

Transportation 2040

Final Environmental Impact Statement 2014 Addendum

April 3, 2014

Puget Sound Regional Council



April 3, 2014

Dear Member of the Puget Sound Regional Council or Interested Parties:

An amendment to Transportation 2040, the Regional Transportation Plan for King, Kitsap, Pierce, and Snohomish counties, is scheduled to be adopted at the meeting of the General Assembly of the Puget Sound Regional Council on May 29, 2014.

The plan amendment includes current information from updated demographic, transportation, and air quality forecasts and analysis tools, an updated financial strategy, and revised project lists. The project lists remove projects that have been cancelled, move projects between the constrained and unprogrammed lists, and consider prioritization and other information on state and local projects. These changes are the subject of this Addendum to the Final Environmental Impact Statement for Transportation 2040. These documents are all available online at psrc.org and from the Puget Sound Regional Council's Information Center at (206) 464-7532.

Sincerely,

A handwritten signature in black ink, appearing to read "Ivan W. Miller", with a stylized flourish at the end.

Ivan W. Miller, AICP
SEPA Responsible Official
Program Manager, Growth Management Planning

Transportation 2040 Final EIS

2014 Addendum Fact Sheet

April 3, 2014

Description of Proposal:

This document is an addendum to the final environmental impact statement (FEIS) for Transportation 2040. The purpose of this 2014 Addendum is to assess and document the environmental impacts of the Transportation 2040 Update and compare the level of environmental impacts to those identified in the Transportation 2040 FEIS. The Puget Sound Regional Council (PSRC) is updating Transportation 2040 to include:

- Current information from updated transportation, demographic, and air quality forecasts and analysis tools
- The new Active Transportation Plan and updates to the Coordinated Transit-Human Services Plan and Regional Transportation Demand Management Action Plan
- An updated financial strategy
- New prioritization framework
- Updated information about system maintenance, preservation, and operations (State of Good Repair)

These major elements of the updated plan focus on system preservation, sustainable transportation revenue sources, inclusion of projects with higher social and environmental benefits, and multimodal transportation strategies. Further, they focus on linking land use and transportation, public health, access for special needs populations, and strategies to promote an efficient use of the transportation system.

The net marginal effects of the updated plan are likely to reduce significant adverse environmental impacts of Transportation 2040 and be within the levels described in the Transportation 2040 FEIS. Thus, this addendum adds analysis and information regarding the environmental impacts of Transportation 2040, but does not substantially change the analysis of significant impacts and alternatives of Transportation 2040. Project-level environmental review will be conducted for each individual project, as appropriate. This addendum complies with the State Environmental Policy Act (SEPA) rules under Revised Code of Washington 43.21C and Chapter 197-11 of the Washington Administrative Code.

Lead Agency and Source of Proposal:

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Licenses Required: No licenses are required.

Documents for SEPA Compliance:

Transportation 2040 Final EIS 2014 Addendum, April 3, 2014
Transportation 2040 Final EIS Addendum, May 7, 2012
Transportation 2040 Final EIS, March 19, 2010
Transportation 2040 Draft EIS, May 29, 2009
VISION 2040 Final EIS, April 2008

Scheduled Adoption Date of the 2014 Amendment to Transportation 2040 by the General Assembly: May 29, 2014

Location of Document and Supporting Technical Reports:

Available online at:
<http://psrc.org/transportation/t2040>

Copies available from:
Puget Sound Regional Council Information Center
1011 Western Avenue, Suite 500
Seattle, Washington 98104
206-464-7532

Cost of Document to the Public: No cost for individual copies.

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Acronyms

CO	carbon monoxide
CO ₂ e	carbon dioxide equivalent
FEIS	Final Environmental Impact Statement
HOV	high-occupancy vehicle
I-5	Interstate 5
MAP-21	Moving Ahead for Progress in the 21st Century
MOVES	Motor Vehicle Emission Simulator
MPOs	metropolitan planning organizations
NO _x	nitrogen oxides
PM ₁₀	particulate matter 10 micrometers in diameter or less but greater than 2.5 micrometers
PM _{2.5}	particulate matter 2.5 micrometers in diameter or less
PSRC	Puget Sound Regional Council
P&R	park-and-ride
RTP	Regional Transportation Plan
RTPOs	regional transportation planning organizations
SEPA	State Environmental Policy Act
SR	State Route
TDM	transportation demand management
WSDOT	Washington State Department of Transportation

Need for the Addendum

Transportation 2040, the Regional Transportation Plan (RTP) for the central Puget Sound region, was adopted in May 2010 following the preparation and review of a plan-level State Environmental Policy Act (SEPA) Final Environmental Impact Statement (FEIS) (PSRC 2010). An addendum was adopted in May 2012 amending Transportation 2040 to include new, modified, or deleted projects proposed since 2010 (PSRC 2012).

