

TABLE OF CONTENTS

COVER LETTER	i
FACT SHEET	iii
ACRONYMS AND ABBREVIATIONS LIST	xvii
CHAPTER 1 EXECUTIVE SUMMARY	1
1 What is Transportation 2040?	3
2 What is the purpose of and need for the Transportation 2040?	3
3 What are the objectives of Transportation 2040?	4
4 What is the Transportation 2040 DEIS?	4
5 What are the projections for the region’s population, employment, and housing?	5
6 What challenges are addressed by the Transportation 2040 plan alternatives?	6
7 What alternatives are being analyzed by the Transportation 2040 DEIS?	7
8 What criteria were used to evaluate the alternatives?	11
9 What impacts are expected of each alternative?	13
10 How would these impacts be mitigated?	30
11 What are the next steps?	30
CHAPTER 2 INTRODUCTION AND BACKGROUND	2-1
1 What is Transportation 2040?	2-1
2 What is the Puget Sound Regional Council?	2-3
3 What is the purpose of and need for the Transportation 2040?	2-4
4 How will Transportation 2040 fulfill its purpose and need?	2-4
5 What is the Transportation 2040 DEIS?	2-6
6 What is projected for the region’s population, employment, and housing?	2-6
7 What is the overall growth management strategy for the region?	2-8
8 What policies are contained in VISION 2040?	2-9
9 Which studies preceded Transportation 2040?	2-11
CHAPTER 3 PLAN ALTERNATIVES	3-1
1 What geographic area does the Transportation 2040 plan cover?	3-1
2 What makes up the region’s Metropolitan Transportation System?	3-1
3 What challenges are addressed by the Transportation 2040 plan alternatives?	3-5
4 What alternatives are being analyzed by the Transportation 2040 DEIS?	3-7
5 Which programs and projects are included in the Baseline Alternative?	3-10
6 Which programs and projects are included in Alternative 1: Make the Most of the Existing System?	3-15
7 Which programs and projects are included in Alternative 2: Invest in Capital Improvements?	3-19
8 Which program and projects are included in Alternative 3: Fund Core Network Expansion & Efficiency?	3-23
9 Which programs and projects are included in Alternative 4: Improve and Manage the Entire Transportation System?	3-27

10 Which programs and projects are included in Alternative 5: Provide Accessibility and Reduce Carbon Emissions?.....3-31

11 How did PSRC develop the alternatives?3-35

12 Was the public involved in the development of the alternatives?3-36

13 How were the alternatives evaluated?3-36

14 What are the next steps?3-42

CHAPTER 4 TRANSPORTATION.....4-1

1 What policy direction from VISION 2040 guides Transportation 2040?4-1

2 Why is the region’s transportation system important?4-2

3 What existing transportation facilities and services are in place to meet current travel needs?4-3

4 What does the existing roadway system include?4-7

5 What existing transit systems serve the region?4-10

6 What existing ferry system facilities are in the region?.....4-13

7 What existing bicycle and pedestrian facilities are in the region?4-14

8 What existing freight systems are available in the region?.....4-16

9 What existing intercity passenger rail services are in the region?4-17

10 What existing regional airport facilities are in the region?4-18

11 What Transportation System Management programs exist in the region?4-18

12 What Transportation Demand Management policies, programs, and strategies exist in the region?4-21

13 How is PSRC currently addressing congestion through the Congestion Management Process?4-23

14 What services exist for special needs transportation in the region?.....4-26

15 How are existing transportation system conditions evaluated?4-27

16 What state and federal rules and regulations affect planning for Transportation 2040?.....4-40

17 What is considered in the analysis of alternatives?.....4-43

18 How will the Transportation 2040 alternatives affect the transportation system compared to today, and how do they compare with one another?4-43

