize the use of existing highway facilities.

In addition to improving access and mobility for people, improvements must also consider the needs of freight and goods movement. Continued expansion of international trade and local increases in the movement of freight, goods, and services will create a need for additional port capacity, rail capacity, and freight access — especially to manufacturing and warehousing areas.

PUBLIC TRANSPORTATION

The region's long-range growth management, economic, environmental, and transportation goals depend heavily on providing more and better public transportation services. Achieving these goals requires improved competitiveness

of transit services that support the region's growth centers, making it easier for people to travel for both work and non-work trips. See Appendix C, MPP-T-5 and 6, MPP-T-23 and 24.

Transportation 2040 also recognizes that transit service and how it is provided are influenced by a number of variables that are not within direct control of transit agencies, such as land use patterns, pedestrian and bicycle accessibility, operating environments (including roadways and intersections), high-occupancy vehicle lane availability, parking costs and supply, and other costs, including travel time. These factors have an enormous impact on transit operations and ridership.

Transportation 2040 encourages transit-oriented development because of the probable impact it could have on the future success of regional high-capacity transit investments. Infrastructure that provides full accessibility to transit facilities, such as sidewalks, can broaden the transit market share for all users of public transportation and reduce the demand for very costly demand-response services. Using our existing system to its most efficient potential also requires looking to technology to better control movement through intersections, and rider information to facilitate transit use.

Core Transit Services

Light rail, bus rapid transit, and high frequency local buses are considered core transit services. Core services are generally routed to or through areas with higher density population and/or employment. By providing frequent and efficient service to areas with higher densities and mixed uses, core services are expected to draw high ridership. Typically running all day, core service is intended to operate at high frequency and at the higher speeds to the extent practical.

Community Connector Transit Services

Transit routed between or through areas that are not dense enough to warrant core service but that the operator is required or has chosen to serve for policy reasons. Because of the land use pattern it serves, it is less likely to draw large numbers of people. Typically running through much (but not all of) the day, it tends to be lower frequency but can operate at higher or lower speed depending on individual routes. Community Connector routes may evolve into core service when transit demand and land use changes warrant it.

Specialized Transit Services

Transit routed to serve very specific users at specific times, such as peak period commutes from park-and-ride lots to employment centers. Running only at specific times, it is generally high speed and express, and is typically designed to carry high volumes of passengers. Specialized services are generally seen as complementary to core service; however, where possible, reducing duplicative service is encouraged.

Fixed-Route Transit Service

PSRC worked extensively with the region's public transportation providers and conducted analyses of potential growth in transit markets to estimate future demand for increased transit service. The work was based on the philosophy that different types of service increases should be focused in locations that will best support productive routes, optimize local service delivery, and serve multiple purposes, including feeding into high-capacity lines. The results of this work and broad stakeholder participation are reflected in the policy direction and specific recommendations described in Transportation 2040.

Transportation 2040 calls for the region's designated growth centers and other areas of high employment to be connected through a network of transit services that provide real mobility options for all trip purposes. This transit network is built around core transit services that operate all day and at high frequencies, supported by community connector bus routes. Specialized express bus service will serve productive routes in peak periods.

This regional transit network provides reliable, predictable, and convenient transportation alternatives. Core and community connector services provide the most options for special needs populations, such as the elderly or people with disabilities. Transportation 2040 public transportation investments, ranging from large-scale regional projects to local improvements, provide a comprehensive public transportation system with a wide range of benefits. Transportation 2040 specifically calls for significant increases to local and regional transit services. The plan also encourages changes in the operating environment to better support a variety of transit services.

Transportation 2040 calls for significant increases in regional and local transit service by 2040, with the following guidance for implementation:

- Continue to implement a high-capacity transit system along logical corridors that connect regional growth centers.
- Build local transit capacity to meet local needs and feed the high-capacity system.
- Establish regional guidance for transit station area planning.
- Ensure accessibility to transit facilities.
- Promote convenient transfers between transit and other travel modes, including walking, biking, and ferries, by improving transit centers and intermodal stations associated with major regional transit investments.
- Develop complete and interconnected highway and arterial infrastructure that provides transit priority (speed and reliability), including a complete network of lane restrictions and facility management through tolls.

Transportation 2040 envisions an increase in all transit service for both work and non-work trips, while achieving operational efficiencies to reduce costs. While all frequencies will not be universally similar, it is expected that the majority of core transit service will reach all-day, everyday frequency of every 15 minutes or less.

Transit ridership will grow significantly, and as transit service becomes more frequent, bus schedules may not be necessary on many routes.

As discussed in the Financial Strategy (Chapter 4), Transportation 2040 has categorized project and programmatic investments as either Constrained or Unprogrammed investments. The following sections describe transit investments in each element of the plan.

Transportation 2040 calls for the following annual service level increases to core, community connector, and specialized bus service between 2006 and 2040.

FIGURE 31. Annual Transit Service Increase by Type of Service in the Constrained Plan

Type	Peak	Off-Peak
Core	2.3%	2.1%
Connector	1.1%	0.5%
Specialized	2.0%	0.1%
Total	2.1%	1.8%

The central Puget Sound region has six independent local bus and rail transit operators. Other transportation agencies, local jurisdictions, and private operators also provide transit service and ferry service. Ensuring that new investments in transit services and facilities are compatible and working toward the region's long-range

Everett Station

land use and transportation objectives requires a considerable amount of coordination. The Transportation 2040 strategy for transit provides a framework for guiding that coordination. Early investments are the foundation for subsequent ones. For example, extending light rail to Everett, Redmond, and Tacoma provides essential infrastructure, enhancing ridership, which then generates market demand to expand these light rail lines. In addition, corridors with investments for frequent local service and very high ridership may, due to increasing demand over time, become bus rapid transit corridors.

Figures 32 and 33 illustrate peak and off-peak bus service increases for core, connector and specialized transit service. A more detailed discussion for each type of transit service follows.

Core Transit Service. In the Constrained Plan, Transportation 2040 investments increase core bus transit service in the peak period by 120 percent and by 105 percent in off-peak periods, compared to 2006 service levels. Core bus service feeds regional rail lines and provides frequent reliable regional and local service for work and non-work trips. Frequent, fast, and reliable bus transit service is envisioned for those parts of the central Puget Sound region that are not served by light rail. These routes may be in corridors where bus rapid transit is warranted, such as Community Transit's SWIFT program, or services like the City of Seattle's Urban Village Transit Network of frequent, fast buses. Figure 34 provides examples of local core bus transit service improvements.

FIGURE 32. 2040 Peak Bus Service Increase by Type of Service in the Constrained Plan [6]

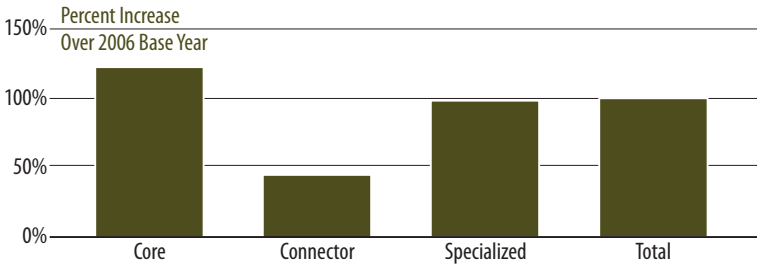
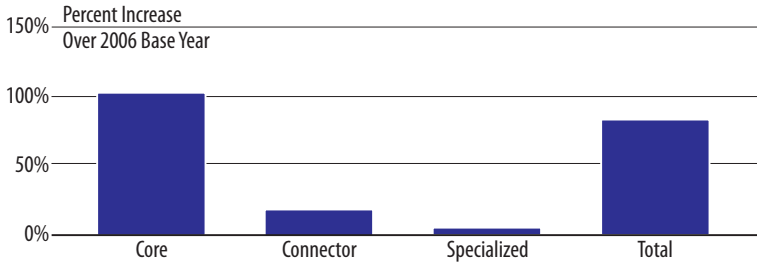


FIGURE 33. 2040 Off-Peak Bus Service Increase by Type of Service in the Constrained Plan [7]



Transit Supportive Corridors

Transportation 2040 builds on joint work between transit agencies and local jurisdictions to implement bus rapid transit (BRT) and improved bus service in the central Puget Sound region. Community Transit has identified transit emphasis corridors where it plans to operate core or BRT bus service and encourages transit-supportive infrastructure investments. The City of Seattle has identified an Urban Village Transit Network for those city streets where it plans to partner with transit agencies to do transit-supportive development and infrastructure improvements and improve transit service between the city's urban villages. Pierce Transit, along with the cities of Tacoma and Puyallup, has identified transit corridors where it plans to operate core or BRT bus service and the cities plan to make transit-supportive capital investments in the roadway infrastructure. Kitsap Transit has identified two transit corridors for BRT service and transit signal priority infrastructure, with the signal infrastructure provided by local jurisdictions to improve travel times and reliability.

Bus Rapid Transit

Transportation 2040 considers bus rapid transit (BRT) as "Core" service. In current nationwide practice, the characteristics of BRT service vary. Generally for PSRC's regional planning, BRT service characteristics are 15 minute frequencies at least 18 hours daily. Since BRT service can go beyond typical core bus routes by including capital infrastructure designed to increase bus speed and provide passenger amenities along its route, Transportation 2040 defines BRT service with these additional parameters. Examples of supporting infrastructure include signal queue jumps or other transit signal priority treatments, wider stop spacing, curb bulb-outs at stops, enhanced passenger shelters at stops, and enhanced signage, wayfinding and real-time arrival and departure information. This regional-scale definition of BRT does not preclude additional features operators may choose to implement, such as dedicated bus vehicles with distinctive colors or graphics, or transit-only travel lanes on roadways.

[6] Increases over the 2006 Base year are based on PSRC's Regional Travel Demand Model. PSRC bases transit modeling on a three-hour period in the morning peak and a six-hour period mid-day.

[7] Ibid.

FIGURE 34. Local Core Bus Transit Service Improvements Examples

COMMUNITY TRANSIT	KING COUNTY METRO	KITSAP TRANSIT	PIERCE TRANSIT
Transit Emphasis Corridors — will serve as the backbone of Community Transit's future route network as existing or future candidates for SWIFT BRT service:	Transit Now Rapid Ride Projects:	SR 303 BRT from Poulsbo/ Silverdale to Bremerton	SR 7 from Roy Y to Downtown Tacoma BRT
• Existing SR 99 SWIFT BRT	• A Line – Federal Way to Tukwila	SR 305 BRT from Poulsbo to Bainbridge Island	SR 161 from 176th to Puyallup BRT
• SR 526/Airport Rd	• B Line – Redmond to Bellevue		112th Avenue Bus
• 164th St	• C Line – West Seattle to Downtown Seattle		6th Avenue Bus
• 196th St	• D Line – Downtown Seattle to Ballard		
• SR 529/Smokey Pt	• E Line – Aurora Village Transit Center to Downtown Seattle		
• SR 527	• F Line – Burien Transit Center to Renton Transit Center		
• SR 104/228th/236th	Core Service to Seattle Urban Village Transit Network		

See *Appendix B* for more detailed descriptions of different types of bus service and transit-supportive investments by SMART Corridor.

Sound Transit Regional Express Bus: Almost all Sound Transit regional express bus routes provide core service. Sound Transit is increasing core service by adding frequency rather than extending routes to outlying areas.

Sound Transit Express bus routes connect the region's urban and activity centers as part of a regionally coordinated network of services that builds upon those services deployed as part of *Sound Move* and *Sound Transit 2*. Direct high-occupancy vehicle access ramps and intelligent transportation system projects, along with other transit improvements that tie local and regional transit services together, are planned along these travel corridors.

Light Rail: Transportation 2040 includes the full implementation of *Sound Move* and *Sound Transit 2*. These programs will implement approximately 55 miles of light rail. In the Constrained element of the plan, Transportation 2040 investments extend light rail service to Everett, downtown Redmond, and Tacoma, for an 80-mile light rail system expected to operate at core level frequencies.

Note that while light rail is classified as core service, light rail service increases are not reflected in Figures 31-33. The remainder of Sound Transit's *Long-Range Vision Plan* is contained in the Unprogrammed Plan Investments.

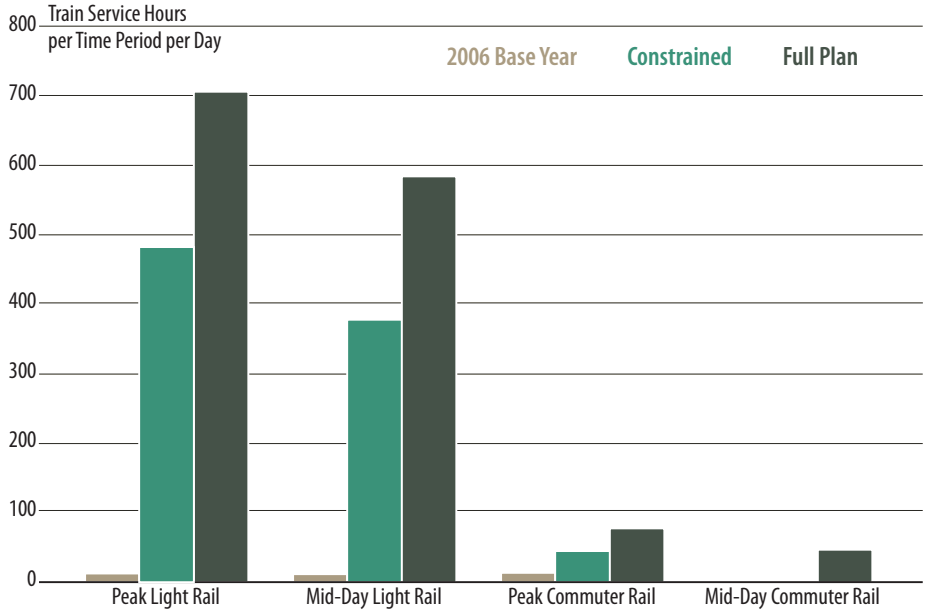
Community Connector Service. Transportation 2040 investments in the Constrained plan increase Community Connector bus transit service in the peak period by approximately 44 percent, and by almost 18 percent off-peak. Service is added consistent with its service type description. Some existing community connector routes will evolve to core service through improved frequency or expanded geographic coverage.

Specialized Service. Transportation 2040 investments in the Constrained plan increase specialized service by 98 percent in the peak period, and by 5 percent in off-peak periods. In some cases a specialized service might overlay and complement a core service by serving different markets or trip purposes. Any reductions or redeployment of specialized service should consider the breadth and depth of markets and trip purposes. Direct high-occupancy vehicle access ramps and ITS projects, along with other transit improvements that tie local and regional transit services together, are planned along these travel corridors.

Commuter Rail: Sounder commuter trains currently operate in a 74-mile corridor from Everett to Tacoma. The construction of an eight-mile extension to Lakewood is currently underway, to complete an 82-mile commuter rail system operating frequently in peak travel periods. The Constrained element of the plan builds on existing passenger rail service between Everett and Lakewood. *Sound Transit 2* investments increase Tacoma-Seattle service capacity through added trains and expanded train lengths. The Lakewood-Tacoma-Seattle line includes permanent Sounder station and access improvements for commuter rail and bus riders. Note that commuter rail is classified as specialized service and is illustrated in Figure 35.

By building on a railroad network already in place, Sound Transit's long-range plan includes two-way commuter rail service on existing tracks linking major destinations in Snohomish, Pierce, and King counties. Sound Transit has developed a partnership with the Union Pacific and Burlington Northern Santa Fe railroads, the ports of Seattle, Tacoma, and Everett, the City of Tacoma (Tacoma Rail), and the Washington State Department of Transportation to implement the commuter rail system.

FIGURE 35. Light Rail and Commuter Rail Service Hours[8]



Park-and-Ride Facilities

Transportation 2040 includes investments in park-and-ride facility expansions and projects where operating agencies stated an identified or potential need. These investments are generally in the Constrained element of the plan. However, the Transportation 2040 planning process revealed that transit operators and many other stakeholders, including WSDOT, believe that the region's park-and-ride strategy needs to be re-examined. For this reason Transportation 2040 recommends that the region study park-and-rides in more depth, including potentially charging for parking at these facilities. The results of any future study or studies and resulting recommendations can be incorporated into future updates of the plan.

Figure 36 displays regional transit improvements from the Constrained and Unprogrammed components of Transportation 2040.

Additional Public Transit Investments

The full plan (Constrained plus Unprogrammed) increases bus transit service hours (Core, Local and Specialized Transit Service) by 132 percent in peak periods, and by 108 percent in off-peak periods over 2006 base year service levels.