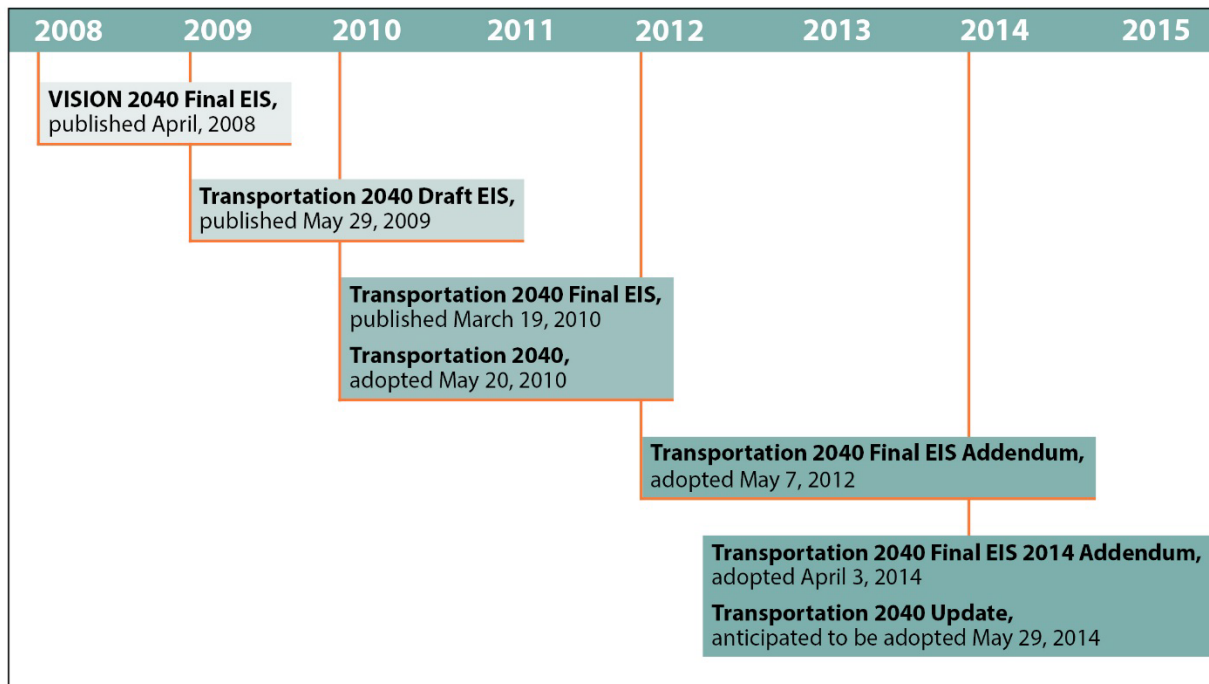
The federal government and Washington State require regional transportation planning organizations (RTPOs) and metropolitan planning organizations (MPOs), such as the Puget Sound Regional Council (PSRC), to update regional transportation plans every 4 years. PSRC released the Transportation 2040 Update – Draft Report in January 2014 (PSRC 2014). The Transportation 2040 Update reflects changes in King, Kitsap, Pierce, and Snohomish Counties since the plan was adopted in 2010. Most notably, because the economic recession reduced revenue for transportation investments, the region does not have sufficient revenue to complete all of the funded investments described in the adopted plan as amended in 2012. This requires PSRC to update the financial strategy, prioritize projects, and develop more accurate estimates for keeping the existing infrastructure in a State of Good Repair; these are the core elements of the Transportation 2040 Update.

State of Good Repair

State of Good Repair means maintaining and preserving the existing transportation system: keeping roads, bridges, buses, and trains in safe operating condition. This can mean filling potholes on a local street, replacing old buses and ferries, or repairing an aging bridge.

This 2014 Addendum to the Transportation 2040 FEIS documents the updates to the core elements and assesses the environmental effects of the project changes. The 2014 Addendum also documents the statutory updates and additional environmental information related to the project changes. Exhibit 1 summarizes the timeline for the Transportation 2040 documents.

Exhibit 1
Timeline of Documents Adopted for SEPA Compliance



Core Elements

The Transportation 2040 Update includes three “Core Elements” that have evolved since 2010 and affect the project evaluation process:

- Prioritization
- State of Good Repair
- Financial Strategy Update

VISION 2040

VISION 2040 is the regional strategy for accommodating the 5 million people expected to live in the Puget Sound region by 2040.

Because the need for transportation investments is greater than the available funding, PSRC has prioritized the projects that provide the most benefit to the region and help implement VISION 2040. To keep the region moving, the transportation system must operate in a State of Good Repair and the financial strategy must show that there are sufficient funds to maintain the system. The financial strategy was also updated to reflect the economic downturn resulting from the recession that began in 2008.

These core elements are consistent with the plans and policies identified in Transportation 2040 and VISION 2040. The updated information will be used by PSRC’s General Assembly and boards as they implement the region’s transportation vision.

Prioritization

Transportation 2040 directed PSRC to develop a transportation project prioritization process. The mission of the prioritization process is:

To prioritize transportation projects in a manner that reinforces and implements VISION 2040. This will include the development and application of an evaluation process to prioritize projects/programs that are within the plan as well as the means for allowing projects to be entered, modified, or removed.