19 What impacts are similar across all alternatives?.....4-46

20 How are the alternatives different from one another?4-49

21 What effects on the roadway system are specific to individual alternatives?4-49

22 What effects on the transit system are specific to individual alternatives?4-62

23 What effects on the ferry system are specific to individual alternatives?.....4-69

24 What effects on the non-motorized system are specific to individual alternatives?4-71

25 What effects on the freight system are specific to individual alternatives?4-75

26 What effects on passenger rail are specific to individual alternatives?.....4-77

27 What effects on the regional airport system are specific to individual alternatives?4-77

28 How was special needs transportation evaluated for the Transportation 2040 alternatives?4-81

29 How will special needs transportation be evaluated in the Transportation 2040 Plan?4-83

30 What is the outreach for special needs populations in the regional plan update?4-84

31 What benefits to transportation are specific to individual alternatives?4-84

32	How would the alternatives' benefits be distributed across the region?	4-88
33	What cumulative effects on transportation could occur if the Transportation 2040 actions coincide with other planned actions?	4-96
34	How can the effects to transportation be mitigated?	4-97
35	Are there any significant unavoidable adverse impacts to transportation?.....	4-99
CHAPTER 5 LAND USE, POPULATION, EMPLOYMENT, AND HOUSING		5-1
1	How are land use, population, employment, and housing examined in this chapter?	5-1
2	What land use strategy was proposed by VISION 2040?	5-2
3	What effects on land use, population, employment, and housing are common to all alternatives?.....	5-7
4	What effects on land use, population, employment, and housing are specific to individual alternatives?	5-10
5	Which land use issues were considered in the analysis?.....	5-15
6	What cumulative effects could occur if the Transportation 2040 actions coincide with other planned actions?.....	5-20
7	What can be done to mitigate the effects of transportation projects upon the region's land uses?	5-21
8	Are there any significant unavoidable adverse impacts?	5-22
CHAPTER 6 AIR QUALITY AND CLIMATE CHANGE		6-1
1	What affects air quality in the central Puget Sound region?.....	6-1
2	What are the pollutants of concern in the central Puget Sound region?.....	6-2
3	What regulations apply to air quality?	6-6
4	What are the current conditions and trends for air quality?	6-12
5	How were the alternatives analyzed?.....	6-17
6	What effects on air quality are common to all alternatives?	6-18
7	What effects on air quality are specific to individual alternatives?.....	6-20
8	What cumulative effects on air quality could occur if the Transportation 2040 actions coincide with other planned actions?	6-23
9	How can the effects to air quality be mitigated?	6-24
10	Are there any significant unavoidable adverse impacts to air quality?	6-26
CHAPTER 7 NOISE.....		7-1
1	How is noise perceived by the human ear?	7-1
2	What decibel levels are appropriate for human comfort and safety?.....	7-2
3	How is noise regulated?.....	7-3
4	What are existing sources of noise in the central Puget Sound region?	7-5
5	What noise effects are common to all alternatives?	7-6
6	Which alternatives would be likely to cause the greatest number of noise effects?	7-9
7	What cumulative noise effects could occur if the Transportation 2040 actions coincide with other planned actions?	7-10
8	How can the noise effects be mitigated?.....	7-11
9	Are there any significant unavoidable adverse noise impacts?	7-12

CHAPTER 8 VISUAL AND AESTHETIC RESOURCES.....8-1

1 How is visual quality assessed?.....8-1

2 What types of visual resources are present in the central Puget Sound region?8-2

3 What effects on visual resources are common to all alternatives?.....8-4

4 Which alternatives would be likely to cause the greatest number of effects on visual resources?8-6

5 What cumulative effects on visual resources could occur if the Transportation 2040 actions coincide with other planned actions?8-8

