



# TRANSPORTATION MASTER PLAN

FOR THE CITY OF SEATAC



*This page left intentionally blank.*

# ACKNOWLEDGEMENTS

## SEATAC CITY COUNCIL

- Mia Gregerson, Mayor
- Tony Anderson, Deputy Mayor
- Barry Ladenburg
- Kathryn Campbell
- Terry Anderson
- Dave Bush
- Pam Fernald

## PLANNING COMMISSION

- Joe Adamack, Chair
- Robert Scully, Vice Chair
- Tom Dantzler
- Jim Todd
- Roxie Chapin

## CONSULTANT TEAM



## CITY DEPARTMENTS

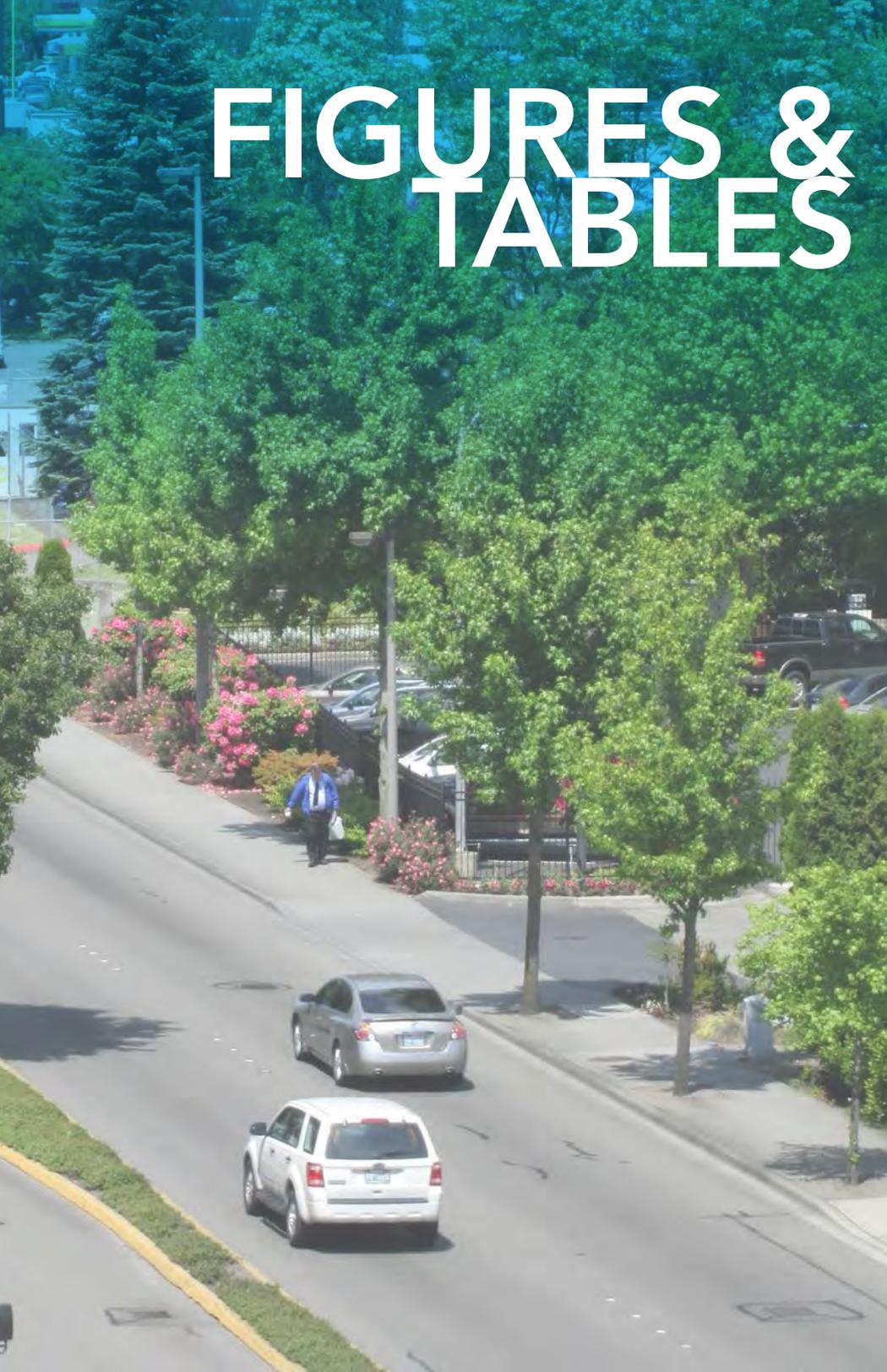
- Public Works
- Community & Economic Development
- Finance & Systems
- City Manager's Office