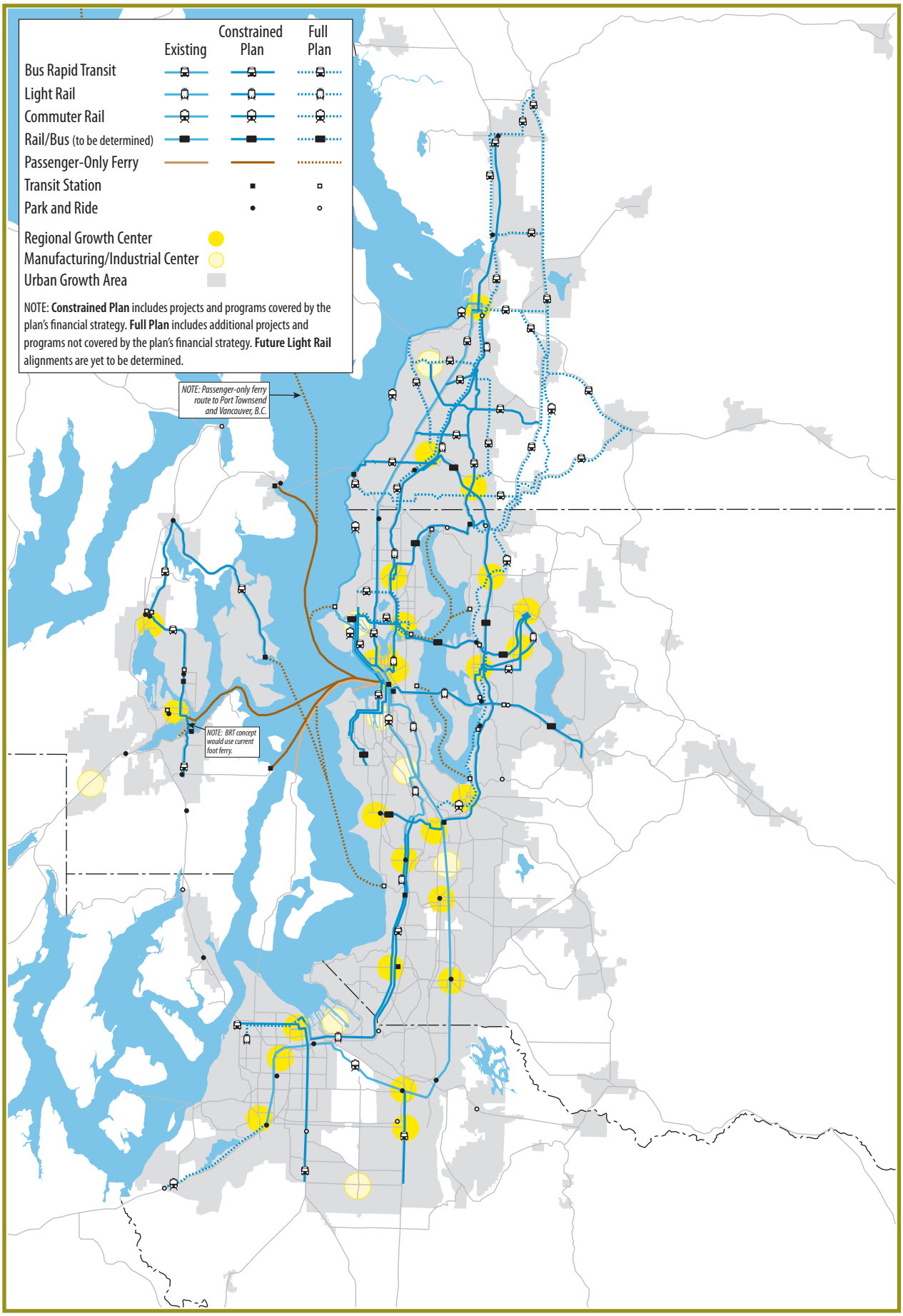
See Appendices B and M for more detailed descriptions of transit service investments by corridor and regionwide.

Sound Transit's goals for its long-range plan are to expand and complete the high-capacity travel corridors, balance transportation services available within the regional transit network, and increase the service and hours of operation for all modes — passenger rail and bus transit.

If there are significant changes to the scope of service that have been identified in transit operators' long-range plans, PSRC will request that the project sponsor pursue

[8] "Peak" is defined as morning peak period from 6am – 9am plus evening peak period from 3pm – 6pm for a total of 6 hours; "Mid-Day" period is from 9am – 3pm for a total of 6 hours.

FIGURE 36. Public Transportation Investment Map



an amendment to Transportation 2040. In addition, continuing work is recommended on the Eastside rail corridor from Renton to Woodinville (with a spur from Woodinville to Redmond acquired from Burlington Northern Santa Fe [BNSF]). The King County BNSF corridor segments are also proposed to be preserved for future rail options under federal rail banking provisions.

Transit corridors with high demand may be candidates for future light rail transit, commuter rail, or bus rapid transit service. The final selection of a transit mode will be made based on a detailed analysis. Such analysis will take into consideration: what additional transit investments might be made in future phases, including future rail extensions, an assessment of evolving technologies, environmental analysis; actual population growth and employment, changing development trends, and future transportation priorities of the Sound Transit subareas.

Bike Commuter, Seattle

NONMOTORIZED TRANSPORTATION

VISION 2040 and Transportation 2040 call for the development of a transportation system that creates more travel choices while preserving environmental quality and open space. Bicycle and pedestrian transportation play a key role in achieving these goals. The region's sidewalks, bike lanes, bikeways and trails support a significant and growing amount of regional transporation. See Appendix C, MPP-T-14 through 16.

Biking and walking are efficient, low-impact modes of travel that reduce vehicle miles traveled, do not contribute to air pollution, and can alleviate traffic congestion. Safe bicycle and walk routes provide varying levels of accessibility and mobility to everyone, including the young, elderly, physically disabled, low-income and others who may not drive. Well-designed, strategically located bicycle and pedestrian facilities also provide increased and safer access to transit for more people. In heavily urbanized areas, such as the central Puget Sound region, minimizing conflicts between nonmotorized and other users of the metropolitan transportation system is critically important. Children, in particular, have a need for safe routes to schools. Walking and biking to school can yield significant health benefits and reduce transportation costs for families and school districts. Bicycle and pedestrian trails are important community amenities that can help spur economic development, and promote physical activity and public health.

Transportation 2040 recognizes nonmotorized transportation as a critical element of the region's greenhouse gas reduction and mobility strategies, and calls for providing more and safer opportunities to walk and bike.

VISION 2040 provides clear direction for Transportation 2040 to be designed as a sustainable and highly efficient multimodal transportation system. Limited revenues for expensive transportation capacity projects will require the region to exploit the full capacity of its existing roadway infrastructure for moving people. Investments to support biking and walking should be part of every capacity project and the negative impacts of some capacity projects on the existing nonmotorized system should help determine the priority of these projects. Bicycle and pedestrian investments that are comparatively modest — such as regional wayfinding and online bike route planning — are inexpensive and can provide many social benefits. There is an opportunity to invest

generously now so that the benefits can be enjoyed in the near term. Regional transportation modeling often does not capture the full benefits of bicycle and pedestrian infrastructure investments.

As with all other program areas in Transportation 2040, preservation and maintenance are funded first. A key goal is to improve pedestrian and cyclist access to transit with improved terminal access, terminal facilities, and bike racks on transit vehicles. Transportation 2040 investments add online regional nonmotorized trip planning services, fund education/outreach programs, and make roadside investments to improve bicycle and pedestrian safety. The plan implements a "no net loss" policy to ensure that construction or modification of other transportation facilities (primarily roadways) does not diminish the supply or connectivity of existing bicycle and pedestrian networks. Transportation 2040 represents a new way of thinking about the use of public right-of-way (a "Complete Streets" approach when reconstructing or adding new facilities, see Regional Roadway section) that gives full attention to the needs of all users. Finally, the plan proposes to explore the concept of a regional bike sharing program.

Transportation 2040 calls for developing a regional bicycle system network and pedestrian networks oriented to designated regional centers and transit station areas as a framework for regional and local nonmotorized transportation planning and investment. The Constrained element of the plan focuses designated bike and pedestrian facilities in designated regional growth centers, or within one mile of existing and planned transit station areas for pedestrians, and within three miles for bicyclists. It also prioritizes locations that overcome a barrier (such as crossing a freeway or major arterial), or that remedy a missing link in the existing nonmotorized network. Investments in the Constrained plan complete approximately 470 miles of new regional off-road walk and bike trails.

Examples of Regional Trails in the Constrained Plan:

- Lake to Sound Trail Corridor (Lake Washington to Puget Sound via Renton, Tukwila, SeaTac, Burien, Normandy Park and Des Moines)
- North Creek Trail (Snohomish County)
- Water Ditch Trail (Pierce County)
- Ship Canal Trail extension (Seattle)

In addition to the infrastructure investments in the Constrained plan, the Unprogrammed plan would complete more than 100 additional miles of regional off-road walk and bike trails. The Unprogrammed plan also aspires to the "Complete Streets" practices in all of the region's urban areas.

Examples of Regional Trails in the Unprogrammed Plan Investments:

- Tolt River Trail (King County)
- Centennial Trail — North of Marysville (Snohomish County)
- SR 302 Trail (Pierce / Kitsap County)
- Puget Power (PSE) Trail (King County)

Appendices B and M list off-road nonmotorized transportation system investments included in Transportation 2040.

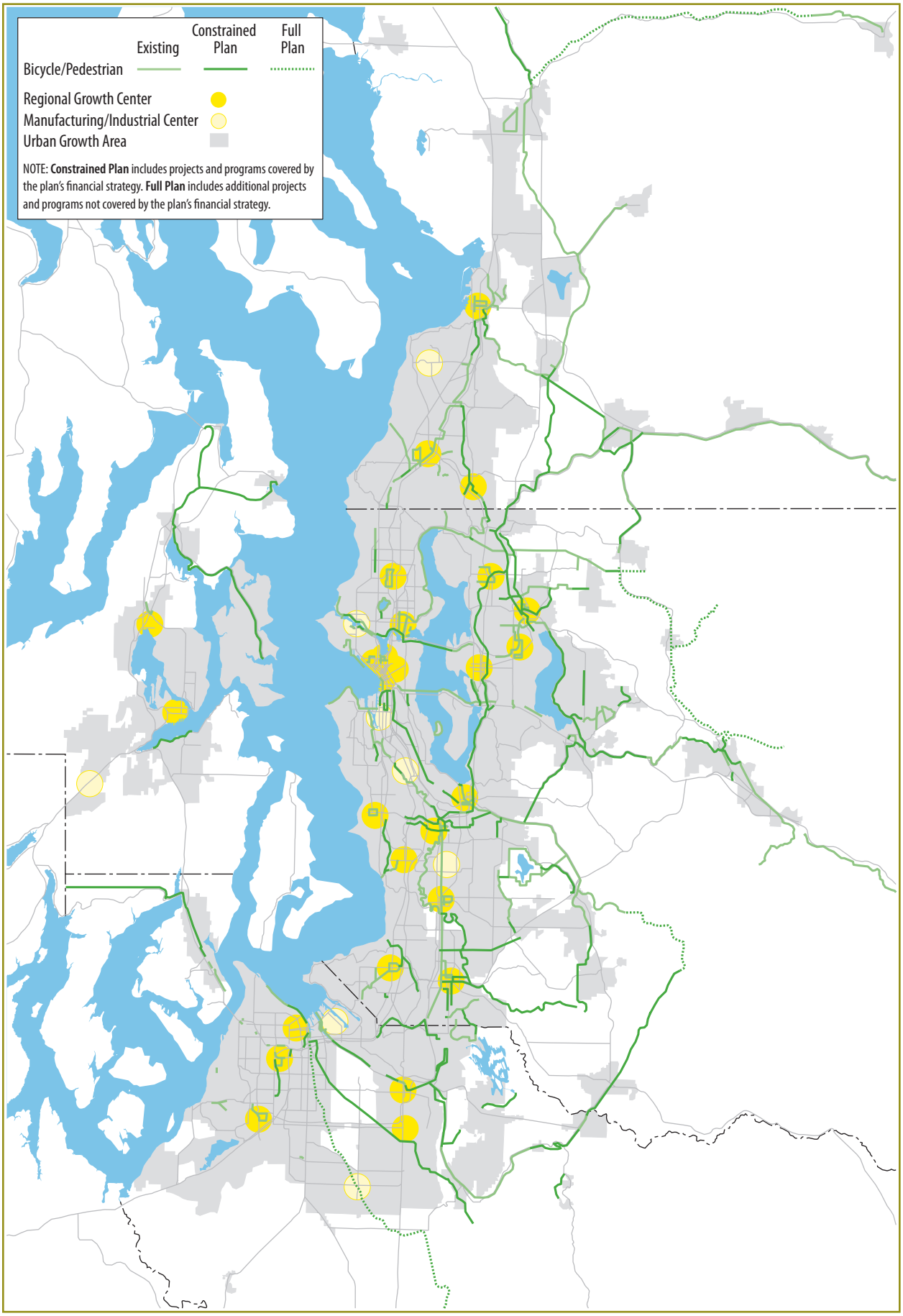
Figure 37 illustrates selected regional nonmotorized projects. Note that many of Transportation 2040's nonmotorized investments — such as local sidewalks and bike lanes on city streets — are not mapped at the regional scale.

REGIONAL ROADWAY SYSTEM

Roadways in the region serve multiple purposes, and accommodate different types of travel. The arterial and highway investments included in Transportation 2040 implement the VISION 2040 Regional Growth Strategy by creating and maintaining a highly connected network of multimodal roadway facilities, and by supporting various types of travel within the urban growth area, with a particular emphasis on improving mobility in parts of the region expected to accommodate the most future growth and improving freight mobility. Transportation 2040 places emphasis on the efficient movement of people and goods through a wide variety of transit, bicycle and freight facility improvements on existing roadways. Projects that support a safe and secure transportation system are also high priorities.

Congestion in the form of vehicle delay represents inefficiency and makes poor use of freeway and roadway capacity. These efficiency losses often occur at bottleneck and chokepoint locations, which can impact the entire system's performance. Bottlenecks and chokepoints are typically locations on the system where the geometry of the roadway and traffic patterns contribute to congestion. Examples include U.S. 2 near Monroe and interchanges

FIGURE 37. Nonmotorized Transportation Investment Map



SR 167 HOT lane

such as I-5/SR 16 in Tacoma. These areas can also affect the safety of the system. Targeted traffic flow improvements in bottlenecks and chokepoints — such as grade separations, high-occupancy vehicle lanes, ramp metering and signal synchronization — can make a significant difference in overall roadway system performance.

The region's multicounty planning policies call for efficient use of the existing transportation facilities before investing in capacity investments. See Appendix C, MPP-T-2 and MPP-T-3. To this end, Transportation 2040 invests $1.5 billion in active traffic management systems on existing freeways and arterials to enhance efficiency, improve safety, and increase reliability. Signal timing, transit system priority, and traveler information investments are also included. See the preceding section on Transportation System Management and Operations.

A New Approach to Managing the Highway and Roadway Networks

In addition to transportation demand management and investment in new capacity, Transportation 2040 proposes a fundamental shift in the way the region finances and manages its highway and arterial network for greater efficiency through the use of variable tolls.

Tolls reflect the key principle that the efficient use of resources requires users to bear the costs that their travel imposes on the roadway system. These costs are of three broad types:

- Congestion costs are the incremental costs that users' vehicles impose on the performance of the traffic stream in which they operate.
- Roadway operational costs are any use-related costs — wear and tear — that are borne by operators of the facilities including costs such as enforcement and incident management.
- Social or external costs are costs borne by those other than the users or the highway authorities and operators, including environmental costs.

Having users pay, directly and immediately, for the costs of their use encourages them to economize on costly activity. Patterns of use that demand a lot of the system's capacity at peak travel times and in the most congested places will adjust when users are aware of those costs. Tolls give the user an incentive to economize through modifying their travel behavior to reduce or avoid direct costs. This can be a shift in the route chosen, the time of travel, or the mode of transportation. This in turn helps to minimize congestion, operational, and social/environmental costs.

Transportation 2040 also assumes the eventual replacement of the gas tax with a use-based fee that would be more perceptible to the user. This affects the use of the region's highway and arterial networks.

Transportation 2040 sets out broad direction that moves the region toward a sustainable future in which investments can be made when they are needed, in a predictable manner, with revenues generated from those who benefit from the investments. This change cannot occur overnight, but rather will only be the result of many individual steps, including legislative actions at the state and federal level.

High-Occupancy Toll Lanes and Individually Tolled Facilities. Within the region, significant early steps to begin to address the issue of finance are underway. The state has implemented a high-occupancy toll (HOT) lane pilot project on SR 167 and plans to toll the existing SR 520 Bridge in an effort to help finance its replacement. Transportation 2040 assumes the evolution of this path, with the conversion of existing high-occupancy vehicle lanes into additional high-occupancy toll lanes in the first decade of the plan. Alongside this network of high-occupancy toll lanes, major highway capacity projects — such as the replacement of the Alaskan Way Viaduct — will be at least partially financed through tolls.

Transportation 2040 includes the application of tolls on improved highway facilities as new investments are made, and suggests the eventual implementation of a whole system of tolled highways. This approach involves time-of-day variable tolls that are both funding investments and are managing the facilities to ensure reliable operations and travel speeds. In these cases maintaining existing vehicle restrictions on high-occupancy vehicle lanes may not be necessary, or may even impede efficient operations. Transportation 2040 includes an expectation that toll management will replace the need for less refined forms of vehicle restrictions. However, if specific circumstances prevent toll management from providing appropriate speed and reliability for transit services using these corridors then vehicle restrictions may be retained in order to achieve this important policy objective.

Highway System Tolling. Eventually, in the later years of the plan, the intent is to manage and finance the highway network as a system of fully tolled facilities. International, national and local research — including PSRC's Traffic Choices Study — have demonstrated that households and motorists faced with variable tolls make adjustments in their travel that will translate into large-scale reductions in roadway congestion.

VISION 2040 multicounty planning policies were used to screen and evaluate roadway projects for inclusion in the plan. For example, regional policies express priority for projects located within the Urban Growth Area (UGA). This includes some urban-to-urban projects that cross rural areas. Adopted policies note that capacity expansion projects on roadways outside of the urban growth area are to be avoided. Where they do occur, they must be both consistent with local comprehensive plan policies that address the protection of open space and rural areas, and have adequate access controls. In rural areas roadway system investments are given high priority if they improve safety. Regional policies also emphasize priority for projects that serve or connect designated regional and town centers (Regional Growth Centers, Manufacturing Industrial Centers and Local Centers).

Complete Streets

Regional policy recognizes the importance of designing, constructing, and operating transportation facilities to serve all users safely and conveniently, including motorists, pedestrians, bicyclists, and transit users, while accommodating the movement of freight and goods. Known as "complete streets," these types of multimodal facilities can improve local street patterns for walking, bicycling, and transit use and enhance communities, connectivity, and promote physical activity. Wherever possible, local roadways should be designed, constructed or redeveloped according to "complete streets" principles. By designing and operating streets to be complete, transportation agencies increase capacity, avoid expensive retrofits, encourage physical activity, and help create livable, walkable communities.