6 How can the effects on visual resources be mitigated?8-8

7 Are there any significant unavoidable adverse impacts to visual resources?.....8-10

CHAPTER 9 WATER QUALITY AND HYDROLOGY.....9-1

1 What are the dominant characteristics of water in the central Puget Sound region?9-1

2 What factors are affecting hydrology in the region?9-7

3 What is the current status of water quality in the central Puget Sound region?9-15

4 What factors are affecting water quality in the region?.....9-17

5 How is water regulated?.....9-18

6 How is climate change expected to affect hydrology or water quality?9-19

7 What effects on water quality and hydrology are common to all alternatives?9-20

8 What effects on water quality and hydrology are specific to individual alternatives?.....9-23

9 What cumulative effects could occur if the Transportation 2040 actions coincide with other planned actions?.....9-26

10 How can the effects to water quality and hydrology be mitigated?.....9-27

11 Are there significant unavoidable adverse impacts to water quality and hydrology?.....9-30

CHAPTER 10 ECOSYSTEMS AND ENDANGERED SPECIES ACT ISSUES10-1

1 What are the major ecosystems in the central Puget Sound region?.....10-1

2 Which species are listed under the ESA?10-6

3 Which species are currently under state and local agency protection?.....10-7

4 What are the current issues affecting ecosystems and species in the central Puget Sound region?10-7

5 How are ecosystems and species regulated?.....10-11

6 What services are provided by the ecosystems of the central Puget Sound region and how do they support human well-being?10-11

7 What effects on ecosystems and listed species are common to all alternatives?10-12

8 Which alternatives would be likely to cause the greatest number of effects on ecosystems and species? .10-14

9 What cumulative effects could occur if the Transportation 2040 actions coincide with other planned actions?.....10-21

10 How can the effects on ecosystems and listed species be mitigated?10-22

11 Are there significant unavoidable adverse impacts to ecosystems or listed species?.....10-22

CHAPTER 11 ENERGY.....11-1

1 What are the trends for energy consumption and energy generation in Washington?11-1

2 What effects on energy are common to all alternatives?.....11-5

3 What effects on energy are specific to individual alternatives?11-5

4	What cumulative effects on energy could occur if the Transportation 2040 actions coincide with other planned actions?	11-6
5	How can the effects to energy be mitigated?	11-8
6	Are there any significant unavoidable adverse impacts to energy?.....	11-10
CHAPTER 12 EARTH.....		12-1
1	What are the characteristics of the region's physical setting and geology?	12-1
2	What are the region's primary geologic hazards?	12-2
3	What regulations affect geologic hazards?	12-8
4	What impacts are common to all alternatives?.....	12-8
5	What effects are specific to each alternative?.....	12-10
6	What are the likely cumulative effects?	12-13
7	How can these effects be mitigated?	12-13
8	Are there significant unavoidable adverse impacts?	12-14
CHAPTER 13 ENVIRONMENTAL HEALTH		13-1
1	What environmental health issues are being considered?	13-1
2	How can hazardous materials affect environmental health?	13-2
3	Where are hazardous material sites located in the central Puget Sound region?	13-3
4	How are hazardous materials regulated?.....	13-5
5	What hazardous material risks are common to all alternatives?	13-5
6	Which alternatives would be likely to cause the greatest number of effects on environmental health?.....	13-7
7	What cumulative effects could occur if the Transportation 2040 actions coincide with other planned actions?.....	13-9
8	How can the hazardous material effects be mitigated?.....	13-10
9	Are there any significant unavoidable adverse hazardous material impacts?	13-11
CHAPTER 14 PUBLIC SERVICES AND UTILITIES		14-1
1	What are the existing public services and facilities in the region?.....	14 -1
2	What common effects will the new regional transportation plan alternatives have on public services and utilities?	14 -3
4	What cumulative effects will the plan have on public services and utilities?	14 -9
5	What are the potential mitigation measures that can be employed?	14-10
6	Are there any significant unavoidable adverse effects?	14 -11
CHAPTER 15 PARKS AND RECREATION		15-1
1	What are our parks and recreational resources?	15-1
2	How are parks and other recreational resources governed?.....	15-3
3	How many existing parks and recreational facilities are in the region?	15-3
4	What effects on parks and recreational facilities are common to all alternatives?	15-4
5	What effects on parks and recreational facilities are specific to individual alternatives?	15-7
6	What cumulative effects on parks and recreational resources could occur if the Transportation 2040 actions coincide with other planned actions?	15-10
7	How can the effects to parks and recreational resources be mitigated?	15-11