# TABLE OF CONTENTS

<b>Chapter 1. Introduction .....</b>	<b>1</b>
1.1 What is The Transportation Master Plan and How Will it Be Used? .....	2
1.2 How Was the Transportation Master Plan Prepared? .....	4
1.3 How is the Transportation Master Plan Organized? .....	9
<b>Chapter 2. Inventory of Existing Transportation System and Conditions .....</b>	<b>11</b>
2.1 Roadway System .....	12
2.2 Sea-Tac International Airport.....	36
2.3 Rail Crossings .....	36
2.4 Non-Motorized Transportation Systems.....	36
2.5 Transit and Transportation Demand Management.....	39
2.6 Parking.....	43
<b>Chapter 3. Travel Forecasts and Alternatives Evaluation.....</b>	<b>44</b>
3.1 Travel Demand Model.....	45
3.2 Land Use and Trip Generation Forecasts .....	46
3.3 Transportation System Alternatives.....	49
3.4 Alternatives Evaluation .....	53
3.5 Framework for the 2035 Transportation Element.....	58
<b>Chapter 4. Multi-modal Transportation Systems Plans.....</b>	<b>61</b>
4.1 Streets and Highways.....	63
4.2 Non-Motorized Transportation Systems Plan.....	67
4.3 Transit and Transportation Demand Management.....	73
4.4 Multi-modal Transportation Improvement Projects and Programs.....	74
<b>Chapter 5. Funding and Implementation Strategies .....</b>	<b>99</b>
5.1 Project and Program Costs.....	100
5.2 Revenue Projections .....	102
5.3 Financing and Implementation Strategy .....	109

# FIGURES & TABLES



## Figures

1 1. Study Area.....	5
1 2. Primary Work Flow.....	8
2 1. Existing Freeway and Key Arterial Volumes .....	18
2 2. 2014 PM Peak Hour Directional Volumes.....	22
2 3. Existing (2014) Intersection PM Peak Hour Levels of Service.....	26
2 4. High Accident Locations (2011-2013) .....	30
2 5. Existing (2015) Transit Facilities and Routes.....	40
3 1. 2010-2035 City of SeaTac Housing & Employment Growth Assumptions .....	47
3 2. Major Transportation Alternatives .....	51
3 3. 2025 PM Peak Hour Intersection Levels of Service .....	54
3 4. 2035 PM Peak Hour Intersection Levels of Service .....	59
4 1. Roadway Functional Classification & Signal Locations.....	65
4 2. Truck Routes .....	68
4 3. Pedestrian Network.....	71
4 4. Bicycle Network.....	72
4 5. Arterial & Collector Multi-modal Transportation Improvement Projects .....	78
4 6. Additional Non-motorized Transportation Improvement Projects .....	91

## Tables

2 1. Existing (2014) Weekday Peak Hour Intersection LOS Summary (HCM 2000).....	27
2 2. Collision Severity Summary for Intersections and Segments (2011-2013) .....	29
2 3. Summary of High Collision Locations (2011-2013).....	34
2 4. Transit Service Routes (2015).....	39
3 1. 2010 and 2035 Housing and Employment Data by District .....	48
4 1. Functional Classification of City of SeaTac Roadways .....	64
4 2. Other Agency Multi-modal Transportation Improvement Projects .....	75
4 3. Transportation Program Summary.....	81
4 4. Arterial and Collector Multi-modal Transportation Improvement Projects .....	83
4 5. Additional Non-motorized Transportation Improvement Projects .....	92
5 1. Transportation Program and Project Costs (2015-2035) – (1,000's of 2014 \$) .....	101
5 2. Forecast Transportation Revenues (2015-2035) .....	103
5 3. Transportation Financing Summary by time Horizon (1,000's of 2014 \$) .....	109

Welcome to  
City of Seatac



1

# INTRODUCTION



# CHAPTER 1: INTRODUCTION

The transportation system is the backbone of a community, helping define its character.



