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- To be added as hyperlinks…

Clallam County Comp Plan and/or Transportation Plan

Clallam County Transit

Jefferson County

Jefferson County Transit

Kitsap County

Kitsap County Transit

Mason County

Mason County Transit

Tribal Transportation & or Comp Plans

NOTE TO THE READER

The PRTPO was formed in 1990. The first RTP was released in 1995. This document, PRTPO RTP 2020, seeks to accomplish changes in both form and content. The document form moves away from being an amalgamation of county, port, transit agency comprehensive plans and transportation elements. The amalgamation approach required and forced revision of the RTP whenever a comprehensive or transportation plan was updated. The present form will provide guidance to regional transportation planning entities, serving as a source document for their own planning efforts. These comprehensive plans will be stored in the Appendix of the document, easily accessible on the internet. As individual members update their plans, they will be seamlessly incorporated into the document without requiring the document to be revised completely.

In 2011, The PRTPO TAC (Technical Advisory Committee) formed a sub-committee to conduct the actual work of putting together a new RTP. This group was composed of one representative from each of the four counties and two representatives from the Skokomish Tribe. This core group met every other month for about 18 months and created a draft of the Table of Contents, the Vision Statement and the Goals and Policies section. These draft documents were adopted by the TAC and also presented to and approved by the EC/PB (Executive Council/Policy Board). These sections of the document remain relatively unchanged.

To facilitate the process, PRTPO issued an RFP to PRTPO members requesting proposals to complete the RTP. The remaining chapters were completed under a contract between WSDOT and the Skokomish Indian Tribe. The original document is written using MS WORD and gives PRTPO local control of the document, including ease of access for future revisions.

The RTP lays out national, state and county issues and challenges that will shape the PRTPO's thinking and planning in the years to come. The document's title, RTP 2020, suggests a revision sooner rather than later. The legislative environment at state and national level does not offer a clear direction for regional planning at present and slashes construction budgets. Selectively maintaining facilities, rather than undertaking new construction, is not popular with the governing bodies.

The six chapters Vision, Goals and Priorities, Finance, Plan Implementation & Performance Measures, Regional Transportation Summary and Challenges to Purposed Future Area Network will encourage members to look for regional synergies. The content of these chapters will form a common baseline of reference. These chapters hope to invoke the types of discussions that yield mutual solutions and benefits for Peninsula communities via a regional transportation plan. Throughout the document, sources for material used have been cited in footnotes. They can be accessed electronically from the RTP itself. Availability within the document allows PRTPO members to use them in developing their own project funding or rational for project selection. We hope that adopted and posted on the PRTPO website, the RTP will prove a convenient reference for members.

Gordon Neilson & Lennea Wolfe, Skokomish Indian Tribe

Executive Summary

Our infrastructure, as we know it today, is a gift. Purchased in earlier times by taxing property owners and businesses they have projected their prosperity into our future. The "18,600 miles of state highway, 80,000 county centerline miles, 38,000 lane miles of city roads/streets"[1], "1,742 Tribal/BIA highway and roads"[2] the 136 airports, 7,743 bridges, 1,174 dams, the 3,215 miles of rail, transit systems that deliver 217 million trips/year and countless miles of sewer and water lines, in Washington, have been entrusted to us for future generations. Easy to build in time of prosperity the ongoing maintenance of it has proven more difficult now. The Washington's road network alone carries $37 million of freight every hour (24/7), bears 87 million vehicles miles traveled (VMT) daily and comes with a 50 year lifecycle. In many places we have worn this gifted infrastructure out before its time. The region defined by the PRTPO membership has evolved into predominately an autocentric network with developing alternative transportation enhancements.

Years of road expansion, measured in new centerline miles, has created by all measures an overbuilt autocentric network. The cost of maintaining all of it, exceeds our ability to pay for it now. Historically transportation revenues cover 62% of surface transportation costs. Congress funds surface transportation separately from airport, marine port and rail funding. The Peninsula transportation system is predominantly a surface transportation network. MAP 21 and sequestration continues to underfund current needs. The continuation of MAP 21 being considered is "$7.7 billion below 2013 enacted levels and $4.4 billion below sequestration."[3] Continued underfunding will require regional solutions for Peninsula.

MAP 21performance measures tied to plan implementation are new. Though implemented in WSDOT *Business Directions: WSDOT's 2011-2017 Strategic Plan*, MAP 21 ties plan implementation to performance measures to future funding. More than the addition of center line mile, it will look at plan achievement and benefit derived from dollars spent - in calculating future funding.

Summarizing our PRTPO regional network gives members a system baseline. Identifying the challenges would help members find regional solutions to our future area network. Peninsula demographics for counties and municipalities have similar threads. Tribal demographics also have consistent threads though very different from those of counties and municipalities. Tribes also continue to bring positive economic gains to Peninsula communities, well beyond their size. Legislative funding uncertainty and clearly identified challenges of the future will produce transformative solutions for the PRTPO members.

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[1] http://www.seattleasce.org/reportcard/2013ReportCardWA.pdf p.39

[2] http://www.wsdot.wa.gov/NR/rdonlyres/77F906E3-6F72-4BBE-A5D2-71CBFB191997/0/Vol1ExecutiveSummary.pdf Table 1 p.5

[3] http://www.transportationissuesdaily.com/house-budget-proposal-cuts-transportation-funding-15-percent-eliminates-tiger-program/

Mason County 1 Sanderson Field, Mason Co (with Mt Rainier in background)

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Introduction

Looking back

> *"Work on a road over Nachess Pass was started in August, 1853, this work in part, being financed by subscriptions. Much of the labor was donated. The work was on both sides of the pass, but the party on the east side make little progress while the party from the west side carried their work over the pass and for several miles down the Nachess River on the east side.*
>
> *A party of emigrants attempting to cross the mountains by this route met with great difficulties on account of the uncompleted road on the east side of the mountains. These emigrants had to make many miles of road in order to get through."* [1]

Roads as we know them today are gifts. Purchased in earlier times by taxing property owners they provided a sense of ownership. The taxes were levied and payment made in the form of work days on building or maintaining roads. In some districts taxation worked better than others. They evolved. Some might suggest they followed old Native American pathways. Though it might be true for some, many were simply built. The terrain that complimented foot travel did not serve wagon or wheeled transportation. Some roads were Military Roads representing a regional investment. Others were developed to facilitate trade. Over time they evolved and communities and transportation evolved with them.

Roadways, highways of today represent the assets of tomorrow (unlike other parts of the country, new roads here will be very scarce). Upgrading and maintaining what Peninsula residents have will define our future. New roads, new highways are beyond the scope of this document and the means the state's financial means.

Regional Conditions

Unique geographical factors of the Olympic Peninsula play a large part in transportation throughout the Peninsula. The Olympic Range bounded by the Olympic National Park Boundary compliments and challenges transportation in the region. As a compliment it creates multiple destination points for tourists and visitors seeking day and weeklong vacations. The challenges come from the monolithic nature of the Olympic Range and the park boundaries. The magnitude of its mountainous regions, breached only by foot trails, has resisted intrusions. Modern

[1] WSDOT. A History of Roads and Highways in the State of Washington. Dec 1966 p. 3

transportation, restricted to a circuitous route along a single highway, continues much as it has since statehood.

US Highway 101, the only route around the Peninsula, has not always been a US Highway. In the early stages of the 20th Century, its components made up an evolving system of State roads. State Roads 9 and 12 initially were part of the early US 101 in 1923. In 1937 Washington converted State Roads into Primary and Secondary Highway. State Road 9 became Primary State Highway 9 (PSH 9) and State Road 12 became Primary State Highway 12 (PSH 12). President Eisenhower's signing of the Interstate Highway Act converted PSH 9 and PSH 12 into US Route 101. Whether as a State Road, a Primary State Highway or a US Highway; US Highway 101 (US 101) has remained the life-support system of the Olympic Peninsula.

The Interstate 5 corridor, north-south arterial, lies east of the Peninsula. It is primary for connecting access for transportation of freight, people and services through western Washington. It is also vulnerable to flooding in its lower portions. Closures have lasted for 3-5 days. During these closures US 101 becomes an alternate freight route to reach the Olympia, Tacoma, Seattle and Everett corridor. Much of six lanes of interstate freight traffic shifts to the two lanes of US 101. (This observation was provided by the Shoalwater Bay Tribe Chairwoman Charlene Nelson in 2010 at WSDOT Tribal Transportation Conference.) Although WSDOT might formally direct traffic elsewhere, a significant amount of interstate freight traffic shifts to the two lanes of US 101 during I-5 closures.

Keeping US 101, which encircles the mountains and foot hills of the Olympic Range, open has proved challenging for Washington State Department of Transportation (WSDOT). A variety of microclimates brings up to 120" of rain per year to the west side of the Peninsula while the north and east sides will experience average rainfall between 12 – 25 inches. The NE corner of the Peninsula experiences the least amount of rains as the mountains create a weather shadow from the predominant SW weather systems. Flooding from saturated grounds draining into swollen creeks and rivers poses a constant hazard in lower elevations. Mud slides cross portions of highways, cutting deeply into steep banks blocking this vital roadway. Mud slides underneath roadways also lead to pavement failure and road narrowing. Snow when it comes is wet and thick. Snow removal, critical to transportation, minimizes this hazard.

The 507,815 residents (combined US Census 2012 counts for Mason, Kitsap, Clallam, and Jefferson) live within the 3.5 million acres of the Olympic Peninsula. The Olympic National Park, the single most defining feature, sits on 922,000 acres (1,441 square miles) in the middle of the Peninsula. Maritime and Tribal communities lay around the perimeter of the Peninsula. One third of all federally recognized Tribes in Washington live on the Peninsula. The largest community on the Peninsula remains Port Angeles (pop. 19,154 in 2011). Basically rural in nature, the foothills and slopes of the Olympic Range limit agriculture lands of the northern rim

near the Port Angles, Sequim Port Townsend and Quilicene. Logging (long past its peak), tourism, and maritime industries, all traditional employment opportunities for Peninsula communities, have been joined by tribal gaming as primary regional employment. Tribal businesses, small business including fishing and farming, and both tribal and non-tribal government operations make significant economic contributions to surrounding communities and the Peninsula as a whole.

The Peninsula Regional Transportation Planning Organization (PRTPO) includes the area bounded by Clallam, Jefferson, Mason and counties; Suquamish, Squaxin Island, Skokomish, Port Gamble S'Klallam, Jamestown S'Klallam, Lower Elwa S'Klallam, Makah, Quileute, Hoh, Queets (Quinault) and Ozette (Makah) Tribes and Olympic National Park. It also includes the rural portion of Kitsap County.

Entities within the PRTPO that own, build and maintain the Peninsula transportation network are:

Clallam County
Jefferson County
Kitsap County
Mason County

Makah Transit
Quileute Transit
Clallam Transit
Jefferson Transit
Kitsap Transit
Dungeness Line
Mason Transit
Squaxin Island Transit

Port of Allyn
Port of Shelton

Port of Winslow
Port of Kingston
Port of Bremerton
Port of Port Townsend
Port of Port Angeles

Makah Tribe
Quileute Tribe
Quinault Tribe
Lower Elwah Klallam
Jamestown S'Klallam Tribe
Suquamish Tribe
Skokomish Indian Tribe
Squaxin Island Tribe

Washington State Ferries
Black Ball Ferry
Naval Base Kitsap

City of Shelton
Bremerton
Kingston
Winslow
Port Townsend
Sequim
City of Port Angeles
Forks

Funding sources include, but may not be limited to: the Federal Highway Administration (FHWA), US Department of Agriculture (Ports); and state and local tax revenues. Any such funding source list is subject to change as specific FHWA and FTA grant programs are subject to reorganization by the legislature. Examples of specific FHWA programs are: Surface Transportation Program and Transportation Alternatives Program (administered through

RTPO/MPOs), Tribal Transportation Program (administered through the Bureau of Indian Affairs), WA State Consolidated Grants, and federal TIGER grants.

Purpose

Regional capacities define the strategies and ultimately the structure of goals linking Olympic Peninsula Tribes, counties, agencies and municipalities. They describe for participants a framework of decision making. They rely on the interdependence of county and Tribal governments, agencies and municipalities needed to achieve a successful transportation system.

Climate change has and will continue to impact transportation planning and implementation. All evidence suggests enhancing our ability to adapt and to increase our capacity to adapt, to future climatic changes will ensure the Peninsula transportation system's survival. The PRTPO's purpose will focus on regional strategies while building our long range capacity to adapt to climate changes. It will require interdependence of all the partners. Interdependence is a dynamic of being mutually and physically responsible to, and sharing a common set of principles with many others.

The PRTPO Regional Transportation Plan 2020 seeks to -

- Inform integration regional transportation and land use decision-making processes supportive of local, county and Tribal governments to maintain livable communities.

- Move people efficiently and cost effectively by increasing viable, affordable travel choices for people and goods within the region.

- Improve accessibility for all people regardless of age, ability or income, promoting local economies, maintaining local core values.

- Initiate and coordinate timely response to substantive issues, providing corporative pragmatic solutions maximizing future adaptability within today's constraint.

- Ensure affected parties understand issues related to choices, impacts, and timing by fostering on-going and inclusive community involvement and education.

- Assure system funding is equitable for all Peninsula communities by making effective investments maximizing resource potential in the future.

- Maintain existing investments by being realistic about financial capacity prioritizing accordingly and evaluating the full cost of alternatives and recommendations.

- Make the system safer for all users, building redundancy into critical network links as emergency safeguards.

- Support interdependence of transportation resources and facilities, integrating non-motorized transportation designs into transportation solutions.

- Build multi-modal strategies into Peninsula transportation solutions providing barrier-free accessibility strategies for youth, elders, those with disabilities, low income, and those with limited language.

- Make investments that add lasting value to our communities minimizing impacts on air and water quality and natural habitat and resources.

Planning Timeline

The PRTPO has completed only one RTP since it was formed. The RTP completed in 1995 was a compilation of disparate parts that seemed related. So much has changed since that time. This document, RTP 2020, seeks to update by adding predictable structure to the document. Once complete the document can be easily amended and updated within a 5 year cycle should the Board choose. The title of the document reaches out to 2020. Legislative uncertainty at the Federal level and the expiration of the MAP 21 in 2014 may require a new update at that time.

Roles and Relationships

The Peninsula Regional Planning Organization coordinates the RTP planning for its many partners. Throughout the process both formally and informally ideas, plans, policies and strategies are integrated.

The development of an RTP requires extensive communication and coordination. It is necessary for the RTP to serve all of the partners equitably though not all may be served equally.

State and federal law mandates certain reporting relationships and consistencies. The RTP must be consistent with Local Comprehensive Plans, which in turn must be consistent with the Washington Transportation Plan. All must fit within the federal and state policy guidelines.

Washington State has 29 federally recognized Tribes within its boundaries. One third of those are located within the boundaries of the PRTPO. Tribal economic contributions to

the communities surrounding them have continued to increase. Integrating Tribal priorities and needs into the RTP is also a federal requirement.

The RTP as a planning document must project the region while blurring political, county, and geographical boundaries. It must include needs of residents as well as visitors and tourists. The RTP suggests the surrounding communities provide access to Olympic National Park.

Requirements

State and federal guidelines stipulate the elements and processes for creating and maintaining the Regional Transportation Plan. In many instances the requirements overlap emphasizing the connection between state and federal regulation and goals.

Federal

Requirements specific to MAP 21 will compel the PRTPO to tie planning to performance measures in the future regarding the region's needs, conditions and resources. Within that 20 year horizon, the Plan must contain short and long range strategies. What will the region do first and what will require further study or more long term efforts?

The federal government also mandates the Plan address Intelligent Transportation Systems (ITS) – those technologies that help the region better communicate with travelers, more efficiently manage the system and more quickly respond to emergencies.

Federal requirements, because of the region's new air quality attainment status, will change as MAP 21 clarifies linkages of planning to performance measure.

State

The state calls for integration and compliance among local land use plans, county wide planning programs and the state transportation plan. Like the Olympic region, the state also recognizes the relationship between land use and transportation, and requires inclusion of land use assumptions.

Standards and measurements are a state focus. For state approval, the RTP must determine regional level of service (LOS) standards and how system performance and the effectiveness of strategies will be measured over time. The state also asks that the Plan be reviewed biennially.

Tribal

The federal government both in SAFETEALU and MAP 21 requires the inclusion of Tribal needs, projects and plans. Tribes by their location, sit astride some of the most

sensitive geography in the region. Their economic contribution to surrounding communities benefits the region. Integrating their plans into the RTP not only makes good sense, it will be required.

Together

Overarching themes permeate both state and federal guidelines at each level. The RTP must:

- Actively engage the public in both planning an implementation within the context of individual member processes.
- Comply with laws governing civil rights; respect the needs of older Americans and persons with disabilities; foster social equity.
- Promote efficiency, security, safety and maintenance of the system.
- Focus on both people and freight, calling for integration of all modes.
- Consider the environment and quality of life, comply with specific air quality rules and address environmental impacts.
- Encourage the use of technology to support planning and operations.
- Carefully appraise the relationship between community desires and community resources, and realistically outline financial and policy solutions.
-

Jefferson County 1 Port Townsend Marina

VISION STATEMENT

The Olympic Peninsula enjoys a visionary transportation system that efficiently and safely connects people, goods and places, offering choices and ensuring accessibility. This vision emphasizes a long-term quality of life for our generation and those to come by promoting economic growth, recreational resources, community services, non-motorized transport and public transit.

Transportation decisions support accessibility, connecting all people within the region with efficient ferries, surface transportation and non-motorized modes while supporting land use plans. The state highway system has been preserved, maintaining mobility for travel and freight. While single occupant vehicles are provided for in this system, the system favors multiple occupant vehicle travel wherever possible through specific design treatments for transit buses, van pools and freight haulers. Road markings, intersection treatments, and signal settings should encourage multiple occupant vehicles, and bicycle and pedestrian travel modes. Non-motorized travel options along state highway and regional corridors are also supported through design treatments like safe shoulder widths on the highway for bicyclists, sidewalks in urban areas, or traffic separated trail corridors in rural areas for pedestrians and bicyclists of all ages and abilities.

Mobility has been preserved on the state highway system by coordination with Tribal and local governments to control land use along the state highways so that new commercial and industrial land uses are contained within the boundaries of existing urban growth areas and rural centers. The state has also maintained the mobility and accessibility of its highway system through access control and consideration of viable alternatives to direct access along state highways. City streets access the state highway system in accord with maintaining level of service benchmarks within the urban growth area, and business traffic is directed to frontage roads, shared driveways, or to existing intersections with traffic signals. Congestion problems at key intersections of tribal and county roads along the state highway system have been addressed through appropriate intersection improvements, such as grade separation, roundabouts, and other innovative treatments.

Tribal and local governments have been encouraged to establish and improve parallel routes to the state highway system and improve transit service to relieve pressure on the system. New traffic signals along the state highway system are generally discouraged, as they tend to harm mobility between urban centers. The Tribes and local jurisdictions of the Olympic and Kitsap Peninsulas envision a regional non-motorized transportation system that traverses and links our jurisdictions, connecting our cities with a safe, seamless, traffic separated, multi-user, shared use pathway, wherever such a pathway standard would be feasible.

The long term expectation for this active transportation system is that it will provide a practical alternative to a road based trip whereby reducing vehicles miles traveled and promoting public health. The regional trail system is expected to be utilized by at least 10-percent of the commuting population in the long run near urban areas and many thousands of additional county residents and visitors for active

recreation throughout the year. This system will link our population centers with the state ferry system.

The non-motorized transportation system in this region is the westward extension of a cross state trail system providing direct links to the Burke Gillman, Sammamish River, John Wayne and Columbia Plateau Trails in the eastbound connection to Spokane and establishing a southbound connection to the Olympia to Vancouver trail corridor. Our non-motorized transportation system includes the Olympic Discovery Trail and the conceptual Sound to Olympics and Olympic Peninsula Loop Trails. Non-motorized travel is further enhanced within the region through transit and park and ride facilities at convenient intervals along the state highway system that facilitate and expedite a seamless and convenient change of mode between walking, bicycling, transit, and auto.

This "green alternative" non-motorized transportation system provides for active transportation that reduces congestion and emissions on our motorized routes, and provides convenient and time efficient direct connection to many destinations inside and outside our counties and reservations.

Guiding Principles

Transportation decisions and investments are:

Supportive of Tribal and statewide planning goals, adopted local and land use plans, initiatives that improve economic development, and investment options that favor transportation choices, especially public transportation, ride sharing, and walking and biking travel choices.

Safety Conscious, incorporating safety features on regional corridors and in urban areas for all users, with an emphasis that maximizes safety for walking and biking residents.

Collaborative inter-jurisdictional tribal, state, county and municipal efforts maintain and preserve transportation facilities as a foundation for the region's future, assuring accessibility, investing in the transportation system to support economic growth of the region, and maximizing public transit, walking and biking options.

Transportation decisions produce the *maximum economic growth* per investment.

Emphasize Connectivity and Accessibility throughout the Peninsula region, effectively linking all parts of the region to the established regional transit systems and facilities of

metropolitan Western Washington and the I-5 corridor, and ensuring regional trip connections between modes are easy and well-coordinated.

Environmentally Sensitive and Sustainable, minimizing impacts on air and water quality and the natural habitat and resources of the Peninsula, while maximizing energy efficiency and security in close coordination with emerging national, state, and local standards, technologies, and initiatives.

Integrated land use and transportation planning efforts among all Tribal and local jurisdictions, including both strategic and facilities level improvements, optimizing infrastructure investments, and promoting consistency between transportation improvements, population growth, and planned development patterns.

PRTPO GOALS AND POLICIES

These guiding principles defined the structure of a process that will link Tribes, counties, agencies and municipalities of the Olympic Peninsula. They describe for participants - community members, transportation and transit employees and elected officials - the framework in which decisions come about. They focus on the interdependence* of Tribal and county governments, agencies and municipalities needed to achieve an integrated transportation system.

Climate change has and will continue to impact transportation planning and implementation. All evidence suggests enhancing our ability to adapt and to increase our capacity to adapt, to future climatic changes will ensure the Peninsula transportation system survival. Climate change has been considered in this process. These principles, goals and policies will build our long range adaptive capacity while designs themselves adapt to more immediate changes. Interdependence is a dynamic of being mutually and physically responsible to, and sharing a common set of principles with many others.

Principles that guide this process:

Supportive - means

- **Integrating transportation and land use decision-making processes.**
- **Increasing viable, affordable travel choices for people and goods.**
- **Moving people efficiently and cost-effectively among diverse destinations.**
- **Improving access for all people regardless of age, ability or income.**
- **Promoting local economies without compromising other core values.**
- **Making investments that contribute to Peninsula communities overall sense of place.**

Responsive **- means**

- **Revising direction as necessary to adapt to changing situations or objectives.**
- **Initiating timely response as substantive issues evolve.**
- **Provide pragmatic, visionary solutions maximizing future adaptability while recognizing today's realities.**

Collaborative – **means**

- **Fostering on-going and inclusive community involvement and education.**
- **Ensuring affected parties understand issues related to choices, impacts, and timing.**
- **Promoting coordination among municipal, county, state, Tribal and federal authorities.**
- **Coordinating with neighboring communities developing workable strategies that ensure consistency in community interdependence.**

Fiscal Responsibility **- means**

- **Making effective investments maximizing resource potential in the future.**
- **Ensure system funding is equitable for all Peninsula communities.**
- **Being realistic about financial capacity and prioritizing accordingly.**
- **Maintaining existing investments.**
- **Supporting efficient interdependence of all transportation resources and facilities.**
- **Evaluating the full cost of alternatives and recommendations.**

Safety Conscious **– means**

- **Making the system safer for all users.**
- **Building redundancy into critical network links as emergency safeguards.**

Emphasize Connectivity and Accessibility **– means**

- **Integrate non-motorized transportation designs into transportation solutions.**
- **Build citizen potential multi-modal strategies into Peninsula transportation solutions.**
- **Implement barrier free accessibility strategies for youth, elders, those with disabilities, low income, and those with limited language.**
- **Ensure all transportation modes compete on equal footing for development and funding options. (LaHood, June 2011)**

Environmentally Sensitive and Sustainable **– means**

- **Minimizing impacts on air and water quality and natural habitat and resources.**
- **Making investments that add lasting value to our communities and their overall function.**

Goals and Policies

Goals and policies guide the region's principles of interdependent process into a more detailed decision- making at all levels of government. The twenty policy elements guide four aspects of Peninsula transportation planning and implementation: *transportation relationships, system management, system components*, and *process*. Each aspect has components which describe it. Individual components contain single goal and associated policies that help form strategies and actions when invoked. These goals and policies, written for citizen and professional alike, can allow realized expectations to form as to outcomes.

Transportation Relationships

1. Transportation and land use consistency
   Goal: Ensure that the design and function of transportation facilities support Peninsula community development vision and that land use supports the Peninsula transportation system.
2. Multimodal transportation system
   Goal: Move toward integrated multimodal transportation system that increases travel options, reducing the need to drive alone as well as vehicle miles traveled.
3. Barrier free transportation
   Goal: Invest and support travel needs of youth, elders, people with disabilities, literacy or language barriers, and those low income.

Intersystem Management

4. System safety and security
   Goal: Promote the safety and security of those who use, operate, and maintain the transportation system.
5. System preservation, maintenance and repair
   Goal: Protect investments that have already been made and keep life cycle costs as low as possible.
6. Travel demand management
   Goal: Decrease traffic by encouraging people to travel by some other means than driving alone.
7. Transportation technologies
   Goal: Use technology-based approaches to address transportation congestion, safety, efficiency and operations.
8. Freight mobility
   Goal: Promote efficient, cost-effective and safe movement of freight in and through the region.

Intersystem Components

9. Streets, Roads and Bridges
   Goal: Establish a street and road network that provides for the safe and efficient movement of people and goods while supporting adopted land use goals.
10. Federal and State Highways

Goal: Protect the functionality and safety of the Federal and State Highway system on the Olympic Peninsula, especially US 101, as the travel and freight life support of Peninsula communities and economies.

11. Public Transportation
Goal: Provide an appropriate level of interdependent reliable, effective public transportation options commensurate with the regions evolving needs.
12. Biking
Goal: Increase the share of all trips made safely and conveniently by biking.
13. Walking
Goal: Increase the share of all trips made safely and conveniently by walking only and by integrating walking with other forms of motorized and non-motorized transportation.
14. Rail
Goal: Ensure the long-term viability and continued use of existing rail lines in the region for freight and passenger rail travel.
15. Aviation
Goal: Provide an appropriate level of facilities and services to meet the general aviation needs of residents and businesses in the region.
16. Marine Transportation
Goal: Provide an appropriate level of facilities and services to meet the region's marine transportation needs.

Process

17. Public Involvement
Goal: Encourage public input into regional transportation planning and decision-making processes.
18. Intergovernmental Coordination
Goal: Support the creation of transportation facilities and programs that function seamlessly across community borders and between regions.
19. Environmental and Human Health
Goal: Minimize transportation impacts on the natural environment and the people who live and work in the Peninsula Region.
20. Performance Measures
Goal: Develop performance measures that are efficient to administer, effective in assessing performance and meaningful to the public.
21. Transportation Funding
Goal: Ensure that transportation revenue provided maximizes public benefit and supports adopted land use strategies.

1. Transportation and land use consistency

Goal: Ensure that the design and function of transportation facilities support Peninsula community development vision and that land use supports the Peninsula transportation system.

Polices:

1.a Provide transportation facilities, motorized and non-motorized, that support the location of jobs, housing, industry and other activities as called for in adopted land use plans.

1.b Commit to the development and implementation of land use plans and design standards that encourage accessibility via public and private motorized transportation, as well as active transportation opportunities, recognizing the unique needs of all Peninsula communities.
1.c Integrate mobility, accessibility and economic goals along transportation corridors with an appropriate combination of investments, policies and land use designations and development standards.
1.d Create transportation improvements that have a lasting positive impact on the communities served, reflect the culture of the area, and contribute to the sense of place.
1.e Promote land use policies that provide a variety of housing types in core areas near employment and services.

2. Multimodal transportation system

Goal: Move toward an integrated multimodal transportation system that increases travel options, reducing the need to drive alone and vehicle miles traveled.

Policies:
2.a Maximize quality transportation choices including walking, biking, public transportation, marine transportation and motor vehicles.
2.b Develop transit transfer centers, activity centers, employment centers, schools, marine transportation terminals, the waterfront, and airports to incorporate safe and efficient connections of travel modes.
2.c Invest in individual travel modes in ways that meet mode-specific needs while contributing to the overall development of a seamless, interdependent multimodal transportation system.
2.d Plan for the integration of non-motorized modes on existing transportation system.
2.e Develop and implement a public outreach and marketing effort that informs travelers about all travel options.

Jamestown S'Klallam 1, US 101 Pedestrian Tunnel

3. Barrier-free transportation

Goal: Invest in and support travel needs of youth; elders; people with disabilities, literacy or language barriers and low income needs.

Polices:
3.a Ensure that transportation facilities are accessible to those with differing physical capabilities.

3.b Provide transportation services, facilities and programs that minimize barriers to people who don't speak or read English.
3.c Present information and provide public participation opportunities for people who have limited literacy skills.

4. System safety and security

Goal: Promote the safety and security of those who use, operate, and maintain the transportation system.

Policies:

4.a Use a combination of education, enforcement, design features, and investments, such as recoverable slopes, guardrail, etc. to mitigate existing hazards and avoid potential hazards.
4.b Support construction of shoulders with width sufficient to accommodate safe, multiple uses.
4.c Invest in projects that improve passenger safety and security on public transportation and at associated facilities like park and ride lots and transit centers.
4.d Provide for safe school walking routes.
4.e Retrofit key transportation facilities to improve their ability to withstand a major earthquake or other natural disaster.
4.f Work towards system redundancy (such as parallel corridors), where feasible, to support emergency responses and reduce community disruptions during natural or man-made disasters.
4.g Encourage coordination between transportation systems providers and emergency response providers.

Skokomish Indian Tribe 1

5. System preservation, maintenance and repair

Goal: Protect investments that have already been made in the transportation system and keep life-cycle costs as low as possible.

Policies:

5.a Prioritize maintenance/ preservation, operations, and repair of existing transportation system with an eye to adapting existing routes to accommodate non-motorized modes of transportation.
5.b Use preventive maintenance programs to ensure lowest life-cycle costs.
5.c Coordinate utility and road projects to minimize the impact of utility projects on the structural integrity of roads. Where possible, leverage investments for both project types to deliver more cost-effective public facilities.

5.d Explore innovative programs that reduce infrastructure life-cycle cost or increase efficiency of service delivery, including use of new materials, technologies, and resource partnerships.
5.e Coordinate road projects with neighboring jurisdictions.

6. Travel demand management

Goal: Decrease traffic by encouraging people to travel by some other means than driving alone.