Compared to past practices, the prioritization framework that PSRC is implementing evaluates tradeoffs more comprehensively and is more closely linked to the region’s financial strategy. The framework contains nine evaluation measures derived from VISION 2040. The nine measures were used to evaluate capacity projects in four categories: highways, arterials, transit, and bike/pedestrian. These measures are:

- Air quality
- Freight
- Jobs
- Multimodal
- Puget Sound land and water
- Safety and system security
- Social equity and access to opportunity
- Support for centers
- Travel

In addition to the nine measures, the project cost, decade of completion, and whether the project was in the constrained or unprogrammed section of the Transportation 2040 Plan were considered in the evaluation process. Details about the evaluation framework and process are located in Appendix P of the Transportation 2040 Update, which is available online at <http://www.psrc.org/transportation/t2040/transportation-2040-update>.

Prioritization also provides a foundation for the new and more rigorous performance monitoring standards that will be required by the federal transportation act, Moving Ahead for Progress in the 21st Century (MAP-21). This new evaluation approach provides decision-makers with a greater level of detail about transportation project benefits.

Thus far the Prioritization framework has been used for two purposes:

1. Evaluate capacity projects – Identify which projects and programs do the best job of implementing VISION 2040 based on how well they score on the nine measures.
2. Help balance the financial strategy – Identify low-scoring projects (bottom 25 percent) which will be moved from the constrained part of the plan into the unprogrammed part of the plan.

State of Good Repair

Transportation 2040 identifies State of Good Repair, which means maintaining and preserving the existing transportation system, as a top regional priority. Not maintaining our existing infrastructure can have serious economic, environmental, performance, safety, and financial consequences. The State of Good Repair element of the Transportation 2040 Update implements the MAP-21 provision emphasizing maintenance and preservation, which was signed into law in July 2012.

The Transportation 2040 Update includes new approaches to more accurately define investment needs for State of Good Repair projects. The approaches included revising the costs for maintaining and operating stormwater drainage facilities (retention and treatment), pavement preservation, and local traffic operations and intelligent transportation systems.

The Transportation 2040 Update process resulted in a net increase of approximately \$5.2 billion in future city and county costs relative to the adopted plan, and more accurately reflects the costs to maintain the system in a state of good repair.

Financial Strategy Update

The financial strategy was updated to reflect the effects of the economic downturn and corresponding reduction of transportation revenue. To meet federal requirements, the regional transportation plan must make reasonable financing assumptions and account for revenue sources that can be reasonably expected. To balance the reduction in revenue and updated costs, PSRC used the prioritization process to move projects from the constrained portion of the plan to the unprogrammed list. This resulted in 79 projects being moved out of the financially constrained to the unprogrammed portion of the plan.¹

Types of Project Statuses

Constrained projects are included in the financial strategy and regional air quality conformity finding. Planning, analysis or other steps towards implementation are underway.

Unprogrammed projects are less ready to be implemented and are not included in the constrained financial strategy or in the regional air quality conformity finding.

A status of constrained or unprogrammed will affect the project's ability to obtain funding and move forward towards implementation.

Exempt projects are consistent with Transportation 2040 but do not add capacity to the regional system and are not subject to further PSRC review. This type of project could be a safety improvement, paving, striping a bikeway, or installing ramp metering.

¹ Two additional projects were moved from Constrained to Unprogrammed during the project update process, resulting in a total of 81 projects moving from Constrained to Unprogrammed.

These changes are likely to reduce environmental impacts such as air quality and noise because of reduced vehicle miles traveled and emissions compared to the adopted plan as amended in 2012.

The financial strategy also acknowledges that new funding sources are needed. Traditional sources of revenue, such as the federal and state fuel tax, are eroding due to increased average fuel efficiency of vehicles and recent overall reductions in vehicle miles traveled per capita. PSRC's new revenue strategy is based on phasing-in user fees that are more explicitly tied to the use of the system, as well as a range of traditional taxes to provide a more stable and reliable funding source for the local and regional transportation infrastructure. Appendix F, Financial Strategy Background, of the Transportation 2040 Update provides additional details regarding transportation financing.

While the number of projects included in the constrained plan decreased and new funding sources are not yet enacted, the overall framework of the financial strategy is the same and helps to ensure a balanced financial program.

Project Changes

Summary of Project Changes. In 2010, the adopted plan for Transportation 2040 included over 850 projects. The 2012 Addendum added 20 new projects and removed 7 projects. In addition, 90 projects have been completed since May 2010.

This addendum to Transportation 2040 updates the project list to include 14 new projects, remove 59 projects, reflect status changes for 122 projects, and modify the information for 91 projects.