High-priority roadway investments include:

- Completion of high occupancy vehicle (HOV) lanes, high occupancy toll (HOT) lanes, bus rapid transit (BRT) and business access transit (BAT) facilities. Approximately 26 percent of the new roadway investment in the Constrained portion of Transportation 2040 provides support for these types of facilities and services.
- Projects and programs that facilitate and support freight and goods movement on designated freight routes (arterial and freeway) are also a high plan priority. For details on the Regional Freight Strategy, see Chapter 2 and Appendix K.

Transportation 2040 includes projects identified as part of the Metropolitan Transportation System (MTS). The plan also includes, by reference, all local, non-MTS arterials, and includes a programmatic cost estimate for these facilities in the financial strategy. All preservation and maintenance projects associated with existing and future roadways and state highways are included in the plan, whether on the MTS or not. Cost estimates for these projects are also included in the programmatic portion of the financial strategy. This includes projects such as South Park Bridge, and other local projects that may be funded under the state's Transportation Benefit District statute.

Roadway projects that were further along in the planning and review process and that identified reasonably committed funding sources and a financial strategy were included in the Constrained element of Transportation 2040. Projects at a more conceptual level of development were included in the Unprogrammed portion of the plan. Figure 38 summarizes Transportation 2040 regional roadway investments.

FIGURE 38. Roadway Investment Summary

Facility Type	2006	Constrained Plan	Full Plan
Total Highway Lane-Miles	2,616	2,964	3,011
New Highway Lane-Miles	–	347	395
Highway Percent Increase from 2006	–	13%	15%
Total Non-Highway Road Lane-Miles	10,189	10,588	10,752
New Non-Highway Road Lane-Miles	-	398	563
Non-Highway Road Percent Increase from 2006	–	4%	6%
Highway and Arterial Lane-Miles	12,806	13,551	13,764
New Highway and Arterial Lane-Miles	–	746	958
Total Percent Increase from 2006	–	6%	7%

The plan identifies approximately 395 additional highway lane miles, a 15 percent increase compared to the number of existing lane miles in 2006. The plan identifies approximately 563 new arterial road lane miles, a four percent increase over the number of lane miles in the 2006 road network. Combined, the full plan identifies an additional 958 miles of highway and arterial lane miles by 2040, a seven percent increase compared to the 2006 highway and arterial network.

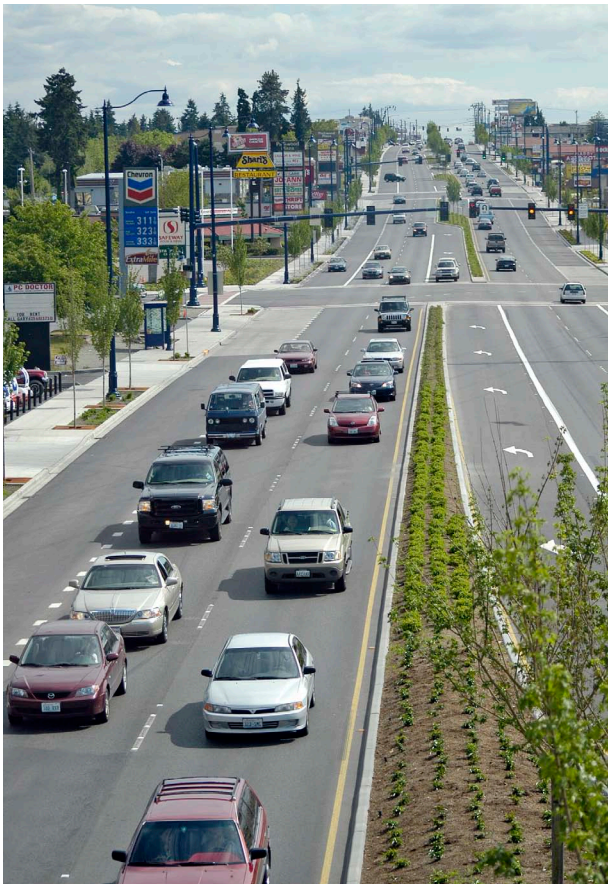
The distribution of these additional lane miles compared to the Regional Growth Strategy was an important consideration in the development of Transportation 2040. In the Regional Growth Strategy, 53 percent of population growth and 71 percent of employment growth are targeted to Metropolitan Cities and Core Cities — cities with designated Regional Growth Centers. In Transportation 2040:

- More than 95 percent of regional arterial investment costs and 94 percent of highway system costs are for projects located in the urban growth area.
- Approximately 76 percent of arterial roadway investments and 69 (constrained) to 88 (full plan) percent of highway investments costs are for projects within or directly serving Metropolitan Cities, Core Cities and designated regional and manufacturing/industrial centers.

When looking at new roadway projects, in the Constrained part of the plan there are 21 arterial and 10 state route projects that add new roadways. Most of these projects are extensions of existing facilities, fill in missing links, or connect existing facilities within urban centers. Just over six percent of Transportation 2040's roadway related costs are dedicated to new roadways.

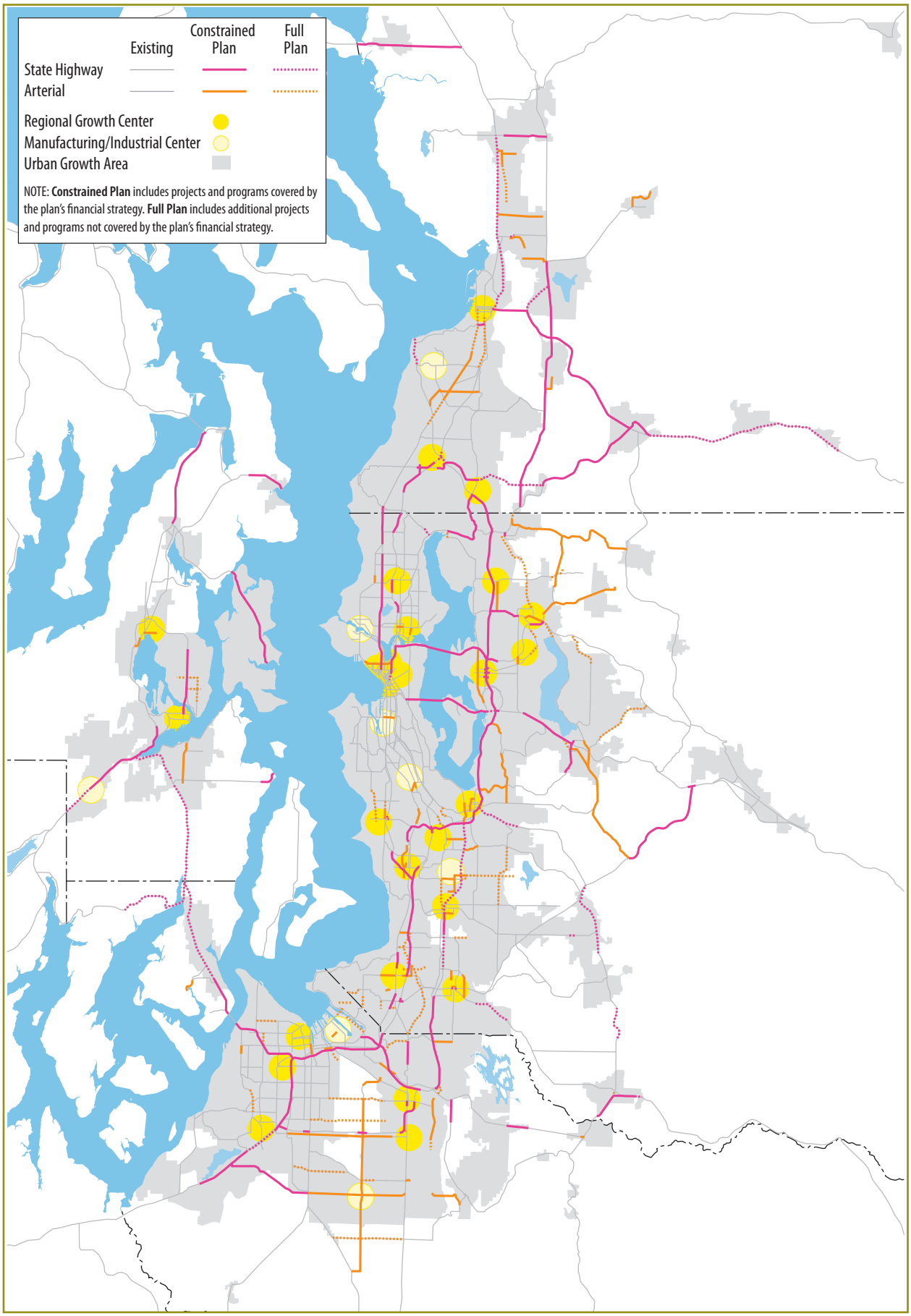
- More than 87 percent of investment costs for all new roadway projects are within or mostly within the designated urban growth area.
- Approximately 79 percent of the new arterial investment costs are located within or mostly within the Core and Metropolitan cities

Figure 39 maps regional roadway projects.



Aurora Avenue, City of Shoreline

FIGURE 39. Roadway Investment Map



AUTOMOBILE AND PASSENGER FERRY SYSTEMS

The Puget Sound region has a long history of reliance on waterborne transportation. Many cities and counties are bordered by water, and several communities — including Vashon Island and Anderson Island — are completely reliant on ferries to access the mainland. Ferries play a key role in the regional transportation system and economy by connecting residents to jobs and services, and taking visitors to recreational opportunities.

Washington State Ferries are an important element of the central Puget Sound transportation system. Ferries provide basic transportation for thousands of commuters each day and contribute to the economic vitality of both the state and the communities they serve. Passenger and auto ferry services are high quality personal and freight mobility services linking communities to the east and west of Puget Sound. Passenger and auto ferry services support the region's land use and transportation objectives by providing effective transportation services that reduce travelers' dependence upon personal vehicle use, and reduce vehicle delay due to congestion on the region's roadways. Passenger and auto ferry services also support the greater utilization of local transit services to and from ferry terminals. The region will promote integration of ferry services and facilities with other modes of transportation, including nonmotorized, and local and regional transit. Other non-state-operated passenger ferry services, such as water taxis, will be further evaluated to determine what role they may play in the regional transportation system. See Appendix C, MPP-T-2 and 3, MPP-T-23 and 24.

The region's ferry system is both a marine highway and a high-capacity transit system. It functions as a vehicle-carrying marine highway that moves people and goods across Puget Sound and as a high-capacity transit system moving thousands of passengers in a single vessel. Washington State Ferries operates nine ferry routes in the four-county region. These routes provide service to a mixture of automobiles and walk-on passengers. In addition to Washington State Ferries-operated auto and passenger ferries, the following passenger-only ferry service is provided:

- Kitsap Transit Foot Ferry — Bremerton to Port Orchard and Bremerton to Annapolis.
- King County Ferry District — Vashon to downtown Seattle and West Seattle to downtown Seattle.

Ferry terminals provide an important link between the ferry route and the landside transportation system on both sides of Puget Sound. Terminals are being improved to strengthen the connections between ferries and other forms of transportation, such as bus, rail, automobile, pedestrian, and bicycle. Other types of terminal facilities supporting these system connections include high-occupancy vehicle lanes for preferential loading, park-and-ride lots, bicycle lockers, and ferry maintenance facilities. Since the adoption of the previous plan, several major events have affected future planning for the region's ferry system:

- Reduction in motor vehicle excise taxes have reduced ferry system revenues, resulting in reduced service, increased fares, decreased ferry system ridership, and lower forecasts of future demand.
- Planning for the future ferry system now reflects this significantly changed environment.
- Washington State Ferries has ceased funding/operating passenger ferries.
- King County Ferry District was created to operate the King County Water Taxi, offering service on two routes: Vashon–Downtown Seattle and West Seattle–Downtown Seattle.
- Ferry system finance studies and user surveys have been completed and will inform the Legislature about future organizational, operations, planning, and investment decisions affecting the state ferry system.
- In late 2008 PSRC completed a Regional Passenger-Only Ferry Study, which makes recommendations for investments in passenger ferries. These recommendations have been incorporated into Transportation 2040.

Automobile Ferries

Auto ferries are owned and operated by two public agencies in the PSRC region. Pierce County operates small automobile ferries from Steilacoom to Anderson and Ketron Islands, with 11 daily round trip sailings between Steilacoom and Anderson Island and two daily round trips from Steilacoom and Ketron Island. Pierce Transit offers bus connections to the Steilacoom ferry dock.

Nearly 23 million customers annually rely on the ferry division's 22 vessels and 20 ferry terminals for safe, reliable transportation across Puget Sound. The ferry division serves two vital transportation functions: as a

Bremerton Ferry

marine highway and as a transit service provider. Ferries are an essential part of the highway network of Western Washington.

In July 2009 Washington State Ferries published its Long Range Plan for the state ferry system. The plan lays out a management and investment program for the period from 2010 through 2030.

The ferry division's Long Range Plan includes steps to reduce costs without jeopardizing safe, reliable, and efficient service. Administrative staff reductions, fuel conservation measures, and reduced expenses throughout the system result in cost savings. These reductions are part of an ongoing cost containment process designed for continuous improvement in the cost effectiveness of ferry services. The ferry division also has operational and pricing strategies to maximize the use of its existing assets and provide the most cost-effective service, while responding and adapting to the changing characteristics of its customer base.

Ridership is expected to grow by 37 percent between 2006 and 2030 — 13 percent growth would return the ferry division to the historical high level of ridership it had in 1999. Vehicle capacity during peak periods is the ferry division's greatest constraint and the origin of the pressure for additional services and larger facilities. There is little capacity to support vehicle growth in peak periods, especially in the summer, when a recreational traffic surge causes even greater capacity challenges. In addition to these peak period capacity constraints, the ferry system is also challenged by under-utilization of its vehicle capacity during non-commute periods and the off-season. Adopting operational and pricing strategies will allow the ferry division to provide the best service at the lowest possible cost, minimize fare increases, and fill under-used non-peak capacity.

Automobile Ferry Strategies

The Constrained portion of the plan is built on the following key strategies that are designed to either spread vehicle demand to non-peak periods and/or increase walk-on use:

- *Vehicle Reservation System.* The most important operational strategy is the deployment of a vehicle reservation system. A well-designed reservation system would allow Washington State Ferries to operate with the smallest possible terminal facilities while maintaining a high level-of-service. The system would be tailored to specific route-level demand and market conditions.

- *Transit Enhancements.* Washington State Ferries will have the ability to accommodate significant growth in ridership with existing facilities if more customers elect to travel as walk-ons. The single biggest impediment to walking on is the lack of sufficient transit-supportive facilities and services.
- *Pricing Strategies.* Transportation 2040 makes two significant pricing strategy proposals. One is focused on demand management by not charging an extra fee for reservations to encourage customer use of the system. The second is targeted at mitigating fuel price risk and proposes implementing a fuel surcharge mechanism that will automatically adjust fares up and down for fluctuations in fuel prices.
- *Marketing.* The 2009 Legislature provided funding for a new marketing program for the ferry division to increase non-peak ridership.

Vessel Investments. Vessel procurements are a key element of the capital program necessary to ensure stable and reliable service. The state ferry fleet is one of the oldest of any major ferry system, with four vessels recently retired on an emergency basis and eight additional vessels to be retired by 2030. Transportation 2040 calls for eight new vessels by 2030 to replace older vessels as they come due for retirement. In addition, Transportation 2040 anticipates a major refurbishment of the Hyak (144-car vessel) to extend its life until 2032.

Over the 22-year plan horizon, Washington State Ferries would invest $4.9 billion, including $3.3 billion to preserve and replace vessels, $1.1 billion to preserve and replace terminals, and $548 million for cover debt service on bonds previously issued to finance capital expenditures ($212 million) and emergency repair allowances/ management and support ($336 million).

Beyond 2030, and included in the full plan, additional large auto ferry replacements will be required. Between 2030 and 2040 eight 144-car ferries will need to be replaced at a cost estimated at $960 million (2009 dollars).

Terminal Investments. Terminal investments will be necessary to continue to operate efficient and productive auto ferry service.

Mukilteo Relocation. The Mukilteo terminal is proposed for relocation to the tank farm site just east of the current terminal. This proposal would address a number of issues that cannot be adequately addressed at the current site and removal of traffic conflicts at the existing site. It does not include overhead loading. The total cost of the entire project is $106 million (2008 dollars). This will be partially offset by $70 million of avoided preservation needs at the current facility (with no realignment), making the net cost of the new facility $46 million. Legislative direction was to continue environmental and archeological studies in the 2009-2011 biennium to determine the feasibility of moving the terminal. Currently total funding for the project is about $55.0 million (2008 dollars); $63.3 million (year of expenditure dollars). The Legislature has directed WSF to seek federal funding to support the higher cost of moving the terminal.

Seattle. The majority of the major Seattle terminal costs relate to preservation ($220.6 million), where significant elements of the current facility will need to be replaced during the next 20 years, including the north trestle and the terminal building. In addition to the major rebuild elements, improvements would include funding for terminal building electrical upgrades of about $7.1 million (2008 dollars).

Additional Automobile Ferry Investments

The Unprogrammed portion of the plan includes the following investments:

Edmonds. Transportation 2040 assumes that the Edmonds terminal will remain in its current location. An allowance of $26 million is included to enhance multimodal connections.

Major auto ferry system investments included in Transportation 2040 are listed in Appendix B.

Passenger Ferries

While most of the ferries operating in the region today are combined car and passenger ferries, passenger-only ferries, which carry only foot passengers and can be likened to waterborne transit, also have a regional presence. Passenger-only ferries once filled a vital role in the regional transportation network.

In 2006 the state Legislature directed the Washington state ferry division to exit the passenger-only ferry business to focus its resources on auto ferry routes. Recognizing the importance of passenger-only ferries to the Puget Sound region, the Legislature simultaneously enabled cities, counties and transit agencies to form new Ferry Districts and Public Transportation Benefit Areas

West Seattle–Downtown Seattle Passenger-Only Ferry

History of Passenger Ferries

Between the years 1850 and 1930, hundreds of small, steam-powered ferries called the Mosquito Fleet connected numerous Western Washington ports. By 1930, the heyday of the fleet had passed, as it faced increasing competition from railroads, road travel, and a new generation of diesel-powered auto ferries that were the predecessors to Washington State Ferries' modern day auto ferry fleet. In more recent history passenger-only ferries have played a continuing, if diminished, role in the region's transportation system. Unreliable public funding, low ridership, historically high fuel costs, and competition with other travel modes led to the 2005 shutdown of Seattle-Kingston passenger-only ferry service and more recently, the termination of the Seattle-Bremerton passenger-only ferry route.