8 Are there any significant unavoidable adverse impacts to parks and recreational facilities? 15-12

CHAPTER 16 HISTORIC AND CULTURAL RESOURCES 16-1

1 What is the definition of historic, cultural, and archaeological resources? 16-1

2 What are the different types of resources? 16-1

3 How are historic, cultural, and archaeological resources regulated? 16-3

4 What effects to historic, cultural, and archaeological resources are common to all alternatives? 16-6

5 What effects to historic, cultural, and archaeological resources are specific to individual alternatives?..... 16-7

6 What cumulative effects to historic, cultural, and archaeological resources could occur if the Transportation 2040 actions coincide with other planned actions? 16-10

7 How can the effects to historic, cultural, and archaeological resources be mitigated?..... 16-11

8 Are there any significant unavoidable adverse effects to historic, cultural, and archaeological resources? 16-13

CHAPTER 17 ENVIRONMENTAL JUSTICE 17-1

1 What is Environmental Justice? 17-1

2 Why is Environmental Justice being addressed in this DEIS? 17-1

3 Which laws govern Environmental Justice analyses for environmental review? 17-2

4 How will PSRC involve minority and low-income populations while creating the Transportation 2040 plan? 17-3

5 What are the demographics of the study area? 17-3

6 What effects on minority and low-income populations are common to all alternatives? 17-20

7 How would minority and low-income populations be affected by the individual alternatives? 17-20

8 What cumulative effects on minority and low-income populations could occur if the Transportation 2040 actions coincide with other planned actions? 17-21

9 How can the effects on minority and low-income populations be mitigated? 17-22

10 Are there any significant unavoidable adverse impacts to minority and low-income populations?..... 17-22

CHAPTER 18 HUMAN HEALTH 18-1

1 In what ways do changes in our environment affect human health? 18-1

2 How could exposure to hazardous materials affect human health? 18-2

3 How could exposure to noise affect human health? 18-3

4 How could air quality affect human health? 18-5

5 How could water quality affect human health? 18-7

6 How could access to parks and recreational areas affect human health?..... 18-8

7 How could transportation safety affect human health?..... 18-9

8 How could the relationship between transportation and physical activity affect human health?..... 18-10

9 Which Transportation 2040 alternatives would have the greatest effect on human health?..... 18-13

LIST OF APPENDICES A-1

LIST OF PREPARERS L-1

REFERENCES R-1

DISTRIBUTION LIST D-1

LIST OF EXHIBITS

Exhibit 1-1 Population and Job Growth Trends and Forecasts 5

Exhibit 1-2 Housing Trends and Forecast 6

Exhibit 1-3 Program Investments in the Transportations 2040 Alternatives 7

Exhibit 1-4 Evaluation Criteria Analysis Results 12

Exhibit 1-5 Miles of New Roadway Included in Each Alternative 15

Exhibit 1-6 Average Daily Vehicle Trips (by Time of Day) 15

Exhibit 1-7 Average Daily Trip Times and Lengths (Times in Minutes, Lengths in Miles) 16

Exhibit 1-8 Auto Travel (Average Daily Vehicle Miles Traveled, Vehicle Hours Traveled, Delay Hours) 17

Exhibit 1-9 Vehicle Speeds (by Facility Type and Time Period) 18

Exhibit 1-10 Mode Share for Work, Non-work, and All Trips 19

Exhibit 1-11 Transit Travel (Average Daily Boardings by Mode) 19

Exhibit 1-12 Ferry Travel (Average Daily Boardings by Boarding Mode) 20

Exhibit 1-13 Non motorized Trips (Average Daily Walking and Bicycling Trips) 21

Exhibit 1-14 Investment in Off-road Walking and Off-road Bicycling Facilities (miles) 21

Exhibit 1-15 Commercial Travel Benefits by Vehicle Type 22

Exhibit 1-16 Annual Accident Reduction Benefits Compared to the 2040 Baseline Costs
(millions of 2008 dollars) 23

Exhibit 1-17 Emissions (Annual Tons) 24

Exhibit 1-18 Projects in the Vicinity of Flood Zones 26

Exhibit 1-19 Potential Project Impacts to Significant Habitat Areas 26

Exhibit 1-20 Fuel and Electricity Use for Vehicle and Buildings, Change From the 2040 Baseline 27