Policies
6.a Promote mixed-use and transit-oriented development that reduces the need for auto travel, including financial and other incentives to encourage transportation efficient development and redevelopment.
6.b Improve access to public transportation, ridesharing, bicycling and walking.
6.c Ensure that travel alternatives are readily available during peak periods.
6.d Promote programs and services that encourage employees to commute to work by means other than driving alone or to change commuting patterns through tele-working, flex-time or compressed work weeks.
6.e Develop park and ride lots though out the region, including shared use of underutilized parking lots at business and other facilities.
6.f Encourage the use of technologies that enable people to participate in activities or meet their needs without having to travel.
6.g Use demand management techniques that provide alternatives during temporary congestion resulting from major construction projects.
6.h Implement incentive programs to reduce vehicle trips and vehicle miles travelled.
6.i Support development patterns and standards that enhance safe accessibility to public transportation.

7. Transportation technologies

Goal: Use technology-based approaches to address transportation congestion, safety, efficiency and operations.

Policies
7.a Look for opportunities to invest in short and long range technological solutions, and integrate those solutions into Peninsula transportation projects.
7.b Recognize that transmittal of electronic information is an important function of a transportation system, and integrate this into transportation system evaluation, policies and implementation strategies.
7.c Coordinate transportation technologies among Peninsula jurisdictions and with other RTPOs and MPOs.

8. Freight mobility

Goal: Promote efficient, cost-effective and safe movement of freight in and through the region.

Policies**:**

8.a Promote access among highways and other major freight corridors, and among the region's intermodal transportation facilities and industrial areas.

8.b Increase the amount of freight that is moved by rail or marine modes to enhance efficiency productivity, safety and mobility.

8.c Reduce weather-related weight restrictions on streets, roads, and bridges that are important freight routes.

8.d Review potential conflicts of transportation and land use with freight movement, and address outstanding issues as part of the action.

8.e Minimize conflict caused by the growth of freight movement into and out of industrial areas in highly urbanized settings.

8.f Promote policies and designs standards that minimize congestion impacts on local streets caused by commercial delivery trucks, while maintaining economic support to businesses and services.

8.g Promote the introduction of reduced tolls for freight users to encourage off peak travel by trucks.

8.h Encourage off-peak use by freight by providing signal priority for freight traffic during off-peak hours.

8.i Consider introduction of intermodal freight transfer sites near urban centers and other measures to reduce the volume of heavy freight traffic on city streets, improve livability and create employment opportunity.

9. Streets, Roads and Bridges

Goal: Establish a street and road network that provides for the safe and efficient movement of people and goods while supporting adopted land use goals.

Policies:

9.a Support "complete streets" design and construction of streets, roads, and bridges which accommodate both motorized and non-motorized (active) modes of transportation.

9.b Design transportation networks that facilitate multimodal options for intra- and inter-community travel.

9.c Limit the addition of travel lanes to those corridors that can demonstrate long-term benefit, and where an increase is determined to be the best alternative.

9.d Use roundabouts as tools for safely and efficiently managing the flow of traffic at intersections where they are an appropriate alternative to signalization or signage.

9.e Consider the use of access management techniques to preserve roadway capacity, to minimize operating inefficiencies resulting from land use and development pressures, and to increase overall system's safety.

Jefferson County 2 Roundabout

9.f Develop an interconnected grid of local streets and roads to increase individual travel motorized and non-motorized options, enhancing community connectivity.

9.g Ensure that street, road, and bridge projects adequately meet transportation needs, function in harmony with their surroundings, and add lasting accessibility to the communities they serve.

9.h Speed limits should be based on objective traffic engineering considerations in order to achieve consistency across the network and to discourage unsafe vehicle speed discrepancy.

10. Federal and State Highways

Goal: Protect the functionality and safety of the Federal and State Highway system on the Olympic Peninsula, especially US 101, as the travel and freight life support of Peninsula communities and economies.

Policies:

10.a Advocate for consistent maintenance and improvement of Federal and State Highways—especially the primacy of US 101—in consideration of the fact that the Olympic Peninsula is particularly reliant on Federal and State Highways due to topographic constraints and alternative routes are not often possible.

10.b When intersection improvement is warranted for intersections with Highways of Statewide Significance (HSS), and where channelization and turn lanes are insufficient, consider grade-separated interchanges, underpasses, and roundabouts rather than signalization and all-way stops.

10.c Coordinate with the Washington State Department of Transportation at the planning level and the development review level to ensure that improvements needed to maintain access to and functionality of the highway system occur concurrently and are consistent with community development.

10.d Insist that the entire US 101 route and State Route connectors to urban areas within the PRTPO region are designated as a critical freight corridor in State and Federal studies, plans, policies, and funding allocation.

11. Public Transportation

Goal: Provide an appropriate level of reliable, effective public transportation options commensurate with the region's evolving needs.

Policies:

11.a Support implementation of each Peninsula transit agency's long-range transit plan, emphasizing accessibility via primary routes serving cores areas and regional transportation corridors.

11.b Increase the share of all trips made solely by public transportation or in conjunction with other motorized or non-motorized travel modes.

Squaxin Island Tribe 1

11.c Encourage transit agencies to accommodate bicycles in buses so that multimodal trips are possible without limitation.
11.d Invest in commuter vanpool program to provide cost effective, flexible alternatives to driving.
11.e Develop inter-regional transit partnerships that result in development of Peninsula Express Transit routes across the Peninsula linking it to I-5 corridor.
11.f Provide safe, convenient, and cost-effective transportation service to youth, elders, people with disabilities, or other people with special needs.
11.g Increase awareness of public transportation strategies through expanded education and public information tailored for various age groups and interests.
11.h Consider a broad range of public transportation programs and services including bus rapid transit and flex car programs to ensure a full mix of motorized and non-motorized transportation needs as they evolve.
11.i Utilize optical data readers where transit performance can be improved.
11.j Utilize information technology to inform travelers about transportation options for intra- and inter-community travel.
11.k Support and advocate for the maintenance and enhancement of transit service, including rural areas, rather than reduction of service in periods of financial challenge.
11.l When establishing transit stops, consider the need for safe passage for pedestrians across busy highways.

12. Biking

Goal: Increase the share of all trips made safely and conveniently by biking.

Policies:

12.a Complete a safe and convenient regional bicycle network that functions as an integral part of the overall transportation system.
12.b Provide safe and convenient bicycle routes to all schools in the region.
12.c Invest in a regional network of contiguous and connected north-south and east-west dedicated corridors to serve as the backbone of the non-motorized system.
12.d Provide bicycle parking facilities ("bike-n-rides") at existing and future transit centers, park and ride locations ferry terminals and other multimodal facilities.
12.e Encourage provision of short- and long-term bicycle storage and amenities at schools, employment sites and major activity centers.

Mason Transit 1

12.f Develop an education program for bicyclists to increase understanding of bicycling laws and encourage appropriate cycling behavior.
12.g Consider long-term strategies for funding bicycle facilities and services, encouraging public agency-funded bicycle facilities that support a level of service commensurate with bicycle mode share.
12.h Create or support "bike share" programs that allow for temporary use of bicycles for intra-city transportation.

13. Walking

Goal: Increase the share of all trips made safely and conveniently by walking.

Policies:

13.a Provide a direct, safe, interconnected transportation and pedestrian network that supports existing desired land uses.
13.b Construct safe sidewalks and effective well lit crosswalks within an appropriate radius of every school in the region.
13.c Construct frequent well lit pedestrian crossings, especially along primary transit routes and near activity centers.
13.d Develop direct, "cut-through" connections for pedestrian and bike travel within and among neighborhoods and destinations such as major transit routes, schools, activity centers and other destination where pedestrian travel is anticipated.
13.e Require pedestrian-friendly building and site design in areas where foot travel is likely and encouraged, such as city centers, regional activity centers and residential developments.
13.f Provide street lighting, trees, benches and other elements that make walking safe and pleasant.

14. Rail

Goal: Ensure the long-term viability and continued use of existing rail lines in the region for freight.

Polices:

14.a Support appropriate short- and long-term opportunities for the potential shared uses of freight rail lines.
14.b Facilitate other integration of Peninsula transportation assets with existing rail corridors.
14.c Use design techniques, ITS and operations coordination to minimize potential conflicts between trains and other modes of transportation and between trains and adjacent land uses.
14.d Prioritize the acquisition of right-of-way threatened with abandonment in order to preserve these corridors for potential

Mason County 2

transportation use in the future.

15. Aviation

Goal: Provide an appropriate level of facilities and services to meet the general aviation needs of residents and businesses in the region.

Policies:

15.a Encourage coordination between the Peninsula port districts to maintain consistency between adopted land use plans and long-range airport development strategies, and to encourage land use compatibility in affected areas adjacent to the airport.

15.b Maintain and upgrade the Peninsula regional airport assets for small jet and prop aircraft.

15.c Support efforts to maintain regional passenger service at Peninsula airports.

15.d Develop a multimodal transportation system that better serves the needs of air travelers by including viable travel alternatives between local communities and Peninsula regional airport facilities, and to and from SeaTac International Airport.

Mason County 3, Sanderson Airfield, Mason County

16. Marine Transportation

Goal: Provide an appropriate level of facilities and services to meet the region's marine transportation needs.

Policies:

16.a Maintain existing marine terminal facilities for waterborne freight movement.

16.b Encourage coordination among all port districts and stakeholders to maintain consistency between adopted land use plans and long-range marine terminal development strategies, including adequate truck and rail access.

16.c Consider long-term strategies for integrating maritime passenger service into the Peninsula interdependent transportation

Jefferson County 3, Port Townsend Terminal

system as alternatives develop.

16.d Maintain and preserve existing auto and walk on ferry service to Peninsula ports and encourage new service where practical.

16.e Consider incorporating information technology in scheduling of marine transportation that coordinates with other public transit mode technologies.

17. Public Involvement

Goal: Encourage public input into regional transportation planning and decision-making process.

Policies:

17.a Encourage early and continuing public involvement in all aspects of the interdependent motorized and non-motorized transportation planning process.

17.b Ensure equal access to participation, including measures to ensure access to people and groups who have been traditionally underserved by the existing transportation system or public processes.

17.c Promote increased community understanding of the relationship between land use choices and the future transportation consequences facing communities at local, tribal, regional and state levels.

17.d Engage in consultation and partnerships with Tribal governments within the region to ensure Tribal participation.

17. e Explore innovative participation techniques to increase overall public involvement.

18. Intergovernmental Coordination

Goal: Support the creation of transportation facilities and programs that function seamlessly across community borders and between regions.

Policies:

18.a Encourage coordination and partnerships among the local, regional, state and Tribal governments in the operation of the transportation system.

18.b Work with government agencies to coordinate land uses, implement inter- and intra-county and Tribal planning policies thereby refining the tools needed to accomplish these integrated land use plans and objectives.

18.c Coordinate the development and update of local, county, Tribal and state transportation plans to ensure consistency.

18.d Serve as a regional forum for the exchange of ideas, information, and issues among local jurisdictions,

Squaxin Island Tribe 2, Squaxin Island Canoe Journey 2012

county, Tribal, state and federal transportation agencies and governments.

18.e Encourage government-to-government relations between Tribal and non-Tribal governments within the region to encourage coordination of land use and transportation plans.

19. Environmental and Human Health

Goal: Minimize transportation impacts on the natural environment and the people who live and work in the Peninsula Region.

Policies:

19.a Protect water quality by effectively treating and managing runoff.

19.b Utilize current technologies to encourage on-site infiltration of stormwater.

18.c Minimize road crossings through designated environmentally sensitive areas and habitat corridors to avoid fragmentation and degradation of the Peninsula open spaces and wildlife habitats.

19.d Use transportation planning, design, and construction measures that minimize negative impacts on fish-bearing streams.

19.e Encourage development of transportation systems that increase regional energy efficiency and reducing environmental impacts.

19.f Promote use of alternative fuels and technologies that reduce pollution emissions and other environmental impacts from motorized vehicles.

19.g Engage the fullest range of non-motorized forms of transportation as a means of encouraging overall physical activity and community health.

19.h Ensure environmental considerations are not used as justification to hinder non-motorized projects when the impact of those projects in reducing motorized travel outweigh its environmental impacts.

19.i Ensure that minority populations and people with low income do not incur disproportionately high and adverse human health or environmental effects from transportation programs, policies and investments.

19.j Advocate and implement incentives for vehicle trip reduction strategies.

19.k Strive to balance appropriate levels of environmental protection with the costs of achieving it, recognizing that environmental and human health impacts of the transportation system can be offset by engaging the complete range of motorized and non-motorized transportation options.

20. Performance measures

Goal: Support the development of performance measures that are efficient to administer, effective in assessing performance and meaningful to the public.

Policies:

20.a Use transportation performance measures to evaluate , monitor, and respond to the performance of Peninsula policies and investments.

20.b Use transportation performance measures that reflect priority regional objectives, such as consistency of transportation and land use decisions, improved accessibility, adequate maintenance and repair of the existing system, environmental protection, and safety.
20.c Adopt performance measures that quantify contributions of motorized and non-motorized modes and transportation technologies in reducing vehicle miles traveled on the Peninsula.
20.d. Conduct a study on the feasibility of the development of a regional travel demand model.
20. e Conduct analysis on LOS methodologies within the regional planning entities to identify potential conflicts in consistency.
20. f Implement recommendations to ensure regional LOS consistency with policies and regulations.

21. Transportation Funding

Goal: Work to ensure that transportation revenue supports adopted land use strategies and goals of this plan.

Policies

21.a Strategically prioritize the maintenance and preservation of mobility of the transportation system, to minimize life-cycle costs.
21.b Consider costs and benefits in the use of transportation funds to ensure best long-term investment decisions.
21.c Encourage strategic transportation investments that reinforce well-planned growth and redevelopment decisions.
21.d Support efforts to improve the availability, predictability, and flexibility of transportation revenues.
21.e Support increased use of direct pass through of transportation funding to local agencies rather than state directed grant programs.
21.f Use transportation funding policies and investments to make development decisions predictable, fair and cost effective.
21.g Encourage funding partnerships between Tribal, local and regional entities to accomplish mutual goals through Federal and State grants.

Finance

The Finance Component provides an overview of the state's current baseline as well as the long-range revenue and cost forecast parameters. It will demonstrate that federal and state legislation constrains the Regional Transportation Plan 2020 (RTP 2020). The chapter provides an overview of the forecasts including some key forecast assumptions. The forecast horizon uses a 2020 horizon while maintaining federal and state financial constraint.

Financial Constraints, A Perspective

The constraints are similar for both federal and state agencies. Constraints including, long term underfunding of surface transportation, overbuilt extensive road networks, premature life cycling of roads, deferred maintenance, diminishing revenue sources, and legislative resistance to increase the gas tax have a cumulative and structural effect on transportation.

Long term underfunding of surface transportation

Long term underfunding of surface transportation can no longer be ignored. It is acknowledged by transportation experts, underfunding our transportation network has made it impossible maintain all the center line miles, airports, rail and ports for which the government is responsible.

> "The United States is one of only a handful of countries in the world where revenues raised to support the federal transportation system do not cover costs. Revenues represent just 62 percent of federal surface transportation expenditures…the practice of deferred maintenance unnecessarily contributes to this burden by increasing the cost of the system upkeep…
>
> The United States' federal surface transportation program is insolvent. There is a significant shortfall between the amounts that are collected and expended because fuel taxes and other transportation fees are not sufficient to cover costs. The U.S. general fund is being tapped to fill this financial gap."[2]

Moving Ahead for Progress in the 21st Century (MAP 21), which Congress passed in 2012, ultimately constrains federal and state funding. The MAP 21 appropriation, also passed in 2012, failed to fully fund MAP 21. "Sequestration" and the "fiscal cliff" have clouded forecasting of future federal funding. MAP 21 alone is the largest funding resource for Tribal, state and local governments. Cascading uncertainty will restrain PRTPO members budgeting. Precise funding levels for MAP 21 will be determined in 2013-2014. The inability of federal gas tax revenues to fully fund federal Highway Trust Fund only confirms this uncertainty. Reluctance to increase the gas tax or initiate alternative funding methods at the national level hampers state and local transportation planning.

[2] Bill Bradley, Tom Ridge, David Walker. Road to Recovery, transforming America's transportation. (Carnegie Endowment, Leadership Initiative on Transportation Solvency 2011) pp.8-13

Overbuilt extensive road networks

Our paved road networks began in early1900s. In the last 70 years, they have been extensively added to. Our paved road systems seem to have been built on the premise of "build it and they will come". Usage beyond incrementally designed capacity encouraged more construction that ultimately led to overbuilding.

> "In 1900 there were only 10 miles of paved road…. The Federal Highway Act of 1921 provided funding to help state highway agencies construct paved, two-lane interstate highways…in 1930s the Bureau of Roads helped state and local governments create Depression-era road projects *employing as many workers as possible*.... President Eisenhower signed the Interstate Highways and Defense Act in 1956 *(which alone created over 47,800 of Interstate Highway alone)*… In 2009, there were more than four million miles of paved highway in the United States and the greatest distance from a road in the contiguous states was twenty-two miles (in the southeast corner of Yellowstone National Park in Wyoming).[3]

The expectations of transportation funding to maintain all existing national, state and county road systems was modest in the beginning. Road taxes were assessed and work was accomplished by communities. The road building boom that followed WWII (World War II) introduced thousands of new centerline miles. Their life cycles were forecast at 50 years. New roads needed little maintenance. Now the maintenance needs of these post-WWII networks and those built prior continues to grow. Many parts of these networks, new and old, serve as freight corridors. Road networks have outstripped the gas tax dollars ability to sustain them increasing deferred maintenance. The size of the nation's transportation system, roads, airports, ports and rail, and its usage necessitates complex funding formulas.

Prioritization of funding will begin with primary freight corridors. Sustainability, a current transportation buzz word, requires knowing "Which centerline miles are we sustaining?". The sustainability baseline has only begun to emerge at the federal level

Premature life cycling of existing roads

Road designs incorporated usage parameters in design and construction. The majority of the interstate highways were built 50 years ago and have reached their life expectancy. Some rural secondary roads were forecasted to have 119 year paving life cycle[4]. Neither of these forecasts anticipated usage rates experienced in the late 1900s and again in the early 2000s. As ownership of cars and trucks increased so did road usage. In freight, new truck sizes and weights were not anticipated in earlier road design and construction.

> In 1910, Ford produced nineteen thousand Model T's. By 1927, fifteen million Model T Fords had rolled off the assembly line. …there were 65 million cars and trucks in 1955…*by 2009* that number had quadrupled to 246 million. In 1970 motor vehicles on U.S. roads traveled around one trillion miles per year; by 2010 this number had

[3]James L. Sipes, and Matthew L. Sipes, Creating Green Roadways, integrating cultural, natural and visual resources into transportation. (Washington DC, Island Press) pp. 3-5.

[4]" 'Users pay': Raise gas tax", The Post and Courier, Jan 7,2012. Home>Editorials>Editorial

> increased to more than three trillion **each year**. During that interval *(1970 – 2010),* the total number of miles of paved roads increased by only 1.97%.[5]

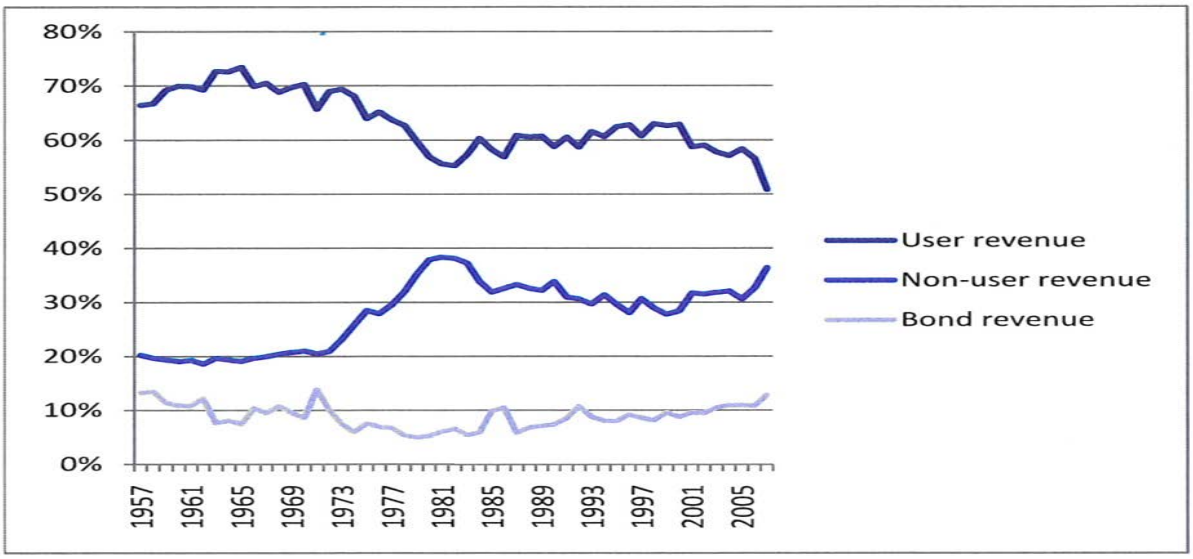
The explosion of usage brought premature and near simultaneous cascading of expiring of road life cycles. Federal and state Departments of Transportation (DOT) now face unprecedented challenges to meet the needs of existing infrastructure.

Diminished Revenue Sources

The consequence explosive road building and usage, occurring in the last 60 years, has projected extensive funding challenges today. The majority of federal, state, county, and local roadways (including bridges, culverts etc.) continue cascading through their life spans, prematurely. The 47,8000 centerline miles Interstate System was completed in 1991.The newest of its segments will reach the end their life spans in a couple of decades if not before.

National transportation experts have acknowledged there are insufficient dollars nationally to maintain all the center line miles, airports, transit, rail and ports the government is responsible for. The belief that" highways have paid for themselves" is false. It is false historically. Some believe that the National Interstate Highway System paid for itself. Actually gas tax revenues from usage on existing highways were directed by Congress to pay for the Interstate System. It was not paid for by users of the system as some argue because the system had not been built.[6]

Table 1 Percent of Highway Spending from Various Sources. All levels of Government[7]

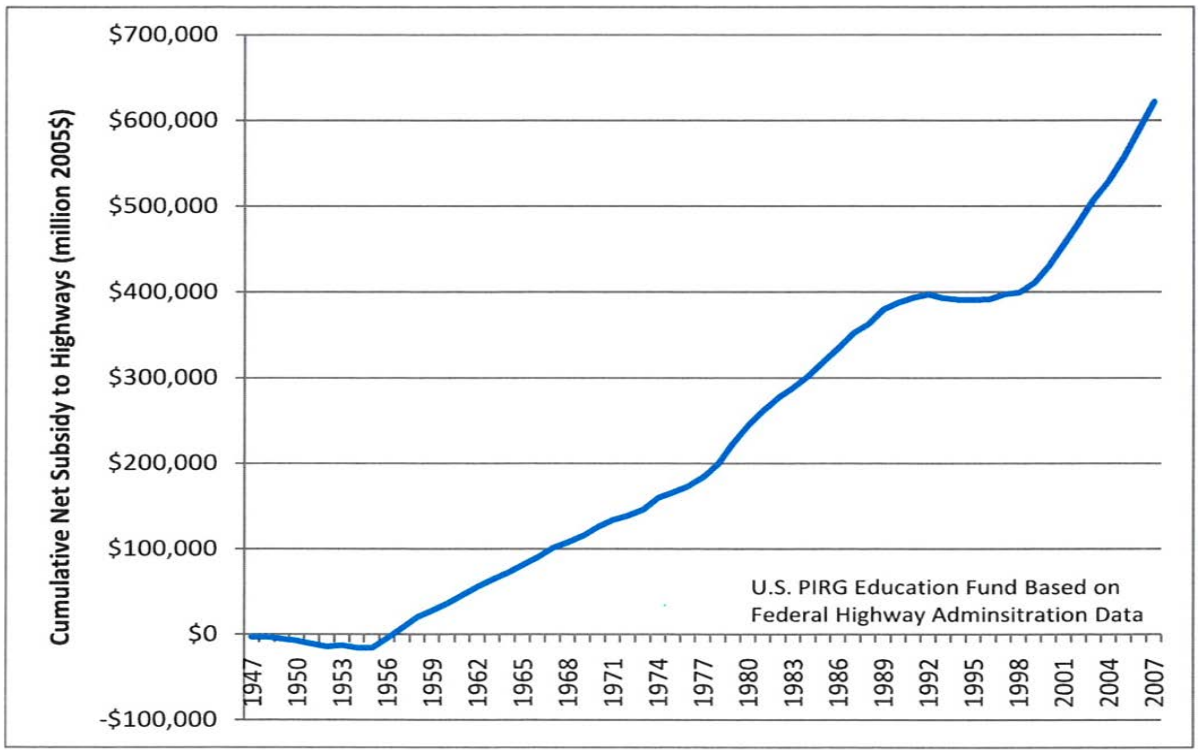


[5] Op.cit.,Sipes, p. 5.

[6] http://www.uspirg.org/sites/pirg/files/reports/Do-Roads-Pay-for-Themselves.pdf p. 16

[7] Ibid p.17

Table 2 Cumulative Net Difference Between Spending on Highways and Highway "User Revenues"[8]



The above graph also lies to rest thoughts of the "highway user fees paying for themselves in the future". The Congress has met the shortfall shown above by making draws from the General Fund.

> …in September 2008 , the federal government transferred an emergency $8 billion from the general fund to the Highway Trust Fund. There were further infusions of money from the general fund of $7 billion in July 2009 and 19.5 billion in March 2010. In addition the American Recovery and Reinvestment Act allocated $27 billion to highway infrastructure investment.[9]
>
> …since 2008 , Congress has transferred $41billion to the trust to keep it afloat, with another $12.6 billion authorized for 2014. Another 14 billion transfer would be needed to prevent the projected shortfall in 2015 the CBO (Congressional Budget Office) says.[10]

[8] Ibid p.16

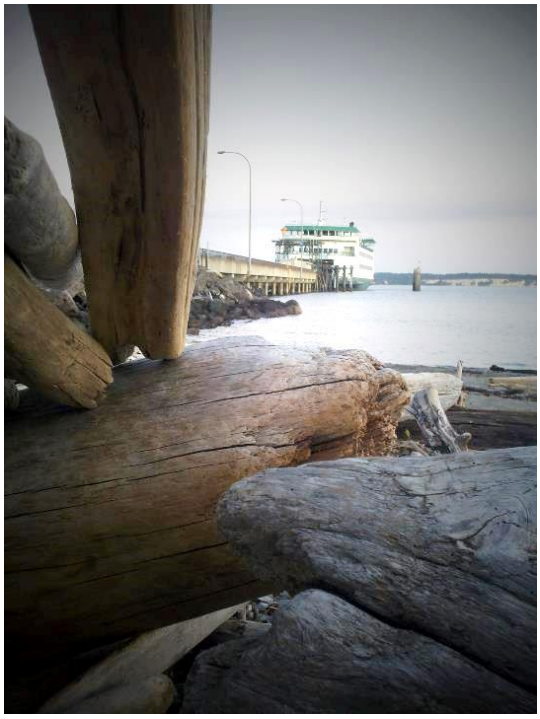
[9] Ibid p.18

[10] http://www.governing.com/blogs/fedwatch/gov-highway-trust-fund-future-jeopardy-infrastructure-transportation.html

Congressional reluctance to bring fiscal equity into transportation discussions cripples transportation funding. Delay in dealing with it has only made the problem more complex. The CBO states that bringing the Highway Trust Fund into balance would require either cutting transportation funding by $51 billion to $4 billion or raising the gas tax by 10 cents. [11]

> The financing mechanism in place to support the nation's highway and transit programs are unsustainable and in need of significant reform. The problem is not just that the current fuel tax and other taxes that support the highway and transit trust funds have not been increased or pegged to inflation, and that is causing a growing funding shortfall. Rather, the central flaw of existing financing mechanisms is that they provide a poor signal to users about the costs they impose on the system.[12]

The transportation network of roads, bridges, ports, railways, ferries and airports have a broad purpose. Congress has understood its connection to national economic growth and interstate commerce. The transition from construction of infrastructure to maintenance has been difficult for Congress to grasp, though national experts have.



Jefferson County 4, Port Townsend Ferry Terminal

> America's transportation infrastructure has not kept pace with growth and evolution of its economy. – Brookings Institute
>
> What's needed is nothing less than a fundamental overhaul of America's transportation policies and programs. – Miller Center for Public Affairs
>
> Washington must implement an accountable, fiscally responsible and performance-driven national transportation policy. – Bipartisan Policy Center, National Transportation Policy Project
>
> We must start transitioning to a new paradigm now. If we don't start, we will never get there. – National Surface Transportation Infrastructure Financing Commission.[13]

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[11] http://www.governing.com/blogs/fedwatch/gov-highway-trust-fund-future-jeopardy-infrastructure-transportation.html

[12] Bipartisan Policy Center National Transportation Policy Project, "Performance Driven: A New Vision for Transportation Policy" (Bipartisan Policy Center June 9, 2009) pp. 28- 30

[13] Bill Bradley, Tom Ridge, David Walker. "Road to Recovery, Transforming America's Transportation" (Carnegie Endowment for International Peace, Leadership Initiative on Transportation Solvency 2011) pp. 29-31

Transportation investments, post WWII, have shaped economic growth and settlement patterns. The nation's transportation system has matured. Its maturity requires a change in funding mechanisms and funding purposes other than that which created it. Moving away from road construction to a maintenance formulas is critical to sustaining what we have. Freight corridors will determine priorities for roadway maintenance.

A modern issue for Congress, States and local jurisdictions will be the "opportunity costs" of projects. The opportunity cost of project is the "next best alternative" for those funds if not spent on a planned project. The $3 billion Columbia River Crossing funded by both Washington and Oregon provides an example. The opportunity cost of the $3 billion dollars would be the other Washington and Oregon transportation priorities that could be purchased with those funds.

Legislative Resistance to Increase Gas Tax

Funding models that constructed our transportation networks are inadequate to maintain them. Today's robust infrastructure requires equally robust funding mechanisms to maintain it. The nations mature transportation system suggests new construction will dramatically diminish. Legislative purposes that funded it must be altered to fund its maintenance.