In 2008 PSRC published the Regional Passenger-Only Ferry Study. The study goals were to:

- *Assist in the coordination of state, regional, and local ferry system investments.*
- *Integrate ferry system planning with transit, roadway, bike and pedestrian improvements.*
- *Provide guidance for ferry-supportive land use.*
- *Establish a policy framework for passenger-only ferry service that can be incorporated into Transportation 2040.*

Supportive Land Use

Similar to transit-oriented development (TOD) near transit facilities, land use patterns in the vicinity of passenger ferry terminals can contribute to the success of a regional passenger ferry system. Mixed use developments can build ferry ridership and increase accessibility to passenger ferry services. To support future passenger ferry service, Transportation 2040 recommends the region and local jurisdictions develop supportive land use and zoning policies to support transit-oriented development associated with water-borne transportation.

with expanded tax-collecting authority to fund passenger-only ferry service. The Legislature also reduced regulatory and legal barriers to new passenger ferry service. These actions laid the necessary groundwork for local and private passenger-only ferry service development and delivery.

In response, the King County Ferry District was formed and began collecting new property taxes in 2008. The funds were used immediately to take over operation of passenger-only ferry service between downtown Seattle and Vashon Island and to enhance Elliott Bay Water Taxi service between West Seattle and downtown Seattle. Several other routes are now being studied by the district for possible demonstration service.

Kitsap Transit offers year-round foot ferry service between Port Orchard, Annapolis and Bremerton. The Port of Kingston is working to reinstate direct service between Kingston and downtown Seattle. And, during the summer season, private operators run for-profit passenger-only ferry service geared to the Victoria, B.C. and San Juan Island tourist markets.

Transportation 2040 recognizes the need to integrate the ferry system with other transportation elements. To support a successful regional auto and passenger ferry system the plan includes strategic investments in state highways and local roads, efficient transit connections, appropriate parking facilities serving ferry terminals, and improved bike and walk facilities providing non-motorized access to ferry terminals.

The Passenger-Only Ferry Study recommendations incorporated into Transportation 2040 include:

Preserving and Expanding Existing Passenger-Only Ferry Routes. Continue and expand the following existing routes:

- Vashon Island–Downtown Seattle (operated by King County Ferry District)
- West Seattle–Downtown Seattle (Elliott Bay Water Taxi operated by King County Ferry District)
- Bremerton–Port Orchard (Kitsap Transit Foot Ferry)
- Bremerton–Annapolis (Kitsap Transit Foot Ferry)

The Constrained portion of Transportation 2040 recommends the development of three new cross-Sound routes, along with associated land-side infrastructure and terminal improvements.

New Routes. Develop new passenger-only ferry routes:

- Bremerton–Downtown Seattle
- Kingston–Downtown Seattle
- Southworth–Downtown Seattle

Terminals. The Constrained part of the plan includes improvements to existing passenger terminals, and new terminal facilities and docks to support the preservation and expansion of the four existing passenger ferry routes as well as to facilitate the three new cross-Sound routes. These include improvements at West Seattle, Bremerton, Port Orchard, Seattle, Kingston, and Southworth.

Additional Passenger-Only Ferry System Investments

The Unprogrammed portion of the plan includes the following new routes and support facilities:

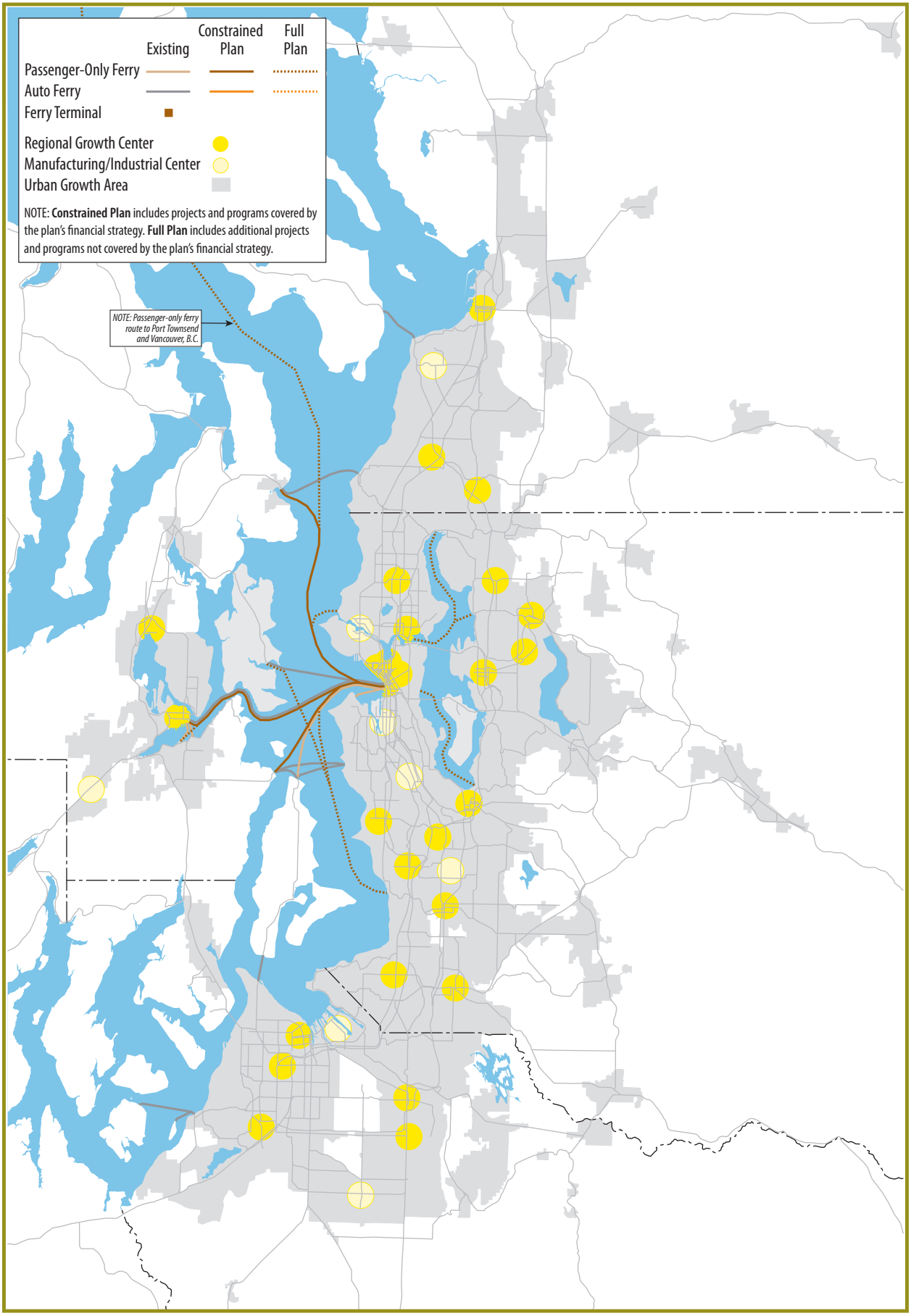
- Bainbridge Island–Des Moines
- Kirkland–University of Washington
- Des Moines–Downtown Seattle
- Shilshole–Downtown Seattle
- Port Orchard–Downtown Seattle
- Port Townsend–Downtown Seattle
- Vancouver, B.C.–Downtown Seattle
- Kenmore–University of Washington
- Renton–Leschi

Terminals and docks: The Unprogrammed portion of the plan includes new terminals and docks, plus improvements to existing terminals and docks, that are needed to support planned new passenger ferry routes on Puget Sound and across Lake Washington. These include Bainbridge Island, Des Moines, Kirkland, University of Washington (or alternate site), Shilshole, Kenmore, Renton, and Leschi. A list of all major passenger ferry system investments included in Transportation 2040 can be found in Appendix B.

Figure 40 illustrates selected automobile and passenger-only ferry investments.

Edmonds Ferry Terminal

FIGURE 40. Auto and Passenger-Only Ferry Investment Map



Seattle-Tacoma International Airport

REGIONAL AVIATION SYSTEM

In 2009, WSDOT's Aviation Division completed a statewide study of airport capacity needs, including those in the central Puget Sound region. The results of this study have been incorporated into the Transportation 2040 plan.

The existing regional airport system consists of 26 public use airports and two military airfields within the four central Puget Sound counties. The airport system includes Sea-Tac International Airport (the region's primary commercial service airport), McChord Air Force Base, Gray Army Airfield at Fort Lewis (recently merged as Joint Base Lewis-McChord), five general aviation reliever airports, 14 other general aviation airports, three seaplane bases, and three state-owned emergency airfields. A subset of this regionwide aviation system is considered regionally significant and is part of the MTS. For more detail, see Appendix D. The portion of the regional airport system that is included in the metropolitan transportation system consists of Sea-Tac Airport plus the region's five general aviation reliever airports: King County International Airport/Boeing Field, Snohomish County Airport/Paine Field, Renton Municipal Airport, Harvey Field, and Auburn Municipal Airport.

Seattle-Tacoma International Airport (Sea-Tac) is the region's primary commercial service airport, serving 32 million passengers and 318,000 operations (take-offs and landings) in 2008. Sea-Tac also serves more than 370,000 tons of air cargo per year.

King County International Airport/Boeing Field (BFI) is a Class II primary non-hub commercial service airport accommodating nearly 300,000 annual operations and 500 based aircraft. BFI served 125,000 tons of air cargo in 2005.

Snohomish County Airport/Paine Field is a general aviation reliever airport with 570 based aircraft and 150,000 annual take-offs and landings.

Harvey Field is a general aviation reliever airport with 325 based aircraft and 140,000 annual take-offs and landings.

Auburn Municipal Airport is a general aviation reliever airport serving 145,000 annual take-offs and landings and 300 based aircraft.

Renton Municipal Airport is a general aviation reliever airport with 290 based aircraft and 88,000 annual take-offs and landings.

General Aviation. The regional aviation system component of Transportation 2040 presents a long-range program for improving the region's 25 general aviation airports, which are generally smaller than commercial aviation airports, have shorter runways, and primarily serve business and corporate aviation, personal air trav-

el, and recreational users. These system improvements will focus on maintaining and preserving the existing system combined with strategic investments to meet growing demand and provide system enhancements. For more information see wsdot.wa.gov/aviation/lats/default.htm.

System improvements at the 25 general aviation airports total $286 million between 2000 and 2030. Of the total investments planned for the region's 25 general aviation airports $122 million (42 percent) will be for safety/standards, maintenance, and preservation projects; $35 million (12 percent) will be spent on enhancements; $103 million (36 percent) will be spent on capacity projects; and $25 million (9 percent) will be spent on other projects. General aviation airport system improvements total $218 million between 2000 and 2010, and $68 million between 2011 and 2030.

The airport improvement program contained within the *Regional Airport System Plan* (www.psrc.org/assets/213/2001rasp.pdf) accommodates airport system growth, increases system safety, maintains airport pavements, addresses Federal Aviation Administration and State Department of Transportation airport design standards, provides system enhancements to meet growing and changing user needs, and supports airport-compatible land use in communities adjoining the region's airports. At the region's general aviation airports, no major airfield capacity improvements are needed to meet existing or forecast demand for aircraft operations (takeoffs and landings). On the landside, however, demand for aircraft hangars currently exceeds supply, and forecasts show the region may see up to 1,600 new based aircraft at the region's airports in the next 20 years. Transportation 2040 responds to these needs. The region supports strategic investments at general aviation airports to address existing and forecast airport system needs.

General aviation system improvements (new runway, taxiway, and apron pavements, aircraft storage and safety improvements) have been estimated at $70 million between 2010 and 2020. Improvements to the region's general aviation airport system between 2020 and 2030 include: continued preservation and maintenance of the existing airport system infrastructure, improved safety, system enhancements, support for airport compatible programs, and provision of new aircraft storage facilities (hangars). The plan accommodates system improvement needs, including demand for 360 new aircraft between 2010 and 2020, and another 393 new aircraft between 2020 and 2030.

Commercial Passenger Aviation. The region is meeting its long-term commercial air transportation needs consistent with PSRC's General Assembly action in 1996, which amended the 1995 Metropolitan Transportation Plan, adding a third runway at Sea-Tac Airport. Transportation 2040 continues to support Sea-Tac International Airport as the region's primary commercial service passenger airport, including implementation of Sea-Tac's airport master plan.

The Port of Seattle is moving forward on a $3.44 billion improvement program which includes improvements to airfield capacity, passenger terminals, air cargo, on-airport people-mover system, airport ground access, a consolidated rental car facility, and other support facilities. In addition, King County International Airport/ Boeing Field has developed plans to accommodate its share of the region's air cargo demand over the next 10 to 15 years. These actions include:

- Implementation by the Port of Seattle of its Sea-Tac Airport Master Plan, including the third runway (opened in 2008), new concourse A (complete), new north passenger terminal, central terminal improvements (complete), additional parking, expansion of the on-airport people-mover system (complete), new FAA air traffic control tower (complete), new consolidated rental car facility (underway), and expanded air cargo facilities. Total cost for this program is estimated at $3.44 billion (excluding the new north passenger terminal).
- Implementation of air cargo improvements identified in the Airport Master Plan for King County International Airport/Boeing Field, including runway and taxiway improvements and land area for additional air cargo facilities.

Air Cargo. Sea-Tac Airport is ranked as the 18th busiest air cargo airport in the nation, while King County International Airport/Boeing Field is ranked as 31st. Together these two airports accommodate more than 500,000 tons of air cargo annually. Roadways providing truck access to Sea-Tac Airport and King County International Airport/Boeing Field are important parts of the freight roadway system. The region will require additional investments in air cargo facilities to meet the region's long-range needs. In 2006, PSRC prepared a *Regional Air Cargo Strategy* (www.psrc.org/transportation/airtrans/aircargo/)

to identify and plan for these needs. The planning effort included forecasts of regional air cargo demand to identify capacity needs, evaluated options for meeting future needs, and outlined a regional strategy. The strategy is intended to guide airport sponsor and air cargo industry investments at the region's airports and to coordinate investments in the regional intermodal transportation system to better meet the region's air cargo needs.

Airport System Capital Improvements. Assumptions for financing the aviation system improvements are based on current airport system funding, expected additional funding from the Federal Aviation Administration (FAA) Airport Improvement Program (AIP), the Aviation Investment and Reform Act for the 21st Century (AIR-21) approved by the U.S. Congress in spring of 2000, future funding from the State Airport Aid program, and revenue enhancement through more effective implementation of airport system user fees.

Meeting Long-Term Air Passenger Demand. The last update of the *Regional Airport System Plan* in 2001 included long-range forecasts of aviation activity and laid out a regional plan for meeting these needs. Of critical concern was meeting the region's long-range commercial passenger needs. In 1996 the Puget Sound Regional Council adopted a resolution (A-96-02) in support of planning for a third runway at Sea-Tac Airport, as the region's long-range plan for accommodating commercial passenger growth. The region also recognized that Sea-Tac Airport, even with the third runway and other capacity improvements (many of which are now complete), would not meet the region's needs indefinitely. The region therefore encouraged the state (in PSRC's Executive Board Resolution EB-04-01) to complete a study of long-range airport capacity needs. In 2005 the Legislature adopted Engrossed Substitute Senate Bill ESSB-5121, directing the Washington State Department of Transportation Aviation Division to assess aviation capacity and implement a plan to address future needs. On July 1, 2009 the *Long-Term Air Transportation Study* (LATS) was completed (for information see the LATS web page at www.wsdot.wa.gov/aviation/lats/default.htm.

Long-Term Air Transportation Study Recommendations

As Transportation 2040 is adopted, the region is aware of the need for additional coordinated planning to advance the strategies and recommendations contained in the Long-Term Air Transportation Study (LATS) in the PSRC region. While Transportation 2040 does not provide the specific planning direction needed to meet the region's commercial airport passenger needs to the year 2040, it directs the region to build on the work done in the study. The final report identifies three major issues (capacity, land use, and stewardship) and articulates a set of strategies and recommendations to address them.

Capacity Recommendations. PSRC recommended the state take the lead role in addressing aviation capacity needs and place a priority on funding and planning the state's air transportation system, including general aviation, to meet future needs. The Legislature and WSDOT will take measures to:

- Enact legislative policy to use existing capacity in the air transportation system before considering constructing new airports.
- Invest in advanced aviation technologies for Automatic Dependent Surveillance-Broadcast (ADS-B) systems, instrument approaches, and other pertinent technologies to address safety, capacity and access for all commercial, regional and community airports identified in the state's system plan.
- When additional aviation capacity is forecast to be needed, and no feasible airport capacity is available within the region, the Legislature should fund a site selection study for the placement of new airport(s) if no sponsor is available.

Land Use Recommendations. The Aviation Planning Council recommended the state reaffirm and strengthen land use legislation to protect public use airports from encroachment of incompatible land uses, and safeguard the public's investment in the air transportation system. Legislation should specifically be designed to:

- Amend the Growth Management Act (RCW 36.79A.510 General Aviation Airports and RCW 36.70A.200 — essential public facilities), and planning related statutres (RCW 36.70.547 — General Aviation Airports), to require protection of airports from encroachment of incompatible land uses, as well as providing for the siting of such uses as Essential Public Facilities.
- Prohibit the placement of noise-sensitive land uses within the traffic pattern of public use airports.
- Revise the Washington Administrative Code, the Revised Code of Washington, or both to prohibit new construction of schools in areas impacted by airport traffic patterns.