The transportation system supports nearly all aspects of the City of SeaTac – from land use, housing, employment and jobs, recreation, and day-to-day activities such as shopping and going to school. The Transportation Master Plan (TMP) is the background and companion document to the Transportation Element (TE) of the City's Comprehensive Plan. Both the TE and TMP provide a long-rang vision for the City's transportation system and are based on the 2035 land use forecasts and growth at Sea-Tac International Airport.

This chapter provides an overview of the TMP and how it will be used by the City in advancing its multi-modal transportation system to address existing needs and support the land use plan and overall vision of the community. Chapter 1 also provides an outline of the process and tasks used in preparing the TMP and TE, including the coordination with other agencies and public review process. The last section of this chapter summarizes the various components of the TMP, including this document and Supporting Materials.

## 1.1 What is The Transportation Master Plan and How Will it Be Used?

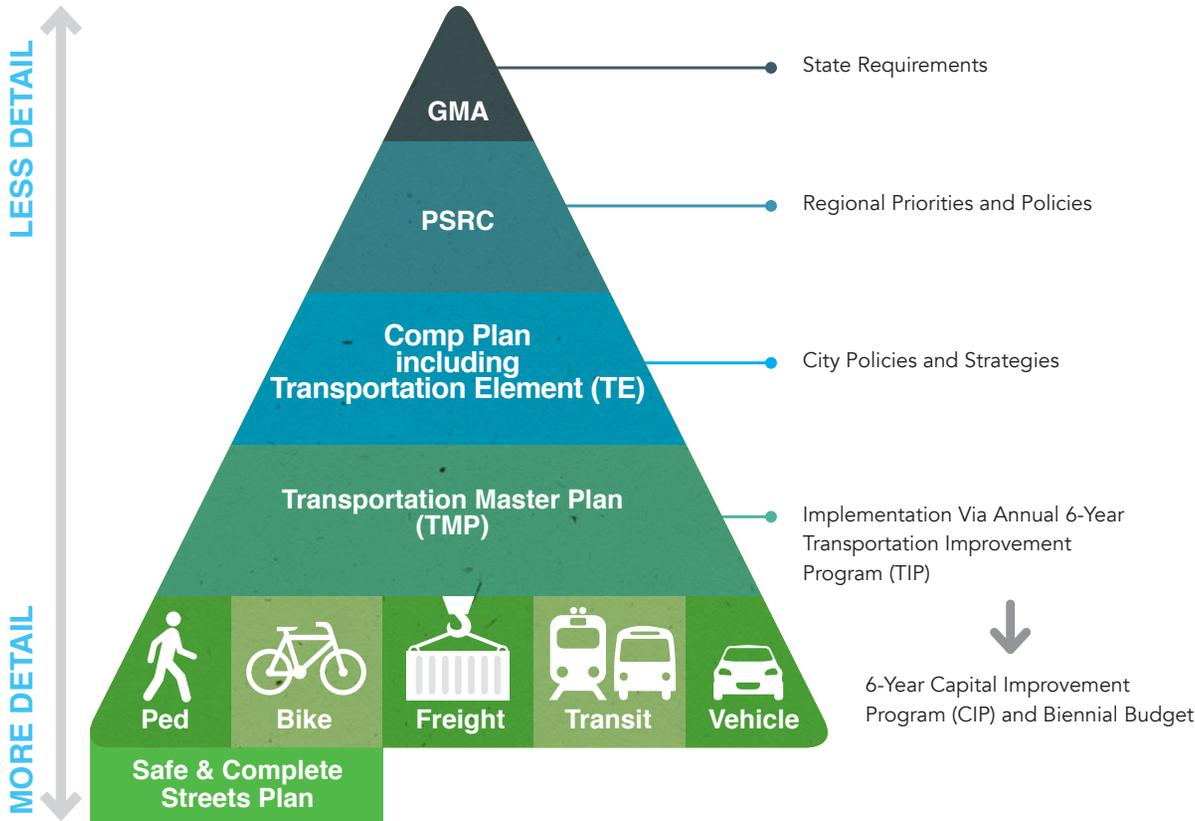
While the TE provides the overall policies and strategies to guide development of the City's transportation system to support the overall vision, the TMP provides the more detailed blueprint for the City of SeaTac's multi-modal transportation system. Much of the focus of the TMP is on defining projects for improving the transportation system to address safety, connectivity, operational, and capacity needs; however, the TMP also addresses ongoing programs for preserving, maintaining, and reducing the demands on the transportation system. Maintaining and operating the transportation systems in a timely manner can greatly improve the quality of travel (by the various modes) as well as reduce the need for more costly capital investments.