- **New Projects.** Of the 14 new projects, 12 are roadway projects (3 on state routes and 9 on arterials), 1 is a bicycle/pedestrian project, and 1 is a transit-related project.
- **Removed Projects.** Of the 59 removed projects, 16 are roadway projects (2 on state routes and 14 on arterials), 9 are bicycle/pedestrian projects, and 34 are transit or ferry-related. Thirty-two of the 59 projects were cancelled by the project's sponsor, 1 was a duplicate, and 26 projects were cancelled because they did not have a sponsoring agency.
- **Status Changes.** Of the 122 projects that had status changes:
 - 19 were moved from unprogrammed to constrained
 - 81 were moved from constrained to unprogrammed²
 - 9 were moved from constrained to exempt
 - 13 were moved from unprogrammed to exemptThese changes do not move any State of Good Repair projects or transit projects to the unprogrammed list.
- **Modified Projects.** The 91 modified projects include scope, extent, and completion year changes.

With these changes, and some merging of projects, the Transportation 2040 Update has approximately 750 ongoing projects. Exhibit 2 lists the new projects and Exhibit 3 lists the projects removed from Transportation 2040. The lists of status changes and modified projects can be found in Attachment A, Lists of Project Changes.

² This included 79 projects moved to Unprogrammed as part of the Financial Strategy update plus two additional projects which changed status during the project update.

Overall, the project changes are consistent with the plans and policies identified in the Transportation 2040 FEIS and 2012 Addendum. The transportation impacts of the updated plan are likely to reduce significant adverse environmental impacts and be within the levels identified in the original project list.

Subsequent Environmental Review and Project Review Process. Adding the projects shown in Exhibit 2 to the Transportation 2040 project list does not commit the region or project sponsors to specific project outcomes. The projects will be subjected to additional planning and environmental review processes before implementation, as follows:

1. Projects on the Transportation 2040 Regional Capacity Project List will be subject to PSRC's Project Approval process ("Candidate-to-Approved"), which established criteria that must be met before regional capacity projects in the region can be implemented. These criteria address project-level financial feasibility, completion of appropriate project-level environmental review processes, and other matters.
2. All projects will undergo project-level environmental review by the project sponsor.

Exhibit 2
List of New Projects in Transportation 2040

Sponsor	T2040 ID	Title	Type
Everett	4467	SR 526 Hardeson Rd Half Interchange	Roadway Related – State Route
King County/ Metro	4447	Madison St Corridor	Roadway Related – Arterial
King County/ Metro	4451	Seattle South End Transit Pathways	Roadway Related – Arterial
Kitsap County	4465	Kitsap County Regional Trail	Bicycle/Pedestrian
Pierce County	4438	Canyon Rd E – 84th to 72nd	Roadway Related – Arterial
Pierce County	4439	Canyon Rd E – 72nd to Pioneer	Roadway Related – Arterial
Renton	4433	Rainier Ave S Corridor Improvements – Phase 2	Roadway Related – Arterial
Renton	4468	New P&R Lot – Renton Urban Center North	Transit & Ferry Related
Shoreline	4434	145th St Improvements	Roadway Related – Arterial
Shoreline	4435	15th Ave NE Corridor Improvement	Roadway Related – Arterial
Sumner	4466	West bound ramps Highway 410 and 166th Ave E	Roadway Related – State Route
Tacoma	4431	MLK Mixed Use Center Complete Streets Improvement Project	Roadway Related – Arterial
Tacoma	4432	Brewery District Roadway Improvement	Roadway Related – Arterial
WSDOT	4462	SR 520 Eastbound Auxiliary Lane: NE 148th Ave to NE 40th St	Roadway Related – State Route

Exhibit 3
List of Projects Removed from Transportation 2040

Sponsor	T2040 ID	Title	Type
Bellevue	3472	Coal Creek Parkway	Roadway Related – Arterial
Everett Transit	3365	Everett Bike Station	Bicycle/Pedestrian
Federal Way	2008	S 320th St	Roadway Related – Arterial
Federal Way	2012	S 320th St	Roadway Related – Arterial
Federal Way	3656	City Center Access Phase 3 – 312th St	Roadway Related – Arterial
Federal Way	3661	City Center Access Phase 4 – 312th St/I-5 Interchange modification at S 312th St	Roadway Related – Arterial
Issaquah	367	NW Maple St	Roadway Related – Arterial
Issaquah	4544	I-90 Corridor Arterial HOV queue jumps	Roadway Related – Arterial
Kent	5290	S 228th St (Phase 2)	Roadway Related – Arterial
King County/ Metro	2678	Preston-Snoqualmie Trail	Bicycle/Pedestrian
King County/ Metro	2880	Green River Trail Phase II Project	Bicycle/Pedestrian
King County/ Metro	3584	Eastgate Park and Ride Expansion	Transit & Ferry Related
King County/ Metro	5393	Issaquah Park and Ride Expansion	Transit & Ferry Related
Kitsap County	1273	Riddell Rd	Roadway Related – Arterial
Kitsap County	1274	Perry Ave	Roadway Related – Arterial
Kitsap County	1276	Sylvan Way	Roadway Related – Arterial
Kitsap Transit	2485	Kingston Passenger-Only Foot Ferry Terminal Construction	Transit & Ferry Related
Kitsap Transit	2577	SR 3/SR 16 P&R	Transit & Ferry Related
Port of Tacoma	4643	Blair Hylebos Terminal – SR 509 Interchange	Roadway Related – Arterial
Redmond	3664	Redmond Way HOV Treatments	Roadway Related – Arterial
Renton	2342	New P&R Lot – Renton East Highlands	Transit & Ferry Related
Sammamish	206	228th Ave SE/Equestrian Trail	Bicycle/Pedestrian
Sammamish	1980	Sahalee Way NE	Roadway Related – Arterial
Seattle	5145	E-3 Busway Trail	Bicycle/Pedestrian
Sumner	2911	Sumner Trail	Bicycle/Pedestrian
Sumner	2912	Sumner Trail	Bicycle/Pedestrian
Tacoma	2816	I-5 Trail Corridor	Bicycle/Pedestrian
Tacoma	5486	Pacific Ave (SR 7) Transit Corridor Supporting	Transit & Ferry Related