Snohomish County Airport/Paine Field

- Revise state codes to prohibit structural, visual, electrical, and wildlife hazards that interfere with critical airspace surfaces, negatively impact airport operations, or endanger the public's safety.
- Strengthen the authority of the state, regional transportation planning organizations, and metropolitan planning organizations to certify that transportation and land use elements of comprehensive plans and development regulations provide sufficient protection to airports.
- Require local jurisdictions and airport sponsors to coordinate land use planning, site master planning, and permitting so as to protect airport operations and avoid conflicts.
- Provide standing for airport operators and the state of Washington to take such actions as necessary to enforce measures intended to protect airports from encroachment.

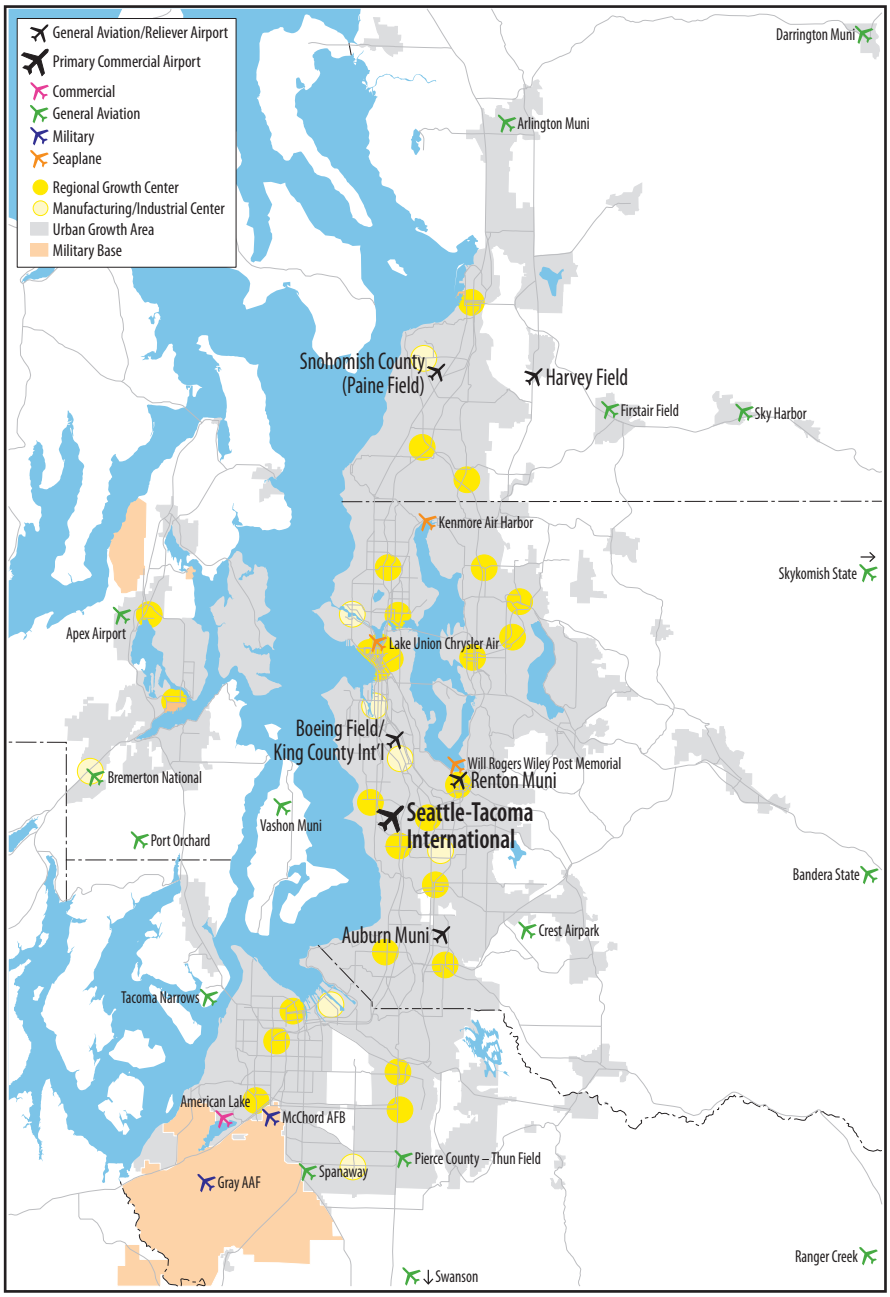
Stewardship Recommendations. The state should enact legislation and other measures to preserve the existing capacity of the air transportation system and to ensure that adequate measures are in place to fund airport facility infrastructure that is necessary to meet the needs of intra-state commerce, national mobility, access to communities, access to economic development and provision of emergency services. Measures should include:

- Enact legislation to conduct an assessment of state aviation taxes and fees derived from aviation activities conducted within Washington.
- Enact legislation to provide tax incentives to encourage owners of public use, privately owned airports to maintain and develop their facilities for the benefit of Washington citizens.
- Enact legislation to establish an annual statewide air transportation five-year capital investment program consistent with the aviation system plan to assist in identifying airport infrastructure needs and prioritizing system investments.
- An annual report to the Governor, Legislature, Transportation Commission, and Regional Transportation Planning Organizations shall be prepared evaluating the attainment of aviation performance objectives.

Although Transportation 2040 addresses the general aviation system's investment needs from 2010 to 2030, there is a need for additional planning to identify system needs for the final decade of the plan: 2030-2040. This would likely take the form of an update to the Regional Airport System Plan, last published in 2001. Such an update could address the General Aviation airports and the commercial passenger and air cargo elements of the region's airport system. Recommendations contained in the Long-Term Air Transportation Study suggest the state take the lead in addressing future airport capacity needs. Any future regional system planning process would likely take the form of a joint effort between WSDOT, PSRC, and other key stakeholders.

Airport Compatible Land Use. Since 1999, the region has been developing an Airport Compatible Land Use program. The goal of the program is to enhance planning and coordination between airport operators and local planning agencies to: 1) reduce conflicts between airports and their neighboring communities, and 2) reduce land use encroachment which threatens the region's airports. The program provides technical information and fosters information sharing and coordination. SRC is currently updating its program with the help of consultants and a technical advisory committee. Information about the program can be found at: www.psrc.org/transportation/airtrans/compatible. Figure 41 illustrates the regional aviation system.

FIGURE 41. Aviation System Map



INTERCITY PASSENGER RAIL

The region is fortunate to have both long distance passenger trains and a federally designated high-speed rail corridor running through the region. The Pacific Northwest Rail Corridor, a federally designated high speed rail corridor, has received federal, state and local funding to support higher passenger rail speeds in the corridor. The corridor runs from Eugene, OR in the south, through Tacoma-Seattle-Everett, to Vancouver, British Columbia in Canada, and encompasses the primary north-south passenger rail route through the state of Washington. There are two types of intercity service provided currently: Amtrak's long distance trains from Seattle to California (Coast Starlight) and to the Midwest (Empire Builder) and the regional Amtrak Cascades service to Oregon and British Columbia in the high-speed corridor.

Washington state is committed to a high-quality intercity passenger rail service which offers an alternative to automobile and air travel that can help reduce congestion, energy use, and environmental impacts of highways. The state is implementing this through incremental improvements to the intercity rail passenger service provided by Amtrak *Cascades* along the corridor. The objective is to provide safer, faster, more frequent and reliable north-south passenger rail service through western Washington, as a more desirable and convenient mode of transportation (compared to air and highway travel). Intercity passenger rail is also recognized as a means to address 21st century public policy goals: reducing the nation's dependency on foreign sources of energy, reducing greenhouse gas emissions that contribute to climate change, increasing public safety, and strengthening transportation system redundancies in the wake of natural and man-made disasters.[9]

By 2023 passenger rail service provided by Amtrak *Cascades* is planned to include 13 trains per day between Seattle and Portland, and four trains per day between Vancouver, B.C. and Seattle (three of which continue to Portland). Travel time between Seattle and Portland will be reduced by a quarter to approximately 2.5 hours, and travel times between Vancouver, B.C. and Seattle will be reduced by a third to just over 2.5 hours. The plan to increase service frequency and improve train speeds requires a number of capital investments in train station facilities, new train equipment, contin-

[9] Program Environmental Assessment, Pacific Northwest Rail Corridor, Executive Summary, ES-4, September 2009.

Amtrak Cascades

ued use of existing tracks owned by Burlington Northern Santa Fe, and improved track crossings and signalization. A major upgrade will include Positive Train Control, required on all passenger rail tracks by 2015, on the corridor tracks through the state of Washington, between Vancouver and Blaine.

The region will pursue intercity passenger rail improvements as detailed in the 2006 Washington State Long-Range Plan for Amtrak *Cascades*. Amtrak *Cascades* improvements included within the Constrained portion of Transportation 2040 include:

- *Advanced Signal System.* Install Positive Train Control along the intercity rail passenger tracks in the Pacific Northwest Rail Corridor, from Nisqually in the south to Stanwood in the north of the PSRC region.
- *D to M Street Connection in Tacoma.* Just over a mile of new railroad track and a new railroad bridge will be constructed over Pacific Avenue in downtown Tacoma.
- *Point Defiance Bypass.* Improvements to the rail line on the west side of I-5 through Fort Lewis will reduce rail passenger travel times between Seattle and Portland by 15 to 17 minutes.
- *Tacoma Trestle Replacement.* The single track functionally obsolete timber trestle will be replaced with a modern multiple track structure and retained fill.
- *King Street Station Track Upgrades.* New tracks will be added at King Street Station to support more daily trains; and two roadway structures near the station will be rebuilt to accommodate the new tracks.
- *Everett Yard Tracks and Sidings.* Additional tracks in Everett will allow for the more fluid movement of freight and passenger trains.
- *Track Upgrades and Signal System Improvements, Everett — North.* New mainline tracks and signal system improvements will be made to reduce rail passenger travel times between Seattle and Vancouver, B.C, and will improve reliability.
- *Everett Curve Realignment.* The mainline will be realigned, the signal system improved, and the mechanical portions of the Snohomish River Bridge upgraded.
- *Additional Locomotives and Passenger Train Sets.* Four new train sets and 18 new, fuel-efficient, high-speed locomotives will be purchased for the additional round trips.
- *Station Improvements.* In conjunction with Sound Transit, Amtrak, and local jurisdictions, station improvements will be made at Tukwila and Seattle.

Following implementation of the first service level goal and associated improvements described above, WSDOT will continue to work with its partners until full build-out in 2023. There are only two projects in the remaining three blocks of work in the PSRC region:

- Marysville to Mount Vernon High-Speed Track.
- Everett Junction to Everett Second Main Track.

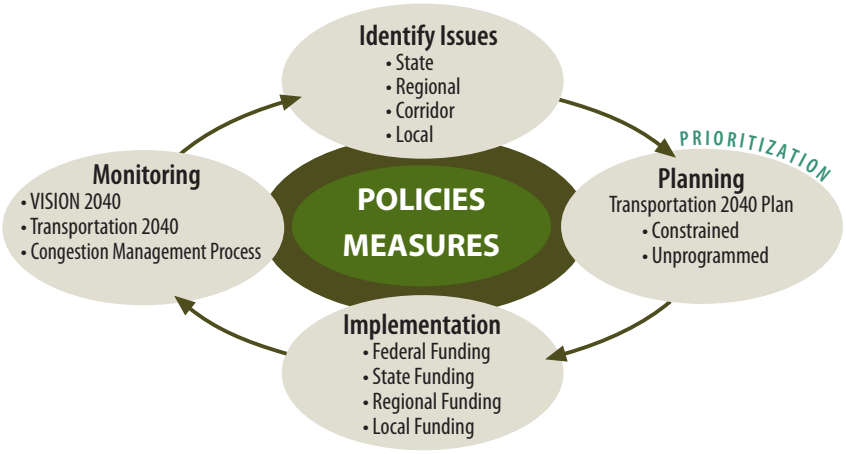
Renton Transit Center

CHAPTER 6.

Monitoring Implementation and System Performance

The successful implementation of Transportation 2040 depends upon the development of a system of performance and implementation measures that provide early warning if current practices are not having the desired results. This system of monitoring is also useful for refining programming criteria and decision-making processes to ensure the region's investment strategy is supporting regional policy.

FIGURE 42. Planning, Implementation, and Monitoring Relationship



The region has committed to periodically report on environmental, growth management, transportation, and economic issues, based on the region's adopted goals and multicounty planning policies. This commitment allows the region's decision-makers to see whether the region, cities, counties, transit, and other agencies are taking the specific steps necessary to implement VISION 2040 and Transportation 2040.

The region relies on a framework of continuous data collection and review. Measures particularly relevant to Transportation 2040 include, but are not limited to:

1. Congestion relief and mobility for all transportation modes
2. Accessibility to transportation choices
3. Greenhouse gas and other emissions
4. Water quality
5. Land use and regional development patterns (as laid out in VISION 2040)
6. The extent and application of tolling and user fees
7. Public and private expenditures for transportation and regional transportation funding capacity
8. Transportation project completion and program implementation status

Figure 42 illustrates the relationship of the central Puget Sound region planning processes to the region's policy framework.

Monitoring Defined

Performance monitoring completes the link between plan policies and an investment strategy designed to implement those policies. Through evaluation of transportation metrics over time, the region can be sure that investments are achieving desired outcomes. In order to perform this function properly, the region will need to fully develop transportation performance measures that address the region's goals.

Performance measures provide policy makers and the public a framework for evaluating progress toward implementing adopted regional policies. These measures were established by describing desired policy outcomes and identifying measurable indicators for each outcome. If desired, the region could also set future targets for these indicators. Measures need to be both complex and flexible enough to reflect changing and uncertain conditions in the real world, but simple and reliable enough to allow both comparison and sustained data collection into the future.

Community Transit, Swift Bus

Plan implementation monitoring assesses progress the region makes toward realizing the investments and actions included in the plan. By establishing how the region has changed its transportation system over time it can, in conjunction with performance metrics assessed over the same time period, help to answer the question of which actions are best achieving the region's goals. It also assists in monitoring the progress of the plan's financial strategy by establishing what investments have been realized and at what cost.

Developing the Monitoring Program

VISION 2040 and Transportation 2040 commit the region to periodically report on environmental, growth management, transportation, and economic issues, based on the region's adopted goals and multicounty planning policies. This commitment allows the region's decision-makers to see in a timely way whether the region, cities, counties, and agencies are taking the specific steps necessary to implement VISION 2040 and Transportation 2040. A comprehensive monitoring system will address, at minimum, the following areas:

1. Congestion relief and mobility for all transportation modes
2. Accessibility to transportation choices
3. Greenhouse gas and other emissions
4. Water quality
5. Land use and regional development patterns (as laid out in VISION 2040)
6. The extent and application of tolling and user fees
7. Public and private expenditures for transportation and regional transportation funding capacity
8. Transportation project completion and program implementation status

Data to support this monitoring commitment is not consistently available. Given the current reality of limited resources for enhanced data collection, PSRC will continue to work closely with regional planning partners to align the mutual existing resources in a way that will enable the realization of this monitoring commitment. To this end it will be necessary for the region to develop additional resources and mechanisms for interagency cooperation. This work is underway within the region's Congestion Management Process. PSRC anticipates building upon this effort, VISION 2040 implementation actions, and other monitoring efforts to realize these goals.

MONITORING COMMITMENTS IN VISION 2040

Transportation 2040 carries forward the implementation and performance measures adopted in VISION 2040. With the resources available, the Puget Sound Regional Council will strive to meet the broad intent of these implementation and performance measures, and regularly report to the region on progress. An element of the Transportation 2040 Action Strategy will be to reconcile the measures with available data and projected future resources.

VISION 2040 Transportation Monitoring. The monitoring framework established in VISION 2040 identified a key question about regional transportation:

Do we have a variety of efficient and safe transportation choices that support our growth strategy and offer greater options and better mobility?

To answer that question, VISION 2040 identified a variety of implementation measures, including:

- Identifing priority projects in the Metropolitan Transportation Plan, funding transportation projects, and completing projects.
- Performance measures such as: travel mode splits, travel times, delay, traffic volumes, transit boardings, and total and per capita vehicle miles traveled
- safety trends for all modes of travel using data provided by the state and local jurisdictions within the region to monitor the regional progress of the Washington State Strategic Highway Safety Plan, Target Zero.

Other Measures. VISION 2040 also identified additional implementation and performance measures related to land use and the natural environment that have a direct relationship to Transportation 2040's guiding strategies of supporting the regional growth strategy, protecting water quality and reducing greenhouse gas emissions and other air pollutants. These measures include:

- Development densities
- Distribution and quantity of designated urban, rural, agriculture, forest, and mineral resource lands
- Water quality and impaired waters designations
- Number of unhealthy air days
- Annual average emissions of greenhouse gases — as information becomes available

FINANCIAL MONITORING

As described in Chapter 4, Transportation 2040 depends upon the implementation of new revenue sources that require action to be taken within a number of decision-making arenas: the state Legislature, the region, and ultimately with voters. Clearly articulated governmental roles and responsibilities, as well as greater performance accountability and decision-making transparency, are important elements of, and products resulting from, a regionally managed fund that is focused on ensuring that transportation improvements will be made. An understanding of progress on these new sources is necessary for plan implementation monitoring. PSRC will track and report on progress made toward achieving the financial goals and objectives outlined in the Transportation 2040 financial strategy.

Regional financial capacity to implement Transportation 2040 is based on the adequacy of funds for each of the five principal transportation programs — city streets, county roads, public transit, state highways, and ferries.

MONITORING AND THE CONGESTION MANAGEMENT PROCESS

The Congestion Management Process is one tool for implementing elements of the Transportation 2040 monitoring framework. Periodic SMART Corridor Reports seek to report on these measures and apply other lessons learned during the Transportation 2040 plan update process.

SMART Corridor Reports provide a profile of existing land use and transportation conditions for 12 subareas within the four-county region. Following the publication of the first SMART Corridor Baseline Report in February 2010, future reports in the series can provide transportation system performance measures expanding on those identified in VISION 2040 to assess the transportation system against the Baseline SMART Corridor report. These reports include detailed information on the system, including current and previous land uses, transportation facilities and programs, and multimodal mobility performance. Where available, transportation system performance measures detailed in SMART Corridor reports include (but are not limited to) travel times, levels of service, transit congestion, ferry statistics, and park and ride utilization.