The TMP and associated TE are guided by state and regional planning requirements, as conceptually illustrated on the adjoining graphic. Under the Washington state Growth Management Act (GMA), the TE is a requirement of the City's Comprehensive Plan. RCW 36.70A.070 (6) establishes the minimum requirements for the TE.



The state GMA provides the broad umbrella for the City's transportation system policies and planning for the TE. The Puget Sound Regional Council (PSRC) provides additional policy direction for communities in the four county Puget Sound Region including King County and the City of SeaTac. PSRC's regional growth strategy is titled VISION 2040 which provides the long-range vision for accommodating

growth in the region through enhancing the well-being of people and their communities, promoting economic vitality, and providing a healthy environment. Transportation 2040 is the associated action plan for transportation in the Puget Sound region. It establishes the framework for investments in the region's transportation system including highways, rail and bus transit, pedestrian and bicycle systems, rail and truck



## Under GMA the Transportation Element must:

- **Be consistent** with the Land Use Element, including travel forecasts of at least 10-years based on the land use plans;
- **Identify the impacts** of the City's land use (and transportation) plans on the on state owned transportation facilities to provide a framework for monitoring the performance of and planning for improvements for the state highways and other state facilities;
- **Include level of service (LOS)** standards for all locally owned arterials and transit routes to gauge the performance of the systems;
- **Identify system improvements** to address any LOS deficiencies;
- **Include a multiyear financing plan** based on the needs identified in the comprehensive plan.

freight, ferries, and airports. VISION 2040 and Transportation 2040 establish the high level policies related to:

- Transportation investments and their relationship to the regional growth strategy;
- Reducing the environmental impacts of transportation;
- Promoting healthy communities through more active transportation modes;
- Increasing the use of alternatives to travel by single-occupancy vehicles; and
- Incorporating other travel modes into transportation concurrency evaluations; and
- Other related transportation policies.

Transportation 2040 incorporates transportation system plans from local communities, such as SeaTac, Counties, Ports, the Washington State Department of Transportation and transit agencies to provide a comprehensive vision for the region's transportation systems. In turn, the City of SeaTac's transportation plans need to build from and be consistent with the regional plan and transportation plans from the other agencies.

While the GMA and Transportation 2040 provide the broad framework for the City's transportation system, the TMP also builds from the ground up. The TMP incorporates the needs and desires of the community for various transportation modes – pedestrians, bicyclists, freight movement, transit, and general vehicle modes. These elements focus on safety of all modes, connectivity, operations, preservation, and operations of the systems as they serve SeaTac. The TMP

specifically incorporated the findings from the City of SeaTac Safe and Complete Streets Plan (S&CSP) (SvR Design Company, January 24, 2012) to better integrate pedestrian and bicycle system needs with transit, freight, and general vehicular transportation modes so they work together as a comprehensive system.

The key products of the TMP include:

- Transportation Systems Plans for the various modes, to show how the systems work together to meet the transportation needs of the City and the region;
- A comprehensive list of multi-modal transportation system improvement projects and programs;
- An evaluation of transportation funding and implementation strategies.