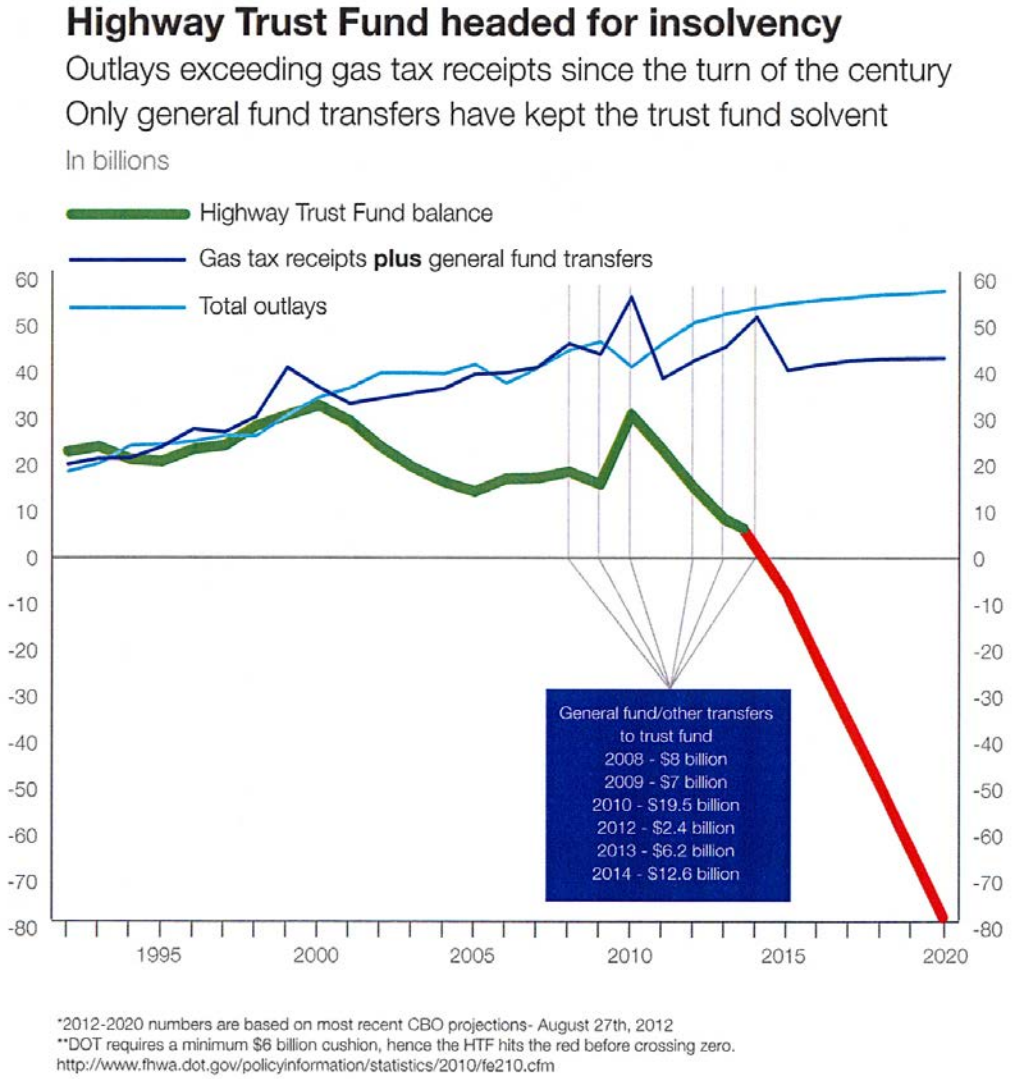
Federal and state gas taxes are but one example of the change. Initiated in 1932, the Federal gas tax added 1 cent per gallon to the cost of gasoline. Used to fund various national interests in the depression and WWII, the gas tax was tied to establishment of the Highway Trust Fund in 1956. The tax was increased by both Presidents Reagan and George H.W. Bush by 5 cents in both 1982 and 1990 respectively. It was last increased by Congress in 1997 to 18.4 cents per gallon. There is continued resistance to raise the gas tax in the recently elected 113th Congress.

Discussions about raising the gas tax to fund highway construction and maintenance originates from the premise that "those who use it should pay for it." There are others who argue that, with the exception of the National Highway System, responsibilities for roadways should lie with the states they traverse. In the absence of funding from the federal government, some states have begun to take action. Thirty states have now or are contemplating raising fuel taxes. Devolving responsibility to states for roadway maintenance and construction offers a local solution to an issue of national importance.

> Interestingly, during the 1940s (a time when the federal gas tax was still deposited in the general fund) the highway lobby argued that federal aid to support state highway networks should not come from user fees but rather from general revenue, given the tremendous perceived national benefits of those investments, even to non-users. As the head of the National Highway users Conference (the forerunners to today's American Highways users Alliance) argued:
>
> > The Federal Government should pay for such aid from sources of general taxation, because the benefits of that spending – to the national defense, to

interstate commerce, to mail delivery and to the general welfare – are not limited to any special taxpaying group.[14]

Table 3



Transportation for America "Making the most of Map-21, A guide to the 2012 Federal Transportation Law – and how to use it for Positive change in your community" (http://t4america.org/resources/map-21/handbook/) 2012

A Washington State gas tax was initiated in 1921 and formally tied to roads in 1944 by passage of 18th Amendment to Washington State Constitution. Its current rate of 37.5 cents per gallon was established in 2008. The fourth largest revenue source in the state, it remains a volume tax affected by consumption patterns and fuel efficiency. State voter initiatives requiring 2/3 supermajority for passages of tax increases (I-960) and for tax and fee increases (I -1053) both passing prevent needed change. Both I-960 and I-1053 are being contested in state courts.

[14] http://www.uspirg.org/sites/pirg/files/reports/Do-Roads-Pay-for-Themselves.pdf p.19

Americans resist tax increases and more so transportation taxes. Polls show that more than two-thirds of Americans find it unacceptable to increase the federal gasoline tax and that a majority of 58 percent also opposes replacing the gas tax with a mileage fee. Nevertheless, an equivalent majority of voters believes that the U.S. transportation infrastructure must be improved.[15]

Forecasting Federal Funds – MAP 21

The MAP 21 federal funds forecast can be found in the *Transportation Revenue Forecast Council November 2012 Transportation Economic and Revenue Forecasts*, Vol. IV Forecast Tables pp. 19-22. Below is just a sample of Surface Transportation Program (STP) values out to 2020.

MAP 21 Federal Fund Forecast only for State Apportionment and Obligation of Surface Transportation Program (STP) Funds Forecast from 2013 – 2020

Table 4

STP FORECAST	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Apportionment /Obligation Forecast	167.5	168.4	170.2	170.4	170.4	170.7	171.1	170.7
State Programs	44.7	45.1	45.8	45.8	45.8	45.9	46.1	45.9
Local Programs	122.8	123.3	124.4	124.6	124.6	124.8	125.0	124.8

(Numbers in Millions of dollars)

The federal forecast for just STP funding out to 2020, remains flat. The outlook past 2014 though projected at $170 million is uncertain. MAP 21 was funded at SAFTEALU levels until 2014. At that time the Federal Highway Trust Fund will be bankrupt. Without new funding initiatives, forecasted numbers shown above are simply unsupported.

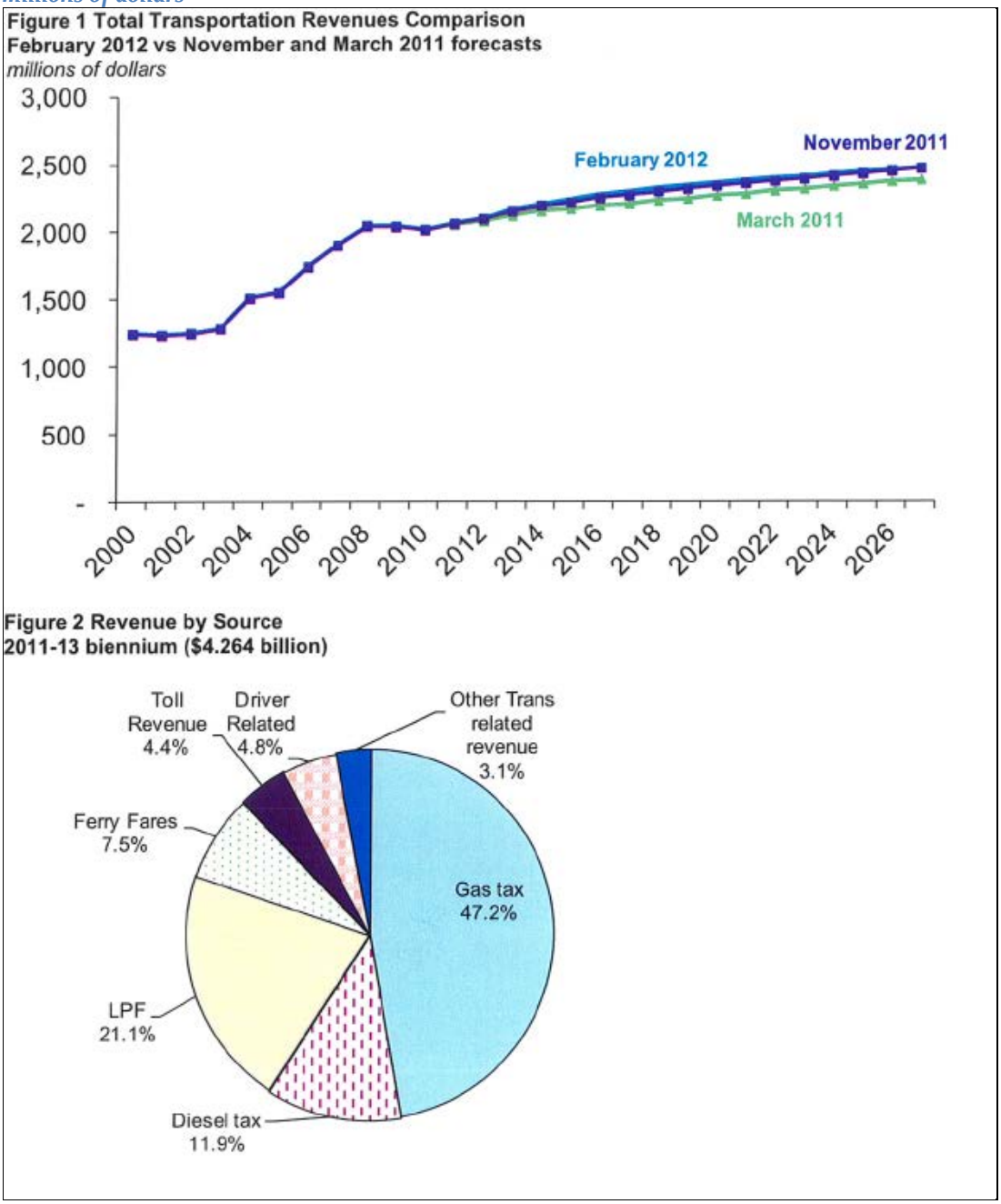
Forecasting Washington State Revenues

Forecasting state transportation revenue provides a way to look ahead within a historical process. Comparing forecasts year to year offers a way to narrow variability of the future years for budgeting. Forecasts do not predict the future only suggest what it might be.
The graphs below shows State Total Transportation Revenues compared with 2011 forecasts as adopted on 2-16-12.

It is not clear in whose interests these forecast are. They certainly provide justification to continue for strategies plans supporting the status quo. Actual collection data for tolling shows revenues coming in below forecasts. Actuals for HOV lanes on Hwy 167 show revenues coming in below forecasts. VMT data collected in Seattle, Washington State and Nationally show sustained declines since 2000. This last phenomenon has also been recorded internationally as well in industrial countries. Revised forecasting models taking into account actual data might create a more realistic planning environment for local jurisdictions.

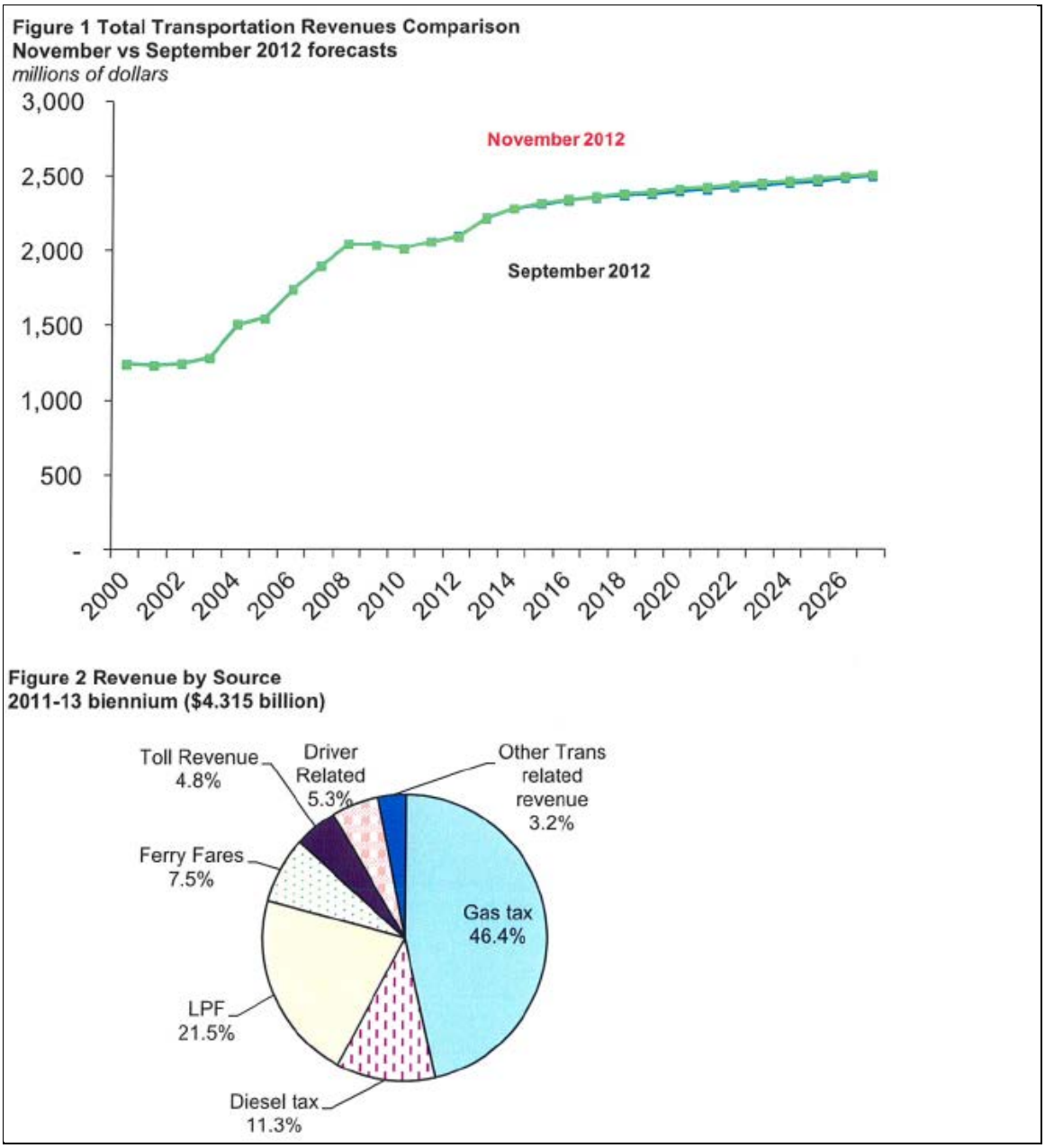
[15] op. cit. Bradley, Ridge, Walker. pp. 61-64

Table 5 Total Transortation Revenues Comparison February 2012 vs November and March 2011 Forecasts ***millions of dollars***



The second graph pair was adopted on 11-15-12. It is clear the projections of adopted in February 2012 changed little. Actual data recorded in local newspapers and transportation blogs suggest a different story.

Table 6 Total Transportation Revenues Comparison November vs September 2012 Forecasts *in millions of dollars*



Note: These sets of graphs and pie charts are taken from the Transportation Revenue Forecast February 2012 and November 2012 respectively. The Transportation Revenue Forecasts are published by law and are the responsibility of the Economic and Revenue Forecast Council and the Office of Financial Management. pp. 3 – 4

Comparing the above forecasts show little change in forecast projections. The percentages in the Revenue by Source pie charts show reductions in the segments called Driver Related, Gas Tax (which funds Washington's Highway Trust Fund) and Diesel Tax. These segments are all tied to Vehicle Miles Traveled (VMT).

WSDOT State revenues, absent new legislation, are equally difficult to forecast. A transportation budget for 2013/14 was recently adopted. The budget focuses on roadway maintenance and

several big-ticket projects including the Seattle-area Alaskan Way Viaduct. The $8.7 billion budget includes planning money for planning for the replacement for the Columbia River Crossing, with contribution from OR State. The Columbia River Bridge was built in 1917. A transportation revenue package has yet to be adopted.

Current revenues must go to servicing existing debt for the next 10 years. The debt resulted from the road building boom of 2004 – 2007 and an expectation of continued economic growth prior to the housing crash of 2008. WSDOT, as a further austerity measure, has announced that it will reduce its staff by 1000 FTE (full time equivalent) over the next 6 years. The state much like federal agencies is shifting funding and staff models used in new construction to those used for maintenance.

2012 Forecast Summary for State Revenue (the current biennium and beyond)

Table 7

Transportation Forecast Summary

Forecast Overview

Here are key conclusions from the November 2012 transportation revenue forecast.

- November 2012 transportation forecast of revenues: $4.315 billion for the current biennium which represents an increase of 5.9% over the prior 2009-11 biennium of $4.074 billion.
- Overall transportation revenue is up 0.2% forecast to forecast in the current biennium ($8 million) with the largest share of the increase in November in the current biennium being higher motor fuel taxes and toll revenue.
- For the 10-year forecast horizon, total revenues are projected to be $23.161 billion, which is lower by $60 million (0.3%) from September due to lower ferry revenue commuter ridership projections and ferry revenue collections, licenses, permits and fees and driver related revenue being down more than anticipated in September.
- New projections of real personal income are down slightly where new employment projections are up minimally from the last forecast. Washington Office of Financial Management revised projections of population which pushed up the population forecast. The current forecast for average retail gas, diesel and wholesale diesel price forecasts are lower than the September forecast.
- The primary reason for the change in fuel taxes in the current year has been higher gas and slightly lower diesel tax collections than anticipated. Economic variables affecting gas consumption in November are up slightly for population in 2012 and fuel efficiency in the long-term has fallen slightly. Gas prices have fallen since the last forecast throughout the forecast horizon. For the current biennium, overall gasoline and diesel revenue are up $7.9 million from the September forecast and this trend continues throughout the forecast horizon.
- Vehicle sales tax revenue and rental car tax are up minimally in the current biennium and rental car projections fall below the last forecast in subsequent years.
- Base ferry revenue estimate is down in the next and future biennium by $8.2 million and is down from last forecast throughout the forecast horizon due to ferry commuter ridership model revisions this quarter.
- Toll revenue is estimated at $208.7 million in the current biennium and this November forecast is higher by $6.8 million from previous forecast. The SR 520 toll revenue forecast has been revised substantially from previous forecasts due to model updates and new economic variables from a year ago.

Note: This sets Transportation Forecast Summary was taken from November 2012 Transportation Revenue Forecast Council. The Transportation Revenue Forecast is published by law and is the responsibility of the Economic and Revenue Forecast Council and the Office of Financial Management. Page 3

New Funding Models (a look at what is being discussed)

New approaches to funding road improvements/maintenance could link usage to taxation regardless of usage. A new report from the Government Accounting Office (GAO) is helpful.

> …the GAO's conclusion: "Mileage-based user fee initiatives in the United States and abroad show that such fees can lead to more equitable and efficient use of roadways by charging drivers based on their actual road usage and by providing pricing incentives to reduce road use."
>
> …it's a ringing endorsement of the idea of mileage-based fee, implying that it is not just a ways to collect revenue but also an effective mechanism to make better use of existing roads.

The impetus behind the desire to study VMT fees, of course, is the fact that current receipts don't match spending levels (which, in turn, don't match the need) due to the fact that the gas tax hasn't been raised in 20 years, and fuel-efficient vehicles are consuming less gas. While the gas tax was equal to 17% of the cost of a gallon of gas when it was set at its current level in 1993, it is now only 5 percent. The GAO noted that funding for surface transportation is on the agency's "High Risk List".

But it is not all about revenues. The GAO thinks that a VMT fee would also reduce congestion and lead to more efficient roadway use, which in turn could lead to fewer calls for very expensive road-building projects: For example, mileage fees and other forms of road pricing such as tolling send clear price signal to road users, and provide incentives to drivers to consider alternatives such as public transit or carpooling which can reduce congestion, vehicle emission, an overall spending on fossil fuels. The Congressional Budget Office (CBO) reported that most drivers currently pay much less than the full cost of their highway use, and that mileage fee could provide a better incentive for efficient highway use than fuel taxes do because the majority of highway costs are related to miles driven. …Several states have tested VMT fees, and the GAO drew on their findings as well as those of other countries…the GAO studied with a real-world national example that includes passenger vehicles. In New Zealand, the program has been operational for 35 years.

> …although technology for passenger cars has become an issue regarding privacy…Mileage fees for commercial trucks are easier and less costly to implement and less controversial…and would go a long way toward getting trucks to pay for the damage they cause to roads. FHEA estimates that heavy trucks only pay for about half the costs they create in terms of wear and tear, though the report notes the need for updated estimates on the amount of damage caused by these vehicles.

Germany charges heavy trucks to drive on the autobahn. About half are equipped with on-board units; the rest pay manually. Not only did it raise revenues, it "achieved its second goal of creating incentives for operators to invest in lower emission

vehicles…since fee rates were variable based on the truck's emission class, number of axles and distance traveled. [16]

The table below compares some road options and fees schedules to meet needed revenue targets.

Table 8 Illustratative Federal Mileage Fee Rates for Three Revenues Scenarios

Table 2: Illustrative Federal Mileage Fee Rates for Three Revenue Scenarios

Revenue scenario	Average passenger vehicle mileage fee (cents per mile)	Comparison with federal gasoline tax[a] (18.4 cents/gal)	Average commercial truck mileage fee (cents per mile)	Comparison with federal diesel fuel tax[b] (24.4 cents/gal)
Replace federal fuel tax receipts ($34 billion)	0.9¢	n/a	3.2¢	n/a
Meet current spending levels ($53.5 billion)	1.5¢	31.6¢ (72% increase)	5.4¢	34.8¢ (43% increase)
Maintain existing conditions and performance ($78.4 billion)	2.2¢	46.6¢ (153% increase)	8.4¢	53.8¢ (120% increase)

Tanya Snyder. GAO: Mileage Fee Could be More "Equitable and Efficient" Than Gas Tax" 2013 http://dc.streetsblog.org/2013/01/14/gao-mileage-based-user-fee-would-be-more-equitable-and-efficient/ (January 14, 2013)

VMT represents only one of a few road usage models to generate revenues. As was mentioned earlier (p.6) linking taxation to benefit received regardless of actual usage might offer another alternative. Though not the only model, the one presented here might aid in the discussion how we shift from construction models to a maintenance model of surface transportation.

Forecasting Revenues

Forecasting revenues and developing new funding models during a slow economic recovery across all PRTPO is difficult. WSDOT's revenue and expenditure forecasts, presented here, reflect the larger national economy. WSDOT debt service incurred in past years hinders robust projections.

The regional forecast guides long-term policy and investment decisions but in a much more general way than an operation budget governs day-to-day decisions. The forecast doesn't duplicated the detailed budgeting and programming efforts at the local level, but rather serves as an aggregate check on regional reality. It supplies a reasonable estimate of likely revenues and expenditures throughout the region, regardless of jurisdiction or mode of travel.

[16] Tanya Snyder. GAO: Mileage Fee Could be More "Equitable and Efficient" Than Gas Tax" 2013 http://dc.streetsblog.org/2013/01/14/gao-mileage-based-user-fee-would-be-more-equitable-and-efficient/ (January 14, 2013)

The PRTPO itself draws its funding from WSDOT. There is no expectation of new revenues for the PRTPO. Currently the PRTPO has no administrative structure to apply for or administer grants. Tribal, county, municipal governments and transit agencies have the ability to apply for and administer grants. PRTPO members are intimately aware of the ebb and flows of their own economies. They may choose to follow national trends that rely on fiscally-conservative investment decisions and difficult trade-offs**.**

This forecast does not deal with revenues attributed to cities, towns and counties. Neither can this document make specific forecasts or assumptions about Tribal revenues and expenditures. In the MAP 21 the set asides for Tribal programs have grown overall though it is unclear whether PRTPO Tribes will benefit directly. Partnering with Tribes offers non-Tribal RTPO members opportunities at the federal and state level not previously entertained.

The RTP 2020 consolidates, for planning purposes, the various revenue sources into three basic categories.

- Local revenue refers to those funds generated locally. This includes a large assortment of sources, ranging from various city and county taxes and fees to fare box revenues and sales tax.
- State revenue refers to those funds generated by state taxes or fees, and passed on to local governments, by the state. These revenues are often generated by transportation functions, either in the form of the gas tax or various license or weight fees. Local agencies receive a small amount of this revenue directly through distributions but have to compete for most state revenue.
- Federal revenue refers to those funds generated by the federal gas tax and then passed on to local transportation projects through regional allocations conducted by WSDOT, legislative processes or statewide competitions.

Local option revenue, a fourth type of revenue with no increases, remains a regional interest. Local option revenues includes those sources that are available to governmental agencies in the PRTPO area by law, but which have not yet been tapped or still have extra levy capacity. They usually require a public vote for approval. These revenues include an additional sales tax levy for transit, and gas tax for cities, towns and the County. While these local option revenues are difficult to implement, they may offer expanded opportunity for local determination in prioritizing and programming of funds.

The funding of transportation will be a joint effort of Tribes, municipalities, communities, counties, states, federal government and individuals. There will certainly be strident arguments about the path we take to make transportation more solvent. There is not a moment to be lost. Other nations are advancing and modernizing their infrastructure. Canada has committed $25 billion to modernizing their BC ports and related infrastructure.[17] Washington has committed $178 million for the same purpose. We must move aggressively.

[17]Larry Ehl. British Columbia to Invest $25 Billion Infrastructure to Capture More Asian Trade. 2012 http://www.transportationissuesdaily.com/british-columbia-to-invest-25-billion-in-infrastructure-to-capture-more-asian-trade/ (April 7, 2012)

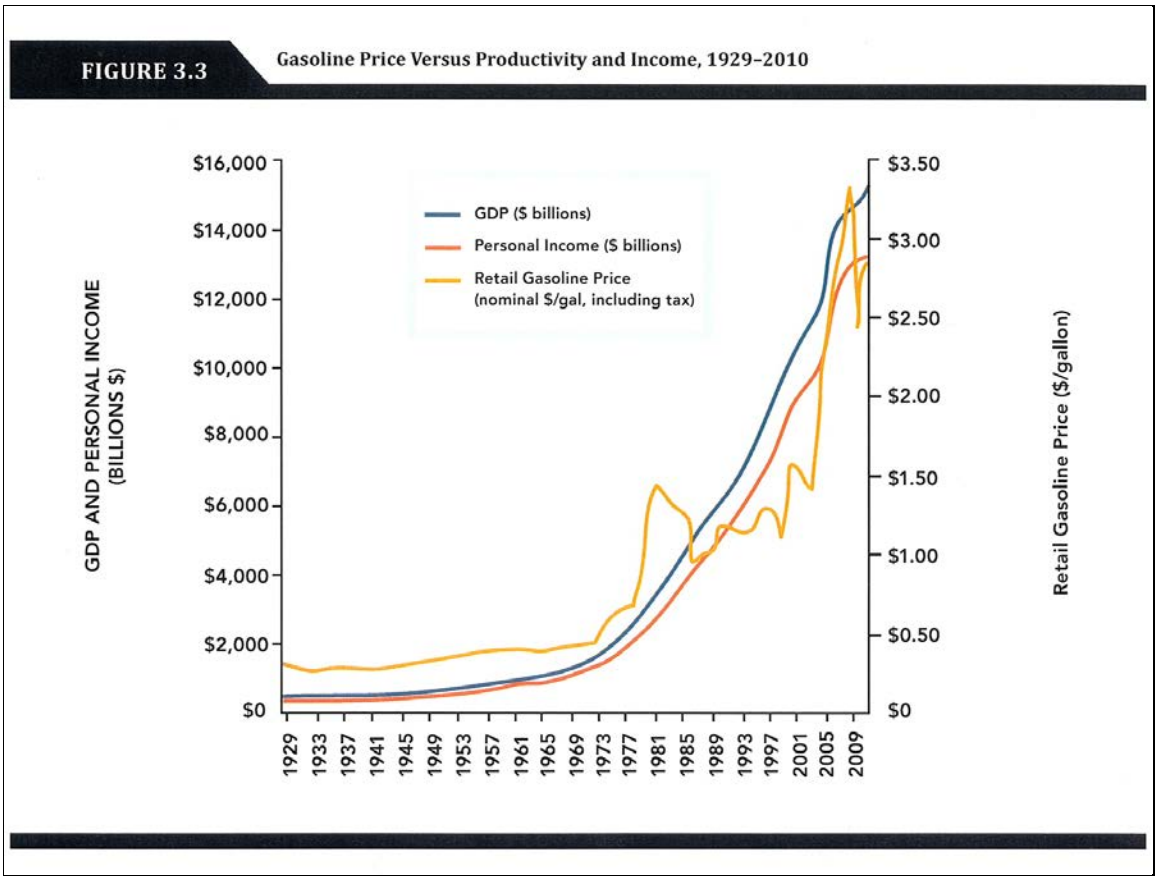
Consider the following section taken from the *Road to Recovery* , *Transforming America's Transportation.*

> **Transportation Solvency: An Insurance Policy for American Prosperity**
>
> America's continued security and prosperity depend, in no small part on its ability to make strategic investments in transportation infrastructure. "Strategic" means connected to an acknowledged, compelling federal interest, and investment means the ability to advance the federal interest during the full life of a project. At a minimum, transportation must support the American economy, not the reverse. At the moment this minimum standard is not being met. Transportation spending is digging an ever deeper hole in the federal budget. It ignores the costs of deferred maintenance by not keeping up and rebuilding the existing system, it is focused more on managing local congestion than on long-term economic returns on investments, and it does not pay for the full costs it imposes on public health and welfare. In sum, this is a model for economic decline, not a dynamic twenty-first-century economy.
>
> Economic development model based primarily on resource exploitation are obsolete. During the past one hundred years, America has prospered under such a model. The nation's growth has been based on cheap energy, cheap land, relatively free travel, and subsidized suburban development. This model is no longer viable…
>
> The solutions for achieving transportation solvency are readily available. First, transportation investments must contribute to economic productivity, not merely offer short-term stimulus and temporary employment. Second, every dollar of investment must count; transportation programs that don't directly support U.S. security and prosperity must be eliminated. Third, energy security must be a central focus of transportation investment. Fourth, those who benefit both directly and indirectly from the transportation systems should fund it. This will restore public trust.[18]

Some individuals and constituencies have argued that taxing fuel and road usage will hinder increases in personal income and economic growth. The historical record, in the graph below shows that increasing gas prices march in step with growth in personal incomes and Gross Domestic Product. Finding the way forward will require change. The changes are necessary.

[18] Bill Bradley, Tom Ridge, David Walker. "Road to Recovery, Transforming America's Transportation" (Carnegie Endowment for International Peace, Leadership Initiative on Transportation Solvency 2011) pp. 91-92

Table 9 Gasoline Prices Versus Productivity and Income 1920 - 2010



Taxing road usage or even VMT though equitable for drivers may not provide the revenue necessary to maintain the roadways we have. The sheer volume of roadways and bridges to maintain is only part of the problem. Prioritizing which roads and who chooses these roads will pose another dilemma. Finally VMT over all continues to decline.