Exhibit 1-21 Hazardous Material Sites Within 100 feet of a Project 28

Exhibit 1-22 Parks/Recreational Resources Within 100 feet of a Project 29

Exhibit 1-21 Historic, Archeological, or Cultural Resources Within 100 feet of a Project 29

Exhibit 2-1 Central Puget Sound Region Cities and Towns 2-2

Exhibit 2-2 Population and Job Growth Forecasts 2-7

Exhibit 2-3 Housing Trends and Forecasts 2-7

Exhibit 2-4 Regional Geographies Identified in VISION 2040 2-10

Exhibit 2-5 Summary of Project Additions and Deletions by Amendment 2-13

Exhibit 3-1 Central Puget Sound Region Cities and Towns 3-2

Exhibit 3-2 Population and Job Growth Forecasts 3-6

Exhibit 3-3 Program Investments in the Transportation 2040 Alternatives 3-8

Exhibit 3-4 Baseline Alternative (SEPA No-Action Alternative): Build Funded Projects 3-11

Exhibit 3-5 Baseline Alternative Tolling Map 3-12

Exhibit 3-6 Alternative 1: Emphasize the Efficiency of Existing System 3-16

Exhibit 3-7 Alternative 1: Tolling Scenario 3-17

Exhibit 3-8 Alternative 2: Emphasize Roadway and Transit Capacity Expansion 3-20

Exhibit 3-9 Alternative 2: Tolling Scenario 3-21

Exhibit 3-10 Alternative 3: Toll Revenues Expand Capacity and Improve Efficiency3-24

Exhibit 3-11 Alternative 3: Tolling Scenario.....3-25

Exhibit 3-12 Alternative 4: Combine Traditional Revenues and Tolls to Maximize Efficiency3-28

Exhibit 3-13 Alternative 4: Tolling Scenario.....3-29

Exhibit 3-14 Alternative 5: Reduce Emissions with Limited Highway Investments and Regional Tolling3-32

Exhibit 3-15 Alternative 5: Tolling Scenario.....3-33

Exhibit 3-16 Evaluation Criteria Analysis Results.....3-39

Exhibit 4-1 Metropolitan Transportation System.....4-5

Exhibit 4-2 Destination 2030 Map (2007)4-6

Exhibit 4-3 Regional Roadway System – 2006 (in lane miles)4-7

Exhibit 4-4 Puget Sound Freeway HOV System4-8

Exhibit 4-5 Congested Travel Corridors in the Region4-26

Exhibit 4-6 Daily and per Capita Vehicle Miles Traveled in Puget Sound4-28

Exhibit 4-7 Most Congested Facilities4-30

Exhibit 4-8 Average Peak Travel Times by Commute (Minutes).....4-31

Exhibit 4-9 Average Daily Trips per Person4-32

Exhibit 4-10 Mode Share.....4-33

Exhibit 4-11 Percent of Trips Using Transit (by county and sub-area)4-33

Exhibit 4-12 Home-Based Work Trip Distance and Time4-34

Exhibit 4-13 Daily Travel Times by Lifecycle Category4-35

Exhibit 4-14 Average Commute Distance to Work (1999 and 2006 in miles).....4-36

Exhibit 4-15 Average Weekday Travel by Time Period and Trip Purpose.....4-37

Exhibit 4-16 Regional Commute Trends and Jobs and Housing Growth by County4-38

Exhibit 4-17 Washington State Ferries Ridership (Annual Passengers per Year).....4-39

Exhibit 4-18 Commercial Air Demand4-40

Exhibit 4-19 Summary of Roadway and Transit Infrastructure, 2006–20404-46

Exhibit 4-20 Roadway System Analysis Summary Results – 20404-51

Exhibit 4-21 Average Daily Vehicle Trips (Trips by Time Period and Change from Baseline).....4-53

Exhibit 4-22 Average Daily Trip Lengths (Times in Minutes, Lengths in Miles).....4-54