Combined, these products, and the supporting analyses and policy discussion, will be used by the City in implementing improvement projects and programs to maintain and improve its transportation system to support the overall vision

**The City will use the comprehensive list of improvement projects and programs in developing its annual Six-Year Transportation Improvement Program (TIP). The TIP will be the basis for funding specific projects through the Six-Year Capital Improvement Program (CIP).**

and associated elements of the Comprehensive Plan. The City will use the comprehensive list of improvement projects and programs in developing its annual Six-Year Transportation Improvement Program (TIP). The TIP will be the basis for funding specific projects through the Six-Year Capital Improvement Program (CIP) and programs will be implemented through the City's biennial budget process.

## 1.2 How Was the Transportation Master Plan Prepared?

The TMP focuses on the City of SeaTac, but as discussed above, the City must plan for its transportation system in the context of the larger state and regional context. In addition, the TMP and TE must reflect the values and vision of how the transportation system fits within and supports the vision of the City.

### 1.2.1 Study Area

Figure 1-1 shows the boundaries of the City of SeaTac, which serves as the primary study area for the TMP. In the center of the City is Sea-Tac International Airport which is a major transportation generator -- including air, freight, transit, and general travel. The City is bordered by Burien on the west and north, Tukwila on the east and Des Moines to the south. Several major highways, including I-5, SR 509, and SR 518 provide regional access for autos, trucks, and transit to/from and through SeaTac and to Sea-Tac Airport.