Since it was first noted in July 2005 VMT on all roadways has declined steadily. The decline has continued for the last 7 ½ years unabated. There are a variety of explanations. Car ownership has declined for 16 – 23 year olds by 23%. Some believe this decline will be long-lasting. The Frontier Group provides some other data points to support this change:

- According to the Nation Household Travel Survey, from 2001 to 2009, the annual number of vehicles-miles traveled by young people (16 to 34 year-olds decreased from 10,300 to 7,900 miles per capita – a drop of 23 percent.
- In 2009, 16 to 34 year-olds as a whole took 24 percent more bike trips than they took in 2001 despite the age group actually shrinking in size by 2 percent.
- In 2009, 16 – 34 year - olds walked to destination 16% more frequently than did 16 to 34 year-olds living in 2001.
- From 2001 to 2009 , the number of passenger-miles traveled by 16 – 34 year olds on public transit increased by 40 percent *per capita.*

- According to Federal Highway Administration, from 2000 to 2010, the share of 14 to 34 year-olds without a driver's license increased from 21 percent to 26 percent. [19]

The reasons for these data points are many. Car ownership has decreased, states have added more requirements for driver licenses, companies like CartoGo and ZipCar offer low cost alternatives, car sharing in smaller communities have also evolved, younger people live in urban areas where they can walk, bike or take public transportation, and technology advances allow people to stay in touch without a car.

The argument that the recession has played a role cannot be overlooked. The trend toward reduced driving, however, has occurred even among young people who are employed and/or are doing well financially.

- The average young person (age 16 – 34) with a job drove 10,700 miles in 2009, compared with 12,800 miles in 2001.
- From 2001 to 2009, young people (age 16 – 34) who lived in households with annual incomes of over $70,000 increased their use of public transit by 100 percent, biking by percent and walking by percent.[20]

Mason County 4 **Mason Transit**

Rural residents, long thought to experience higher VMT per capita because the distances required to receive services, actually drive fewer miles than suburban or urban residents. Oregon DOT research shows:

> Rural drivers go longer distances, but infrequently enough that their total miles [21]are comparable to urban drivers who travel shorter distances more frequently "When looking strictly at miles driven on Oregon public roads (which is likely all that would be taxed), rural households drive fewer miles than their counterparts in urban areas. …Rural drivers benefit in general from good driving conditions (free-flow speeds,

[19] http://www.frontiergroup.org/reports/fg/transportation-and-new-generation

[20] Ibid

[21] http://www.transportationissuesdaily.com/vehicle-miles-tax-on-rural-drivers-everything-you-believe-may-be-wrong/

infrequent stops, little congestion) that help gas mileage and reduce gas consumption (and gas taxes) compared to many urban drivers.

The road ahead for PRTPO funding of transportation projects is not as clear as we would like. Developing our regional identity and strategies in seeking funding for our transportation networks may make us more competitive in the coming competitions for scare dollars.

Jamestown S'Klallam 2 Jamestown S'Klallam Tribe/Clallam County Route #50

Plan Implementation and Performance Measures

MAP 21

Performance Drive, A New Vision for U.S. Transportation Policy, (written by the Bipartisan Policy Council in 2007) is part of the National Transportation Policy Project, laid the foundations for MAP 21. It articulates the maintenance challenges that decades of road construction have brought. It initiated the discussion about new surface transportation paradigms, moving the discussion from new construction to maintenance. Critical foundational pieces were developed such as underfunding of surface transportation; overbuilding of road networks; premature life cycling of roads; deferred maintenance; diminishing revenue sources and legislative resistance to increase the gas taxes. It gave early credence to other studies that show…

> The public is ahead of policymakers on transportation reform. In surveys, respondents who believe that current transportation efforts are inadequate far outnumber those who say their mobility needs are being fully met by 10 to 1….
> A paradigm shift is needed in the way Americans think about transportation, the services they demand from the nation's transportation system, and the investments they make in this system. *The country needs to shift its focus from seeking mobility to providing greater access, from increasing the speed of travel to improving the reliability and efficiency of transportation services, and from building singular transportation projects to efficiently managing transportation networks. The national concept of transportation has evolved from glorification of the "freedom of the open road" to appreciation of the more fundamental freedom of economic, social, and environmental sustainability.* [22]

Manifesting this paradigm shift requires different outcome measures from those in existence now. New construction has relied on completion of centerline miles and bridges as outcomes. Maintenance funding models will require different outcome measures. Washington State requires regional transportation planning agencies:

> …to develop transportation plans based on least-cost principles. The state defines least-cost planning as "a planning analysis that identifies the most *cost-effective, multimodal project* and *program* investment strategies while taking into account *supply and demand*, full *life cycles costs*, and project and program *externalities."* (emphasis in the original) Importantly, the Washington approach does not value "mobility for mobility's sake" but rather requires the consideration of both programs to increase transportation supply and those that reduce demand as legitimate solutions to transportation challenges.[23]

[22] Bill Bradley, Tom Ridge, David Walker. Road to Recovery, Transforming America's Transportation. A Leadership Initiative on Transportation Solvency. Carnegie Endowment. 2011. pp. 49-51

[23] http://www.uspirg.org/reports/usf/do-roads-pay-themselves p.29

Outcome measures represent one element for new funding formulas if a paradigm shift is to occur. Choosing what is to be built at the national level represents another key element. Currently there is no competitive bidding between states choosing to build new or expand old highways.

> …consider the situation states currently find themselves in when choosing between investments in various transportation modes. If a state wishes to expand a highway, it receives an 80% federal match and can use federal transportation funds for that purpose with virtually no questions asked. The remaining 20 percent of the funds can come from state gasoline taxes.
>
> On the other hand, a state seeking federal support for a new transit line must compete against projects from other states through the New Starts process. While transit projects technically can receive an 80% federal match , in practice the match is typically around 50%, since the New Starts process favors application in which state and local governments provide a greater share of the funds. In many states, finding those local funds is extremely difficult since gasoline tax revenues are off-limits for transit projects.[24]

This funding orientation remains in MAP 21 with even stricter requirements for transit and active transportation. MAP-21 outcomes also call for performance measures. They will be released in March 2014. Incorporating them into state plans comes a year later. MAP 21 explains the interrelationship between the plans and performance measurements against plans. This also begins to invoke a paradigm shift.

> MAP 21 articulates a new direction in transportation. It consolidates 90 highway and transit programs into 30 programs. It allows states to shift money between programs while ending smaller specialized programs. MAP 21 also requires comprehensive plans and promises (March 2014) to implement performance measures to ensure progress to plan completion.[25]

As always the devil is in the detail. It relies on well documented plans at local, regional and state level. It consolidated programs eliminating some requirements and the funding attached to it. An example of a MAP 21 consolidation was the Dedicated Bridge Repair Fund.

> Under MAP-21, many more projects will be competing for funds from the Surface Transportation Program (STP). The new law broadens the STP to incorporate programs encompassing $5 billion of added responsibilities under the last transportation law (SAFETEA-LU) but only increased STP's overall total by about $1 billion….One of the most significant new responsibilities shifted to the STP is the repair of more than 460,000 bridges that are on key local and regional routes but are not on the NHS(National Highway System). In the past these bridges typically were fixed using dedicated repair

[24] Ibid. p. 28-29

[25] Transportation for America. "Making the Most of Map – 21. A guide to the 2012 Federal Transportation Law – and how to use it for positive change in your community." http://t4america.org/resources/map-21/handbook/ pp. 5-7

funds from the Highway Bridge Program. MAP 21 eliminated that repair program, shifted its funding to the National Highway Performance Program (NHPP)and divided responsibilities for bridge repair between the National Highway Program and the STP.[26]

MAP 21 ended the Deficient Bridge Repair program. Bridge repair is now funded by NHPP funds, and are in principle restricted to bridge repair in the National Highway System (NHS). The STP funds are expressly available for local and regional bridges not in the NHS. The federal government retained responsibility for the remaining bridges in the NHS. (Note: As this being written, and subsequent to the collapse of the Skagit River Bridge in Washington State, members of Congress have introduced bridge funding legislation. This action underscores the highly fungible nature of the current transportation environment.)

The act also changed the NHS. Previously at 160,000 centerline miles, it now includes an additional 60,000 miles of Interstates, highways and town main streets. This additional mileages increased the federal responsibility of highway miles to 5% of the total centerline miles in the nation. Although the NHS represents five percent of all American roads, fully 58% of MAP 21's highway program is committed to its upkeep amounting to $21.8 billion of the $37.7 billion allocated to states in 2013. [27]

Performance measurement of expenditures on highway maintenance raises questions of priorities. What should be done first? How can the benefits of that choice, be it a roadway or a bridge, be quantified. Currently 80% of federal highway funding is allocated without oversight.[28] The rate of return on federal investment fell to less than 1% by 1990s. [29] Unfortunately a traditional return investment for highways is a poor performance measure. A broader measure of benefit of investment was sought in MAP 21.

MAP 21 invokes an integrated management rubric tied to a set of national goals. The National Goals found in MAP 21 are:

- Safety
- Infrastructure condition
- Congestion reduction
- System reliability
- Freight movement and economic vitality
- Environmental sustainability
- Reduced project delivery delays

Two changes (from SAFETEA-LU) are worthy of note. Preservation has been replaced by "Infrastructure Condition" and "Reduce Project Delays" has been added. The move away from preservation acknowledges we can no longer preserve the entire road network. Reducing project delivery delays will maximize dollars for roadway improvement.

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[26] Ibid p.9

[27] Ibid pp. 8

[28] Bill Bradley, Tom Ridge, David Walker. Road to Recovery, Transforming America's Transportation. A Leadership Initiative on Transportation Solvency. Carnegie Endowment. 2011. p.37

[29] Ibid p. 25

MAP 21's management rubric incorporates performance measures, targets, plans, target achievements, and reporting. The Performance Measures, Performance Targets, Performance Plans, Target Achievements, and Performance Reporting are simply an overview of what MAP 21 requires. The rule making required by MAP 21 will be published by USDOT in March 2014. MAP 21 requires USDOT to establish, by March 2014, the factors that will be used to evaluate the measures listed. It will then be up to state DOTs, metropolitan planning organizations (MPOs) and transit agencies to set up the targets they intend to hit for each of those measures over a certain period of time. Each state, MPO and transit agency will have to establish baseline conditions for each of the performance measures.[30] Choices will determine which projects will get prioritized.

Performance Measures[31]

The USDOT will promulgate rules by March 2014 program performance measures:

For NHS Performance Program will include measures for States to assess

- Condition of Pavements
    - Interstate System
    - National Highway System (excluding the Interstate)
- Condition of Bridges
    - National Highway System
- Highway Safety Improvement Program
    - Interstate System
    - National Highway System

For Highway Safety Improvement Program:

- Serious injuries per vehicle miles travelled
- Fatalities per vehicle mile travelled
- Number of serious injuries
- Number of fatalities
- Measures used to assess safety on all public roads

For Congestion Mitigation and Air Quality Improvement Program

- Traffic congestion
- On-road mobile source emissions
- Assess freight movement on the Interstate system.

Note: Data elements necessary to collect and maintain standardized data may be incorporated into each requirement.

For Transit Performance Measures:

- Standards for measuring the condition of capital assets
    - Equipment
    - Rolling Stock
    - Infrastructure

[30] Op.cit. Transportation for America. pp 23-25

[31] http://www.fhwa.dot.gov/map21/docs/11sep_perf_mgt.pdf pp. 5-12

- Facilities

To insure these performance measures are based on consistent, accurate and timely data USDOT will develop Performance Targets.

Performance Targets[32]

- States must coordinate, to the maximum extent practical with relevant MPO in selecting a target to ensure for consistency.
- MPOs must coordinate, to the maximum extent practical, with the relevant State/s in selecting a target to ensure consistency.
- Coordination required with public transportation providers.
- States and MPOs must integrate other performance plans into the performance-based process.
- States must coordinate, to the maximum extent practical with relevant MPOs in selecting a target to ensure for consistency.
- MPOs must coordinate, to the maximum extent practical, with the relevant State/s in selecting a target to ensure consistency.
- Coordination required with public transportation providers.
- States and MPOs must integrate other performance plans to the performance-based process.

Performance Plans[33]

- Metropolitan Transportation Plan – 4year update
- Statewide Transportation Plan
- Metropolitan and Statewide Transportation Improvement Programs must include, to the maximum extent practical:
  - a discussion of the anticipated effect of the improvement program toward achieving the performance targets established in the transportation plan.
  - links investment priorities to performance targets
- Asset Management Plan
  - National Highway Performance Program
  - Developed using process approved by USDOT
  - Recertified every 4 years
- Strategic Highway Safety Plan
  - Highway Safety Improvement Program
  - Updated using process approved by USDOT
  - USDOT to establish update frequency
- CMAQ Performance Plan
  - Congestion Mitigation and Air Quality Improvement
  - Updated every 2 years
- State Freight Plan

[32] Ibid pp. 16-17

[33] Ibid pp. 18-25

- Highway Asset Management Plan
    - Risk-based asset management plan
    - States encouraged to include all infrastructure assets within the right of way
    - Plans Contents
        - Pavement and bridge inventory and conditions on the NHS
        - Objectives and measures
        - Performance gap identification
        - Lifecycle costs and risk management analysis
        - A financial plan
        - Investment strategies
    - USDOT, in consultation with State DOTs will establish the process to develop the plan through a rulemaking no later than 18 months after 10/1/2012
    - States must have a plan developed consistent with the process by the 2nd fiscal year, otherwise federal share for NHPP will be reduced to 65%
    - Process certification
        - USDOT 90 days review period to determine certification'
        - States have 90 days to cure deficiencies if not certified
        - Recertification required every 4 years.
- Management Systems
    - USDOT will establish minimum standards for states to use in developing and operating:
        - Bridge management systems
        - Pavement management systems
    - Minimum standards established through a rulemaking
        - Minimum 90 day comment period
        - USDOT will promulgate a rule making not later than 18 months after date of enactment.
- Transit National Public Transportation Safety Plan
    - Safety performance criteria for all modes of public transportation;
        - The definition of the term 'state of good repair' established under section 5326(b);
        - Minimum safety performance standards for public transportation vehicles used in revenue operations that –
            - Do not apply to rolling stock otherwise regulated by the Secretary or any other Federal agency; and
            - To the extent practicable, take into consideration
                - Relevant recommendations of the national Transportation Safety Board
                - Recommendation of and best practices standards developed by the public transportation industry
    - A public transportation safety certification training program, as describe in subsection (c)
- Transit Performance Plans
    - Transit Asset Management Plan
        - Transit asset management plan required for recipients and sub recipients of Federal financial assistance

        - Content and update frequency to be established by DOT
    - Public Transportation Agency Safety Plan
        - Comprehensive agency safety plan required to be established by each designated recipient of Federal Financial Assistance
        - Plan required within 1 year after effective date of a final rule issued by DOT to carry out the Public Transportation Safety Program.
- Annual Highway Safety Plans
    - Performance Measures,
        - Documentation of current safety levels for each measure
        - Performance targets for each measure
        - Justification for each target
    - A Strategy for programming funds to meet the targets
    - Data and analysis supporting proposed countermeasure
    - State Highway Safety Plans must also include
        - Description of funds the State plans to use to carry out the strategy
        - Report on State's success in meeting the goals and target of the previous HSP
        - An application for any additional grants available to the State under this chapter
        - Plans are due July 1 beginning July 2013

Target Achievement[34]

- National Highway Performance Program
    - *"A State that does not achieve or make significant progress toward achieving the targets…for 2 consecutive reports"*
    - Document in 23 USC150€ report actions the State will take to improve their ability to achieve the target.
- Highway Safety Improvement Program
    - *"State has not met or made significant progress toward meeting the performance targets…the date that is 2 years after the date of the establishment of the performance targets"*
    - State must set aside formula limitation equal to the amount of HSIP funding obligated in the prior year to safety projects only and submit annually to the DOT a plan to achieve the targets.
- MPO Certification
    - Applies to MPOs serving a transportation management areas with a population over $200,000.
    - USDOT certify that planning process complies with the requirements.
    - Failure to certify – USDOT may withhold up to 20% of funds attributable to the metropolitan planning area.
    - Recertification required at least every 4 years.

[34] Ibid pp.26-28

Performance Evaluation[35]

- USDOT will establish criteria to evaluate the effectiveness of the performance-based planning process of States
    - Progress towards the achievement of targets
    - Appropriateness of performance targets
    - Cost effectiveness and efficiency of transportation investments
    - Extent to which process relies on public input
    - Ability of the public to access information to assess the performance of the State.

Special Performance Rules[36]

- National Highway Performance Program
    - Interstate Pavement Condition
        - Minimum condition level established by USDOT through rulemaking.
        - Condition falls below threshold set by USDOT for 2 consecutive reports then:
            - NHPP funding set aside to address Interstate pavement conditions
            - STP funds transferred to NHPP to address Interstate pavement conditions.
        - This obligation stays in effect until the minimum threshold can be met (checked annually)
- National Highway Performance Program
    - National Highway System Bridge Condition
        - Greater than 10% of total deck area of bridges on the NHS are located on bridges classified as structurally deficient for 3 consecutive years then
            - NHPP funding set aside to address bridge conditions on the NHS
        - This obligation requirement remains in place until minimum condition requirement is met. (checked annually)
- Highway Safety Improvement Program
    - High Risk Rural Road Safety
        - Fatality rate on rural roads increases over the most recent 2 year period then:
            - HSIP set aside required to address high risk rural roads
    - Older Drivers
        - Traffic fatalities and serious injuries per capita for drivers and pedestrian over the age of 65 increases during the most recent 2 year period then:
            - Document in SHSP strategies to address increases in these rates.

Performance Reporting[37]

- State Report on Performance Progress
    - Required initially by October 1, 2016 and every 2 years thereafter
    - Report includes:
        - Condition and performance of NHS

[35] Ibid p. 29

[36] Ibid pp. 30-32

[37] Ibid pp. 33 -38

        - Effectiveness of investment strategy for the NHS
        - Progress in achieving all State performance targets
        - Ways in which congestion bottlenecks in National Freight Plan are being addressed.
- Highway Safety Improvement Program Report
    - Reporting frequency and content to be established by USDOT.
- CMAQ performance Plan
    - Reporting required every 2 yrs
    - Report on progress towards the achievement of targets
- Metropolitan System Performance Report
    - Required transportation plan every 4 or 5 years
    - Report includes:
        - Evaluate condition and performance of transportation system
        - Progress achieved in meeting performance target in comparison with the performance in previous reports
        - Evaluation of how preferred scenario has improved conditions and performance , where applicable
        - Evaluation of how local policies and investments have impacted costs necessary to achieve performance targets, where applicable
- State wide Transportation Plan
    - No frequency required
    - Optional report on system performance
- Transit Performance Reporting
    - 49 USC5326(c)(3) requires each designated recipient of Federal transit financial assistance to submit to FTA and annual report that describes –
        - The progress of the recipient during the fiscal year to which the report relates toward meeting the performance targets established under paragraph(2)
        - The performance targets established by the recipient for the subsequent fiscal year.
- USDOT Performance Reporting
    - Reports on Performance – based Planning Process
        - Submit to Congress within 5 years reports on effectiveness of the Metropolitan and Statewide performance based planning processes.
        - Report evaluating:
            - Overall effectiveness of performance- based planning as a tool to guide transportation investments.
            - Effectiveness of the performance – based planning process in each MPO and State
    - National Freight Strategic Plan
    - Freight Conditions and Performance Report
    - Projects of National and regional Significance
    - Infrastructure Investment Needs Report
    - Condition and Performance Report

The Nation's 4 million miles of roadways and the annual trillion VMT on them require funding accountability. Construction funding models that built the network of interstates, highways, bridges, and roadways provided easy progress measurements. This overbuilt network now requires maintenance. In road and bridge maintenance evidence of goals achieved are less finite. Additionally there exists the universal recognition among federal and state legislators there are insufficient funds to maintain this highway system.
Ultimately responsibility for the majority of roadway maintenance has devolved to the states.

MAP 21 expanded federal responsibility from 160,000 to 220,000 centerline miles and bridges of the NHS. This represents 5% of total road miles in the United States. Of the total road funding available in MAP 21 58% will be allocated to NHS or $21.8 billion of the 37.7 billion in 2013. States will be responsible for the remaining centerline miles and bridges. Current fees, tolls and gas taxes have traditionally only funded 36% of transportation needs for states.[38]

Our highway system is extraordinary but it is not without flaws. On August 1, 2007 a bridge, on Minnesota I 35 collapsed during rush hour. The eight lane single span truss failure killed 13 and injured 145 people. The ADT for the bridge was 140,000 vehicles. Figure 1: The failure mechanism was ½" gusset, a 1" gusset is normally required.

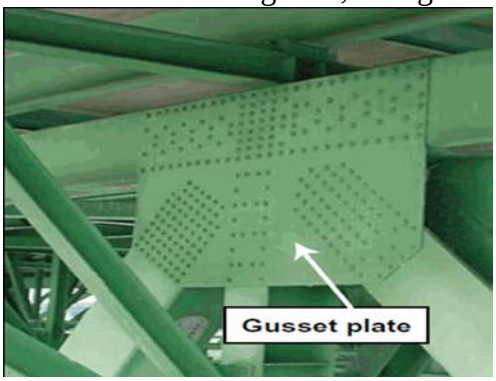


Figure 1 Interstate 35W Bridge Main Truss Node (National Transportation Safety Board photo)

Same gusset plate recovered after bridge failed.

Figure 2

[38] Richard Morrison. "Gas Tax Pay for Only a Fraction of Road Spending". Targeted News Services CPA Practice Advisor (http://www.cpapracticeadvisor.com/news/10856239/gas-taxes-pay-for-only-a-fraction-of-road-spending) 2013

This image shows a fracture in a gusset plate that played a key role in the collapse of the Interstate 35W bridge. (National Transportation Safety Board photo)

The reason for catastrophic failure of gusset was the excessive weight (additional weight of highway construction equipment stationed on the bridge) during rush hour. No one had evaluated the impact of the additional weight of construction equipment against the bridge design specification. The bridge built in 1967, was 40 years old.

Interstate-5 runs from the Mexican border to the Canadian border, connecting most of the major cities of Washington, Oregon, and California. The collapse of a bridge on one of the country's most important roads reveals the fragile state of the nation's critical infrastructure, especially coming six years after the I-35W bridge collapse in Minneapolis, which killed 13 people.[39]

Figure 3 Skagit River Bridge

The Skagit River Bridge, built in 1955, has a sufficiency rating of 57.4 out of 100, according to federal records. This is well below the statewide average rating of 80. The bridge, which was inspected twice last year, was deemed functionally obsolete, but not structurally deficient as recently as 2010.

[39] http://dc.streetsblog.org/2013/05/24/i-5-bridge-collapse-a-painful-reminder-of-the-nations-misguided-priorities/

Bridge Condition Definitions

Structurally Deficient: *This ratings means a bridge is in a structurally deteriorated condition and does not adequately carry its designed traffic loads. Weight restrictions or closures may be posted depending on the limits of the bridge's load carry capacity.*

Functionally Obsolete (FO): *This rating means the bridge does not have adequate approach alignment, geometry, clearance, structural adequacy, or waterway adequacy to meet the intended traffic needs; or is below the accepted design standards.*

Sufficiency Rating (SR): *This is a qualitative value that measures the bridge's relative capacity to serve its intended purpose. A sufficiency rating will vary from 1 to 100, with a smaller value indicated a lower sufficiency.*

(2013 Report Card for Washington's Infrastructure, May

On May 23, 2013, A truck with an oversize load apparently hit the overhead part of the steel truss bridge at about 7:00 p.m. The road buckled and fell, dropping two vehicles about 25 feet down into the cold Skagit River. Fortunately, there were no fatalities.

Functional obsolescence means that the bridge was built to outdated standards but is still structurally sound. Often, a bridge is deemed obsolete simply for being more narrow than engineers would currently like it to be, given the level of traffic throughput. However, one factor in deeming a bridge "functionally obsolete" can be that it wasn't built to withstand current vehicle weight loads or heights.

The American Society of Civil Engineers released their 2013 infrastructure report card two days after the collapse of the bridge. The report card says 1,693, or 21.6 percent, of Washington's bridges are functionally obsolete. Sixty-seven percent of the state's roads are in poor or mediocre condition.

Though I-5 is an interstate highway, the collapse occurred in a state that has de-prioritized repair on its state roads. Washington spends just 14 percent of its total state highway budget on repair. Only six states spend less. According to a 2011 Smart Growth America analysis, the state spends $181 million a year on repair, when it needs to spend $426 million.

The collapse puts out of commission a bridge used by an average of 71,000 vehicles a day, detouring vehicles through residential areas. (http://t4america.org/blog/2013/06/19/one-in-9-bridges-still-structurally-deficient-as-average-age-nears-50-years/)

Washington State has maintained conditions with an average sufficiency rating (SR) of 81 with only 5% (391) of bridges structurally deficient (SD), ranking Washington state sixth nationally for lowest percentage of structurally deficient bridges and conditions for state and local agencies mirror each other. However, Washington only ranks thirtieth in the nation when functionally obsolete (FO) bridges are included. Of the state's bridges, 20% (1,548) are classified as such, as opposed to the national average of 13%.

The numerous functionally obsolete bridges reflect the growing age of Washington's infrastructure. Currently, the average bridge age in Washington is 43 years; modern design and construction methods are expected to result in a 75 year life.

Bridges from this era usually had shorter design lives than modern bridges and will have greater preservation needs as they age. A rapidly aging infrastructure will leave 71% of Washington State's bridges over 50 years old within the next 20 years.

A backlog of $28.1 billion was estimated from the 2011 NBI data for total project improvement costs for all bridges in Washington that currently qualify for replacement (SR<50) or repair (SR<80). It will cost $6.3 billion for only structurally deficient bridge improvements and $15.1 billion for only functionally obsolete bridge improvements.[40]

In response, members of Congress have introduced bridge funding legislation. Rep. Nick Rahall of West Virginia, ranking Democrat on the House Transportation and Infrastructure Committee, filed HR2428 on Wednesday, June 19, dubbing it the Strengthen and Fortify Existing Bridges Act, or SAFE Bridges Act.

The bill, which picked up 24 cosponsors on its first day, calls for $5.5 billion in new funding to fix deficient bridges. It was immediately referred to the T&I Committee, which is chaired by Rep. Bill Shuster, R-Pa. "The bridge that gave way was just one of thousands across the country that have exceeded their life expectancy and are in need of replacement. The legislation I am introducing today would give states the resources they need to start to reduce this unacceptably high backlog of aging bridges that pose a threat to public safety and our economic competitiveness," Rahall stated.

The collapse was the subject of a hearing last week by the Senate Appropriations Subcommittee on Transportation, Housing and Urban Development, which is chaired by Sen. Patty Murray, D-Wash.

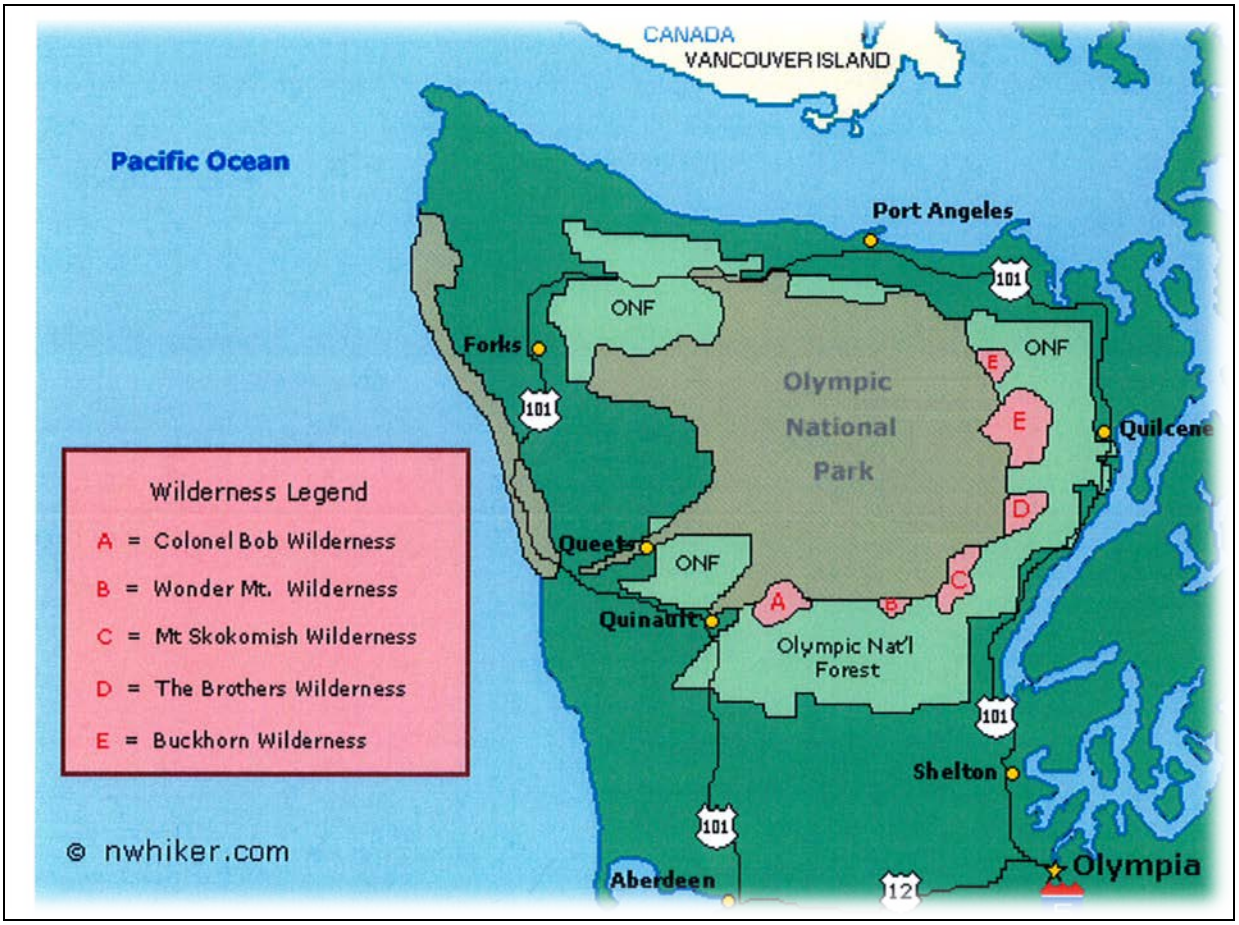
Authors of a recent study by the U.S. Government Accountability Office showed that the U.S. had fewer bridges listed as structurally deficient or functionally obsolete in 2012 than it did in 2002, but there are still 151,497 of them meeting at least one of those designations.

[40] 2013 Report Card for Washington's Infrastructure, American Society of Civil Engineers

Regional Transportation Summary

Geography, historical events and economic development have produced the Peninsula's regional transportation infrastructure that we have today. The Olympic National Park surrounded by the Olympic National Forest and other Wilderness areas constrains transportation to the perimeter of the Peninsula.

Figure 4 Map of Olympic National Park and Surrounding Wilderness Areas



Map Courtesy of Interactive Hiking Guides[i41]

Historically Hwy 101, created in 1926, consigned two existing State Road 9 and 12 into the US 101. The life support for Peninsula communities it serves as an alternate route for Interstate 5 when it closes to flooding.