Exhibit 3 (continued)
List of Projects Removed from Transportation 2040

Sponsor	T2040 ID	Title	Type
		Investments	
Tacoma	5488	6th Ave (Tacoma) Transit Corridor Supporting Investments	Transit & Ferry Related
Tukwila	2681	Green River Trail Spur	Bicycle/Pedestrian
WSDOT	1728	SR 104	Roadway Related – State Route
WSDOT	5525	SR 160 (Sedgwick) HOV	Roadway Related – State Route
WSDOT	2478	Southworth Passenger-Only Foot Ferry Terminal Expansion	Transit & Ferry Related
Agency Not Identified	4331	I-405 Corridor: SR 169 to I-90 (112th Interchange P&R Expansion, In-Line Station)	Transit & Ferry Related
Agency Not Identified	4407	I-405 Corridor: SR 522 to I-5 (Lake Forest Park vicinity P&R expansion)	Transit & Ferry Related
Agency Not Identified	5369	Passenger-Only Ferry: Bainbridge-Des Moines	Transit & Ferry Related
Agency Not Identified	5370	Passenger-Only Ferry: Port Orchard-Downtown Seattle	Transit & Ferry Related
Agency Not Identified	5372	Passenger-Only Ferry: Des Moines-Downtown Seattle	Transit & Ferry Related
Agency Not Identified	5373	Passenger-Only Ferry: Shilshole-Downtown Seattle	Transit & Ferry Related
Agency Not Identified	5376	Passenger-Only Ferry: Port Townsend-Downtown Seattle	Transit & Ferry Related
Agency Not Identified	5377	Passenger-Only Ferry: Vancouver B.C.-Downtown Seattle	Transit & Ferry Related
Agency Not Identified	5460	Transit priority infrastructure for Core or BRT – SR 526 from SR 525 to I-5	Transit & Ferry Related
Agency Not Identified	5461	Transit priority infrastructure for Core or Swift BRT – SR 524 (196th, Filbert) from ferry to SR 527	Transit & Ferry Related
Agency Not Identified	5462	Transit priority infrastructure for Core or Swift BRT – Smokey Point Corridor	Transit & Ferry Related
Agency Not Identified	5463	Transit priority infrastructure for Core or BRT – Mukilteo Speedway	Transit & Ferry Related
Agency Not Identified	5464	Transit priority infrastructure for Core or Swift BRT – Airport Rd to Cathcart Way (Everett, Sno Co, Mill Creek)	Transit & Ferry Related
Agency Not Identified	5465	Transit priority infrastructure for Core or Swift BRT – 164th St	Transit & Ferry Related
Agency Not Identified	5467	Transit priority infrastructure for Core or Swift BRT – SR 527 Downtown Bothell to SR 526/I-5	Transit & Ferry Related

Exhibit 3 (continued)
List of Projects Removed from Transportation 2040

Sponsor	T2040 ID	Title	Type
Agency Not Identified	5469	Transit priority infrastructure for Core or BRT – SR 531 I-5 to downtown Arlington	Transit & Ferry Related
Agency Not Identified	5471	Transit priority infrastructure for Core or BRT – SR 528 I-5 to SR-9	Transit & Ferry Related
Agency Not Identified	5473	Transit priority infrastructure for Core or BRT – US 2 Everett to Monroe (via Ave D and 2nd St in Snohomish)	Transit & Ferry Related
Agency Not Identified	5475	Transit priority infrastructure for Core or BRT – SR 9 Bothell to Arlington	Transit & Ferry Related
Agency Not Identified	5477	Transit priority infrastructure for Core or BRT – 228th St Edmonds Ferry, SR 104, 228th, 236th, 228th to SR 9	Transit & Ferry Related
Agency Not Identified	5479	Transit priority infrastructure for Core or BRT – 20th St US 2 to SR 9	Transit & Ferry Related
Agency Not Identified	5481	Transit priority infrastructure for Core or BRT – 35th Ave SE Bothell to Everett	Transit & Ferry Related
Agency Not Identified	5483	Transit priority infrastructure for Core or BRT – I-5 Smokey Point to King County	Transit & Ferry Related
Agency Not Identified	5485	Transit priority infrastructure for Core or BRT – SR 522 Monroe to Bothell	Transit & Ferry Related
Agency Not Identified	5493	SR 303 Transit Corridor Supporting Investments	Transit & Ferry Related
Agency Not Identified	5494	SR 305 Transit Corridor Supporting Investments	Transit & Ferry Related