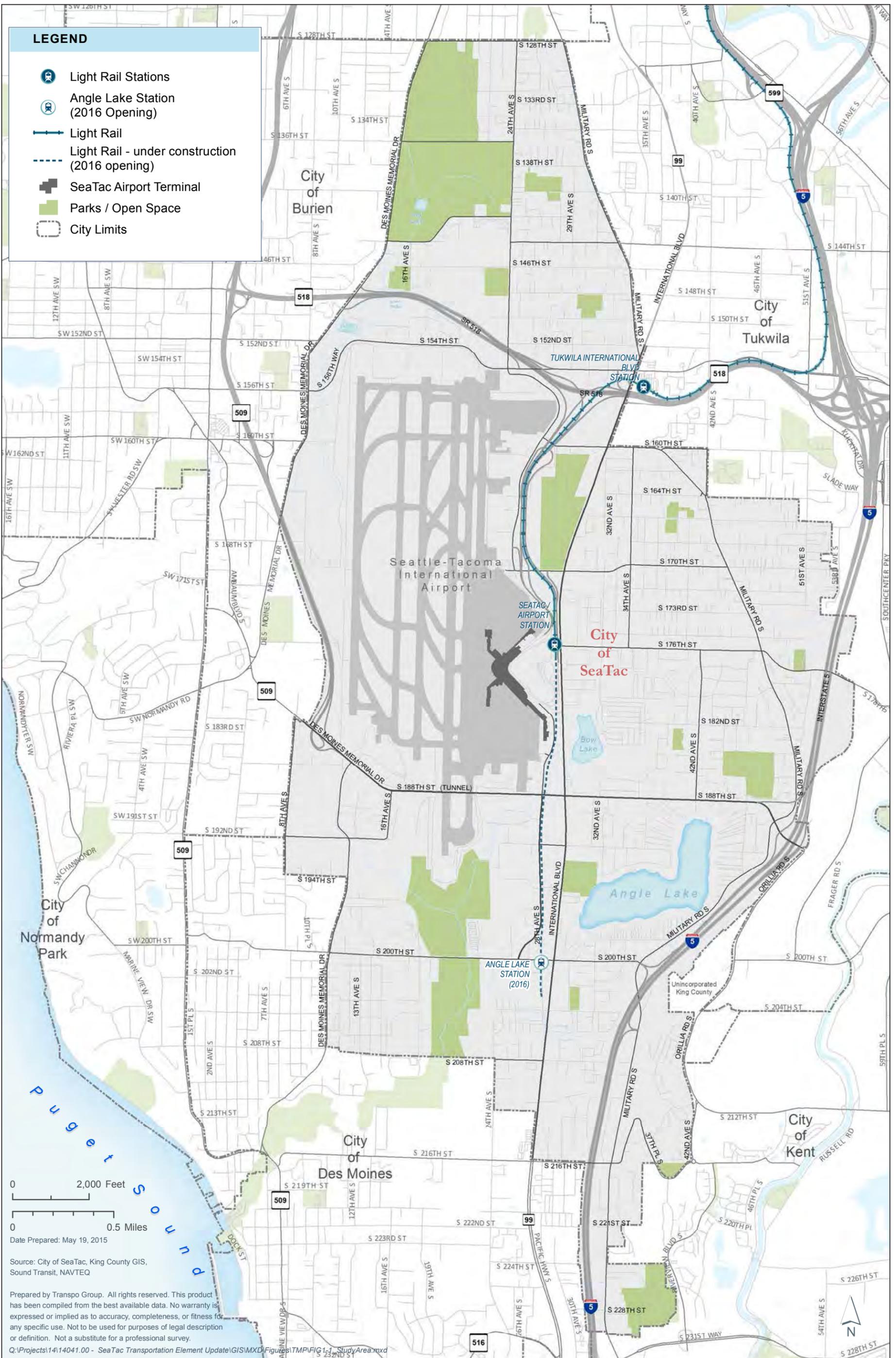


Figure 1-1: Study Area



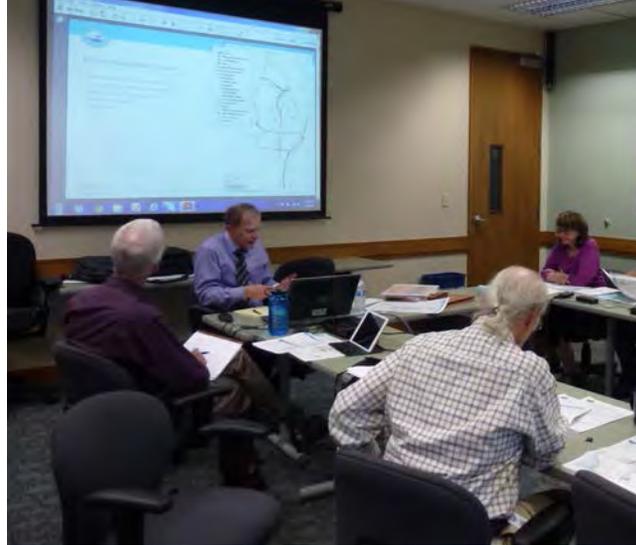
*This page left intentionally blank.*

## 1.2.2 Study Work Program and Public Review

The TMP and TE were developed over approximately a one year period. The work program flow is conceptually illustrated in Figure 1-2. Several of the tasks are mostly technical including the documentation and analyses of existing transportation system conditions and the travel forecast and alternatives evaluation. These tasks provide a baseline for discussions on the existing and forecast issues related to the various transportation modes. These issues cover safety, operations and congestion, and system connectivity. These technical analyses lead to potential multi-modal transportation improvement projects and policy direction in the TE.

The assumptions and methods, as well as the results of the technical analyses were coordinated with the other agencies, including WSDOT, PSRC, and the Port of Seattle. Transportation systems plans and data also were assembled from other agencies including SeaTac's neighboring cities, King County, and Sound Transit. This coordination helps to assure that the analyses and forecasts for the City's TE and TMP are consistent with the other regional plans, as required under GMA and VISION 2040.

Other tasks build from the technical analyses and community vision to establish the policy framework for the look and feel of the transportation system and where the City will focus its investments. The policies also identify how the City will work with the other agencies to assure that the state, regional, and



## TMP/TE Presentation Meetings

**Aug. 5, 2014 Planning Commission and Aug. 12, 2014 City Council Study Session**  
*Existing transportation systems conditions and policy overview*

**Sept. 6 and 7, 2014 SeaTac International Festival**  
*Input on transportation issues and vision*

**Oct. 8, 2014 Comprehensive Plan Open House**  
*Input on transportation issues and desired outcomes/vision*

**Dec. 2, 2014 Planning Commission and Dec. 9, 2014 City Council Study Session**  
*Travel forecasts, alternatives evaluation, and framework for TE and TMP*

**Dec. 3, 2014 Comprehensive Plan Open House**  
*Input on transportation issues and priorities*

**Jan. 9, 2015 City Council Retreat**  
*Improvement projects, transportation costs, funding options, and priorities*

**Feb. 3, 2015 Planning Commission and Feb. 10, 2015 City Council Study Session**  
*Transportation improvement projects and programs, funding, priorities, and policies*