[41] file:///J:/RTP%202012/RTP%20Document/Northwest%20Hiker%20presents%20hiking%20in%20the%20Olympic%20National%20Forest.htm

The Peninsula's interdependent economic development and land use patterns, both of which dictate its transportation infrastructure, depends on a variety of players. Tribes, counties municipalities, transit agencies, ports and corporations play important roles.

Senator Cantwell (D-WA), Chairwoman of US Senate Committee on Indian Affairs, recently expressed concern that 8 of the 10 poorest counties in the United State can be found on Indian Country where unemployment rates are as high as 80%.[42] Of the 29 Tribes located in Washington State 1/3 of them are located on the Olympic Peninsula. Their impact on the Peninsula's surrounding economies, like the rest of Tribes impact throughout the state, are significant. Washington state residents have much to gain from Tribal enterprises (casinos, businesses and government) employ three non-Native for every Native they employ. More than 27,000 Washington residents, received $1.3 billion in wages. Of the 27,000 Tribal employees, 81% of casino, over 50% of Native business and 45% of Tribal government employees were non-Native. These paychecks bring economic benefit to rural areas that have been traditionally hard pressed.

In operating their casino-resorts, business and government Tribes purchased $2.4 billion in goods and services in 2010. Tribal casino and government building construction through local firms in 2010 alone totaled $3.5 billion value added in Washington economy. Indirectly this business activity generated estimated $268 million in business taxes for state treasury. Tribal economic development brings jobs and growth to areas that government has been traditionally unable to serve. Tribal economies are significant economic engines for rural Washington communities.

This Tribal economic development has resulted in significant contributions to local infrastructure and transportation needs. Quileute, Makah, Quinault, Squaxin Island and Skokomish own or contract with local transit agencies, bus services that serve reservations and surrounding communities. Makah, Quileute, Lower Elwha, Jamestown, Suquamish, Port Gamble, Squaxin Island and Skokomish have completed major infrastructure projects including improvement to US 101, construction and operation of new MBR waste water treatment plants, and development of disaster preparedness resources throughout the Peninsula.

Tribes, absent GMAs, UGAs and LAMRIDs (Local Areas of More Intensive Rural Developments), follow best practices. Their experience in master planning development including infrastructure shows in their new housing developments. Their infill development practices take into account accessibility and mobility. Tribal wetland restoration, establishment of state of the art water quality labs has caught the attention of the US Army Corps of Engineers.

[42] Indian Affairs Hearing Examines Obama FY2014 Budget's impact on Indian Country. Tribal Tribune, The Official Publication of the Confederated Tribes of the Colville Reservation. Vol. 39, No. 16. 5/2/13

Counties, port and municipalities are also critical partners in economic development and the resulting infrastructure. Counties maintain the majority of roads on the Peninsula: Clallam County maintains 487.3 centerline miles (clm); Jefferson County maintains 399 clm, the lowest in mileage in Western Washington; Mason County 620 clm. Kitsap County road mileage is unclear. It has membership on both the PRTPO and Puget Sound Regional Council. The PRTPO membership covers rural Kitsap County.

Skokomish Indian Tribe 2, t3ba'das Housing Development access road

Center line miles represent but one piece of the infrastructure. Intermodal planning commenced in 1991 with the passage of the Intermodal Surface transportation Efficiency Act (ISTEA). Roadways up to 1991 served as the sole measure of transportation. ISTEA changed that counties and municipalities began to look at roadways as one of many different ways transportation can be handled. The resulting bicycle trails that now link Mason, Kitsap, Jefferson and Clallam compliment ferry, bus and automobile. This interdependence of transportation modes continues to grow. Tourism, a growing segment of the Peninsula economy, now in part depends on intermodal network.

Constraints imposed by MAP 21 passed in 2012 will limit further roadway expansion and growth outside of UGAs. It does provide more local control to enhance further the existing intermodal network established with ISTEA. Unfortunately states, MPOs and RTPOs will have not been able to adjust to the evolving changes in MAP 21. As a result WSDOT will continue to rely on, Level of Service (LOS) a strictly auto centric measure, as the bench mark for planning. The results are shown in the Average Daily Trips (2008 – 2030) and LOS (2008 – 2030) comparisons at the end of this chapter. Although cars and auto travel will be around for many years relying on ADT and LOS for future projections will miss trends already under way. The continual decrease in Vehicle Miles Travelled (VMT) seen at state and National level reported in this document is one. The 78.1% increase in Mason County Ridership from 2005 – 2011 will also be missed though other PRTPO transit agencies show similar trends.

Ports, a key component of counties, provide economic muscle where counties cannot. Long thought of as strictly maritime, they are reinventing themselves. Both Clallam and Jefferson counties see the need to provide large storage and processing area for specialty agriculture produce. In Walla Walla the port authority took a long unused rail yard and added cold storage warehouses for produce coming from the farms and ranches in the eastern part of the state. Actively using the rail head they now ship non-stop trains to the east coast with Washington

State produce. PRTPO ports using existing roadway infrastructure could build similar facilities (using USDA grants) to store and ship via truck specialty organic produce to markets in Seattle.

Airports also play a minor but vital role in the Peninsula. Clallam with 5, Jefferson County with 1, Mason County with 1 and Kitsap with 1 provide small but increase freight capacity. Jefferson County UPS trucks now meet daily air shipments on the tarmac with delivery locally. These air hubs also provide for increasing tourist visits from Canada and Puget Sound.

The infrastructure we have now arterials, collectors, feeders and streets represent the bones of the PRTPO transportation network. US 101 has been categorized incorrectly as a secondary freight route by WSDOT. Called a “life-line” by those outside the Peninsula, resident know it as the Peninsula’s “life-support”. When Interstate 5 closes it also becomes a “life-support” for Olympia, Tacoma and Seattle. The PRTPO will need to carefully maintain what they have. More importantly they will need to maximize all the aspects of the intermodal network currently in place. Enhancing those elements will produce the greatest benefit for Peninsula communities.

LOS and ADT Projections

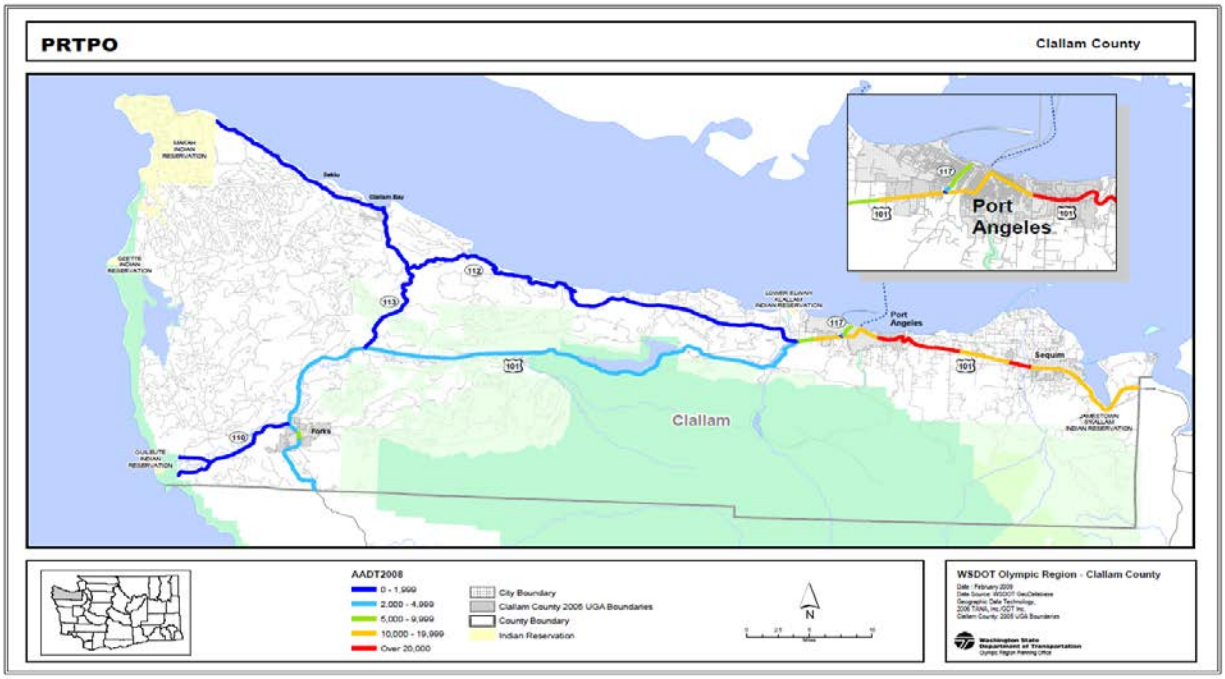
The following maps were generated by WSDOT and offer a comparison of Level of Service (LOS) and Annual Average Daily Traffic (AADT) projections within the four PRTPO counties:

> LOS is a method of measuring operational traffic conditions. State law allows agencies to use any number of performance measures to evaluate operational efficiency of the transportation system, as long as it is coordinated regionally. Currently, this regions uses traditional Volume-to-Capacity ration or V/C ratio, of a given roadway segment during the busiest two hours of the evening commute period. As the volume of traffic on a roadway during the peak commute time approaches the designed capacity, congestion increases. LOS may use a grading system, with "LOS A" representing free flow and "LOS F" reflecting stop and go or failing traffic flows.
>
> ADT (Average Daily Traffic) is the total traffic volume during a given time period, ranging from 2 to 364 consecutive days, divided by the number of days in that time period, and expressed in vpd (vehicles per day).
>
> AADT is the average daily traffic on a roadway link for all days of the week during a period of one year, expressed in vpd (vehicles per day).

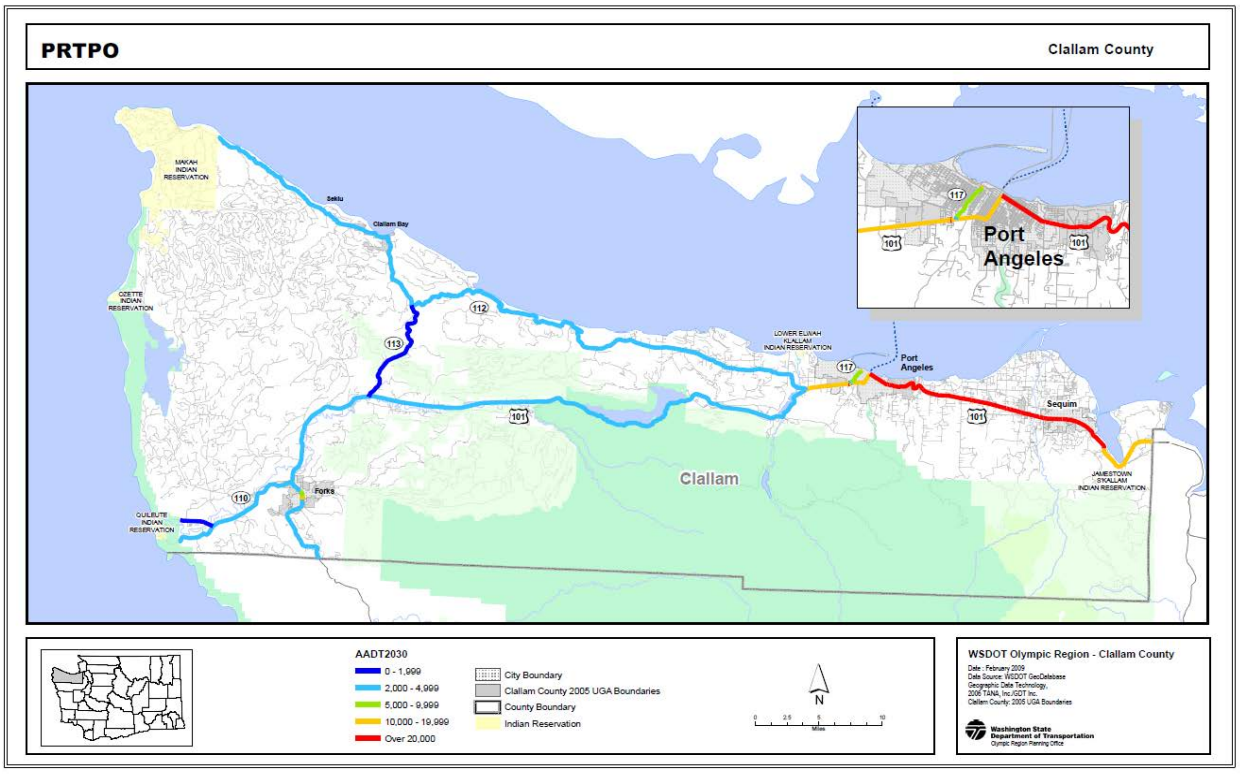
AADT Map 1, Clallam County Annual Average Daily Traffic 2008 65
AADT Map 2, Clallam County Annual Average Daily Traffic 2030 65
LOS Map1, Clallam County Level of Service 2008 66
LOS Map 2, Clallam County Level of Service 2030 66
AADT Map 3, Jefferson County Annual Average Daily Traffic 2008 67
AADT Map 4, Jefferson County Annual Average Daily Traffic 2030 67
LOS Map 3, Jefferson County Level of Service 2008 68
LOS Map 4, Jefferson County Level of Service 2030 68
AADT Map 5, Kitsap County Annual Average Daily Traffic 2008 69
AADT Map 6, Kitsap County Annual Average Daily Traffic 2030 69
LOS Map 5, Kitsap County Level of Service 200 71
LOS Map 6, Kitsap County Level of Service 2030 72
AADT Map 7, Mason County Annual Average Daily Traffic 2008 73
AADT Map 8, Mason County Annual Average Daily Traffic 2030 74
LOS Map 7, Mason County Level of Service 2008 75
LOS Map 8, Mason County Level of Service 2030 76

Land Use Map 1 77

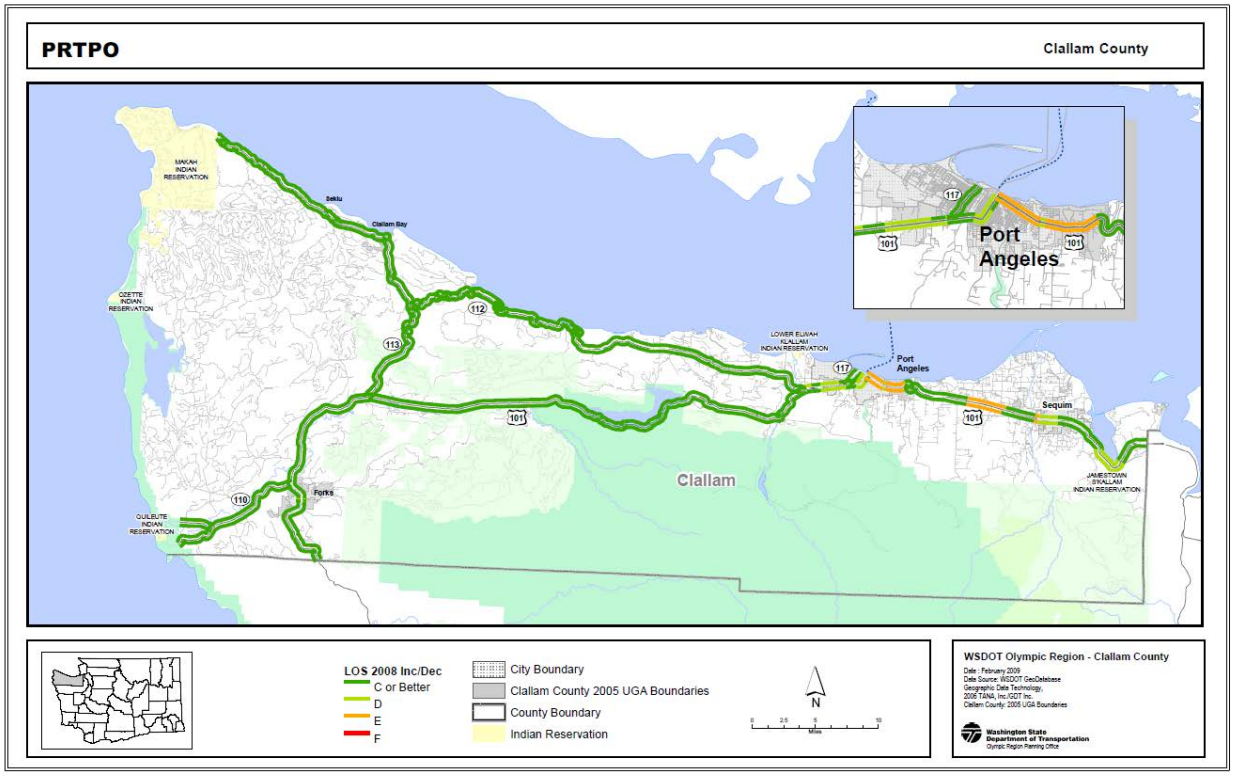
LOS and ADT information is required as a part of the RTP. However, any LOS and ADT projections must be reviewed with the understanding that any errors in the assumptions made by transportation professionals will be compounded the further the projected outlook. Projections available today were compiled several years ago and may not accommodate present trends such as falling VMT figures. These figures are simply a projection at a fixed time using available tools and knowledge.



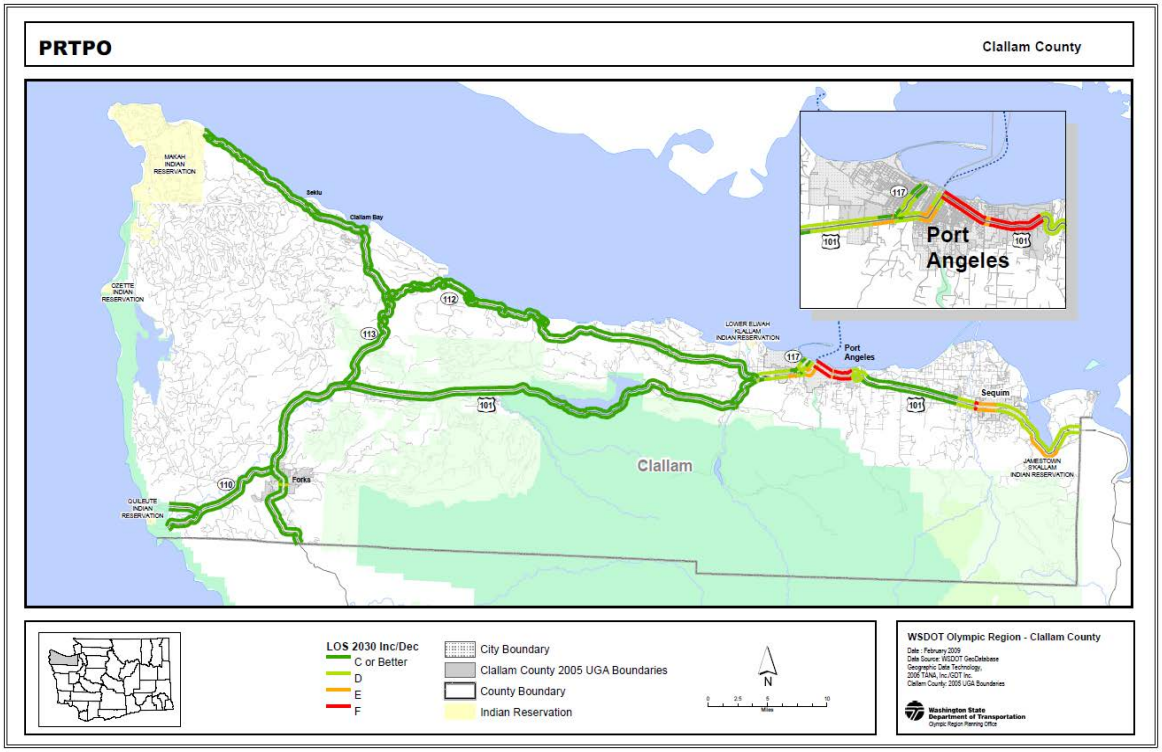
AADT Map 1 Clallam County Annual Average Daily Traffic 2008



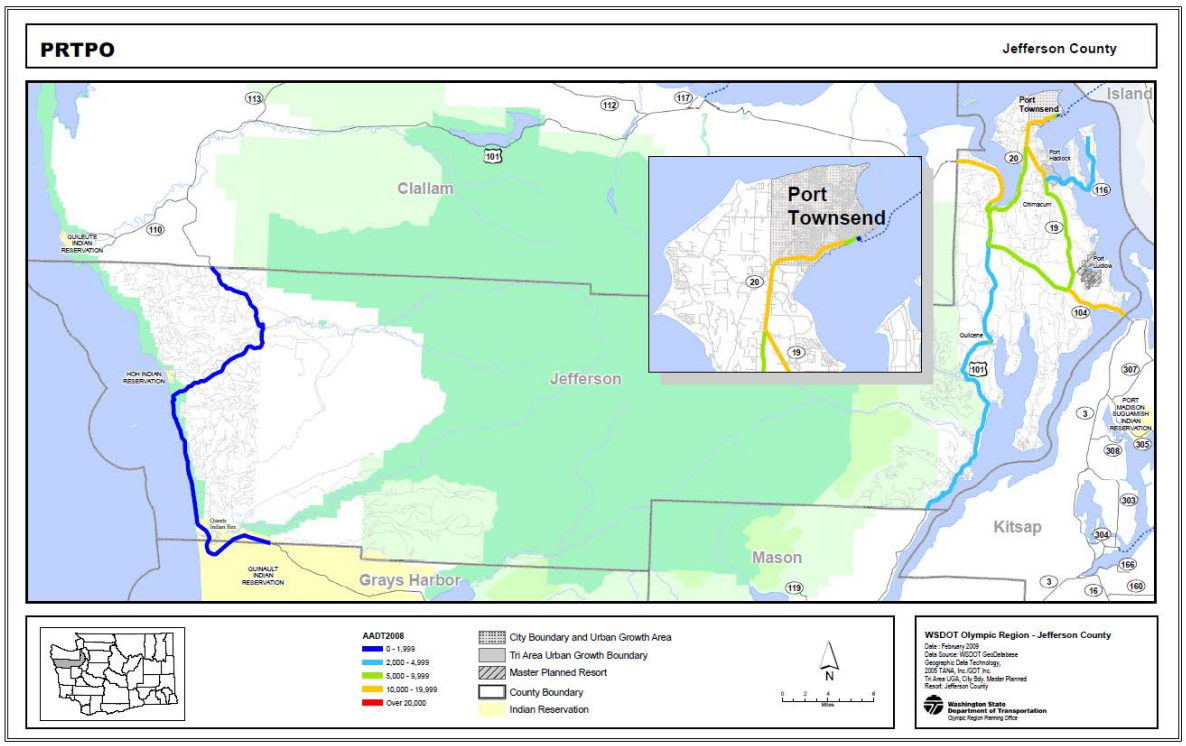
AADT Map 2 Clallam County Annual Average Daily Traffic 2030



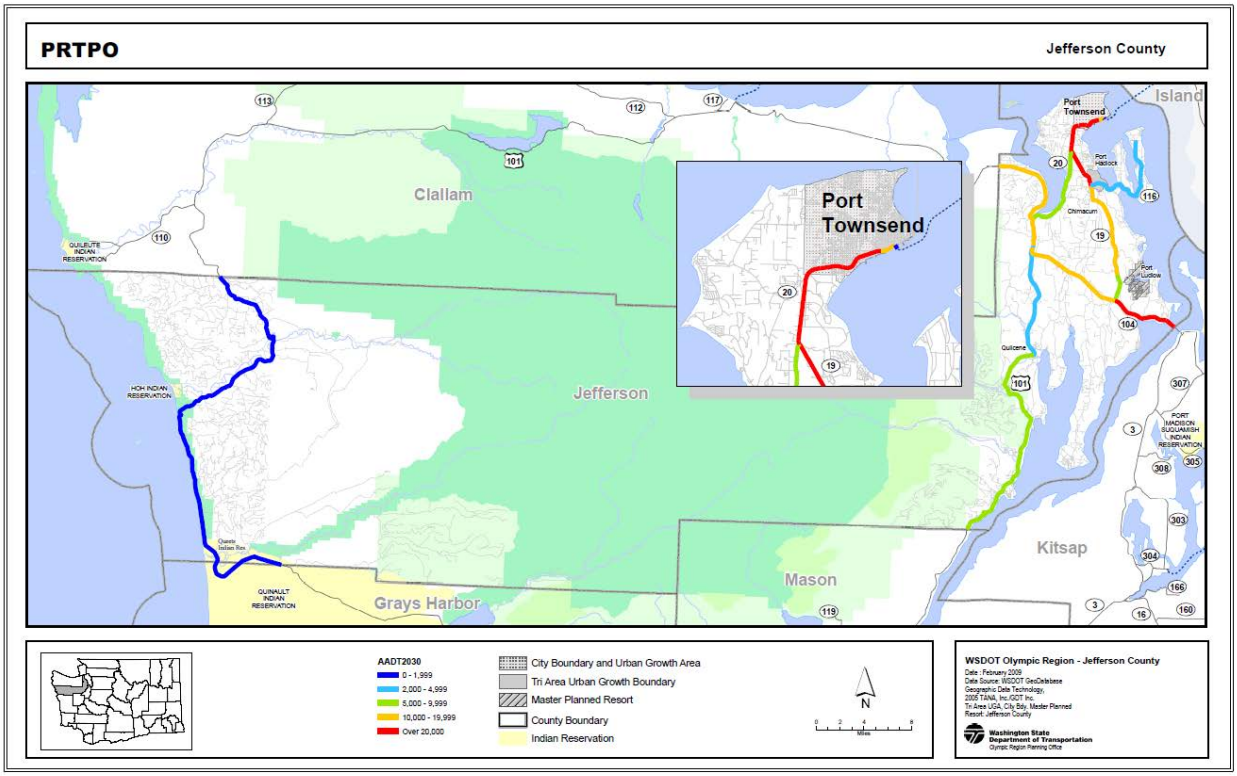
LOS Map 1 Clallam County Level of Service 2008



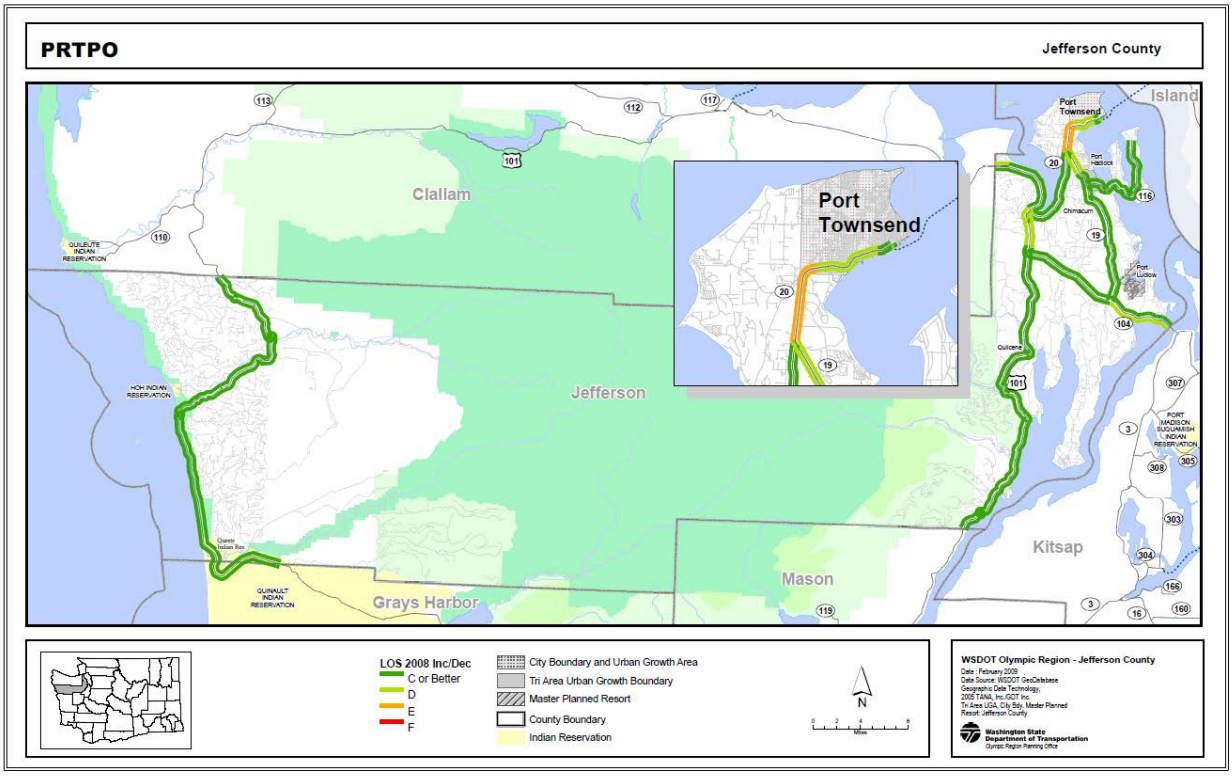
LOS Map 2 Clallam County Level of Service 2030



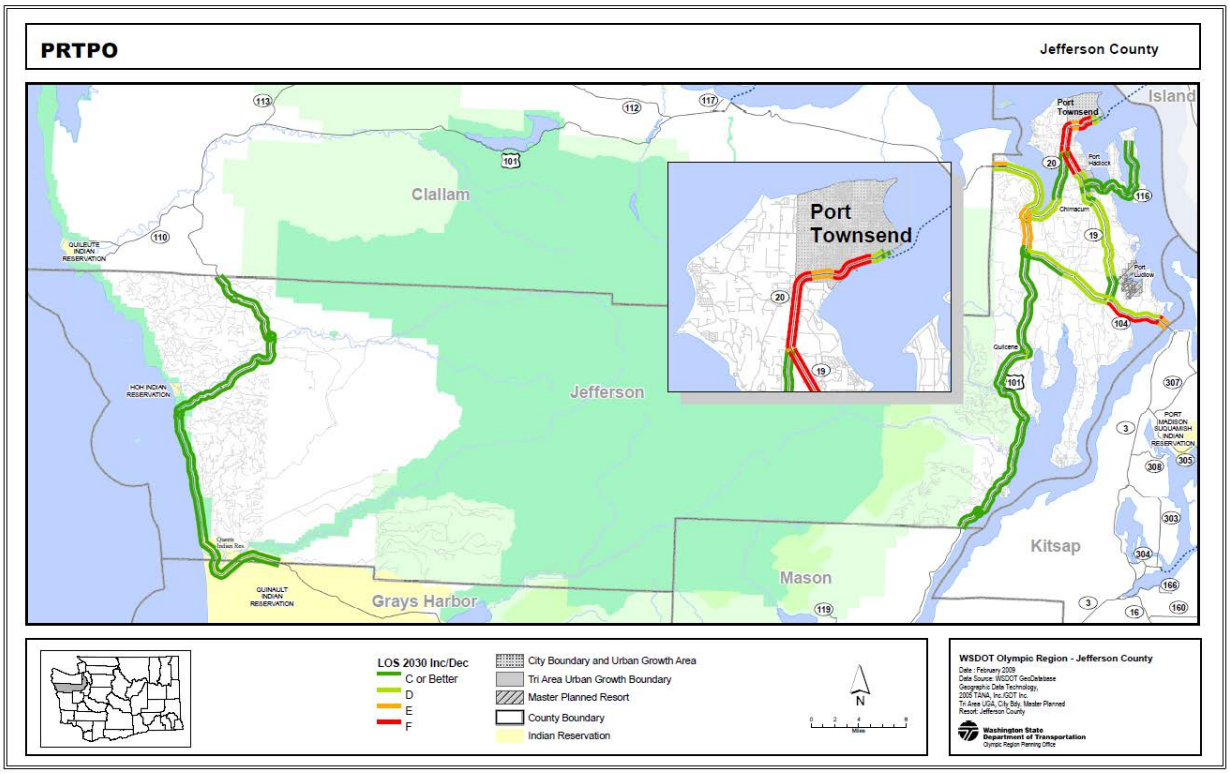
AADT Map 3 Jefferson County Annual Average Daily Traffic 2008