SMART Corridor reports, as a product of the Congestion Management Process, serve as a monitoring tool to assess the performance of the system and success of plan implementation. As issues arise out of the corridor reports, new solutions and needs may be identified which can be used as guidance in the project prioritization process.

A key element of the Transportation 2040 plan is the commitment to develop a new approach to prioritizing transportation programs and investments. This suggests more regional guidance in individual transportation project and program proposal and development. As discussed in Chapters 2 and 7, the Congestion Management Process must play a clear role in the evaluation of projects as they are considered for inclusion in the Transportation 2040 plan or as their status within the plan is changed.

Tacoma Link and Convention Center

CHAPTER 7

Future Planning, Programming, and Implementation

Washington State ferry, Seattle

Transportation 2040 is a living document and will continue to evolve. Equally, other plans and actions within the region will need to evolve in coordination with VISION 2040 and Transportation 2040. This chapter discusses:

- *Implementation actions and processes the region has in place or proposes to put in place to ensure general coordination of transportation planning at all levels of government.*
- *How the regional transportation plan can be amended.*
- *The relationship between the plan and federal funds available through the region's Transportation Improvement Program (TIP).*
- *The policy and plan review processes.*
- *Corridor planning.*

Implementation Actions

VISION 2040 includes both policies and actions that set an implementation framework for regional transportation planning and investments. The first transportation action adopted in VISION 2040 (T-Action-1) called for the update of the region's Metropolitan Transportation Plan to be consistent with and implement VISION 2040. The adoption of Transportation 2040 fulfills that objective.

VISION 2040 contained additional actions related to transportation coordination, planning, data collection, monitoring, and programming intended to help implement regional transportation policies. The development of Transportation 2040 substantially addressed and advanced many of these individual actions. For example, T-Action-2 called for PSRC to "continue to advance strategies for congestion relief, including identifying the location and causes of congestion, integrating land use and transportation planning, managing demand, improving efficiency, and expanding roads and transit service." Transportation 2040's approach to regional mobility, described in Chapter 2, begins to address this adopted action. Many additional actions were similarly addressed in the strategies and analysis that are part of Transportation 2040, and in the direction for different aspects of the regional transportation system contained in this document. The adoption of Transportation 2040 recommits the region to address all of the actions identified in VISION 2040, contingent upon the availability of resources. See VISION 2040, Part IV, for a more complete description

I-5 Everett, courtesy WSDOT

of regional implementation actions related to transportation. These actions will be incorporated into the PSRC work program as appropriate and as resources are available.

VISION 2040 Transportation Actions, by topic, include:

- Congestion Relief and Mobility Strategies
- Commute Trip Reduction Programs
- System Performance Strategies
- Disaster Planning
- Regional Mobility Plan for Special Populations
- Regional Program and Project Selection Criteria
- Safety Trends and Data
- Consistency with Growth Management Planning
- Freight Mobility Coordination and Planning
- Coordinating Planning with State Agencies
- Coordinated Transit Planning
- Identifying New Transportation Funding Sources
- Long-Range Regional Ferry Service Planning
- Advancing Nonmotorized Planning
- Local Comprehensive Plan Certification
- Aviation Systems Planning

Plan Amendment and Prioritization

As the region implements Transportation 2040, PSRC commits to developing and applying new administrative procedures based on adopted regional policy to:

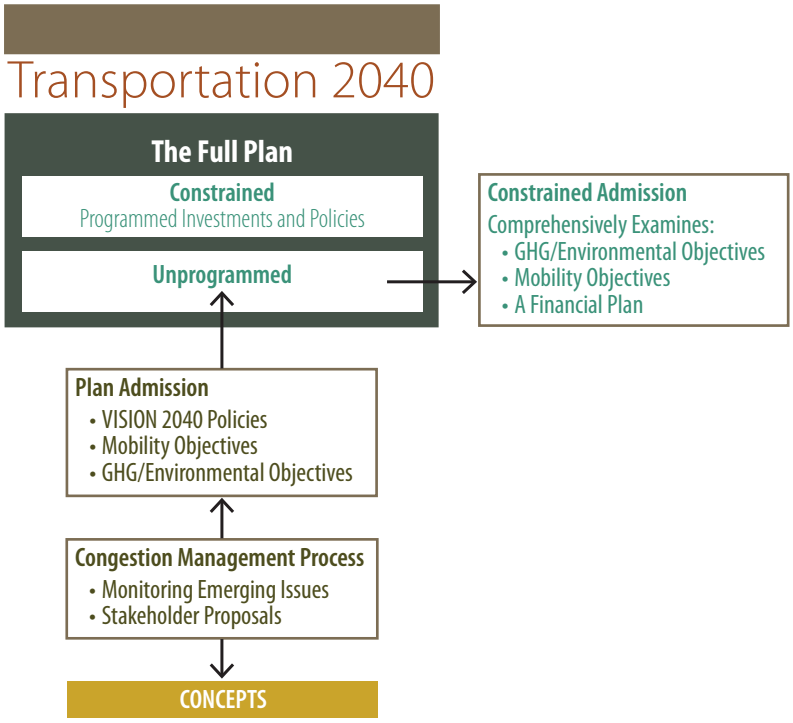
- Admit future actions, projects, and investments to the plan and determine their status upon admission
- Remove existing actions and investments from the plan if appropriate
- Change the status of actions and investments within the plan
- Assign priorities to actions and investments.

These new procedures will more closely align regional policy with investments.

Each of the steps described above constitutes an amendment to Transportation 2040. Minor amendments that demonstrably have no negative impact on the regional air quality conformity determination and do not require additional plan-level environmental review under the State Environmental Policy Act (SEPA) and are covered by the Transportation 2040 Environmental Impact Statement will be processed by action of the Executive Board.

Major amendments (such as the admission or removal of major new investments for reasons other than completion, or, in the case of public transit, modification of the local or regional transit plan) that require additional plan-level SEPA review or potentially have a large impact on the regional air quality conformity determination must be approved by the General Assembly, and will preferably be completed at the regular plan update intervals specified by federal and state law. Major amendments can be processed on an as-needed basis by the General Assembly in cases where the Executive Board finds sufficient need to do so. Figure 43 shows the structure of Transportation 2040 and the plan amendment and prioritization process.

FIGURE 43. Plan Amendment and Prioritization



These mechanisms will be developed and will include a process for reevaluating and prioritizing projects included in the plan to ensure support for implementation of VISION 2040. These mechanisms will include the development of objective and measurable criteria. Following development of this mechanism, PSRC staff and advisory committees will conduct the reevaluation of projects and develop a major amendment to Transportation 2040 within two years.

It is recognized that it is essential that any process that is developed to assign priorities to actions and investments must be done in an open, balanced, collaborative, and equitable manner. Accordingly, in order to ensure broad participation and input from member jurisdictions and other stakeholders, the development of such a prioritization process will include formal review and recommendation by the Transportation Policy Board and approval by the Executive Board prior to implementation.

PSRC will develop and implement administrative procedures that enable these processes to occur consistently, fairly, and in accordance with VISION 2040. The Executive Board will adopt such procedures with appropriate assistance from its supporting staff and committees. The procedures developed should utilize a common evaluation framework where possible, and should explicitly assess key VISION 2040 policy areas, including, but not limited to:

- Supporting the regional growth strategy, including focusing growth in regionally designated centers inside the Urban Growth Area
- Reducing greenhouse gases
- Reducing vehicle miles traveled
- Supporting freight mobility
- Promoting sustainable funding
- Promoting equity and environmental justice
- Reducing impacts on Puget Sound water quality
- Addressing congestion and mobility
- Promoting economic activity and employment growth
- Achieving a jobs-housing balance

The evaluation framework will be consistently applied at all stages of the regional transportation planning process, including the evaluation of projects for federal Transportation Improvement Program (TIP) funds, monitoring the Transportation 2040 plan, and monitoring of the transportation system. In addition, the procedures must address all pertinent federal and state laws and planning requirements, including the principle of fiscal constraint.

Appendix M describes admission, status, and amendment procedures PSRC will follow in the interim prior to the adoption of revised procedures. Appendix M also contains an itemized list of investments that expand capacity on Metropolitan Transportation System facilities.

Transportation 2040 and the Regional Transportation Improvement Program (TIP)

Transportation 2040 coordinates state, regional, and local planning efforts for transportation in the central Puget Sound region, and fosters the development and operation of a highly efficient, multimodal system that supports the regional growth strategy. That includes using regional resources for regionally significant investments, and promoting coordination among transportation providers and local governments as they make investments on the Metropolitan Transportation System.

The Regional Transportation Improvement Program (TIP) is a reflection of the implementation of the investments in Transportation 2040. Regionally significant projects must be explicitly listed in Transportation 2040 and are subject to further review before they can proceed to implementation. Regional significance is currently defined as a major capacity investment on the Metropolitan Transportation System (MTS), and applies to all modes including roadway, transit, nonmotorized, etc. The MTS is defined in Appendix D.

Projects and investments that are not on MTS facilities or are not adding major capacity are also subject to the policies in VISION 2040 and the guidance in Transportation 2040, but are not required to be explicitly listed as projects in the plan. These investments are included in the financial strategy as programmatic investments.

The Regional TIP contains projects awarded PSRC's federal funds, other federally funded or state funded projects, and all other regionally significant projects that are required to be included in the region's air quality conformity determination. The Regional TIP is a four-year programming document, so only those projects with current funds are shown. The Regional TIP is updated regularly. All projects submitted are evaluated for consistency with VISION 2040 and Transportation 2040, and reviewed for financial constraint and air quality conformity requirements.

PSRC has procedures in place to monitor and track the implementation of projects and programs in Transportation 2040. Through the Regional TIP process, tracking of projects with PSRC's federal funds occurs to ensure the funds are being used efficiently and on a timely basis. Further, monitoring of project implementation occurs through both the Regional TIP process and the Transportation 2040 Ten-Year Action Strategy. A milestones report was published in 2004 on the monitoring of projects using PSRC's federal funds; this report is in the process of being updated.

POLICY FRAMEWORK FOR PSRC'S FEDERAL FUNDS

Guided by the region's adopted multicounty planning policies, Transportation 2040 establishes investment priorities, especially: (1) the maintenance and preservation of existing capital infrastructure and services and (2) making investments that serve the region's designated centers. The plan also outlines a corridor approach to making significant capacity investment decisions. A rational, coordinated, and clearly defined approach to funding and programming for regionally significant systems, across all levels of government and all modes of transportation, is essential to the implementation of VISION 2040.

PSRC has an ongoing responsibility to establish and evaluate programming criteria that reflect adopted regional policy. The Policy Framework for PSRC's Federal Funds is updated prior to each project selection process, and is predicated on the policies contained in VISION 2040 that call for priority to be given to projects that serve regional growth and manufacturing/industrial centers. Project evaluation criteria are designed to support these policies and priorities, and will be periodically refined as performance monitoring provides information about whether desired results are being achieved.

Pierce Transit Daffodil Bus

Policy and Plan Review

PSRC has established a process for the review of local, countywide, and transit agency plans guided by: (1) the consistency provisions in the Growth Management Act, (2) state requirements for establishing common regional guidelines and principles for evaluating transportation-related provisions in local comprehensive plans, and (3) directives for coordination in the Regional Council's Interlocal Agreement and Framework Plan.

Regional Guidelines and Principles

State law requires regional guidelines and principles to be established for regional and local transportation planning purposes (RCW 47.80.026). Among the factors these guidelines and principles are to address are: concentration of economic activity, residential density, development and urban design that supports high-capacity transit, joint- and mixed-use development, freight movement and port access, development patterns that promote walking and biking, transportation demand management, effective and efficient transportation, access to regional systems, and intermodal connections. The region's multicounty planning policies adopted in VISION 2040 serve as the region's guidelines and principles. Many of the sidebars throughout the policy sections of VISION 2040 provide examples to serve as guidance for local planning efforts, especially related to transportation.

Review of Local Comprehensive Plans, Certification of Transportation-Related Provisions

Local jurisdictions are asked to incorporate a brief report in future updates to their comprehensive plans that addresses: (1) conformity with requirements in the Growth Management Act for comprehensive plan elements, (2) consistency with the Transportation 2040 Metropolitan Transportation Plan (including consistency with established regional guidelines and principles, physical design guidelines for centers, and compliance with federal and state clean air legislation), and (3) consistency with the multicounty planning policies. Information provided in this report will be a primary tool for developing PSRC's certification recommendation regarding the transportation-related provisions for PSRC boards to consider.

Review of Subarea Plans for Designated Regional Growth Centers and Regional Manufacturing/Industrial Centers

Jurisdictions that have regionally designated centers — either regional growth centers or regional manufacturing/industrial centers — are asked to prepare a subarea plan for each center. The subarea plan should be adopted within four years of the designation of the

center. The plan should include a brief report (similar to the one prepared for the jurisdiction-wide comprehensive plan) that outlines how the plan satisfies Growth Management Act requirements for subarea plans, as well as regionally established criteria for center planning. This report will be a primary tool for developing the PSRC's certification recommendation for PSRC boards to consider.

Review of Countywide Planning Policies and Multicounty Policies, Including Certification of Countywide Policies for Consistency with the Regional Transportation Plan

Countywide planning bodies are asked to include a report in updates to the countywide planning policies that addresses: (1) consistency of countywide planning policies and multicounty planning policies, and (2) consistency with Transportation 2040. This report will be a primary tool for the PSRC to develop a certification recommendation for consideration by PSRC boards. According to Policy MPP-G-2, countywide planning policies are to be updated to reflect revised multicounty planning policies by December 31, 2010.

Consistency Review of Transit Agency Plans

To coordinate transit planning with local and regional growth management planning efforts, transit agencies are requested to incorporate a report in their long-term strategic plans that addresses: (1) conformity of the strategic plan with state planning requirements for transit planning, (2) consistency with Transportation 2040, (3) compatibility of the strategic plan with multicounty planning policies, (4) compatibility of the strategic plan with the countywide planning policies for the county or counties in which the agency provides service, and (5) coordination with local governments within the agency's service area. The report should be considered and approved by the governing authority of the transit agency, and then transmitted to PSRC boards for review and comment.

Auburn Sounder Station

Certification of Plans Prepared by the Regional Transit Authority (Sound Transit)

Washington state law requires PSRC to formally certify that the regional transit system plan prepared by the Regional Transit Authority — known as Sound Transit — is consistent with Transportation 2040, the regional transportation plan (RCW 81.104). PSRC staff, together with Sound Transit staff, prepares a draft consistency report for review and comment. This report will be forwarded to PSRC policy boards, which will transmit a recommendation to the Executive Board for action.

Corridor Planning

Another stage of transportation planning includes the corridor studies that are conducted by local agencies, transit operators, and the Washington State Department of Transportation (WSDOT). An important first step in scoping of these projects is to link back to the current regional transportation planning activities and VISION 2040's Multicounty Planning Policies. PSRC will work with agencies conducting corridor planning projects to ensure consistency with adopted regional policies and Transportation 2040.

Moving Forward Together

Transportation 2040 provides the framework for the development of a sustainable transportation system that improves travel for people and businesses throughout the four-county central Puget Sound region. The plan includes projects, programs and other actions to reduce congestion and improve mobility to support the nearly 5 million people who will call this region home by 2040.

Transportation 2040 contains an aggressive environmental strategy to reduce transportation's impacts on the water quality of Puget Sound, protect air quality, and to reduce greenhouse gas emissions. The plan's greenhouse gas reduction strategy is intended to lead and complement the development of the state strategy to meet greenhouse gas reduction goals.

The plan embraces a new direction for transportation funding, intended to provide stable and sustainable funding over the long term. The plan's finance strategy recognizes the long-term limitations of traditional transportation funding approaches, and moves the region to a new user-based funding system that not only provides necessary revenues, but also helps reduce congestion and improve environmental quality.

Bremerton Waterfront

Transportation 2040 was developed in a time of considerable uncertainty about the future scope of federal legislation governing transportation, evolving direction from the state and federal levels to reduce greenhouse gases, changing technology, and the pace of regional economic growth. Transportation 2040 will be updated as needed to address state and federal transportation requirements, knowledge gained as the region moves forward, and the changing needs of the people and businesses of the central Puget Sound region.

Following adoption of the plan, a process for reevaluating and prioritizing projects included in the plan to ensure support for implementation of VISION 2040 will be developed. Project rescreening based on consistency with VISION 2040 plan implementation will be completed in approximately two years, starting in summer of 2010.

Transportation 2040 represents a break from business as usual, laying out a transportation vision to meet the mobility needs of all of the region's residents in a financially and environmentally sustainable manner.

Georgetown, Seattle

Glossary of Terms

The following terms are defined according to their intended use in this document.

Kitsap Transit Center, Bremerton

Accessibility
A measure of the ability or ease to travel among various origins and destinations.

Action
A provision or task to implement adopted policies.

Active Living
Promotion of physical activity, including walking and bicycling, to address health and personal well-being, focusing on how the built environment — including neighborhoods, transportation systems, buildings, parks and open space — can contribute to more daily movement and activity.

Adaptive Management
A planning framework for decision-making based on information that exists today, which can be modified and refined later as new information becomes available.

Affiliated Area
An area within the designated urban growth area that has been identified by an adjacent city as an area for future annexation and/or joint planning and the provision of municipal services. (See Potential Annexation Area.)

Affordability (also, Housing Affordability)
The cost of housing as a percentage of household income. Housing is considered unaffordable when housing costs exceed a threshold percentage — nationally that standard ranges from 25 to 33 percent.

Airport Ground Access
Facilities and services for passengers and freight handlers to reach airport terminals, e.g., highways, public transit, taxi, and other means of ground transportation.

Air Toxics
Airborne chemicals found to be harmful to human health, as well as to plants and animals. Examples include toluene, xylene, benzene, and formaldehyde.