Exhibit 4-23 Auto Travel (Average Daily Vehicle Miles Traveled, Vehicle Hours Traveled, Delay Hours).....4-57

Exhibit 4-24 Auto Performance (Average Daily Speeds by Facility Type and Time Period).....4-59

Exhibit 4-25 Mode Share for Work, Non-work, and All Trips4-61

Exhibit 4-26 Travel Mode Share: (Average Daily Trips by Mode).....4-64

Exhibit 4-27 AM and Mid-day Transit Service Hours.....4-66

Exhibit 4-28 Increase in AM Transit Service Hours4-66

Exhibit 4-29 Transit Travel (Average Daily Boardings by Mode)4-68

Exhibit 4-30 Auto and Passenger Ferry Routes – 20404-70

Exhibit 4-31 Ferry Travel (Average Daily Boardings by Boarding Mode)4-71

Exhibit 4-32 Investment in Off-road Walking and Bicycling Facilities (miles of facilities).....4-72

Exhibit 4-33 Non-Motorized Trips (Average Daily Walk and Bike Trips)	4-74
Exhibit 4-34 Annual Benefits to Commercial and Passenger Users.....	4-76
Exhibit 4-35 Annual Transportation Mobility Benefits	4-85
Exhibit 4-36 Mobility Benefits for SOV, HOV, Transit, and Commercial.....	4-86
Exhibit 4-37 Annual Accident Reduction Benefits Compared to the 2040 Baseline Costs (millions of 2008 dollars)	4-88
Exhibit 4-38 Puget Sound Regional Sub-areas	4-90
Exhibit 4-39 Annual User Benefits by Regional Sub-area	4-91
Exhibit 4-40 Annual Benefits by Income.....	4-92
Exhibit 4-41 Annual Benefits by User Type	4-94
Exhibit 4-42 Annual Benefits to Environmental Justice Populations	4-95
Exhibit 5-1 Regional Growth Strategy: Regional Population and Employment Growth, 2000–2040	5-3
Exhibit 5-2 Regional Growth Strategy	5-4
Exhibit 5-3 VISION 2040 Conceptual Regional Growth Strategy Density 2040 - Conceptual Map	5-5
Exhibit 5-4 Designated Regional Growth Centers	5-8
Exhibit 5-5 Current Land Use	5-9
Exhibit 5-6 Population and Employment Growth in Regional Geographies (2040 Baseline and Change from Baseline)	5-12
Exhibit 5-7 Shares of Population Growth by Regional Geography and Alternative	5-13
Exhibit 5-8 Shares of Employment Growth by Regional Geography and Alternative	5-14
Exhibit 5-9 Jobs Housing Balance.....	5-16
Exhibit 5-10 Population and Employment in Regional Growth Centers and Manufacturing Industrial Centers	5-18
Exhibit 6-1 Central Puget Sound Region Maintenance Areas.....	6-9
Exhibit 6-2 National Ambient Air Quality Standards	6-10
Exhibit 6-3 Carbon Monoxide Trends in the Central Puget Sound Region.....	6-14
Exhibit 6-4 Ozone Trends in the Central Puget Sound Region	6-15
Exhibit 6-5 Fine Particulate Concentrations in Pierce County	6-16
Exhibit 6-6 Emissions (annual tons)	6-19
Exhibit 6-7 Percent Change in Emissions from 2040 Baseline	6-19
Exhibit 6-8 Transportation Conformity Analysis.....	6-20
Exhibit 6-9 2040 Mode Shares	6-21
Exhibit 6-10 Total Vehicle Miles Traveled (VMT)	6-21
Exhibit 6-11 Daily VMT per Capita for Passenger Vehicles and Light Trucks	6-22
Exhibit 7-1 Typical Noise Levels	7-2
Exhibit 7-2 Examples of Typical Outdoor Sound Levels in Various Environments.....	7-3
Exhibit 7-3 Federal Highway Administration Noise Abatement Criteria.....	7-4
Exhibit 7-4 Typical Ldn Noise Levels Near Transportation Facilities.....	7-5
Exhibit 7-5 Typical Ldn Noise Levels Near Transit Facilities	7-6
Exhibit 7-6 Typical Construction Equipment Noise Levels	7-8