**April 7, 2015 Planning Commission**  
*Public Hearing on Comprehensive Plan*

**May 5, 2015 Planning Commission**  
*Transportation Master Plan overview, improvement projects, funding options*

**June 23, 2015 City Council**

*Study Session: Draft Transportation Master Plan*

**July 2015 City Council**

*Regular meetings for review and adoption*



# Primary Work Program Tasks

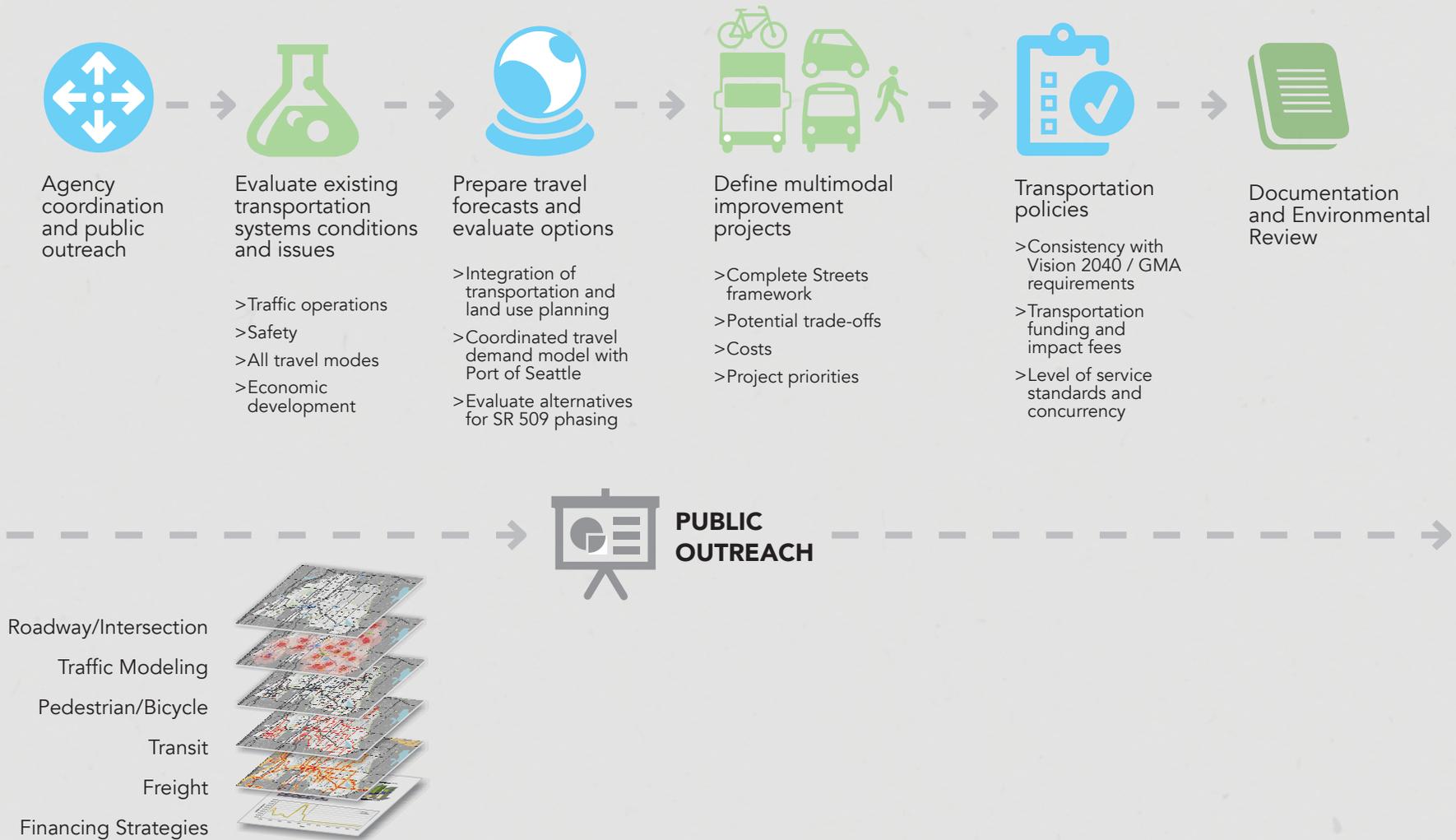


Figure 1-2: Transportation Master Plan Work Program



local transportation systems all work together. These include setting overall priorities and funding strategies to guide implementation of transportation projects and programs.