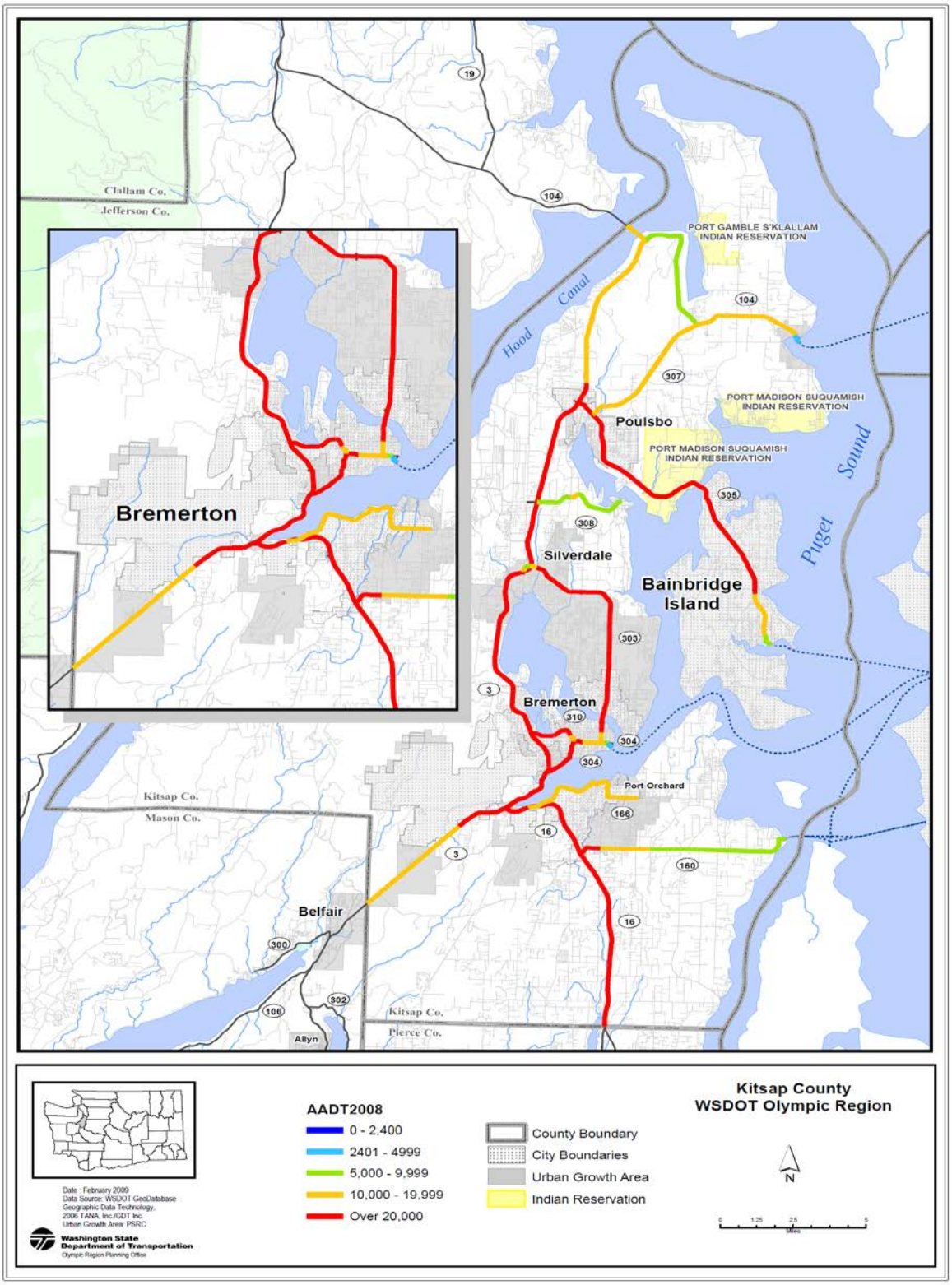
AADT Map 4 Jefferson County Level of Service (LOS) 2030



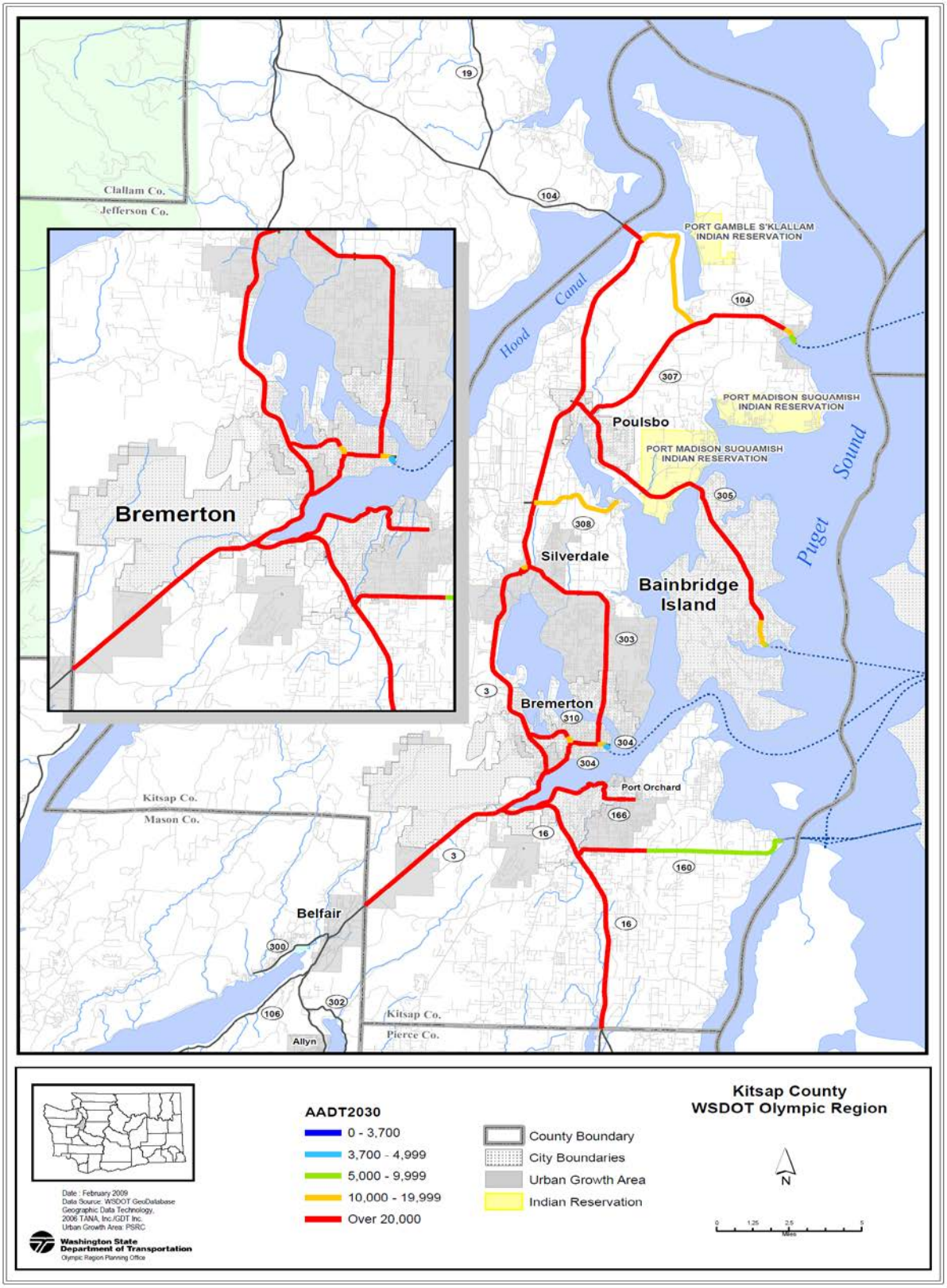
LOS Map 3 Jefferson County Level of Service 2008



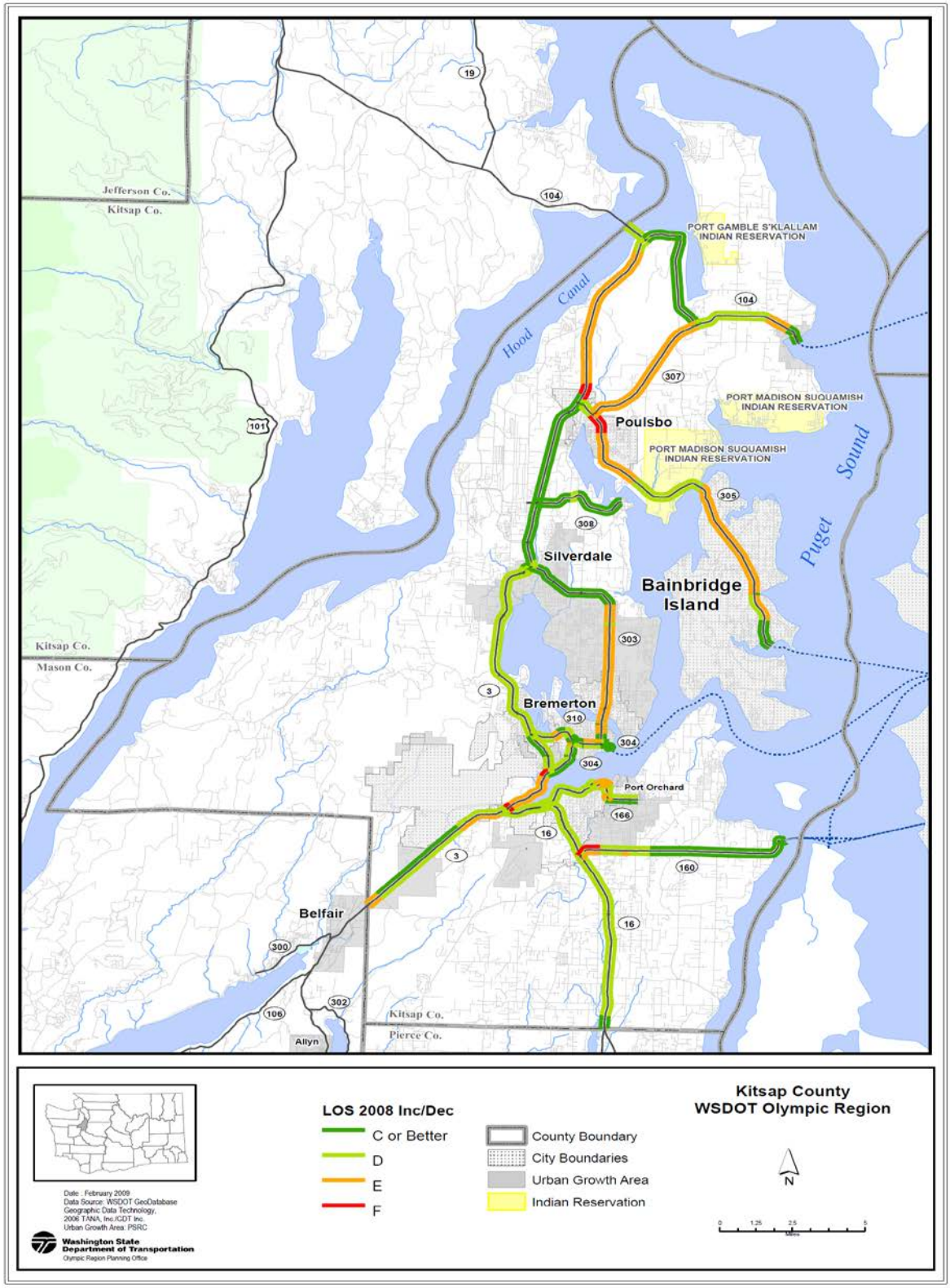
LOS Map 4 Jefferson County Level of Service 2030



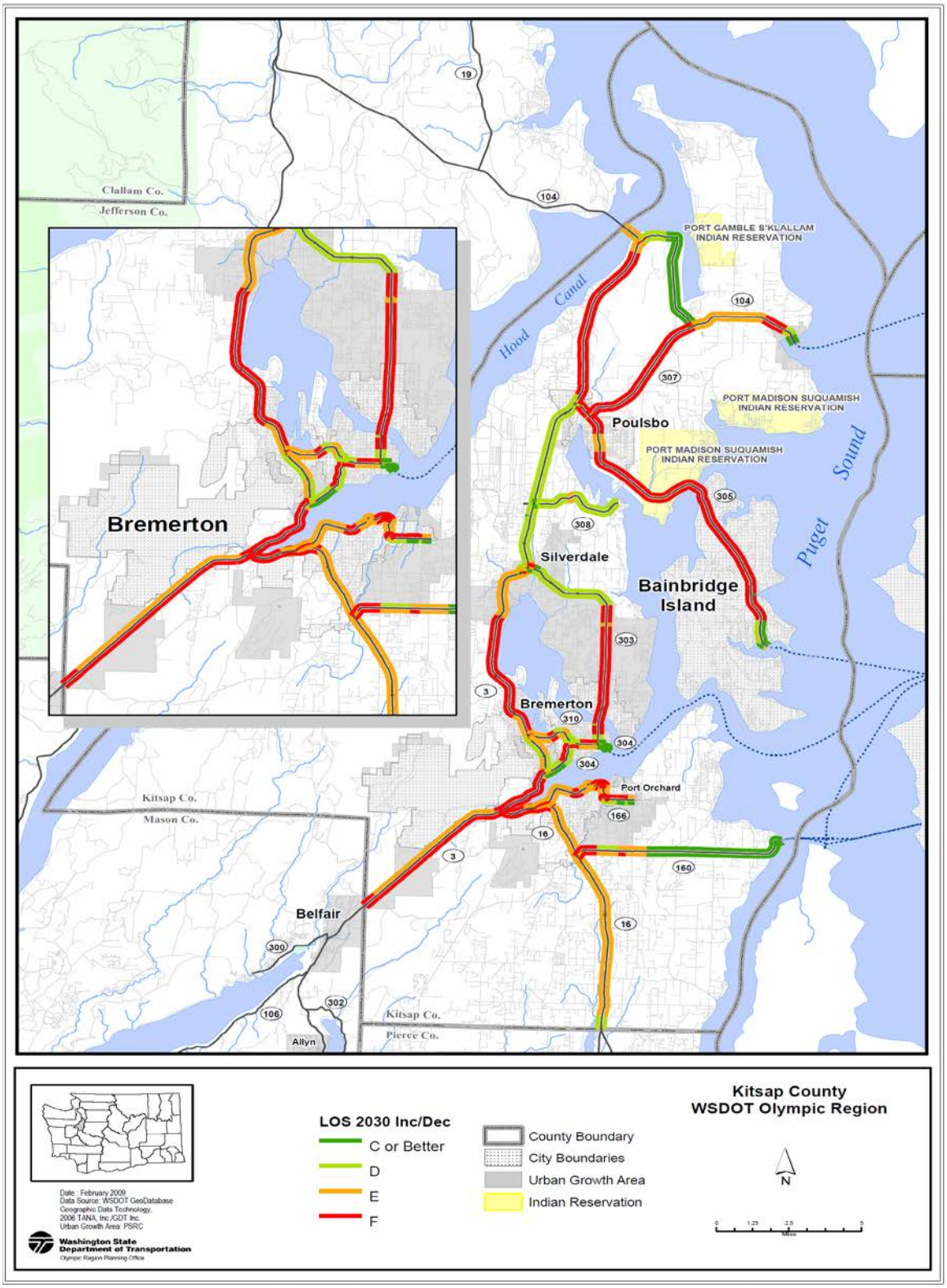
AADT Map 5 Kitsap County Annual Average Daily Traffic 2008



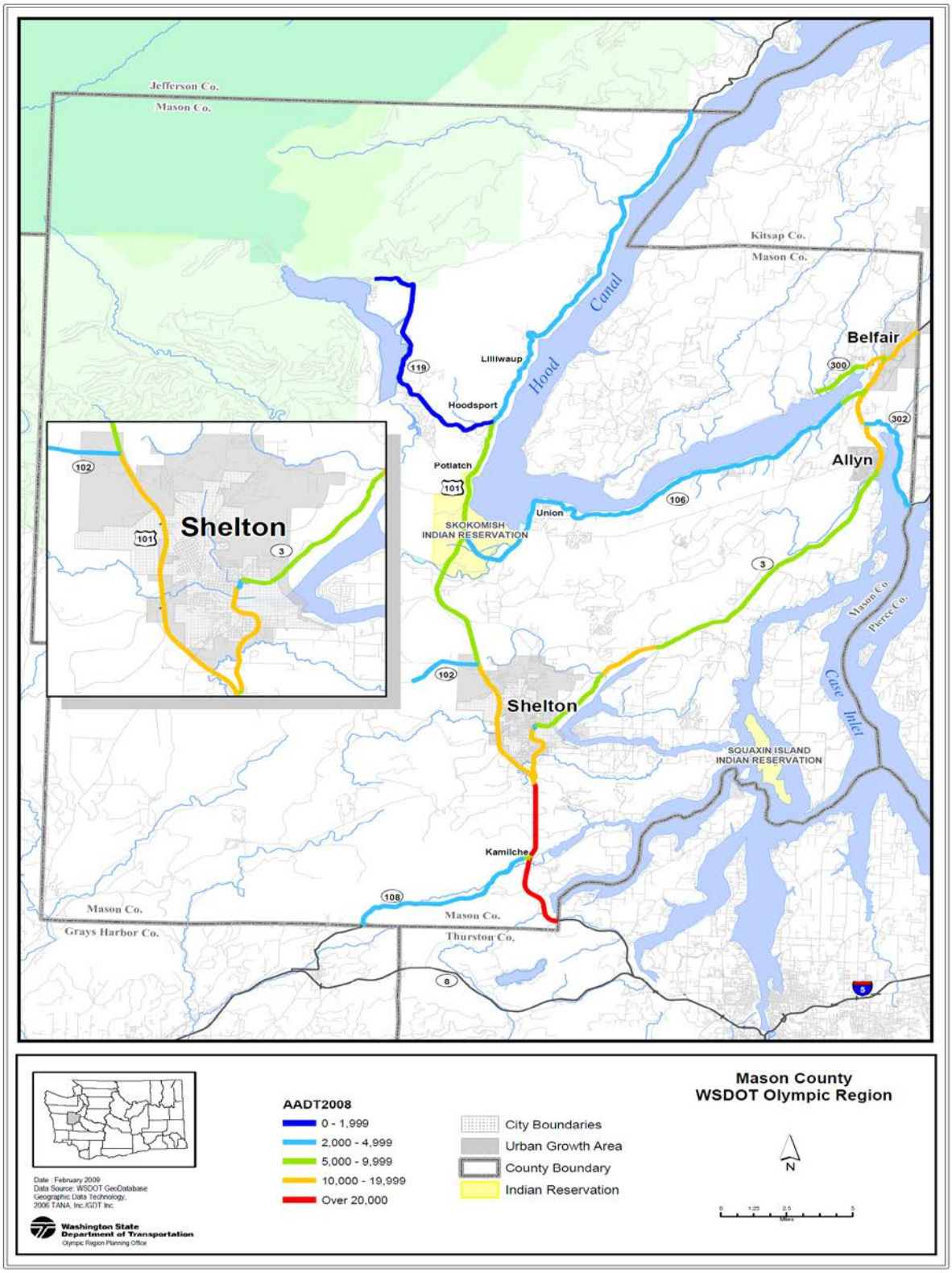
AADT Map 6 Kitsap County Annual Average Daily Traffic 2030



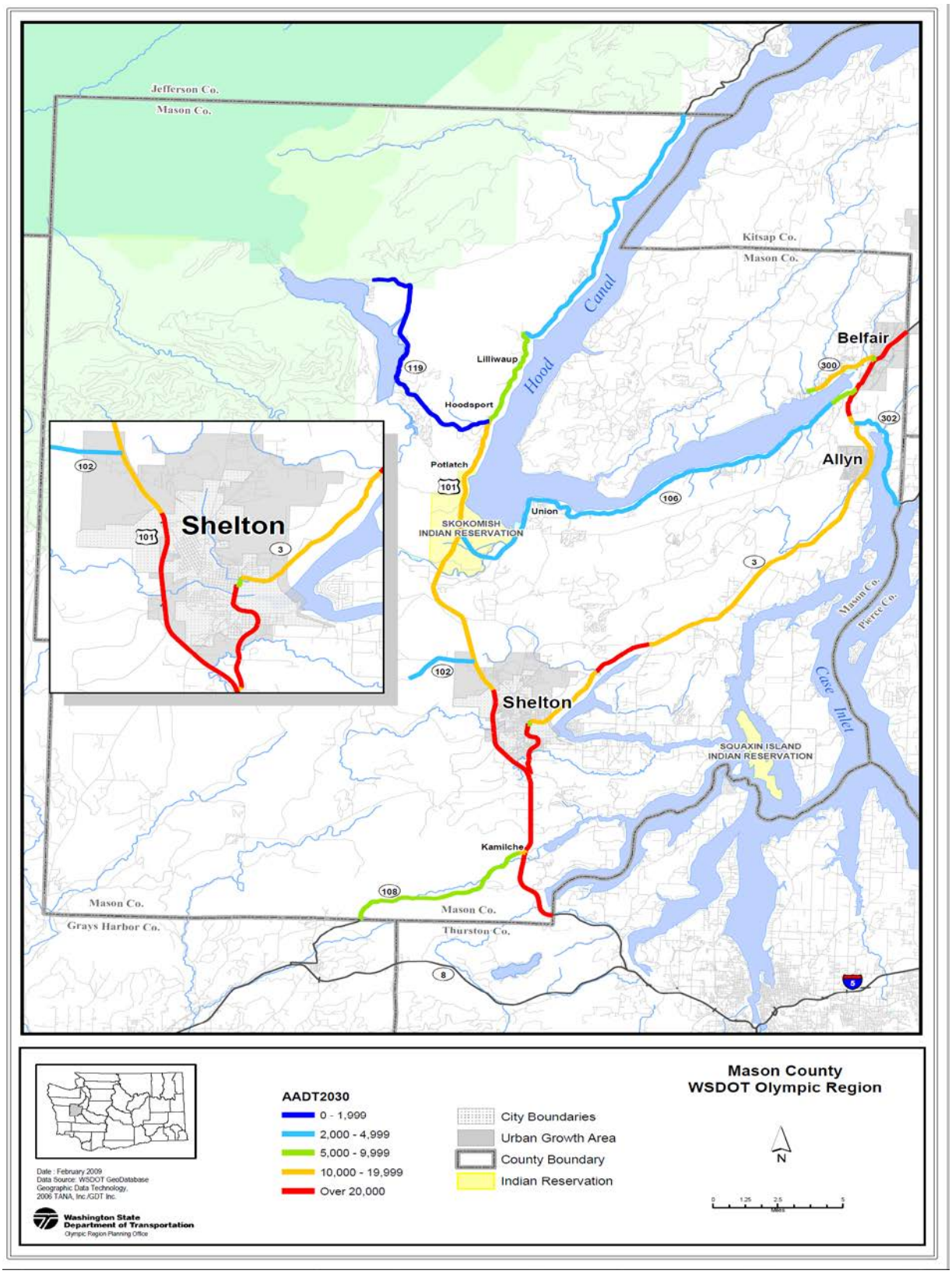
LOS Map 5 Kitsap County Level of Service 2008



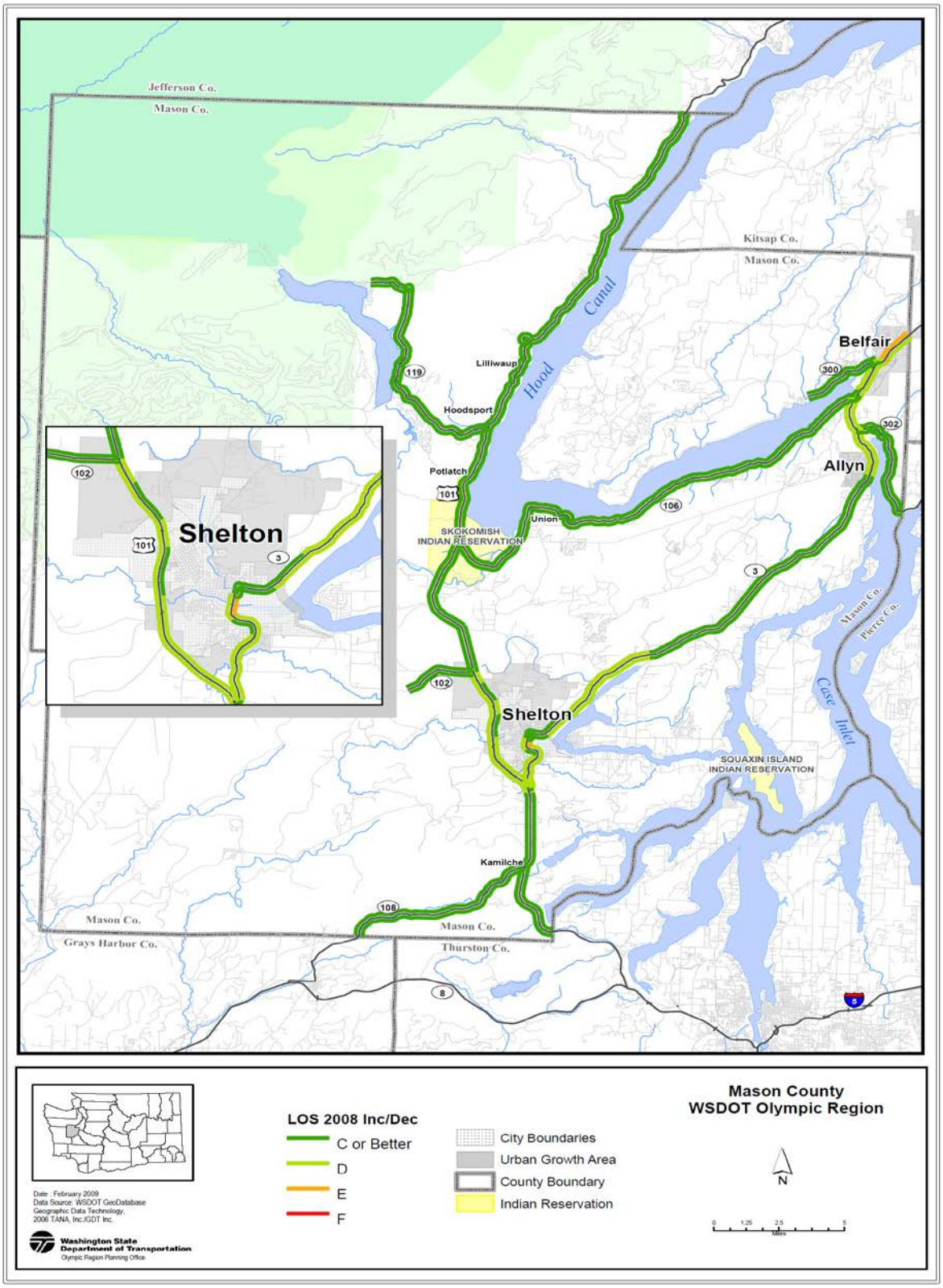
LOS Map 6 Kitsap County Level of Service 2030



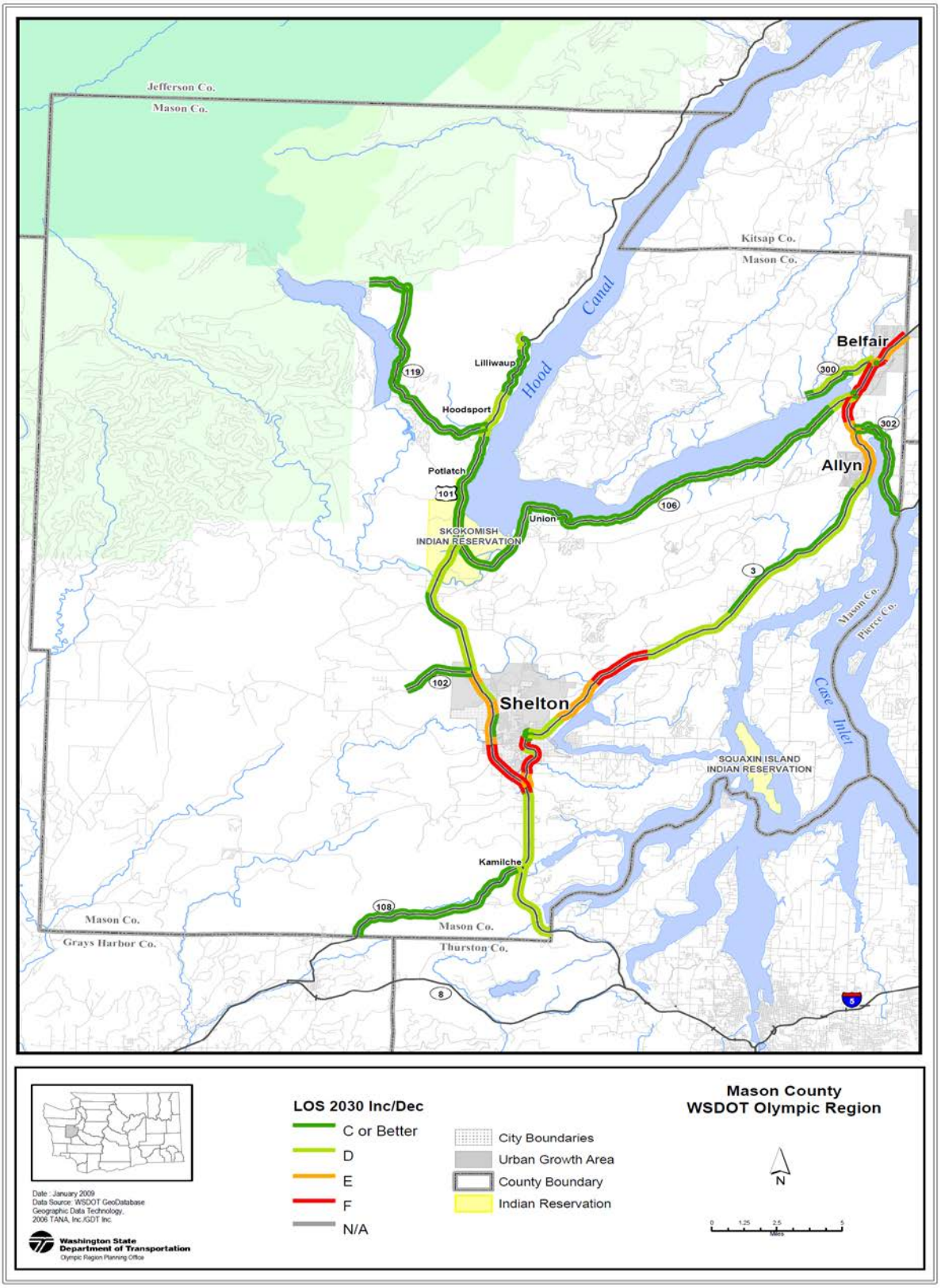
AADT Map 7 Mason County Annual Average Daily Traffic 2008



AADT Map 8 Mason County Annual Average Daily Traffic 2030



LOS Map 7 Mason County Level of Service 2008



LOS Map 8 Mason County Level of Service 2030

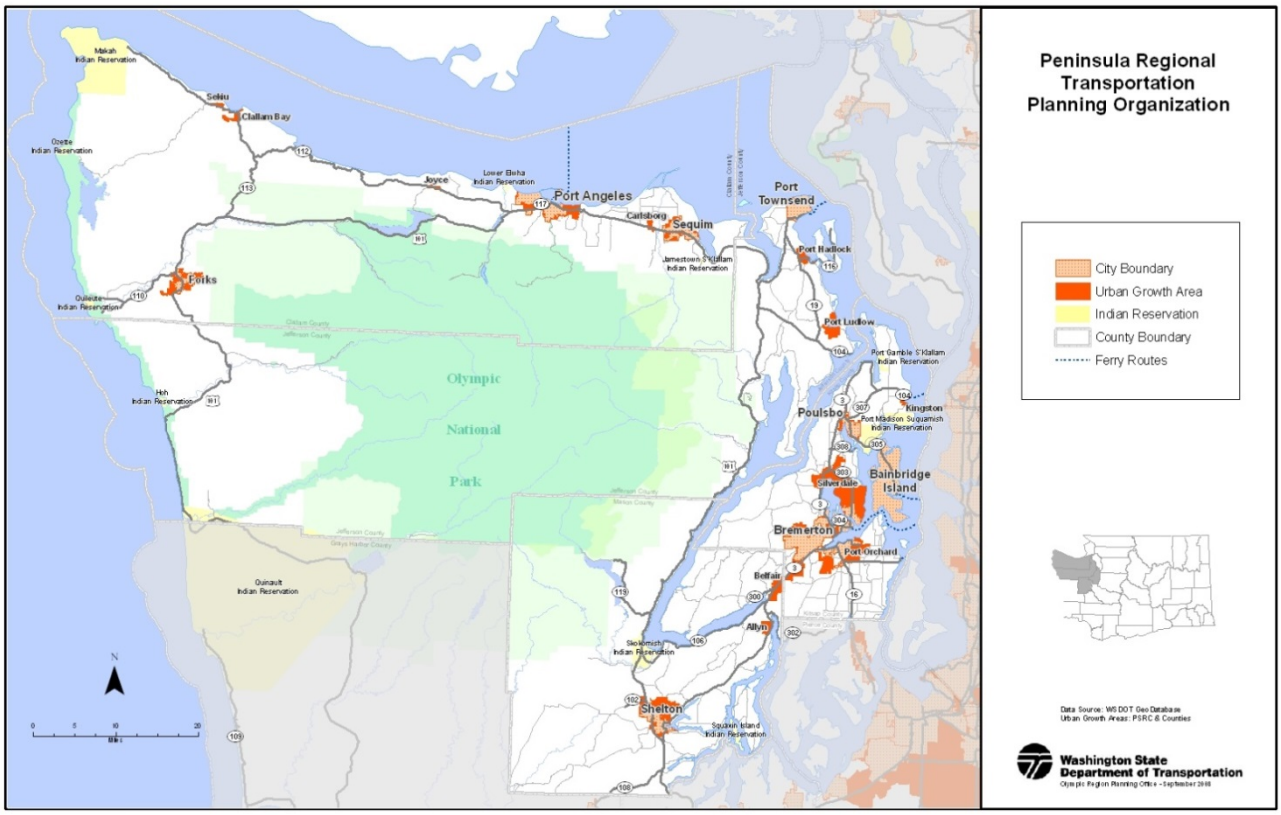
Land Use

PRTPO is composed of numerous jurisdictions: municipalities, four counties, nine federally-recognized Tribes, and several ports. Each of these jurisdictions plans and implements land use within the constraints of GMA with the exception of Tribes. There is great diversity; with no consistency of planning cycles or classifications of land use across the diverse governmental entities.