Alternative Work Schedules
Programs such as compressed work weeks that eliminate employee work trips.

Annexation
The assimilation of some territory into another political entity — usually the attachment of lands that were previously under county jurisdiction to a municipality.

Advanced Traveler Information Systems (ATIS)
The application of advanced technology to provide real time travel information to travelers.

Advanced Traffic Management System (ATMS)
The application of advanced telecommunications technology to the surveillance and management of traffic flow, traffic data, and other traffic system information to improve efficiency.

Automatic Vehicle Control Systems (AVCS)
The application of advanced technology to traffic control, including management, data acquisition, message systems, radio communications, and other systems to improve efficiency.

Benchmark Indicator
Key performance indicators for which quantifiable or directional targets may be set.

Benchmark Objectives
Key objectives the region hopes to achieve through implementation of VISION 2040.

Benchmark Target
A numerical goal or stated direction to be achieved that reflects the policy commitments of VISION 2040.

Best Available Science
The most up-to-date information available for planning and development decision-making. Required by the Growth Management Act (RCW 36.70A.172).

Bikeway
Any road, street, path, or right-of-way that is specifically designated in some manner as being open to bicycle travel, either for the exclusive use of bicycles or shared use with other vehicles or pedestrians.

Brownfield
A previously developed property or site — often having been used for industrial activity — that now is underutilized or not in active use, on land that is either contaminated or perceived as contaminated.

Built Environment
Refers to the human-created surroundings that provide the setting for human activity, ranging from large-scale civic districts, commercial and industrial buildings, to neighborhoods and individual homes.

Busway
A special roadway designed for exclusive use by buses. It may be constructed at, above, or below grade and may be located in separate rights-of-way or within highway corridors.

Bypass Lane
A reserved traffic lane on a metered freeway entry ramp which permits buses or high-occupancy vehicles to have preferential treatment when entering the freeway.

Capital Costs
Costs of long-term physical assets, such as equipment, rights-of-way, stations, buildings, and vehicles, traditionally identified with public transportation investments.

Carbon Footprint
A measure of the amount of carbon dioxide (CO_2) emitted through the combustion of fossil fuels. In the case of an organization, business or enterprise, the measure is based on routine operations. For an individual or household, it is a measure related to typical day-to-day living. A carbon footprint is often expressed as tons of carbon dioxide or tons of carbon emitted, usually on a yearly basis.

Carbon Monoxide (CO)
Air pollutant that is a highly toxic, odorless, colorless gas; automobile emissions are the primary source of CO.

Carpool
An arrangement in which two to six people share the use and/or costs, of traveling in privately owned automobiles between fixed points on a regular basis. (See also vanpool.)

Carpool Lane
A highway or street lane intended for use by transit, carpools, vanpools, and other high-occupancy vehicles.

CBD
Central business district.

Centers
A defined focal area within a city or community that has a mix of housing, employment, retail and entertainment uses. It is pedestrian-oriented, which allows people to walk to different destinations or attractions. Regional centers are formally designated by PSRC.

Certification

Formal process by which PSRC recognizes the consistency of local transportation-related planning provisions with the Metropolitan Transportation Plan and conformity with state planning mandates.

City in the Rural Area

A free-standing municipality that is physically separated from other cities or towns by designated rural lands.

Clean Air Act (CAA)

The federal Clean Air Act identifies "mobile sources" (vehicles) as primary sources of pollution and calls for stringent new requirements in metropolitan areas and states where attainment of federal air quality standards is or could be a problem. A complementary law exists at the state level in Washington State, entitled the Clean Air Washington Act.

Climate Change

Refers to the variation in the earth's global climate (or in regional climates) over time. It describes changes in the variability or average state of the atmosphere.

Cluster (also, Industry Cluster)

Locating and organizing residential housing closer together at greater densities, to indefinitely protect and conserve open space, resource lands and environmentally critical areas. Also, a geographical concentration of industries that gain economic advantages by their location.

Commercial Aviation

Aircraft activity licensed by state or federal authority to transport passengers and/or cargo.

Commute

Regular travel between home and a fixed location (e.g., work, school).

Commute Trip Reduction (CTR) Act

A state law mandating that affected jurisdictions enact ordinances requiring major employers to implement programs reducing commuting vehicle miles traveled and rates of their employees driving alone (RCW 70.94.521-551).

Commuter Rail Service

Short-haul rail passenger service operated within metropolitan and suburban areas.

Compact Urban Communities

Urban locations which offer transportation, housing and shopping choices that reduce the need for automobile travel and support an efficient development pattern.

Complete Street

Designed and operated to ensure safe travel for all users — pedestrians, cyclists, transit-riders, and motorists. Typically, complete streets include sidewalks, crosswalks, bike lanes and other features and amenities.

Comprehensive Plan

A document that identifies that guides growth and development for a local jurisdiction.

Compressed Work Week

An alternative work schedule, in accordance with employer policy, that regularly allows a full-time employee to eliminate at least one work day every two weeks by working longer hours during the remaining days, resulting in fewer commute trips by the employee.

Concurrency

A state planning requirement to ensure that needed services and facilities are in place by the time development is completed and to be occupied, or that funding has been committed to provide such services within six years.

Congestion

A condition characterized by unstable traffic flows that creates stop-and-go movement on a transportation facility. Nonrecurring congestion is caused by actions such as special events, weather, and/or traffic accidents. Recurring congestion is caused by problematic facility design at a key location or constant excess volume compared with capacity.

Congestion Management System (CMS)

A federally mandated program directed at specific urbanized areas to provide for programs to address traffic congestion.

Conservation

The management of resources — such as water and energy — so as to eliminate waste or maximize efficiency of use.

Consistency

The degree of compatibility or agreement among planning provisions. The Growth Management Act addresses consistency in three ways: (1) internal consistency of comprehensive plans, (2) consistency of zoning and regulations with the comprehensive plan, and (3) consistency with other jurisdictions. Guidance concerning the term consistency is provided by WAC Chapter 365-195.

Context-Sensitive Design

A concept in transportation planning — that addresses the physical setting of the project and preserves scenic, aesthetic, historic, and environmental resources.

Corridor

In planning, a broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of streets and highways and transit lines and routes.

Countywide Growth Management Planning Group

Bodies of elected officials set up in each county to coordinate growth management planning efforts among the county and its cities.

King County: Growth Management Planning Council
Kitsap County: Kitsap Regional Coordinating Council
Pierce County: Pierce County Regional Council
S*nohomish County*: Snohomish County Tomorrow

Countywide Planning Policy

An adopted provision developed collaboratively between the county unit of government and local cities and towns within the county. Countywide planning policies provide a common framework for individual comprehensive plans prepared by each local jurisdiction.

Core City

A regional geography within VISION 2040 that includes those cities outside of the five metropolitan cities that contain regionally designated centers.

Critical Area

Lands that perform key functions that enhance the natural environment and built environment, as well as protection from hazards. According to the Growth Management Act, such areas include wetlands, floodplains, aquifer recharge areas, wildlife conservation areas, and certain geologic areas.

Current-Law Revenues

Income from existing, legally mandated sources. By definition, forecasts of current-law tax revenues assume changes only in the tax base, not tax rates.

Disabled Person

A person with a disability is an individual with a physical or mental impairment that substantially limits one or more of the major life activities such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working. The definition also includes individuals with a record of such impairment or an individual who is regarded as having such impairment. 49 CFR Part 37 Transportation for Individuals with Disabilities (ADA).

Discretionary Funds

Any funds whose distribution is not automatic. Decisions on the distribution of discretionary funds are usually made by an agency or person in accordance with legal/regulatory criteria.

DNS

Declaration of Non Significance, a finding of no significant environmental impact.

Employment Centers

Locations having a concentration of jobs or employment. Centers, which vary in size and density, serve subregional or local markets.

Environmental Justice

The fair distribution of costs and benefits, based on a concern for social equity. Presidential Executive Order 12898 (1994) directs federal agencies to make environmental justice part of their missions by identifying and addressing the effects of all programs, policies, and activities on minority and low-income populations.

Equity

In transportation, a normative measure of fairness among transportation users.

Estuary

A water passage where the saltwater tide meets a freshwater river current with a free connection to the open sea.

Executive Board

The managerial and administrative body of the Puget Sound Regional Council. Members of the Executive Board are appointed by their General Assembly constituents to represent the member governments.

Express Bus Service

Bus service with a limited number of stops, either from a collector area directly to a specific destination or in a corridor with stops only at major transfer points/activity centers.

Facility

A physical structure allowing a transportation mode to operate (including travel, as well as the discharge and loading of passengers). Examples include highways, guideways, terminals and administrative support locations.

Feeder Service

Local transportation service that connects passengers to a major transportation service.

FHWA

Federal Highway Administration.

Fixed Cost

A cost that remains relatively constant irrespective of the level of operational activity.

Fixed-Route Transit

Regularly scheduled service operating repeatedly over the same street or highway pattern on a determined schedule.

Flex-Time

An employer policy allowing individual employees some flexibility in choosing the time, but not the number, of their working hours.

Forecast

Projection of population or employment for a given future year.

Fragmentation of Habitat

The division of an ecological system or habitat that once was contiguous.

FTA

Federal Transit Administration (formerly Urban Mass Transportation Administration).

Functional Plan

A specialized plan focusing on a single topic area. It may contain more detailed information on actions, projects and programs — based on the policies and provisions a more generalized overall plan. The Metropolitan Transportation Plan (Transportation 2040) and the Regional Economic Strategy are both functional plans of VISION 2040.

General Assembly

The governing body of the Puget Sound Regional Council, composed of all members including elected officials from the executive and legislative branches of member cities, towns and counties and representatives of statutory members.

General Aviation

All aircraft which are not commercial or military aircraft.

Global Warming

The increase in the average temperature of the earth's near-surface air and oceans in recent decades and its projected continuation.

Goal

Within the planning process, a goal identifies a desired end state.

Grade Crossing

A crossing of highways, railroad tracks, other guideways, and/or pedestrian walkways at the same level or grade.

Grade Separated

The use of tunnels, bridges and other structures to separate levels on which roadway, railroad tracks, guideways and walkways intersect.

Green Building (also, Green Design)

Building design that yields environmental benefits, such as savings in energy, building materials, and water consumption, or reduced waste generation. Green development minimizes energy consumption and minimizes pollution and the generation of wastes, while maximizing the re-use of materials and creating healthful indoor environments.

Green Street

A street designed and constructed to integrate a system of stormwater management within its right of way in order to reduce the amount of water that is piped directly to streams and rivers. Green streets typically incorporate green infrastructure, such as street trees and landscaped amenity zones, both for aesthetics and to enhance the environment.

Greenhouse Gas

Components of the atmosphere that contribute to global warming, including water vapor, carbon dioxide, methane, nitrous oxide, and ozone. Human activities have added to the levels of most of these naturally occurring gases.

Greyfield

An older, economically obsolescent retail or commercial area. Greyfield malls may have outdated buildings and large areas devoted to parking lots. Many fail to generate the revenue that would justify continued use in their current form.

Growth Management Act

State legislation passed in 1990 and subsequently amended which requires long-range comprehensive plans prepared by cities and counties to be balanced with supporting transportation infrastructure (RCW 36.70A).

Guideway

In transit systems, a track or other riding surface (including supporting structure) that supports and physically guides transit vehicles specifically designed to travel exclusively on it.

Habitat

The natural home of a plant or animal.

Heavy Rail

An electric powered rail transit system that operates on a completely grade-separated right-of-way. Generally characterized by wide station spacing (1 to 2 miles apart), high average operating speeds, and greater capacity than light rail.

High-Capacity Transit

Transit systems operating, in whole or part, on a fixed guideway, dedicated right-of-way or freeway/express facility, designed to carry a large number of riders at higher speeds than conventional transit. Examples include express bus on HOV lanes, passenger ferry service, and light and heavy rail systems.

High-Occupancy Vehicle (HOV)

A motor vehicle with two or more people traveling in it. Includes carpools, vanpools, and transit.

High-Occupancy Vehicle Lane

Highway and arterial lanes restricted for use to vehicles carrying more than two occupants or passengers (with the exception of motorcycles).

High-Speed Rail

Intercity passenger rail service with high operating speeds (up to 300 m.p.h.) and limited stops (e.g., Japanese Bullet Trains, French TGV and experimental maglev systems). Used to link cities more than 100 miles apart.

Highway of Statewide Significance

A roadway, route or interstate highway designated by the State Transportation Commission, the Washington State Department of Transportation, or the Legislature.

Hours of Delay

The aggregate time lost by all travelers in the region on all facilities due to congestion, as measured by the time to reach destinations at posted speed limits versus traveling at a slower congested speed.

Hub-and-Spoke (Radial)

In transit operations, routes that radiate from and return to a designated area/transit facility.

Impact Fees

Costs imposed on new development to fund public facility improvements required by new development and ease fiscal burdens of providing services on localities.

Impervious Surface

Surfaces — such as rooftops, sidewalks, roads, and parking lots — covered by impenetrable materials, including asphalt, concrete, brick, and stone. These materials seal surfaces, repel water and prevent precipitation and runoff from infiltrating into soils.

Implementation Monitoring

Tracking actions considered key to the implementation of VISION 2040; e.g., refinement of the regional transportation plan, adoption or amendment of comprehensive plans, and investment in transportation programs.

Incompatible Land Uses

Facilities or activities on a site that have negative effects on adjacent properties.

Infill Development

Projects that use vacant or underutilized land in areas that were previously developed.

Intermodal

Accommodation or interconnection of various transportation modes for the movement of people and goods. Also known as "multimodal."

Intermodal Surface Transportation Efficiency Act (ISTEA)

Signed into federal law in 1991, ISTEA provided authorizations for highways, highway safety and mass transit through 1997 and served as the basis of federal surface transportation programs. See entries for TEA-21 and SAFETEA-LU for updated federal transportation authorization.

Invasive Species

An introduced species or non-indigenous species that expands outside of its native range.

Intelligent Transportation Systems (ITS)

The application of advanced technology to current transportation problems, including incident detection, signal coordination, real-time information, and other technology.

Jobs-Housing Balance

A planning concept that advocates that housing and employment be in relative proximity so as to reduce the length of commute travel or eliminate vehicle trips altogether.

Joint Planning

Cooperative planning between two or more jurisdictions or agencies.

Jurisdiction

Includes counties and cities. As appropriate, the term "jurisdiction" also includes federal and state agencies and federally recognized tribes.

Larger City

A regional geography in VISION 2040 that refers to those cities without a regionally designated center that have a combined total population and employment of 22,500 or greater.

Leadership in Energy and Environmental Design (LEED)

A rating system for green buildings, developed by the U.S. Green Building Council (USGBC), that provides standards for sustainable construction that include a number of energy and environmental measures.

Level-of-Service Standard

A mechanism used to determine if a given facility or service is operating efficiently. Innovations in level-of-service for transportation now take into account overall people-moving performance, rather than focusing traditional assessments of vehicular volume and capacity.

Light Rail

An electric powered rail transit system that can operate on a variety of rights-of-way, ranging from mixed traffic on-street to fully grade separated. Generally characterized by narrow station spacing (every ½ to 1 mile), slower average operating speeds, and shorter train units (with less capacity) than heavy rail.

Line-Haul Transit

Long-distance express transit operations along a designated corridor.

Local Transit Service

Service oriented toward access, egress and distribution within a specific regional activity center or localized area.

Low-Impact Development

An approach to environmentally-friendly land use planning. Includes a number of landscaping and design techniques to maintain the natural, pre-developed ability of a site to manage stormwater. More broadly, it refers to a range of development techniques that have minimal environmental or energy-related impacts.

Manufacturing/Industrial Center

An area of intensive manufacturing and/or industrial activity.

Market Incentives

In transportation demand management, measures designed to encourage shift from SOV to HOV modes by offering inducements such as preferential parking and financial incentive.

Measurable Objectives

Objectives intended to demonstrate what the region hopes to achieve in implementing VISION 2040, and from which quantifiable performance indicators can be derived.

Measure

An indicator used in determining how adopted provisions are performing. (See also monitoring.)

Metropolitan City

A regional geography in VISION 2040 that refers to the five central cities: Bellevue, Bremerton, Everett, Seattle, and Tacoma.

Metropolitan Planning Organization (MPO)

The federally mandated forum for cooperative transportation decision-making in a metropolitan area.

Metropolitan Transportation Plan (MTP)

Metropolitan Transportation Plan, a detailed long-range transportation plan that guides future regional investments and responds to legal mandates contained in SAFETEA-LU, the 1990 Clean Air Act Amendments and the state of Washington's Growth Management Act.

Metropolitan Transportation System (MTS)

The system of regionally significant transportation facilities in a metropolitan planning area used to identify regional transportation problems, develop solutions, and monitor system performance.

Mixed-Flow

Traffic movement where autos, trucks, buses and motorcycles share traffic lanes.

Mixed-Use Development

Projects or districts that include residential, commercial, and business accommodations. Vertical mixed-use development refers to buildings that have multiple uses in a single structure, such as ground floor retail, offices, and residences. Horizontal mixed-use development refers to districts where zoning allows for different uses to be in adjacent buildings and complexes.

Mobility

The ability to move about the region from one location to another.

Mode

A particular form of travel (e.g., walking, bicycling, driving alone, carpooling or vanpooling, bus, train, ferry, or airplane).

Mode Split

A term that describes the relative number of people using various forms — or modes — of transportation. Frequently used to describe the percentage of people using private automobiles as opposed to the percentage using transit.

Monitoring

An organized process for gathering and assessing information related to achieving established goals and policies. The process uses performance indicators to show progress toward, movement away from, or static state in policy implementation or policy achievement.

Multimodal

Those issues or activities which involve or affect more than one form — or mode — of transportation, including transportation connections, choices, cooperation and coordination of various modes.

Multimodal Concurrency

Addressing transportation system performance by taking into account land development and transportation solutions that provide alternatives to driving alone. Moves beyond the assessment of vehicle travel to focus more on the people-moving capacity of the system.