Exhibit 7-7 Miles of New Infrastructure Included in Each Alternative7-9

Exhibit 8-1 Visual Resources in the Central Puget Sound Region8-3

Exhibit 8-2 Miles of New Infrastructure Included in Each Alternative8-7

Exhibit 9-1 WRIA Boundaries and Impaired Waters.....9-2

Exhibit 9-2 Flood Hazard Areas9-4

Exhibit 9-3 Wetlands, Rivers, Streams, and Lakes9-5

Exhibit 9-4 Sole Source Aquifers.....9-6

Exhibit 9-5 North Central Puget Sound Action Area.....9-9

Exhibit 9-6 South Puget Sound Action Area.....9-10

Exhibit 9-7 South Central Puget Sound Action Area9-11

Exhibit 9-8 Whidbey Basin Action Area.....9-12

Exhibit 9-9 Acres of New Lane Miles and Park-and-Ride Stalls for Each Alternative9-24

Exhibit 9-10 Projects in the Vicinity of Flood Zones9-26

Exhibit 10-1 Areas Identified as Regionally Significant Habitat Areas.....10-2

Exhibit 10-2 The Puget Trough Ecoregion and Surrounding Ecoregions10-3

Exhibit 10-3 Miles of New Infrastructure Included in Each Alternative10-15

Exhibit 10-4 Potential Project Impacts to Significant Habitat Areas.....10-16

Exhibit 10-5 Projects in the Vicinity of Flood Zones10-16

Exhibit 11-1 Energy Consumption by Sector (1970–2005)11-1

Exhibit 11-2 Total Primary Energy Consumption by Source (1970–2005)11-2

Exhibit 11-3 Washington Generation by Source (2007)11-3

Exhibit 11-4 Percentage of Energy Used in the Transportation Sector by Type of Activity11-4

Exhibit 11-5 Energy Consumption from On-Road Mobile Sources.....11-5

Exhibit 11-6 Energy Consumption from Buildings (Total Annual Values).....11-7

Exhibit 11-7 Energy Consumption from Buildings (Percent Change from Baseline)11-8

Exhibit 12-1 Geologic Hazard Areas12-3

Exhibit 12-3 Miles of New Infrastructure Included in Each Alternative12-11

Exhibit 13-1 Potential Hazardous Material Sites13-4

Exhibit 13-2 Miles of New Infrastructure Included in Each Alternative13-8

Exhibit 13-3 Hazardous Material Sites within 100 feet of a Project13-9

Exhibit 14-1 Hours of Delay by Alternative14-6

Exhibit 14-2 Miles of New Infrastructure Included in Each Alternative14-8

Exhibit 15-1 Types of Recreational Facilities15-2

Exhibit 15-2 Parks and Recreational Resources in the Central Puget Sound Region.....15-5

Exhibit 15-3 Miles of New Infrastructure Included in Each Alternative15-8

Exhibit 15-4 Parks/Recreational Resources within 100 feet of a Project.....15-9

Exhibit 16-1 Historic Properties Listed in the Washington Historic Register (Includes properties listed on the
National Register of Historic Places)16-4

Exhibit 16-2 Miles of New Infrastructure Included in Each Alternative16-8

Exhibit 16-3 Historic, Archeological, or Cultural Resources within 100 Feet of a Project 16-10

Exhibit 17-1 Minority Population Summary in 2000..... 17-4

Exhibit 17-2 Low-Income Population Summary by County in 1999..... 17-5

Exhibit 17-3 Tribal Lands in the Central Puget Sound Region 17-7

Exhibit 17-4 Minority Populations by Census Tract for King County 17-8

Exhibit 17-5 Minority Populations by Census Tract for Pierce County 17-9

Exhibit 17-6 Minority Populations by Census Tract for Snohomish County..... 17-10