Each jurisdiction works within its planning authority to create and maintain a sustainable infrastructure for its community while incorporating best practices.

Below is a regional map showing city and county boundaries, Urban Growth Areas (UGAs), and Indian Reservations. Land use maps specific to the four counties can be found in the appendices.

Land Use Map 1



Challenges to Proposed Future Area Network

Introduction

This chapter will not provide a finite future regional network design. Each Tribe and State jurisdiction will develop their portions of the regional network under their community vision, making inter-jurisdictional connections when needed. Each with their unique requirements face similar challenges. This chapter will describe some of those challenges at the national, counties and Tribal level and then provide some Tribal/County local perspective. Population, health, real estate/land use and transportation/ environmental challenges will apply universally providing varied outcomes for PRTPO entities. These will be discussed in some detail

National

Nationally we have arrived at a time of converging events requiring tradeoffs between competing interests. Aging population, land use/climate change, maintaining aging/overbuilt transportation network and financial commitments pushed into the future are just a few. The aging population of "baby boomers" will continue to impact entitlements and infrastructure until 2050. This element will change our understanding of aging and the associated choices that will need to be made. Though people will live longer they will not be as healthy. Reaping the consequences of earlier behaviors their aging will require a multi modal mobility – (*The ability of people or goods to move or be moved from place to place. It refers to the ease and safety with which desired destinations can be reached*.) - and improved accessibility (*A measure of the ability or ease of all people to engage various multimodal elements among various origins and destinations.*).

Land uses, are now inseparable from climate change. This connection has been shaping policy at national level for at least a decade. Landed housing developments, remote form services, dominated by single family homes and single option transportation will make aging in place for retirees challenging. Wealth drained away in the recession of 2007 -2009 will weaken these housing trends. Improved accessibility and mobility have already begun to encourage multi-generational housing developments. Tribal communities have always embraced the multi-generational housing paradigm. The cost of deferred maintenance on existing infrastructure will continue to exacerbate, as center line miles and bridges age past their designed life. The movement of funding away from new construction toward maintenance will be nothing less than a paradigm shift. The shift to maintenance funding formulas will force hard choices as the freight and accessibility dominate discussions. The funds available for transportation will be less than

jurisdictions are used to. In 1970 national debt was 28% of Gross National Product (GDP), today it is 75% of GDP.[43] The fiscal consequences of funding two wars will constrain transportation expenditures in the near term. It has changed Congress, who now speaks in terms of "return on transportation investments" looking for quantitative network improvement versus more centerline miles. MAP 21 has mandated performance measures and targeted achievement showing improvement for each dollar spent.

Tribal

Tribes have no immunity from converging events. Their demographics are also experiencing changes. Universally available consistent health care and diversified incomes have resulted in increases to all three demographic categories (0-16, 16-64, 64-older). This has strained existing housing, infrastructure, schools, clinics and services. Some Peninsula Tribes have launched home building programs to provide single family, multi-family and senior housing for their populations.

Others Tribes have engaged in planning the movement of whole communities above tsunami hazards and sea level disasters. Careful stewards of the land, they continue to restore wetland habitat for plant and animal species and reducing chronic flooding. Continual water quality monitoring, ongoing fish and wildlife management, restoration of long neglected lands remain critical land use elements in Tribal goals. Tribes continue to invest in new infrastructure serving the needs of Tribal members and surrounding communities. Tribes are also keenly aware of the effects of climate change and are developing long range plans. Located on the periphery of the Peninsula, Tribes experience sea level rise daily.

Skokomish Indian Tribe's new waste water treatment plant will serve non-tribal homes long before it will serve homes of Tribal members for whom it was designed. Although existing infrastructure is well past its designed life, continued maintenance prolongs its usefulness. Marginal road networks have been widen and enlarged. Bike paths and pedestrian paths have improved accessibility on reservations and surrounding communities. Ridership is up for Tribal transit routes serving Tribes and surrounding rural communities. Connections provided by county transit agencies continue to improve accessibility to medical, educational and employment services near reservations.

Tribal decisions have benefited surrounding communities; Jamestown S'Klallam funded a local clinic in a nearby community when the community facility announced that it was closing; Skokomish t3ba'das MBR Wastewater Treatment Plant serves local businesses and non-tribal residents; Elwha S'Klallam's new fish hatchery and bike trail serve the larger community; and Squaxin Island Transit provides a critical transit link to Elma. Tribes carefully apply performance measures to programs they invest in. Their economic development projects

[43] www.npr.org/2012/06/05/154001412/baby-boom-money-squeeze-is-set-to-get-tighter. p3 of 5

statewide now employs over 30,000 Washingtonians (81% of them are nonnative[44]). Incomes continue to diversify for Tribal members though they remain well below statewide average incomes for all races.

[44] Taylor, Johathan B. *The Economic and Fiscal Impacts of Indian Tribes in Washington.* Washington Indian Gamming Association & Taylor Policy Group. 2012 p.3

National Trends Reflected Regionally

Population

The most visible element within the demographic forecasts and studies centers on the aging of the "baby boomer" generation. Born between 1946 and 1964 they are by some estimates 78 million strong. Here is how they will affect the country's demographics in decades ahead.

> In 1990 there were only 3 million Americans who were over the age of 85. Today, the figure is 6 million. By 2050 the Unites States will be home to about 19 million people over the age of 85, according to US Census projections.[45] …it will more than double by 2060[46]

Like the overbuilt road system we have, we have overbuilt and extended entitlement programs. The ability of remaining taxpayers to carry this increasing under funded health care liability may outstrip their earning ability. The national debt of 30 years ago when boomers were young was 28% of our Gross National Product (GDP). Today it is 75% of our GDP.

"Boomers" have sustained their share of financial shocks. The failure of tech companies during 2000-2001, the 9/11attacks, the Great Recession brought on by failure of the real estate market in 2008-09 have challenged "boomer" retirement expectations. Advancing years and health issues may create insular initiatives as the elderly work to protect their idealized and realized expectations. These actions may limit some of the needed flexibility to adapt to future changes.

Generation X , born between 1965 and 1980 now in their 30s and 40s, better educated than the "Boomers" are also saddled with significant liabilities. Having endured the brunt of the Great Recession, they are now earning less than when they entered the work force. They are faced with caring for aging parents and putting their children through what education they can afford. Many have lost their homes or home value to such extent that financial recovery is uncertain. With 50 million Americans living in multi-generational homes we have some indication of Generation X will approach housing in future.

> According to a Pew Research analysis of the latest US Census Bureau data approximately 51 million Americans or 16.7 percent of the population live in a house with at least two adult generations…And a 2012 survey by national home builder PulteGroup found that 32 percent of adult children expected to eventually share their house with a parent.[47]

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[45] www.npr.org/2012/06/05/154001412/baby-boom-money-squeeze-is-set-to-get-tighter. p2 of 5

[46] http://www.aarp.org/home-family/friends-family/info-04-2013/three-generations-household-american-family.html p. 17

[47] Op.cit p. 18

Far from a casual trend, a 2011 survey of multi-generational homes show over 82% of those living in these homes find they benefited from closer relationships, 72% reported improved finances, and 75% improved care benefits[48].

Pension and their associated medical guarantees promised in decades past to "boomers" continue to menace the financial forecasts. They represent unfunded liabilities that will continue to grow. Generation X, Gen Y and the Millennials, will confront the consequences of these unfunded liabilities. These idealized promises made in the past, were agreed to using short sighted "pay as you go model." Pension payments in the model were easy to calculate, future medical bills proved more difficult. Labor agreements negotiated during the longest bull market 1982 – 2000 institutionalized these idealized expectations. Succeeding generations will ultimately have to negotiate these "boomer" expectations to something more realistic. Restructured corporations, through bankruptcy, have divested themselves of retiree pension and medical promises. The 08-09 crash of financial markets forced similar realizations on local governments. States and national government agencies are very aware of these unfunded liabilities. How bad can it be? Illinois provides one example:

> …Illinois taxpayers are in hock because of allegedly excessive worker pensions: in this case, a cool $203 billion…$83 billion in unfunded pension liabilities- applies only to what the state's five funds collectively will owe that the don't now have assets to cover. …In addition it says the state still owes $15.5 billion on state pension obligation bonds issued…and local units of government collectively have $38.2 billion in unfunded pension liabilities…health insurance promised to retirees has not been funded and will cost the state and local governments an estimated $66 billion….the total $203 billion figure equates to $41,000 per Illinois household.[49]

Illinois offers the worst case of all 50 states according to the Pew Foundation. California provides yet another example:

> It isn't just the potential $500 billion state public-employee pension debt that threatens California's fiscal future. Also underfunded is the promised medical care for those retirees….According to a recent report…California has "an actuarial accrued liability of $63.85 billion" for these retirees medical costs over 30 years….up$1.7 billion from the previous year.[50]

Washington state has currently $7 billion in unfunded pension liabilities. This does not include an additional $8 billion projected budget shortfall for 2011-13. Included in these projections is the need for additional pension contributions. The state's Office of Financial Management projects that an additional $700 million will be required in the 2011-2013 biennium. This is expected to grow to $1.2 billion in 2013-1015 biennium. This figures obscure other externalities

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[48] http://www.aarp.org/home-family/friends-family/info-04-2013/three-generations-household-american-family.html pp. 16-18

[49] http://www.chicagobusiness.com/article/20120620/BLOGS02/120629990/illinois-taxpayers-owe-203-billion-in-unfunded-retirement-debt-report-says

[50] http://www.ocregister.com/opinion/medical-498509-billion-future.html

such as the increase the legislature passed in 2000 and 2007. From 1991 to 2000 the Legislature consistently made required state contributions to meet these plans. Since then, however, lawmakers have on average made just 58% of the required contributions.[51] Each state has its own story.

These unfunded liabilities present huge financial challenges in the future. The size of these unfunded liabilities competes with other funding priorities like transportation. It is the magnitude of these liabilities unpaid by "boomers" that threaten the future of Generation X, Y and Millennials. The magnitude of the "boomer" cohort assures the affect will last until 2060. This challenge will become a large player at the table of local, state and national budget discussions. Older taxpayers have ultimately made decisions with the potential to affect the quality of life of their children, grand-children as well as their own.

Health

Significant health issues will certainly emerge in "boomers" after age 85 if not before. The number of Americans over 85, 3 million in 1990, has doubled to 6 million in 2010. Census projections anticipate there will be 19 million over 85 by 2050. Alzheimer's and dementia are two of many medical conditions that figure prominently in the over 85 population.

> Perhaps a cure for Alzheimer's will be found. But if not , the number of people with the memory-wasting disease is expected to triple to 15 million by 2050. The cost of dementia care is projected to shoot from $200 billion to $1 trillion in today's dollars.[52]

Health coverage whether private or public, arranged by union contracts or legislative action, made promises to people in the past that could not be kept. Corporations restructuring have had to acknowledge inability to fund these liabilities and let them go leaving retirees with only Medicare. Some state governments retain the ability to amend post-retirement benefits (eliminating medical benefits) if necessary. Washington is such a state. A significant element for aging "baby boomers" is health care. The impact of the aging boomers on Generation X (born 1965 – 1980) currently in their 30-40s is only beginning to be felt.

> More recently, new extended family types are emerging as young adult children of baby boomer parents' move back home after college and more middle-aged people are caring for even living with and aging parent.[53]

The 50 million Americans residing in multigenerational homes today[54] suggests further evidence of this. Additionally the type of health and longevity of these retirees will also play into Tribal, state, and county planning in the future.

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[51] http://seattletimes.com/html/opinion/2013619525_guest08mercier.html

[52] www.npr.org/2012/06/05/154001412/baby-boom-money-squeeze-is-set-to-get-tighter. p2 of 5

[53] http://www.aarp.org/content/dam/aarp/research/public_policy_institute/liv_com/2012/impact-baby-boomers-travel-1969-2009-AARP-ppi-liv-com.pdf p.6

Alzheimer is but one medical issue and its projected cost. It is not whether these costs will occur. They will. More importantly what will be the income consequences for Generation X, Generation Y and Millennials (who may be already upside down in their mortgages) as "boomers" decide how they will age.

> By 2001, the number of two-adult households with two workers had doubled to 33 million and in more than half of all two-adult households, both people were employed. In 2009, however, the number of dual-earner households fell to 23 million, the same proportions in 1977 (38%). Many more two person households now are composed of retired couples. In 2009 almost 30% of households with two adults had no workers.[55]

Individual solutions as multi-generational housing to split living costs, may also reduce some health care benefits. It may fall far short of the trillions of dollars that would be needed to hire the care needed to cope with all of the long lived elderly.[56] Medical costs to individuals will certainly be a factor.

> Between 2007 and 2009 an estimated 9.3 million American adults lost their health insurance coverage due to unemployment, a reduction in hours leading to a loss of insurance, or increased premiums leading workers to decline offer of coverage. About nine times as many Americans lost health insurance coverage in this latest recession as in the recession of 2001.[57]

One in five older Americans faces significant costs associated with long-term care. Most private health insurance plans and Medicare do not cover ongoing long-term care services. Typically, they will only cover limited amounts of home care and nursing home care if there is a "skilled care need" as defined in the policy.

> Long term care costs…according to a MetLife Mature Market Institute survey put the average private nursing home room at $90,520 a year, a semiprivate at $81,030 and assisted living at $42,600. [58]

Medicaid is a federal/state program available only to those with very limited income and assets, and covers both regular health care and certain long-term care services.[59] These cost issues again become a big player at national and state budget negotiations.

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[54] www.npr.org/2012/06/05/154001412/baby-boom-money-squeeze-is-set-to-get-tighter. p. 3/5

[55] http://www.aarp.org/content/dam/aarp/research/public_policy_institute/liv_com/2012/impact-baby-boomers-travel-1969-2009-AARP-ppi-liv-com.pdf p.4

[56] [56] http://www.npr.org/2012/06/05/154001412/baby-boom-money-squeeze-is-set-to-get-tighter p.4

[57] Ibid. p.8

[58] http://www.aarp.org/home-family/friends-family/info-04-2013/three-generations-household-american-family.html p. 18

[59] Tenenbaum, L. CAPS, CAASH. Aging in Place 2.0, Rethinking Solutions to the Home Care Challenge. Sept 2010 p.3

“ Aging in Place” a harmonious phrase for elderly remaining in their current home, will challenge existing transportation resources. Locations of these “age in place” homes, not always urban, may be distant to medical services, food, clothing and entertainment. Negotiating this distance becomes crucial to the elderly.

> Exercise, nutrition, health screening, and self-care management techniques are an important part of social networks and reducing health care costs. The more people do for themselves, the greater the continuing self-esteem and satisfaction. It may also lead to greater savings in health care and personal care costs. [60]

Retirement communities devoid of sidewalks and bike trails encourage auto-centric behaviors Medical service accessibility beyond auto-centric mobility is another challenge transit agencies will face.

> One type of travel has seen astonishing growth and can be expected to continue to grow is travel to access medical services. While the distance traveled for the average trip to access medical services has remained about the same for the past three decades the number of medical trips has skyrocketed….Trip making for medical purposes has outpaced population growth a trend observed among those aged 50 and older…This may be due to the trend toward increasing specialization and outpatient care. It suggests that changes in delivery of medical care have increased the amount of time spent traveling to medical appointments.[61]

Nationally hospitals are gearing up and co-locating services for aging. Some hospitals have begun group scheduling for elderly clients so that many trips are replaced by one. Locally Jefferson Healthcare is expanding and improving services to serve Jefferson County aging population.

> “…to construct a new 50,000 square-foot emergency and specialty services building…that is aimed at expanding and improving services for Jefferson County’s aging population… (the) project is estimated at $15 million to $20 million…Jefferson County is aging with 28 percent of its population at or over the age of 65…This age demographic requires more health-care services than younger age demographics, particularly in the area of orthopedic care, oncology, cardiac care, emergency services, fitness and wellness and health prevention.” [62]

Hospitals serving the populations that live in surrounding retirement communities will be a challenge to serve. The move from retirement homes to aging-in-place requires no change in location. Those remote from medical care will, over time, require transportation solutions. Age-in-place living and attendant health issues will impose demands on public transportation as

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[60] Op.cit.p.17

[61] Ibid. p 4,8

[62] Arthur, Allison. *The Leader*, Issue 18 Vol.124. May 1, 2013. pp. A1 & A7

elderly residents cease to drive. The imperative of walkability, accessibility, multimodal, complete streets, active transportation - all buzz words - understate strategies to accessing health management tools. Neither Dial-A-Ride, the most expensive transit option, nor taxi service can be expected to meet these needs.

Educating "boomers" regarding transit options and coordinating transportation services will benefit communities and service providers. Absent sound planning today, these emerging demands could leave segments of population vulnerable relying on first responders to meet their needs. The ability of tomorrow's taxpayers to boost benefits for the elderly in the future will be limited.[63]

Champions of multi-generational communities with shared facilities may offer solutions. Shared facilities and shared possessions are possible for some. Share kitchens, shared tools, shared amenities communities have begun to take hold. Gen X, Y and Millennials have found vehicle and home ownership patterns of previous generations unobtainable. *Sidecar*, internet community based ride share and *GetAround*, an internet peer to peer car sharing program are just such examples.

> "Collaborative consumption," as it's also known, is more often associated with the big-ticket items that have given the concept such bemusing cachet….We're used to the notion of sharing libraries, public parks, and train cars. But in many ways American culture in particular drifted away from sharing as a value when we spread out from city centers and into suburbs…beginning with the era of (personal ownership)of washing machines…we forgot how to share.[64]

> "There is some pretty good empirical evidence that people in a sense get in a habit of sharing" says Le Rainie, the director of the Pew Research Center's Internet & American Life Project (http://www.pewinternet.org/). It's a frictionless process online and in the digital form. Why wouldn't that be the gateway drug to being a sharer in other contexts….but the shared economy of stuff works best with assets that are expensive to own and infrequently used, like camera and music accessories or high-end home tools. SnapGoods sells itself with the slogan "own less- do more," a nod to the idea that our culture increasingly values the accumulation of experiences overs assets.[65]

Transportation/Real Estate

> …the circulation system of the County roads in rural and resource land areas should be considered complete for this planning area. The county should not pursue new County roads

[63] Op.cit. p3

[64] http://www.theatlanticcities.com/jobs-and-economy/2013/03/share-everything-why-way-we-consume-has-changed-forever/4815/ p1-2

[65] http://www.theatlanticcities.com/jobs-and-economy/2013/03/share-everything-why-way-we-consume-has-changed-forever/4815/ p.3-5

> except in those circumstances where roads are built within subdivision with private funds and then turned over to the County for Maintenance. [66]

The same could be said for all roads within the jurisdiction of the Peninsula Regional Transportation Planning Organization. The road infrastructure in place today will be the infrastructure we depend on for the foreseeable future. Private developers will continue to build roads for new homes developments. Limited funds available to states, counties and municipalities will cause these jurisdictions to focus on maintaining what they have. Adding capacity will come in the forms of active transportation strategies.

Local and state jurisdictions also maintain utilities which in many areas have reached the end of their life spans. Many of these utilities lie beneath roadways. Maintenance of these current infrastructure assets, in addition to those bequeathed by developers, will burden transportation funding formulas. Just as financial budgetary formulas must change from construction to maintenance, it must also move away from auto-centric models toward multi-modal solutions. Moving away from mobility (an auto-centric perspective) toward accessibility (regardless of the mode) will require new thinking in land use as well as transportation. It is a future which will require a new level of decision making accommodating national and Tribal trends as they play out in our communities.

Fiscal conservatives in Congress talk of funding "investment" instead of spending on new construction. Investment in any context invokes "returns on investments" or performance standards. Performance standards, discussed first in 2007, are invoked by budget items. Funds allocated to states require planned performance standards to be used in comparative analyses

Limited improvements to roadway/intersection safety will be the focus. Safer routes to schools and making transit and transportation alternatives easier to use will also need attention. GMA Research Corporation (Strategic Intelligence) which works with Microsoft, Boeing, UW, Amazon as well as other northwest firms, sees five transportation challenges for Washington:

1. **We must reduce transportation's dependence on fossil fuel and especially oil and especially imported oil.** This is a fundamentally sustainability issue in transportation: Oil's cost is killing us. It drains our personal, communal and national treasure, to say nothing of driving us in strange directions on domestic and foreign policy. – How can it be done? Vastly higher fuel efficiency in some vehicles, electrification in other s and private consumer choices driven by market forces.

2. **We must use existing transportation assets more efficiently.** We can do much more of transportation's task with what we have. We just need to demand more attention to operations efficiencies: smoother traffic flow, more reliability travel times and laser focus on speed and transit reliability improvements. We need to step up to

[66] Extracted from untitled Comprehensive Plan Transportation Element

serious stewardship of our transportation system through adequate maintenance and preservation of our huge – woefully neglected – existing transportation infrastructure. – At the center of the efficiency challenge is a simple solution: Real –time variable pricing – tolls on constrained capacity freeways that go up at time of high demand . This is not just a play for more revenue. Better use of the system by market allocation of roadway – transportation bandwidth, if you will – has a much larger payback.

A highway lane kept free-flowing by variable tolling achieves startling efficiency, moving *twice as many cars in an hour* as a jammed "freeway". Free flowing roadway corridors also assure fast, reliable, customer-attracting transit service. …With modern roadway pricing, we can unlock huge capacity gains from investments we have already made in our roads and infrastructure.

3. **We must change the way we fund transportation services and facilities.** The gas tax cannot be the dominant pillar of public transportation finance. This is true for a host of reasons, including the necessity of reducing fossil fuel (see 1 above). Existing custom, broad public acceptance and the appealing administrative simplicity of gas taxes have all been huge barriers to change.

   Re-thinking probably has to start from viewing roads, highways and transit systems as utilities, like water, sewer, gas and electric systems. We will have to adapt the best models of utility funding – an area fraught with its own problems – to the transportation arena. Higher reliance on users pay principle and more scrutiny and insistence on economic measure and our return on investment will have to become more prominent.

4. **We must fix the regional transportation planning, decision structure and processes for our state.** We seem to have more unconnected silos for transportation management and decision-making than the Palouse has silos for wheat. The legislature, a governor, city and county executives and councils, ports, Sound Transit, the Puget Sound Regional Council, a bushel-full of DOTs and a basket-load of commissions and boards are all pushing disjointed spending and infrastructure agendas. These frustrate cohesive, balanced approaches to regional and statewide transportation futures.

   Silo-centered loyalties, affections and biases tend to run to modes of transportation deliver (rail cars, automobiles, buses ferries bicycles), not functions of the transportation task (getting many someones or somethings from Ballard to Capitol Hill, for example. Silo-centered decision-making also fatally discourages broad public discourse on transportation programs and investments. The silos themselves

harbor the most entrenched resistance to better governance- an immensely difficult political problem.

As a minimum, we should be insisting on measured accountability from managers and politicians in these silos. Eventually this should help force better-integrated, more rational and cost –effective prioritization of investment and program delivery.

5. **We must embrace transformation through technology.** This overlays every transportation challenge, including all of the four just stated. Technology has allowed for the *reinvention of the automobile* with profound implications for energy, natural resource and land use. *Car sharing* is here. *Bike sharing* is here. *Parking* karma is no longer just a chance spot in front of your destination; it's an *engineered online partnership* between drivers and available parking spaces.

   The next stage is cooperative *Adaptive Cruise Control* – cars that talk to each other to maintain safe vehicle to vehicle cruising distances and smooth traffic flow on the road. A huge step forward in safety and roadway efficiency, this new technology is already in testing to roll out in showrooms soon. *Japan and China* will push the technology frontier if we lag and we will buy from other what we should and can build for ourselves. …

   Bus information technology has already changed *how we use transit* and even what we consider transit, as we see the spread of vanpooling, to say nothing of the *Microsoft Connector* and its imitators. GPS, data analytics and Internet have transformed *supply chain logistics for freight* – and for people – from a work-leading firm, Intrix, right in our own back year.[67]

Technology and information systems are transforming our world. Prudence suggests we move away old ways of thinking toward new paradigms.

Land use/Environment

…The end of the housing bubble has deflated the retirement plans of many baby boomers. …*The Future Shock of Retirement*, shows that housing plays a relatively consistent role across the

[67] McDonald, Douglas. "The 5 biggest roadblocks to great WA transportation" GMA Research. http://crosscut.com/2013/04/01/transportation/113700/douglas-macdonaldtransportation-challenges/ 4/1/13. Page 1-2

> spectrum of retirement portfolios and that current and future retirees are likely to be exaggerating the amount of home equity available for consumption in retirement.[68]

The baby boomer generation has left its mark throughout American culture as they have aged through it. Housing and roads are just two of the physical manifestations of this generation. In fact 77% of new housing construction has come from this demographic. These were not "starter" homes, the sweep of the economy enthused bigger home designs. [69]

Now, post housing bubble, these homes are worth less, a great deal less than anticipated at the time of construction. Home asset values have traditionally figured significantly into retirement planning The 10 to 20 years needed to recover this lost value may lag financial needs of retirees. This would leave present owners with considerable less retirement value, possibly long term debt or both. By 2020 there will be potentially 1.5 to 2 million homes on the market by 2020[70].

> According to data from the American Housing Survey, from 1989 and 2009, 80 percent of new homes built in that era were detached single-family homes. A third of them were larger than 2,500 square feet. And most startling….40 percent were built on lots of half an acre to 10 acre in size. Now he says 74% of the new housing demand will come from the people who bought these home, now empty-nesters, wanting to downsize.[71]

Succeeding waves of "boomers", Gen X , Y and Millennials may eschew Mac-Mansions living. And for "boomers" who age-in-place this to might get old as Arthur Nelson of Metropolitan Research Center notes:

> "It's romantic for the first 15 years when you're turning 65 and retired," he says. "But aging in place among 90-year-olds?" Many of these people, he predicts, won't realize that they can't mow the lawn or pay for repairs until they're really elderly, and the market for their homes has collapsed even further. "My suspicion," Nelson says, "is that many hundreds of thousands, maybe millions of those households in the 2020s to 2030 and beyond will simply give up the house and walk away.[72]

Who will buy these detached single family homes?