Statutory Updates

There are several new or updated plans and policies that PSRC is incorporating into the Transportation 2040 Update. These updates include:

Active Transportation Plan. This plan establishes a regional bike network with a focus on regional growth centers. The plan identifies critical connections to transit stations, encourages enhanced health through active transportation, promotes safety, and includes an implementation strategy. These actions are likely to increase the share of nonmotorized trips and thereby reduce vehicle miles traveled, fuel consumption, travel times on congested facilities, greenhouse gas emissions, and increase health-related benefits for users of these facilities. This plan is included in Appendix O to the Transportation 2040 Update.

Transportation 2040 Update

The Transportation 2040 Update and associated appendices can be found online at:

<http://www.psrc.org/transportation/t2040/transportation-2040-update>

Air Quality and Climate Change. Under federal and state regulations, PSRC is required to demonstrate that the Transportation 2040 Update conforms to the State Implementation Plan for Air Quality. Updated materials document recent air quality and greenhouse gas emission trends, including a status report on implementation of the Four-Part Greenhouse Gas Strategy, and a status report on compliance with federal standards (especially for fine particulates such as PM_{2.5} in Pierce County). The new federal Corporate Average Fuel Economy standards support and help implement the region's emission reduction strategies. The regional air quality conformity analysis is included in Appendix E to the Transportation 2040 Update.

Coordinated Transit Human Services Transportation Plan (Coordinated Plan). The coordinated plan updates demographic data for special needs populations, provides an updated inventory of services, includes updated goals and strategies, identifies gaps and needs, and outlines actions and investments to address needs. These actions will increase access for these populations to the transportation system and regional destinations. The coordinated plan is included in Appendix K to the Transportation 2040 Update.

Transportation Demand Management (TDM) Action Plan. Managing demand and efficient use of the transportation system are two key elements of region's transportation strategy. This new action plan provides a better understanding of TDM and its value by highlighting key activities in the region, describes the strategic priorities that TDM implementers across the region continue to pursue, and recommends regional implementation actions to support and augment the work happening at the local level. The TDM Action Plan is included in Appendix T to the Transportation 2040 Update.

Growing Transit Communities Program. Over the coming years the region will invest \$25 billion in regional rapid transit. The Growing Transit Communities Program is designed to help make the most of this investment by locating housing, jobs, and services close to transit, making transit a viable travel option for many people. The goal is to provide a faster and more convenient way to travel and, by locating housing near transit, have the potential to decrease travel times and vehicle miles traveled and increase transit mode shares.

Rural Transportation Study. This study examines transportation trends, issues, and opportunities in the rural parts of the region. This study is informational and helps define key transportation issues and investment needs in the rural part of the region. The study is included in Appendix R to the Transportation 2040 Update.

At the federal level, there is also the most recent transportation act known as MAP-21 that President Obama signed in July 2012. This transportation act had not yet been adopted prior to the 2012 Addendum.

MAP-21. The act includes provisions that guide the transportation planning process for highways, safety, transit, freight, and performance. Guidance on performance measures is rolling out through 2015. The guidance and requirements are being incorporated into the planning process as they emerge. PSRC is developing a monitoring program that incorporates MAP-21 measures for Transportation 2040.

Additional Information

Since the Transportation 2040 Plan was adopted in 2010 and amended in 2012, more current information and modeling tools have become available. This includes 2010 census information, the latest land use and economic data, updates to the travel demand model, and EPA's motor vehicle emissions software MOVES2010b.

Transportation System Outcomes

The project changes in this Transportation 2040 Update result in a net reduction of almost 60 roadway lane-miles. This is based largely on prioritization which moved over 79 projects out of the financially constrained plan.³ The transportation impacts would remain similar to those described in the Transportation 2040 FEIS.

The modeling tools for transportation have been updated to use current information. Changes to the models have resulted in changes to the original published analysis. As a result, the base year and adopted plan figures have been re-calibrated using the new modeling framework to ensure a consistent comparison. Regional network measures such as vehicle miles of travel, vehicle hours of travel, and delay and average speed are provided in Exhibit 4 below. For comparison, this information is provided for several scenarios:

- **Base Year (2006).** This is the base year condition used for the plan adopted in 2010, evaluated using the new suite of analysis tools and models.
- **Updated Base Year (2010).** This is the new base year conditions for the Transportation 2040 Update evaluated using the new suite of analysis tools and models.
- **2012 Adopted – Constrained Plan 2040.** This is the constrained portion of the Transportation 2040 Plan, as amended and adopted in 2012, evaluated using the new suite of analysis tools and models.
- **2012 Adopted – Full Plan 2040.** This is the constrained and unprogrammed project lists for the Transportation 2040 Plan, as amended and adopted in 2012, evaluated using the new suite of analysis tools and models.
- **2014 Update – Constrained Plan 2040.** This is the proposed constrained portion of the Transportation 2040 Update evaluated using the new suite of analysis tools and models.
- **2014 Update – Full Plan 2040.** This is the proposed constrained and unprogrammed project lists for Transportation 2040 Update evaluated using the new suite of analysis tools and models.