Exhibit 17-7 Minority Populations by Census Tract for Kitsap County..... 17-11

Exhibit 17-8 Very Low-Income Populations by Census Tract for King County 17-12

Exhibit 17-9 Very Low-Income Populations by Census Tract for Pierce County 17-13

Exhibit 17-10 Very Low-Income Populations by Census Tract for Snohomish County 17-14

Exhibit 17-11 Very Low-Income Populations by Census Tract for Kitsap County 17-15

Exhibit 17-12 Low and Very Low-Income Populations by Census Tract for King County..... 17-16

Exhibit 17-13 Low and Very Low-Income Populations by Census Tract for Pierce County..... 17-17

Exhibit 17-14 Low and Very Low-Income Populations by Census Tract for Snohomish County..... 17-18

Exhibit 17-15 Low and Very Low-Income Populations by Census Tract for Kitsap County..... 17-19

Exhibit 18-1 Typical Construction Equipment Noise Levels 18-5

ACRONYMS AND ABBREVIATIONS

$\mu\text{g}/\text{m}^3$ micrograms per cubic meter

A

ADA American with Disabilities Act

B

BMP best management practice

BNSF Burlington Northern Santa Fe

BRT bus rapid transit

Btu British thermal unit

C

CFR Code of Federal Regulations

CMP Congestion Management Process

CO carbon monoxide

CO₂ carbon dioxide

CTED Washington State Department of Community, Trade and Economic Development

CTR Commute Trip Reduction

CWA Federal Clean Water Act

CZM Coastal Zone Management Act

D

DAHP Department of Archaeology and Historic Preservation

dB decibels

dBA A-weighted decibels

DEIS Draft Environmental Impact Statement

DNR Washington State Department of Natural Resources

E

Ecology Washington State Department of Ecology

EIA Energy Information Administration

EIS environmental impact statement

EPA U.S. Environmental Protection Agency

ESA Endangered Species Act

F

FAA Federal Aviation Administration

FAST Freight Action Strategy

FEIS Final Environmental Impact Statement

FEMA Federal Emergency Management Agency

G

GIS Geographic Information System
GTEC Growth and Transportation Efficiency Center

H

HOT high-occupancy toll
HOV high-occupancy vehicle

I

ITS Intelligent Transportation System

L

LATS Long Term Air Transportation Study
L_{dn} the day/night noise level

M

mg/m³ milligrams per cubic meter
MIC manufacturing and industrial center
mmBtu 1 million British thermal units
mph miles per hour
MTP Metropolitan Transportation Plan
MTS Metropolitan Transportation System
mWh megawatt hours

N

NAAQS National Ambient Air Quality Standards
NEPA National Environmental Policy Act
NMFS National Marine Fisheries Service
NO_x nitrogen oxides
NPDES National Pollutant Discharge Elimination System
NRHP National Register of Historic Places

O

OFM Washington State Office of Financial Management

P

PAHs polycyclic aromatic hydrocarbons
PBDE polybrominated diphenyl ether
PCBs polychlorinated biphenyls
ppm parts per million
PSCAA Puget Sound Clean Air Agency
PSEF Puget Sound Economic Forecaster
PSRC Puget Sound Regional Council

R

RCW	Revised Code of Washington
RTP	Regional Transportation Plan
RTPO	Regional Transportation Planning Organization

S

SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
Sea-Tac	Seattle-Tacoma International
SEDS	State Energy Data System
SEPA	State Environmental Policy Act
SMA	Shoreline Management Act
SNTC	Special Needs Transportation Committee
SOV	single-occupant vehicle
SR	State Route
ST2	Sound Transit's Phase 2
SWMP	Solid Waste Management Plan

T

TDM	transportation demand management
TMA	Transportation Management Association
TPA	Transportation Partnership Account
TSM	transportation system management

U

UGA	urban growth area
USC	United States Code
USDOT	U.S. Department of Transportation

V

VMT	vehicle miles traveled
VOC	volatile organic compound

W

WAC	Washington Administrative Code
WNHP	Washington Natural Heritage Program
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation
WSF	Washington State Ferries