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[68] Cohen, Jonathan. Scanlan, Matthew. *Boomer Retirement Portlolios after the Housing Bubble.* Advisor Perspectives Inc. May 20 2008.
http://www.advisorperspectives.com/pdfs/Boomer_retirement_portfolios.pdf

[69] Badger, Emily. *The Great Senior Sell-Off Could Cause the Next Housing Crisis.* Atlantic Cities , Place Matters.
http://homes.yahoo.com/blogs/spaces/great-senior-sell-off-could-cause-next-housing-063235194.html

[70] Ibid page 1

[71] Ibid page 1-2

[72] http://www.theatlanticcities.com/housing/2013/03/aging-baby-boomers-and-next-housing-crisis/4863/ p.2

> A vast majority of today's households with children still want such houses. But about a quarter of them want something else, like condos and urban townhouses. That demand used to be almost zero percent and if it is now 25 percent…that is a small share of the market but a huge shift in the market. And this is half of the reason why many baby boomers may not find buyers for their homes. Even if the numbers matched the preferences do not.[73]

What this means for current and future retirees is not totally clear. Research shows that Social Security make up sizeable portions of retirement strategies across all retirees. In fact Social Security constitutes a greater portion of retirement assets than does other financial assets combined.[74] Homes represent both an asset and a consumptive good. Carrying debt, the possibility of upside down mortgages and consequence of financial market meltdown will leave retirees with a narrower horizon of choices.

> For the typical household aged 50-62 in 2004, the extraction of home equity during the housing boom resulted in a 14% decline in net worth…a significant proportion of those entering retirement today – and perhaps over the next several years – will have a fragile balance sheet in a time of depressed home prices and poor financial market returns. [75]

> Older Americans are taking more debt into retirement than previous generations. Mortgage debt is the biggest factor: Forty percent of homeowners older than 65 had mortgages debt in 2010 compared with just 18% as recently as 1992…[76]

Aging in place in large homes in developments poorly suited for walking and not served by transit inhibit accessibility and mobility. Additionally the assessed value of such developments once nearly guaranteed may falter. As need for unavailable services increases, their remoteness in rural areas only compounds issues associated with reselling. It is suggested by some there will be two classes of retirees, those who age- in- place voluntarily and those who age-in-place involuntarily because they cannot sell their homes.

> "Roughly 7 percent of over-65 households move each year, and as people get older, their likelihood of moving from owning to renting gets higher and higher (it's about 79 percent for households over 85) By 2020, there will be around 35 million over-65 households I the U.S. …seniors who would like to become renters will be trying to sell about 200,000 more owner-

[73] Ibid page 2

[74] Op. Cit page2

[75] Munnell, Alicia H., Soto, Mauricio. "The Housing Bubble and Retirement Security". Center for Retirement Research at Boston College. 9/2008, No. 8-12 page 8

[76] Miller, Mark, REUTERS. "7 ways boomers retirees are different." *Money in Your 50s and 60s.* http://money.msn.com/baby-boomers/7-ways-boomer-retirees-are-different page2

> occupied homes than there will be ne new households entering the market to buy them. By 2030, that figure could rise to half a million housing units a year."[77]

Gen X, Y and Millennials have watched the impacts of the housing bubble and financial market melt downs. These cohorts have begun toward a different paradigms. The number of licensed drivers for every age group has declined. The resulting drop in car sales, attributed to the economy, may instead herald other trends in American living. In Jefferson County, Washington "From 2000 to 2010 the number of married couples and married couples with children decreased. There are more non-family households – persons living alone or with people unrelated to them."[78] Non-family shared households, is not a phenomena limited to Jefferson County. Two grass roots organizations supporting this trend are *Getaround*, a car sharing system which allows car owners to rent their vehicles when not in use, and *Airbnb* a model utilizing unused rooms in homes for travelers. These paradigm shifts from large well-defined personal spaces toward collective economies or shared communities represents a fundamental shift in our culture. The change of Gen X, Y and Millennial's definition of ownership and personal space could offer solutions to retirees "aging in place".

[77] Op Cit. page 2

[78] Sullivan, Patrick. "*The Oldest Population in the State"* . The Port Townsend & Jefferson County Leader. 3/27/2013 pages 14

APPENDIX A

Access Management

Access Management is the careful control of the location, design and operation of all driveways and public street connections to a roadway, to improve roadway safety and efficiency.

Accessibility

Accessibility is the measure of the ability or ease of all people to travel among various origins and destinations.

Advanced Public Transportation Systems (APTS)

APTS is the use of advanced electronics, computer and communications technologies to manage transit operations and provide real time information to transit users.

Advanced Traffic Management Systems (ATMS)

ATMS is the use of advanced electronics, computer and communications technologies to manage traffic flow, and traffic systems information, to improve safety and efficiency.

Advanced Traveler Information Systems (ATIS)

ATIS is the use of advanced electronics, computer and communications technologies to provide real time information to travelers.

Agency Council on Coordinated Transportation (ACCT)

Created by the Legislature in 1998, ACCT promotes coordination of transportation resources for people with special transportation needs. The Council is comprised of state agencies, transportation providers, consumer advocates and legislators. TRPC plays an active role in coordinating these transportation resource in the Thurston region.

Alternative Fuels

Sometimes referred to as “clean fuels,” this category includes any motor fuel other than ordinary gasoline which may result in lower levels of air pollutants or more efficient uses of resources. Alternative fuels include natural gas, liquid propane, biodiesel, ethanol, methanol, electricity and some gasoline blends.

American with Disabilities Act (ADA)

This federal civil rights legislation mandated significant changes in transportation, building codes, and hiring practices to prevent discrimination a gains people with disabilities. The Act requires transit agencies to supply complementary or supplemental para transit services within ¾ miles of fixed routes to people who, because of their disability, are unable to use the fixed route system.

Arterial

This is a class of street characterized by high vehicular capacity used primarily for through traffic rather than for accessing adjacent land.

Attainment Area

This is an area considered to have air quality at least as good as the United States Environmental Protection Agency (USEPA) health standards used in the Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others. A “non-attainment area” reflects and area that does not meet the standard for designated pollutants.

Automated Vehicle Location (AVL)

AVL provides real-time information regarding the location and status of vehicles, using technologies such as Global Positioning Systems (GPS).

Average Daily Traffic (ADT)

The total traffic volume during a given time period, ranging from 2 to 364 consecutive days, divided by the number of days in that time period, and expressed in vpd (vehicles per day).

Annual Average Daily Traffic (AADT)

Average daily traffic on a roadway link for all days of the week during a period of one year, expressed in vpd (vehicles per day).

Base Year

The foundation year which establishes a starting point for subsequent data collection and analysis. Base year data is "calibrated"- tested to ensure it reflects actual conditions.

Biodiesel

A clean burning alternative fuel produced from domestic renewable resources such as recycled oil from the food industry. Biodiesel contains no petroleum, but can be blended with petroleum diesel to create a biodiesel blend. Biodiesel can be used in diesel engines with no modification and is biodegradable, nontoxic, and free of sulfur and aromatics.

Brokerage System

An association of transportation provider, managed by a broker or agent who makes transportation arrangements for a specific clientele, such as seniors or persons with disability.

Bulb-out

A construction of curbing that reduces the width of the street. Often used to provide space for parking, a transit stop or to reduce pedestrian crossing distance. Sometimes referred to as "curb extension".

Bureau of Indian Affairs (BIA)

A division of the Unites States Department of the Interior ,m the BIA is responsible for the administration and management of 56 million acres of land held in trust by the Unites States for American Indians, Indian Tribes, and Alaska Native. Developing forestlands, leasing assets on these lands, directing agricultural programs, protecting water and land rights, developing and maintaining infrastructure, providing for health and human services, and economic development are all part of this responsibility cooperation with the American Indians and Alaska Natives.

Bureau of Indians Affairs Roads System (BIA Roads)

Those existing and proposed roads for which the BIA has or plans to obtain legal right(s)-of-way. This includes only roads for which the BIA has the primary responsibility to construct improve and maintain.

Capacity

The number of people, vehicles, or amount of goods that can be served by a transportation facility or program. The term is most often used to describe the number of vehicles served by roadway.

Capital Facilities Plan (CFP)

The part of the jurisdiction's comprehensive plan that includes an inventory of capital facilities, and the proposed location and funding for future construction projects.

Carpool

An arrangement where two or more people share the use and cost of private vehicles to travel together to and from prearranged destination. For purpose of the Commute Trip Reduction law, the trip must be commute trip and people must be age 16 or older.

Clean Air Act (CAA)

A federal law that identifies sources of air pollution and calls for specific strategies to attain and maintain federal air quality standards. "Mobile sources"(vehicles)are a primary source of pollution.

Collector

A roadway linking traffic on local roads to the arterial road network. A collector balances the need for mobility and through-put with the need for access to adjacent land uses.

Commute Trip Reduction Law

State legislation requiring employers in the state's 10 largest counties to implement measures to reduce the number of single occupancy vehicle (SOV) trips and vehicle miles traveled (VMT) by their employees during the peak travel periods.

Commute Trips

Regular trips made from home to a fixed work or school location regardless of the distance or mode used. Currently, commute trips represent about 20% of the travel on the Peninsula region transportation system. The remaining trips are often referred to as "discretionary trips."

Commuter

A person who travels regularly between home and work or school

Commuter Rail

Also called metropolitan or regional rail, a passenger railroad service designed mainly for commuters serving a heavy volume of traffic, generally within and between metropolitan and high density suburban areas. Typically, Commuter Rail is limited to only one or two stations in the central business district.

Comprehensive Plan (Comp Plan)

The Growth Management Act requires local jurisdiciti9on to adopt a long range plan to guide all development activity. One element of the Comprehensive Plan is the Capital Facilities Plan (CFP).

Concurrency

Under the Growth Management Act, jurisdiction must ensure that new development does not outstrip the jurisdiction's ability to support the growth. Either supporting infrastructure must be in place (concurrent with the development") to accommodate transportation impacts, or a financial commitment must be in place to provide the improvements or strategies within six years.

Conformity

A process in which transportation plans and spending programs are reviewed to ensure that they are consistent with federal clean air requirements.

Congestion

A condition that prohibits movement on a transportation facility at optimal legal speeds. Congestion is often characterized as “recurrent” – resulting from constant excess traffic or “nonrecurring” –resulting from special events, incident or accident.

Congestion Management and Air Quality Improvement Program

A federal program that funds projects and activities which reduce congestion and improve air quality. Areas qualify for these funds based on non-attainment status.

Context Sensitive Design (CSD)

This term refers to a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic community, and environmental resources, while maintaining safety and mobility. CSD considers the total context within which a transportation improvement project will exist.

Corridor

In planning, linear segment of land that connects major residential areas and destinations. A corridor may contain a number of streets, highways, and transit routes, and may follow and interstate, freeway or major roadway. A corridor may be limited to a single jurisdiction or span multiple jurisdictions.

Delay

The additional travel time experienced by a traveler (driver, passengers, walker, bicyclist) beyond what would reasonably be desired for a given trip.

Destination

The point or location where a trip ends.

Drive Plus

Adopted by the 2025 Regional Transportation Plan Work Grou7pd this refers to vehicles occupied by more than individual – the driver. (See Carpool)

Eighteenth Amendment

An amendment to the Washington State Constitution passed in passed in 1944 starting that motor vehicle license fees, gas tax, and certain other state revenue may only be used for highway purposes. The Washington State Ferry Systems is considered a “highway “ under the 18th amendment.

Emissions Inventory

A complete of sources and amounts of pollutant emissions within a specific area and time interval.

Environmental Impact Statement (EIS)

A document required by the National Environmental Policy Act and Washington’s State Environmental Policy Act for major projects or legislative proposals significantly affecting the environment. A tool for decision making, it describes the positive and negative effects of the undertaking and cites alternative actions.

Environmental Justice (EJ)

Refers to a Federal Executive Order that requires agencies to avoid, minimize and mitigate disproportionately high and adverse effects of policies, programs, projects and other activities on minority and/or low income populations. The order implies no population of people should be forced to should a disproportionate share of negative environmental impacts pollution or environment hazard due to lack of political or economic strength.

Equilibre Multimodal/Multimodal Equilibrium (EMME/2)

A software program used to forecast future travel demand on an existing or planned transportation facility, and to evaluate the performance of a given segment of the system.

Express Bus Service

Fixed route transit service with limited number of stops**.**

Facility

The means by which a transportation mode is provided or supported. A facility may refer to such elements as a road, sidewalk, Park-and-Ride Lot, or High Occupancy Vehicle (HOV) lane.

Federal Highways Administration (FHWA)

An Agency within the U.S. Department of Transportation having jurisdiction over highways.

Federal Transit Administration (FTA)

An agency within the U.S. Department of Transportation that funds and regulates transit planning and programs.

Fixed Route

Transit service that is regularly scheduled and repeatedly operates over a set route.

Government-to-Government Relations

Describes the manner of working with Indian Tribes that recognizes their right to self-government and supports Tribal sovereignty and self-determination.

Growth Management Act (GMA)

State legislation passed in 1990 that requires urban counties and their associated jurisdiction to cooperatively develop and periodically update plans related to issues such as land use infrastructure, services, and housing. Under GMA the Regional Planning Council is responsible for creating and maintaining a Regional Transportation Plan and for certifying that the transportation elements of each jurisdiction meet GMA requirements. (RCW 36.70a and RCW 47.80)

Heavy Rail

An electric powered rail transit system, typically a metro or subway, operating on a completely grade separated right-of-way, with high operating speeds.

High Capacity Transit (HCT)

Transit systems operating on a fixed guide way, dedicated right-of-way, or freeway/express facility, designed to carry a large number of riders at faster speeds than conventional transit. Frequent and express bus service, passenger ferries, and rail are examples of HCT.

High Occupancy Vehicle (HOV)

A passenger vehicle that carries at least one passenger in addition to the driver, such as carpool, bus or vanpool.

High Occupancy Vehicle Lane (HOV Lane)

A roadway travel land dedicated exclusively for buses, carpools, vanpools and certain other qualifying vehicles, including motorcycles. In Washington State, HOV lanes are signed with a diamond symbol, so are sometimes referred to as “diamond” lanes.

High Speed Rail

An intercity passenger rail system operating on exclusive rights of way. This form of rail serves densely traveled corridors with high operating stepped (up to 300mph) and limited stops.

Highway and Local Programs (H&LP)

A division of the Washington State Department of Transportation responsible for overall administration of federal funding programs.

Highway System Plan (HSP)

The state-owned component of the Washington transportation Plan, this document is updated every two years and forms the basis for the Transportation Commission's biennial budget request to the Legislature.

Impact Fee

A fee imposed on new development activities as partial financing for public improvements such as public streets and roads, publicly owned parks, and school facilities.

Indian Reservation Roads (IRR)

Public roads that are located within or provide access to an Indian reservation or Indian trust land or restricted Indian land(which is not subject to fee title alienation without the approval of the federal government), or Indian and Alaska Native villages, group or communities which Indians and Alaskan Natives reside, whom the Secretary of the Interior has determined are eligible for services generally available to Indians under federal laws specifically applicable to Indians. Roads on the BIA Road System are also IRR roads.

Indian Reservation Roads Inventory (IRR Inventory)

An inventory or roads and bridges which meet the following criteria: a) public roads strictly within reservation boundaries, b)public roads that provide access to lands, to groups, villages and communities in which the majority of residences are Indian, c) public roads that serve Indian lands not within reservation boundaries, and d0 public roads that serve recognized Indian groups, villages, and isolated communities not located within a reservation.

Indian Tribal Government (ITG)

The duly formed, recognized governing body of an Indian Tribe.

Infrastructure

A term connoting the physical underpinnings of society at large, including, but not limited to roads, bridges, transit, waste systems, public housing, sidewalks, utility installations, parks public buildings and communications networks.

Intelligent Transportation Systems (ITS)

A wide range of advanced electronics, computer and communications technologies that improve the safety and operating efficiency of existing and future transportation facilities or services. Common examples of ITA include central dispatch for road emergency assistance, freeway traffic maps shown on television or the Internet to warn motorists of accidents, devices that show "real time" location of transit vehicles and programs that help travelers plans trips.

Intercity Rail

Passenger rail service provided for occasional business and leisure travel between cities, typically with a single stop in each city served. Usually shares or leases track from freight railroads.

Intermodal

Multiple types or "modes" of transportation working together in an interconnected, efficient, integrated system. The ability to connect and make connections among various modes of

transportation, such as automobile, motorcycle, truck, bus, train, plane, bicycle, pedestrian, boat and ship.

Intermodal Surface Transportation Efficiency Act 1991 (ISTEA)

This federal act revolutionized the way transportation decisions were made, and revenues spent, at the federal, state and local levels. The Act placed a strong emphasis on coordination among local, regional, and state agencies with a mandate to better integrate transportation and land use decisions-making processes. System preservation and management became at least as important as system expansion. ISTEA required a coordinated comprehensive, and financially-constrained long-range transportation strategy. The original act expired in 1997 and was reauthorized as TEA21 in 1998.

Jurisdiction

This term refers to the authority of government to conduct activities and generally refers to tribes, states, counties and cities. For purposes of this Plan, the term is inclusive of federal and state agencies, and port and transit districts.

Land Use

The way that specific portions of land or the structures on the land are used, such as commercial, residential, retail, industrial. A land use plan establishes strategies for the use of land to meet identified community needs.

Latent Travel Demand

Demand for travel that does not currently exist, but which would be encouraged by the expansion of transportation capacity.

Level of Service (LOS)

A method of measuring operational traffic conditions. State law allows agencies to use any number of performance measures to evaluate operational efficiency of the transportation system, as long as it is coordinated regionally. Currently, this regions uses traditional Volume-to-Capacity ration or V/C ratio, of a given roadway segment during the busiest two hours of the evening commute period. As the volume of traffic on a roadway during the peak commute time approaches the designed capacity, congestion increases. LOS may use a grading system, with “LOS A” representing free flow and “LOS F” reflecting stop and go or failing traffic flows.

Light Rail

Also known as street cars, trams, or trolleys, this electric powered rail system can operate in a variety of places – from on the street with automobile traffic to separate rights of way. With stations set every one-half to one mile , this form of rail has slower average operating speeds and less capacity than heavy rail.

Local Street

A street intended solely for access to properties contiguous to it.

Maintenance Area

Any geographic region designated “nonattainment” under the Clean Air Act, and subsequently designated to attainment – subject to the requirement to develop and implement a maintenance plan.

Metropolitan Planning Organization (MPO)

An agency designated by the governor, under Federal law, to administer the federally required transportation planning in a metropolitan area. Every urbanized area with a population over 50,000 must be served by an MPO. MPOs provide continuing, coordinated, comprehensive

transportation planning in urbanized areas and serve as a forum for cooperative decision making.

Mobile Source

Under the Clean Air Act, the pollution caused by mobile sources such as motor vehicles, aircraft, seagoing vessels, and other transportation modes. Mobile Source pollutants are carbon monoxide (CO), hydrocarbons (HC), or volatile organic compounds (VOCs), nitrogen oxides (NOx)and small particulate matter (PM10).

Mobility

The ability of people or goods to move or be moved from place to place. Mobility also refers to the ease and safety with which desired destination s can be reached.

Mode

A particular form or means of transport – such as walking, traveling by automobile, bus or rail, or riding a bicycle. Some modes avoid trips, such as compressed work weeks or telework.

Mode Split

The proportion of total trips using various specific modes of transportation, such as percentage of people carpooling, driving alone or riding the bus.

Multimodal

Refers to the availability of multiple transportation options, especially within a system or corridor. A concept embraced by recent federal legislation (ISTEA, TEA21), a multimodal approach focus on the most efficient way of transporting people or goods from place to place – combining truck, train, bicycle, automobile, bus or foot.

National Ambient Air Quality Standards (NAAQS)

Federal standards created by the Environmental Protection Agency (EPA)that set allowable concentrations and exposure limits for various pollutants.

National Environmental Policy Act (NEPA)

Establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment, and provides a process for implementing these goals.

National Highway System (NHS)

The federal transportation system designated by Congress, which includes nationally significant interstate highways and roads for interstate travel, national defense, intermodal connections and international commerce.

Nonattainment Area

Any geographical area, as defined by the U.S. Environmental Protection Agency (EPA), whose air quality does not meet federal air quality standards (NAAQS) designed to protect public health.

Non-Motorized Transportation

Travel accomplished by cycling, walking, skating, wheelchair or other assistive devices not involving a motor vehicle.

Olympic Region

One of six Washington State Department of Transportation (WSDOT) geographic regions that deals with state transportation issues.

Olympic Region Clean Air Agency (ORCAA)

One of the seven regional air pollu7tions control agencies located throughout the state, ORCAA is a local government agency with regulatory and enforcement authority in and for Clallam, Grays Harbor, Jefferson, Mason Pacific and Thurston counties. ORCAA was established in 1968

after passage of the Clean Air Washington Act (RCW 70.94). The agency is responsible for enforcing federal, state and local air pollution standards and governing air pollutant emissions from new and existing sources.

Origin

The point or location where a trip begins.

Park-and Ride Lot (Park-and Ride)

A parking facility for individuals to transfer from one mode to another-usually from a private vehicle to a carpool, vanpool or public transportation.

Particulate Matter (PM), (PM10)

Any material that exists as solid or liquid in the atmosphere. Particulate matter may be in the form of fly ash, soot, dust, fog or fumes. Small particulate matter PM10, is less than 10 microns (one millionth of a meter) in size and is too small for the nose and lungs to filter.

Pavement Management System (PMS)

A systematic process that gathers, analyzes, and summarizes pavement information for use in selecting and implementing cost effective pavement construction, rehabilitation and maintenance programs. Pavement includes all road surface types including paved, gravel, and improved or unimproved earth.

Peak Period

The time of day when the maximum amount of travel occurs. Generally, there is a morning peak period (a.m. peak) and an afternoon peak period (p.m. peak).

Pedestrian

A person who travels on foot or who uses assistive devices, such as a wheelchair, for mobility.

Peninsula Regional Transportation Planning Organization (PRTPO)

PRTPO is an RTPO formed under RCW 47.80.020 and is composed of local entities within Mason, Jefferson, Clallam and rural Kitsap counties and nine Tribes located within the Peninsula.

Performance Measure

A measure of how well a program, project, activity or system is functioning.

Person Trip

A one –way trip made by a person from one place to another by any mode of travel.

Public Transportation

Transportation by bus, rail, vanpool, or other conveyance, either publicly or privately owned, serving the general public or special service on a regular and continuing basis (but not including school buses, or charger or sightseeing service).

Public Transportation Benefit Area (PTBA)

In legal terms, a PTBA is a municipal corporation created under state law to provide public transportation services within a specific geographical area. In common use, the term refers to the area in which transit agency provides service.

Ramp Metering

Traffic-responsible regulation of vehicle entry to freeway, typically via sensor-controlled freeway ramp stoplights.

Regional Transportation Improvement Program (RTIP)

Federally required document produced by PRTPO that identifies all federally funded projects for the current three-year period. The PTIP is developed every year. Any federally-funded project must be included in the RTIP and the Statewide Transportation Improvement Program (STIP). To satisfy this requirement the RTIP is occasionally amended to add projects recently awarded funding.

Regional Transportation Plan (RTP)

The long-range transportation strategy for the PRTPO.

Regional Transportation Planning Organization (RTPO)

State-authorized transportation planning organization formed by voluntary association of local governments within a county or region. RTPOs serve non-urban areas and must encompass at least one complete county and have a population of at least 100,000 persons or contain a minimum of three counties.

Revised Code of Washington (RCW)

The laws or statues of Washington state, as enacted and amended.

Roundabout

A circular intersection with a curved design that is engineered to keep traffic moving safely while accommodating pedestrians and bicycles.

Single Occupancy Vehicle (SOV)

A vehicle carrying only one occupant-the driver. Often referred to as “driving alone”.

Special Needs Transportation

Refers to the needs of people, including their personal attendants who because of physical or mental disability, income status, or age are unable to transport themselves or purchase transportation.

State Environmental Policy Act (SEPA)

Enacted in 1971, the Act provides the framework for agencies to consider the environmental consequences of a proposal before taking action. SEPA also gives agencies the ability to condition or deny a proposal due to identified likely significant adverse impacts. These decisions may be related to issuing permits for private projects, constructing public facilities, or adopting regulation, policies or plans.

State-Interest

The portion of the state transportation system that is owned and or operated by local jurisdictions, agencies and private corporations, and is of importance to the entire transportation system.

State-Owned

The portion of the state transportation system that is owned and or operated by state, including state highways, Washington State Ferries and state airports.

Statewide Transportation Improvement Program (STIP)

Federally required document identifying all federally-funded and/ or regionally significant projects in the state. Projects must be included in the STIP before applicants can use federal money awarded to their projects. In order for a project to be included in the STIP it must first be included in the RTIP.

Surface Transportation Program (STP)

The primary federal funding program resulting from ISTEA and TEA21 that provides money for a wide range of transportation projects.

Technical Advisory Committee (TAC)

Advisory body to the duly authorized MPO or RTPO on technical transportation issues. All member jurisdictions are eligible to participate. Currently the PRTPO TAC is made up of transportation staff from the 4 counties and 9 Tribes.

Telework

The use of telephones, computers and other technology to work from a location other than the conventional office. Teleworking or telecommuting substitutes technology for trip to work.

Traffic Analysis Zone (TAZ)

A geographic area that ranges in size from a few blocks to several square miles. TAZs are characterized by population, employment and other factors, and serve as the primary unit of analysis for transportation modeling purposes.

Transit Dependent

Persons who rely on public transit or para transit services for most or all of their transportation needs.

Transportation

The act of conveying persons or things from one place to another through personal or communal means. As used in the PRTPO region, it includes all modes of transportation, not just cars and trucks.

Transportation Enhancement (TE) or Transportation Alternatives (TA)

TE projects “enhance” or contribute to an existing or proposed transportation project. Examples of such activities include providing bicycle and pedestrian facilities; converting abandoned railroad rights-of-way into trails; historic preservation; acquiring scenic easements; landscaping; archaeological planning and research; mitigation of water pollution due to highway runoff and mitigation of water pollution due to highway runoff; and mitigating the negative impacts of a project on a community by providing additional benefits.

Transportation Equity Act for the 21 Century (TEA-21)

This is the federal act that superseded ISTEA in 1998.

Transportation Improvement Program (TIP)

A six-year list of projects developed by each jurisdiction or tribal government, in compliance with state or federal requirements. A project is ineligible for funding unless included in formally approved TIP. (Comparable to a Tribal TIP.)

PRTPO Policy Council (PC)

Advisory body to the Executive Board that focuses specifically on regional transportation issues. All members of the Policy Council are eligible to be active members of the Executive Board. The PC also includes other representatives of community interests, and local state legislators as required by state law.

Travel Demand Management (TDM)

TDM focuses on the “demand” rather than the “supply” side of the transportation system. TDM encompasses strategies intended to support personal travel choices in an effort to better manage the capacity of the transportation and improve operating efficiency. Examples of TDM tools range from “incentive” type programs like employer-subsidized bus passes, compressed work weeks, and telework options, to “market measures” like employee-paid parking and

variable-rate toll roads with rates based on time-of-day travel. The State's Commute Trip Reduction program is a TDM, since the way a community is build and the kind of travel options it provides-will influence individual travel behavior.

Travel demand Model

A system for analyzing a regional transportation network. The model is typically a software program or suite of programs that use a series of mathematical equations that simulate or represent choices people make when traveling. The model also analyzes the performance of existing and future transportation facilities under a variety of scenarios that can be modified by the user. Currently the PRTPO is contracting with Kitsap County for this service.

Tribal Member

An enrolled Tribal member of any federally recognized Tribes.

Tribal Sovereignty

This term is used to describe the unique legal status of federally recognized Indian Tribes. Domestic dependent nations, tries exercise inherent sovereign powers over their members and territory.

Tribe

Generally, the term "tribe" refers to "Indian Tribe" or a "federally recognized Tribe" and may also refer to State recognized Tribes which are not Federally recognized but which are eligible for certain federal benefits and privileges under specific federal laws.

Tribal Transportation Improvement (TTIP) (Tribal TIP)

A multi-year, financially constrained list of proposed transportation projects located within or providing access to Indian lands. A TTIP generally includes safety, planning, PSE, construction and transit projects. TTIPs are updated annually, must be approved by Tribal Resolution and are submitted by Tribes to the BIA.

Trip

In modeling terms, a trip a one-way, non-stop journey between a single origin and single destination, such as from home to work. For modeling purposes, each trip segment counts as a trip, for example stopping at the grocery store on the way home from work constitutes two trips.

Trip Purpose

The reason for a trip – such as work, shopping, school or medical appointment.

Trust Lands

Trust lands are lands that federal government holds legal title but the beneficial interest remains with an individual Indian (tribal member of a federally recognized tribe) government or tribal government. Trust lands are restricted and not subject to fee alienation without the approval of the federal government.

Unified Planning Work Program (UPWP)

A federally-required annual report describing PRTPO regional transportation work program and budget, detailing the various revenue sources and expenditures for a specified fiscal year.

United States Department of transportation (USDOT)

The principal direct federal funding and regulating agency for transportation facilities and programs. FTA and FHWA are contained within the USDOT.

United State Environmental Protection Agency (USEPA)

The federal agency charged to protect human health and safeguard the natural environment – air, water, and land.

Universal Design

Transportation systems designed to accommodate a wide range of users, including people with disabilities and other special needs.

Urban Growth Area (UGA)

Under the Growth Management Act, those areas designated by cities and counties, and delineated by the Urban Growth Boundary (UGB), where urban growth will be encouraged.

Vanpool

A vanpool refers to an organized ridesharing arrangements in a van occupied by seven to 15 people traveling together for their commute trip.

Vehicle Miles Traveled (VMT)

The number of miles traveled on roadways by a vehicle for a specific time period, usually per year. VMT is calculated by multiplying the total road section length by the total number of vehicles that traveled over that section within a given time. VMT does not consider the number of passengers those vehicles are carrying.

Volatile Organic Compounds (VOCs)

Air pollutants that derive from vehicle exhaust, paint thinners, solvents, and other petroleum-based products. A number of VOCs are toxic.

Volume-to-Capacity Ration (V/C Ratio)

The ratio of flow rate to capacity for a transportation facility.

Washington Administrative Code (WAC)

State agency rules and regulations. The WACs also detail how state agencies shall organize and adopt rules and regulations.

Washington State Department of Transportation (WSDOT)

WSDOT is the agency responsible for transportation at the state level.

Washington State Transportation Commission (WSTC)

The Washington State Transportation Commission is composed of seven appointed commissioners representing geographical areas of the state. WSTC provides a public forum for transportation policy development. It reviews and assesses how the entire transportation system works across the state and issues the state's 20-year Transportation Plan. As the State Tolling Authority, the Commission adopts tolls for state highways and bridges and fares for Washington State Ferries. Every four years, the Commission recommends to the Legislature a comprehensive and balanced statewide transportation plan. The plan must be consistent with the state's growth management goals and be based upon transportation policy goals adopted by the Legislature.

Washington Transportation Plan (WTP)

The 20 year horizon, long-range transportation plan for the state of Washington prepared by WSTC.

Weigh-in-Motion (WIM)

A system that allows motor carriers equipped with special technology to proceed on the highway at normal speeds while their weight is electronically inspected by in pavement scales and readers.

Zoning

The regulation by municipality (city, town, or county) or Tribe of the use of land within its jurisdiction, and of the buildings and structures located there, in accordance with a general plan.

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