³ Two additional projects were moved from Constrained to Unprogrammed during the project update process, resulting in a total of 81 projects moving into Unprogrammed.

Additional details about the updated analyses can be found in Appendix H, Analysis Tool Documentation, of the Transportation 2040 Update.

Exhibit 4
Regional Network Measures for the Transportation 2040 Update

	Base Year (2006)	Updated Base Year (2010)	2012 Adopted – Constrained Plan 2040	2012 Adopted – Full Plan 2040	2014 Update – Constrained Plan 2040	2014 Update – Full Plan 2040
Daily Vehicle Mile Traveled	79,535,979	80,317,885	96,108,116	94,325,653	94,851,846	93,477,203
Daily Vehicle Hours Traveled	2,956,071	2,987,202	3,638,353	3,470,958	3,581,634	3,415,796
Delay (hours)	954,206	954,289	1,179,804	1,064,173	1,152,734	1,033,002
Average Speed (miles per hour)	26.9	26.9	26.4	27.2	26.5	27.4

The updated modeling shows a reduction in vehicle miles traveled, vehicle hours traveled, and delay, with an increase in the average speed compared to the adopted plan. The travel mode share results summarized in Exhibit 5 show a reduction in the drive-alone trips and an increase in transit and non-motorized trips for the proposed Transportation 2040 Update – Full Plan, which decreases the vehicle miles traveled, vehicle hours traveled, and delay compared to the Transportation 2040 Update – Constrained Plan.

Exhibit 5
Travel Mode Shares for the Transportation 2040 Update

	Base Year (2006) (%)	Update – Base Year (2010) (%) *	2012 Adopted – Constrained Plan 2040 (%) *	2012 Adopted – Full Plan 2040 (%)	2014 Update – Constrained Plan 2040 (%)	2014 Update – Full Plan 2040 (%)
Drive Alone	44.7	44.0	41.2	40.5	41.2	40.5
Shared Ride	42.4	42.8	42.6	42.7	42.5	42.7
Transit	3.1	3.1	4.3	4.5	4.3	4.5
Non-Motorized	9.8	10.2	12.0	12.3	12.0	12.3
Total	100	100	100	100	100	100

* Numbers do not add to 100 due to rounding.

Air Quality

PSRC updated its modeling tools to include the latest land use dataset, improvements to the travel demand model, and to use MOVES2010b (Motor Vehicle Emission Simulator) as required by EPA. The regional air quality analysis estimates future regional motor vehicle emissions of criteria pollutants and greenhouse gases. The results of the regional air quality analysis illustrated in Exhibits 6 and 7 below are consistent with the changes in EPA's motor vehicle emissions software, as well as the lower

regional vehicle miles traveled resulting from the changes described for the other modeling tools. These results also reflect the continued improvements in vehicle and fuel technology and the turnover of the fleet over the next 30 years.

**Exhibit 6
Regional Emissions Analysis Results**

	Base Year (2006)	2012 Adopted – Constrained Plan	2012 Adopted – Full Plan	2014 Update – Constrained Plan	2014 Update – Full Plan
Carbon Dioxide equivalent (CO ₂ e)*	17,739,298	18,110,977	17,779,561	17,983,298	17,637,698
Carbon monoxide (CO)	800,947	374,948	372,370	373,162	371,199
Ozone					
Summer Nitrogen Oxides (NO _x)	81,117	14,789	14,548	14,649	14,443
Summer Volatile Organic Compounds	29,291	5,623	5,560	5,603	5,538
Fine Particulates					
Winter PM _{2.5}	3,814	1,090	1,064	1,075	1,049
Winter NO _x	89,920	16,904	16,658	16,751	16,545

* The carbon dioxide figures above represent the results from the analysis of the 2014 Update using PSRC's suite of models and the Environmental Protection Agency's current Motor Vehicle Emission Simulator (MOVES). The current version of MOVES incorporates the Corporate Average Fuel Economy and greenhouse gas standards adopted through September 2010; an updated version of MOVES is expected to be released in 2014 reflecting the additional CAFÉ standards adopted after 2010. The figures above do not incorporate the technology component of the Four-Part Greenhouse Gas Strategy adopted as part of Transportation 2040, which include Likely and Aggressive scenarios regarding vehicle and fuel technology in the region by 2040. Based on the new CAFÉ and greenhouse gas standards adopted in the last several years, and additional technology improvements expected over the next several decades, the emissions of greenhouse gases in the region are estimated to be 36% below 2006 levels by 2040.