Multicounty Planning Policy

An official statement, adopted by two or more counties, used to provide guidance for regional decision-making, as well as a common framework for countywide planning policies and local comprehensive plans.

Multiplier

Multipliers account for the direct and indirect economic effects of employee earnings, purchases of goods and services, tax payments, and payments of principal and interest for a particular business sector of the economy. The impact of these effects on overall employment in the regional economy are referred to as the "multiplier" of a particular employment sector.

Network

(1) In planning, a computerized system of links and nodes that describes a transportation system. (2) In highway engineering, the configuration of highways that constitutes the total system. (3) In transit operations, a system of transit lines or routes, usually designed for coordinated operation.

Nonmotorized

Generally referring to bicycle, pedestrian and other modes of transportation not involving a motor vehicle.

Office of Financial Management (OFM)

The state agency responsible for preparing population forecasts used by counties and their cities in development of local comprehensive plans.

Operating Costs

The sum of all recurring costs (e.g., labor, fuel) that can be associated with the operation and maintenance of a transportation system during a given period.

Operator

An agency responsible for providing a service or operating a facility (e.g., Community Transit is a transit operator, WSDOT is the operator of the State Highway System).

Orderly Development

Well-planned development that is typically contiguous and can be served as efficiently as possible. The Growth Management Act requires multicounty planning policies to address orderly development.

Origin-Destination Study

A study of where person or vehicle trips begin and end. It may also include trip purposes and frequencies.

Ozone

An air pollutant that is a toxic, colorless gas which is the product of the reaction of hydrocarbons (HC) and oxides of nitrogen (NOx) in the presence of sunlight in the atmosphere. Automobile emissions are the primary source of ozone.

Paratransit

Transit service that is scheduled or dispatched upon demand, providing "point-to-point" travel. Normally used in specialized applications with user eligibility limitations (e.g., elderly and/or handicapped) or where demand is not sufficient to support fixed route service.

Park-and-Ride

An access mode to transit and other HOV-modes in which patrons drive private automobiles or ride bicycles to a transit station, stop, or carpool/vanpool waiting area and park the vehicle in the area provided for that purpose (park-and-ride lots, commuter parking lots, bicycle rack or locker).

Particulate Matter

An air pollutant that is classified as total suspended particulates (TSP) and the inhalable subgroup of TSP which is comprised of particulates 10 microns or less in diameter. Automobile emissions are a major source of particulate matter (PM10).

Peak Period

The period of the day during which the maximum amount of travel occurs. It may be specified as the morning (A.M.) or afternoon or evening (P.M.) peak. Generally from 6–9 a.m., 4–7 p.m.

Pedestrian-Oriented Development

The development and siting of housing, commercial space, services, and job opportunities in a manner that accommodates walking. Such development is intended to create more vibrant urban areas and to reduce dependency on automobile travel.

Performance Indicator

The set of evidence that shows progress toward, movement away from, or static state in policy implementation or policy achievement. A quantitative measure of how well an activity, task or function is being performed. In transportation systems, it is usually computed by relating a measure of service output/use to a measure of service input/cost.

Performance Monitoring

A process of comparing actual performance against policies set by the planning process. It includes conducting the data collection and calculation procedures, and reporting the results on a specified regular and ongoing basis.

Person-Trip

Trip made by a person from one location to another whether as a driver, passenger or pedestrian.

Physical Design Guidelines

Destination 2030 formally established and Transportation 2040 readopted provisions to advance fundamental design principles and site development characteristics for regionally designated centers to achieve successful integration of land use and transportation. The guidelines are identified as meeting Growth Management Act and Regional Transportation Planning Organization requirements that direct PSRC to establish regional guidelines and principles, pursuant to RCW 47.80. (Note: Additional regional guidelines and principles are also established in VISION 2040.) These regionally established provisions are to be used in the certification of transportation-related provisions in local comprehensive plans.

Potential Annexation Area

An urban area adjacent to an existing city that the municipality has identified for future inclusion as part of the city.

Pricing

A strategy for charging users of transportation systems. It may be used to manage demand for the facility, cover costs, and/or achieve other policy objectives.

Private-For-Hire

Privately operated common carrier or contract service (e.g., taxicabs, jitneys, private shuttles, subscription bus or van services).

Prosperity Partnership

A coalition of more than 200 government, business, labor and community organizations that works to make the four-county region more competitive in national and global economy.

PSRC

Puget Sound Regional Council, the MPO and RTPO for the central Puget Sound region.

Public Services

Facilities and infrastructure, including sanitary and storm sewer systems, water supply, energy, telecommunications, public safety and emergency services, schools, libraries, and other facilities.

Public Transportation

Regular transportation service by bus, rail, paratransit, van, airplane or ship, offered by a public sector operator.

Puget Sound Clean Air Agency

A special-purpose agency serving King, Kitsap, Pierce, and Snohomish counties and their respective cities and towns to ensure the residents of the region have clean air to breathe. Chartered by state law in 1967 (RCW 70.94) the agency works in partnership with the U. S. Environmental Protection Agency, the Washington State Department of Ecology, and the Puget Sound Regional Council.

Purchase of Development Rights

Programs through which local governments restrict development by purchasing rights to develop from private landholders.

Ramp Metering

Traffic signal control on an entry ramp to a freeway for regulating vehicle access.

RCW

Revised Code of Washington, the codified version of current state law.

Recycling

The process by which waste materials are collected and reused as "raw" materials for new products.

Redevelopment

The restoration and/or improvement of an existing structure or property.

Region

Refers to the central Puget Sound region, including King, Kitsap, Pierce and Snohomish counties and the cities within those counties. The PSRC region is comprised of King, Kitsap, Pierce and Snohomish counties.

Regional Economic Strategy

The functional economic strategy for VISION 2040, it also serves as the federally required comprehensive economic development strategy for the four-county central Puget Sound region.

Regional Geography

Groupings of cities, along with unincorporated urban growth areas, rural areas, and designated resource lands, that are used for planning and growth distribution purposes in VISION 2040's regional growth strategy.

Regional Growth Strategy

A common strategy for distributing population and employment growth with the four-county central Puget Sound region.

Regional Rapid Transit

Fast, reliable form of public transportation connecting regional, metropolitan and subregional centers, capable of carrying very high volumes of passengers along routes.

Regional Transportation Planning Organization (RTPO)

Under state law, the body responsible for long-range, regionwide transportation planning. PSRC serves as the Regional Transportation Planning Organization for the four-county central Puget Sound region.

Rehabilitation

Similar to "Restoration" except the work may include reworking or strengthening the base or sub base, recycling or reworking existing materials to improve their structural integrity, adding underdrains, improving or widening shoulders. Rehabilitation may include acquisition of additional right of way.

Resource Lands

Lands that support resource-based industries, such as timber harvesting and farming. Under the Growth Management Act, the collective term for forest, agricultural, and mineral lands. Sometimes shorelines are included — especially where fish and other aquatic species are harvested.

Restoration

Work performed on pavement or bridge decks to render them suitable for resurfacing. This may include supplementing the existing roadway by increasing surfacing and paving courses to provide structural capability, and widening up to a total of 10 feet. Restoration will generally be performed within the existing right of way.

Resurfacing

The addition of a layer or layers of paving material to provide additional structural integrity, improved serviceability, and rideability.

Ridematching

A process by which people who are interested in carpooling or vanpooling are linked with others based on the origin and destination of their commutes.

Rural Area

Outside the urban growth area, rural lands contain a mix of low-density residential development, agriculture, forests, open space and natural areas, as well as recreation uses. Counties and adjacent small towns provide a limited number of public services to rural residents.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

The federal surface transportation program for highways, highway safety, and transit for the five-year period between 2005-2009. The core provisions of the program address safety, equity, innovative finance, congestion relief, mobility, efficiency, environmental stewardship, and environmental streamlining.

SEIS

Supplemental Environmental Impact Statement.

SEPA

State Environmental Policy Act.

Single-Occupant Vehicle (SOV)

A motor vehicle occupied by the driver only.

SIP

State Implementation Plan, which the federal Clean Air Act requires, provides a blueprint of how nonattainment areas will meet national ambient air quality standards. Under federal law, the MTP must conform to the SIP.

Small City

A regional geography in VISION 2040 that refers to those cities without a regionally designated center that have a combined total population and employment of less than 22,500.

Solid Waste

Refuse generated by individual households and businesses.

Special Needs Populations

People with special transportation needs are defined in RCW 47.06B as people, "including their personal attendants, who because of physical or mental disability, income status, or age are unable to transport themselves or purchase transportation."

Special Needs Transportation

Special needs transportation is any mode of transportation used by those defined as transportation disadvantaged or with a special transportation need. This includes buses that have regular stops (e.g., fixed route for transit and schools), specialized services such as vans, cabulances and taxis that pick up people at the curb or door (e.g., demand response or dial-a-ride), rideshare programs, volunteer driver services, ferries, trains, or any federal, state, and local publicly funded transportation.

Special Service District

Limited purpose local governments separate from a city, town, or county government. Generally they perform a single function, though some do perform a limited number of functions. School districts and transit districts are types of special service districts.

Stewardship

Taking responsibility for actions affecting the natural or built environment. Positive stewardship demonstrates acceptance of this responsibility through the continuous improvement of environmental performance by individuals, communities, the private sector, and governmental agencies.

Stormwater Management System

An infrastructure system that collects runoff from storms and redirects it from streets and other surfaces into facilities that store and release it — usually back into natural waterways.

Sustainability

Sustainability is commonly defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." Encompasses environmental, economic, social and institutional factors.

Sustainable Development

Also referred to as "sustainable communities," implies that growth and development occur in a manner that does not degrade and is balanced with the preservation and management of the natural environment and resources, and is supported by physical infrastructure and financial resources. Sustainable communities function within physical and biological limits of the environment, and support long-term use and reuse of natural resources.

System Management

Increasing travel flow on existing facilities through improvements such as ramp metering, signal synchronization, and removal of on-street parking. Improvements typically have a low capital cost, require little major construction, and can be implemented in a relatively short time frame.

Target (also Growth Target)

The number of either residents, jobs, or both that a jurisdiction is expected to plan for in its comprehensive plan.

Transportation Control Measure (TCM)

Project, program, or action identified in a State Implementation Plan that will aid in the elimination or reduction of the severity in the number of violations of national ambient standards.

Telecommunications

The conveyance of information by electronic means. Examples include the telephone, interactive cable facilities, computer networks and video conference centers. Telecommunications technology may eliminate or shorten some vehicle trips but spur others.

Traffic Signal Synchronization

A process by which a number of traffic signals are synchronized to create efficient progression.

Transfer of Development Rights

A system that gives landowners the option of selling the rights to further develop the land. By selling development rights, a landowner gives up the right to develop his/her property, but the buyer could use the rights to develop another piece of land at a greater intensity than would otherwise be permitted.

Transit Dependent

Individual(s) dependent on public transit to meet personal mobility needs (e.g., unable to drive, not a car owner, not licensed to drive).

Transit-Oriented Development

The development of housing, commercial space, services, and job opportunities in close proximity to public transportation. Such development is intended to reduce dependency on automobiles, and to better link residences to jobs and services.

Transportation Demand

The quantity of transportation desired by users.

Transportation Demand Management

The concept of managing or reducing travel demand rather than increasing the supply of transportation facilities. It may include programs to shift demand from single-occupant vehicles to other modes such as transit and ridesharing, to shift demand to off-peak periods, or to eliminate demand for some trips.

Transportation Equity Act (TEA-21)

The Transportation Equity Act for the 21st Century was enacted June 9, 1998 as Public Law 105-178. TEA-21 authorizes the federal surface transportation programs for highways, highway safety, and transit for the six-year period 1998-2003. TEA-21 refined and reauthorized ISTEA. See entry for SAFETEA-LU for updated federal transportation authorization.

Transportation Improvement Program (TIP)

The multi-year program of transportation projects for highways, transit and other modes. The Regional TIP consists of projects and programs drawn from the Metropolitan Transportation Plan, as well as from local plans and the transportation programs of other agencies in the region.

Transportation System Management (TSM)

Improvements to existing transportation facilities that increase the flow of travel, such as ramp metering and signal synchronization. Such improvements typically have a lower capital cost than major construction and can be implemented in a relatively short time frame.

Urban Growth Area (UGA)

The area formally designated by a county, in consultation with its cities, to accommodate future development and growth. Given that cities are urban, each city is within a county-designated urban growth area. Cities may not annex lands outside of urban growth areas, nor may they formally identify future urban growth areas independently of the county designation process. Development that is urban in character is to occur within the designated urban growth area, preferably in cities. Development outside the designated urban growth area is to be rural in character.

Urban Transportation Corridor

A special type of transportation arterial distinguished by its potential to support centers or compact communities through redevelopment that is transit and pedestrian-oriented. These corridors are located near significant concentrations of residences or employment and have the opportunity to support frequent transit service and increased pedestrian activity.

Urbanized Area

An area defined by the U.S. Census Bureau according to specific criteria designed to include the entire densely settled area around each large city. An urbanized area must have a minimum population of 50,000 persons at a density of 1,000 persons per square mile.

Unincorporated Area

Any portion of a county not within the limits of an incorporated city or town. Unincorporated Urban Growth Areas. Areas under county jurisdictions within the urban growth area. Such areas are expected to annex to a city or potentially form a new city at some point in the future.

Vanpool

An organized ridesharing arrangement in which 7 to 15 people travel together on a regular basis in a van. The van may be publicly owned, employer owned, individually owned, leased, or owned by a third party. Expenses are shared and there is usually a regular volunteer driver. (See also carpool.)

Vehicle Miles Traveled (VMT)

A measurement of the total miles traveled by all vehicles for a specified time period. For transit, the number of vehicle miles operated on a given route or line or network during a specified time period.

Vehicle Trip

Trips made by vehicles, including drivers and passengers. A bus with driver and passengers is one vehicle trip.

Volume-to-Capacity Ratio

A measure of potential roadway capacity. The ratio of the existing amount of vehicular travel for a roadway to the amount of designed capacity on the roadway.

Water Resource Inventory Area (WRIA)

Major watershed basins in Washington state identified for water-related planning purposes.

Bellevue City Hall, Bike Parking

Reference Materials and Supporting Documents

These and other materials may be obtained by contacting the PSRC Information Center at 206-464-7532, info@psrc.org.

2007 Action Strategy for Destination 2030 — *May 2007*

Appropriate Urban Densities in the Central Puget Sound Region: Local Plans, Regional Visions, and the Growth Management Act — *November 2005*

At the Microscale: Compact Growth and Adverse Health Impacts — *November 2005*

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Central Puget Sound Region Environmental Justice Demographic Profile — *October 2003*

Central Puget Sound Regional Economic Profile — *December 2003, revised June 2004*

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(as of Transportation 2040 adoption — May 20, 2010)

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Puget Sound Regional Council

Membership

(as of Transportation 2040 adoption — May 20, 2010)

COUNTIES

- King County
- Kitsap County
- Pierce County
- Snohomish County

CITIES AND TRIBES

- Algona
- Arlington
- Auburn
- Bainbridge Island
- Beaux Arts Village
- Bellevue
- Black Diamond
- Bonney Lake
- Bothell
- Bremerton
- Buckley
- Burien
- Clyde Hill
- Covington
- DuPont
- Duvall
- Eatonville
- Edgewood
- Edmonds
- Enumclaw
- Everett
- Federal Way
- Fife
- Fircrest
- Gig Harbor
- Granite Falls
- Hunts Point
- Issaquah
- Kenmore
- Kent
- Kirkland
- Lake Forest Park
- Lake Stevens
- Lakewood
- Lynnwood
- Maple Valley
- Marysville
- Medina
- Mercer Island
- Mill Creek
- Milton
- Monroe
- Mountlake Terrace
- Muckleshoot Indian Tribal Council
- Mukilteo
- Newcastle
- Normandy Park
- North Bend
- Orting
- Pacific
- Port Orchard
- Poulsbo
- Puyallup
- Redmond
- Renton
- Ruston
- Sammamish
- SeaTac
- Seattle
- Shoreline
- Skykomish
- Snohomish
- Snoqualmie
- Stanwood
- Steilacoom
- Sultan
- Sumner
- The Suquamish Tribe
- Tacoma
- Tukwila
- University Place
- Woodinville
- Woodway
- Yarrow Point

STATUTORY MEMBERS

- Port of Bremerton
- Port of Everett
- Port of Seattle
- Port of Tacoma
- Washington State Department of Transportation
- Washington Transportation Commission

ASSOCIATE MEMBERS

- Port of Edmonds
- Evans School of Public Affairs
- Island County
- Puget Sound Partnership
- Puyallup Tribe of Indians
- Snoqualmie Tribe
- Thurston Regional Planning Council
- The Tulalip Tribes

TRANSIT AGENCIES

- Community Transit
- Everett Transportation Service
- Kitsap Transit
- Metropolitan King County
- Pierce Transit
- Sound Transit

Puget Sound Regional Council

Transportation Policy Board

(as of Transportation 2040 adoption — May 20, 2010)

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(as of Transportation 2040 adoption — May 20, 2010)

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Councilmember Lynn Norman, City of Auburn — Other Cities in King County
Councilmember Mike O'Brien, City of Seattle
Councilmember Debra Perry, City of Milton — Other Cities in Pierce County
Councilmember Larry Phillips, King County
Rob Purser, The Suquamish Tribe
Andy Ryder, Thurston Regional Planning Council
Councilmember Jennifer Robertson, City of Bellevue
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Councilmember Dale Rudolph, City of Poulsbo — Other Cities in Kitsap County
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Puget Sound Regional Council

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(as of Transportation 2040 adoption — May 20, 2010)

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Executive Dow Constantine, King County
Councilmember Reagan Dunn, King County
Bob Drewel, Puget Sound Regional Council — Ex Officio Member
Tom Flavin, EDC of Seattle/King County/enterpriseSeattle
Chariman Leonard Forsman, Suquamish Tribe
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Susan Sigl, Washington Technology Industry Association
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