**Exhibit 7
Conformity Analysis Results**

	CO (tons per day)	PM_{2.5} (pounds per day)	NO_x (pounds per day)
Emissions Budget ^a	2,512 ^b	3,002 ^c	71,598 ^c
2016	1,301	n/a	n/a
2020	1,139	1,823	37,729
2030	944	1,200	19,015
2040	959	1,082	14,174

^a The emissions budget is the ceiling of total emissions that cannot be exceeded.

^b CO motor vehicle emissions budget as identified in the updated CO maintenance plan, effective September 7, 2004.

^c PM_{2.5} and NO_x motor vehicle emissions budgets as identified in the revision to the Washington State Implementation Plan, effective October 21, 2013.

Note: Pursuant to Section 93.118(b) of the federal conformity rule, analyses were conducted for each year for which a motor vehicle emissions budget has been established, the horizon year (2040) of Transportation 2040, and intermediary years such that the analyses are no more than 10 years apart (2020 and 2030). In addition, CO was analyzed for 2016 because the CO maintenance plan identifies a motor vehicle emissions budget for the horizon year of 2016.

The region must also meet federal and state transportation conformity requirements to ensure that Transportation 2040 will not impede the region from meeting and maintaining air quality standards. As illustrated in the table below, the projects and programs in the Transportation 2040 Update are well within the established limits for the two pollutants for which conformity currently applies in the region: carbon monoxide (CO) and fine particulates (including the precursors of PM_{2.5} and nitrogen oxides [NO_x]). The region previously was required to conduct conformity for coarse particulates, or PM₁₀. In December 2013, the U.S. Environmental Protection Agency proposed the approval of a limited maintenance plan for the region for this pollutant. A limited maintenance plan is used to meet federal Clean Air Act requirements for areas with little risk of violating the national standard. Monitored PM₁₀ levels in the region are roughly one-third of the federal standard, with steady declines over the last several decades. As a result, the region will no longer be required to perform a regional emissions analysis for this pollutant to demonstrate conformity.

The air quality impacts of the Transportation 2040 Update with the amended project list would not be substantially different from those addressed in the Transportation 2040 FEIS. As a result of the analysis, PSRC determined that the Transportation 2040 Update conforms to the Washington State Implementation Plan as required by the federal Clean Air Act and the state Clean Air Washington Act.

Environmental Justice

While updating the analyses, PSRC ensured that affected minority and low-income residents benefit from Transportation 2040 and are not negatively impacted disproportionately. As with the adopted plan, the Transportation 2040 Update invests heavily in transit, paratransit services, and special needs transportation services. In addition, there were no State of Good Repair or transit projects that moved from the constrained to the unprogrammed lists, and the updated plan meets regional air quality requirements. The Transportation 2040 Update is not anticipated to affect environmental justice populations disproportionately.

Conclusion

The updated transportation modeling with the amended project list reduces vehicle miles traveled, vehicle hours traveled, and delay and results in an increase in average vehicle speed. The total roadway lane miles would be reduced by approximately 60 miles and would have similar effects on the regional transportation system compared to the adopted plan as amended in 2012.

The updated air quality analysis meets all regional air quality criteria pollution requirements and has lower projected criteria pollutants and greenhouse gas emissions than in Transportation 2040. The analysis provides sufficient basis for PSRC to determine that the Transportation 2040 Update conforms to the Washington State Implementation Plan as required by the federal Clean Air Act and the state Clean Air Washington Act.

The Transportation 2040 Update maintains many key elements of the adopted plan that affect low-income, minority, and vulnerable populations, including doubling transit service by 2040 and investing in paratransit and transportation for residents with special needs. It is not anticipated to affect environmental justice populations disproportionately.

These major elements of the updated plan focus on project prioritization, the State of Good Repair, system preservation, sustainable transportation revenue sources, inclusion of projects with higher social and environmental benefits, and multimodal transportation strategies. Further, the updated plan focuses on linking land use and transportation, public health, access for special needs populations, and strategies to promote an efficient use of the transportation system. The net marginal effects of the

updated plan are likely to reduce significant adverse environmental impacts of Transportation 2040 and be within the levels described in the Transportation 2040 FEIS.

References

- PSRC (Puget Sound Regional Council). 2010. Transportation 2040 Final Environmental Impact Statement. Issued March 19, 2010. Available at: <http://psrc.org/transportation/t2040/t2040-pubs/transportation-2040-final-environmental-impact-statement/>.
- PSRC. 2012. Transportation 2040 Final Environmental Impact Statement Addendum. Issued May 7, 2012. Available at: http://www.psrc.org/assets/8231/FINAL_Addendum07May2012.pdf.
- PSRC. 2014. Transportation 2040 Update – Draft Report. Issued January 23, 2014. Available at: <http://www.psrc.org/transportation/t2040/transportation-2040-update/>.