The other tasks include the documentation of the TE and associated environmental documentation and preparing this TMP and its Supporting Materials. The TMP documentation and Supporting Materials will be used by the City in preparing its TIP and CIP and also will support grant applications to help fund key transportation improvements.

In order to be successfully implemented over time, the TE and TMP must be consistent with the overall vision of the City and the other elements of the Comprehensive Plan. Therefore, the TE and the analyses developed for the TMP were presented to the City's Planning Commission and at City Council Study sessions at various times during the study process as part of the update of the City's Comprehensive Plan. These presentations helped provide the context for the policy framework presented in the TE and the list of projects and programs presented in the TMP. All of these meetings were open to the public. In addition, the TE and TMP materials were presented at a couple of public open houses held for the City's overall Comprehensive Plan.

In addition to these Planning Commission and City Council meetings where presentations on the TE and/or TMP were made, the Planning Commission and City Council held discussions on the TE and TMP as part of their deliberations and recommendations on the overall Comprehensive Plan. These discussions led up to adoption of the

City's 2015 Comprehensive Plan, including the TE and related TMP (including the multi-modal transportation project list) on June 23, 2015. The draft TMP also was reviewed by the City Council at meetings on June 23 and July 14, 2015. This TMP was adopted at the July 14, 2015 meeting.

### 1.3 How is the Transportation Master Plan Organized?

This report includes summaries of the data and results of the various technical analyses conducted in preparing the TE and TMP. It also includes discussion on the key transportation systems policies. The report is organized into the chapters listed below, which reflect the work program (Figure 1-2) and the requirements of GMA and VISION 2040 for the TE.

In addition, there are separate working documents that serve as supporting materials to the TMP and TE. The Supporting Materials are electronic files that include data on existing conditions, travel forecasts, and cost estimates.

The **Supporting Materials** are organized by Chapter in a set of computer file folders. These include:

- Chapter 1 – none
- Chapter 2 – traffic counts, operations analyses, and collision data
- Chapter 3 – forecast traffic volumes, forecast operations analyses,
- Chapter 4 – cost estimates summary; addendum to and the original of the Safe and Complete Streets Plan.
- Chapter 5 – revenue and expenditures forecasts.



- Chapter 1: Introduction**
- Chapter 2: Inventory of Existing Transportation System and Conditions**
- Chapter 3: Travel Forecasts and Alternatives Evaluation**
- Chapter 4: Multi-modal Transportation Systems Plans**
- Chapter 5: Funding and Implementation Strategies**

*This page left intentionally blank.*



2

# INVENTORY OF EXISTING TRANSPORTATION SYSTEMS AND CONDITIONS



# CHAPTER 2: INVENTORY OF EXISTING TRANSPORTATION SYSTEMS AND CONDITIONS

Travel within and around the City of SeaTac is served by the existing transportation system, which includes roadways, pedestrian and bicycle facilities, and transit facilities and services. These facilities and services provide for daily travel in and around the City and to and from adjacent communities and the greater Puget Sound region. The existing conditions of the various transportation systems are summarized to provide insights to current issues and constraints to help guide the identification of future potential improvement projects, programs, and policies. Figure 1-1 shows the study area.



The Puget Sound Regional Council (PSRC) data shows that, in 2010, 88 percent of the work trips to and from the City of SeaTac's designated Urban Center were made in automobiles (79 percent drive alone, 9 percent in vehicles with more than one person). The remaining work trips were by transit (9 percent) and walk/bike modes (3 percent).

The following summarizes the basic characteristics of state highway arterials and other main roadways, traffic volumes, intersection traffic operations, collision data, and information on the freight system. Summaries of the pedestrian and bicycle systems, and transit system and transportation demand management programs are described in subsequent sections.

## 2.1 Roadway System

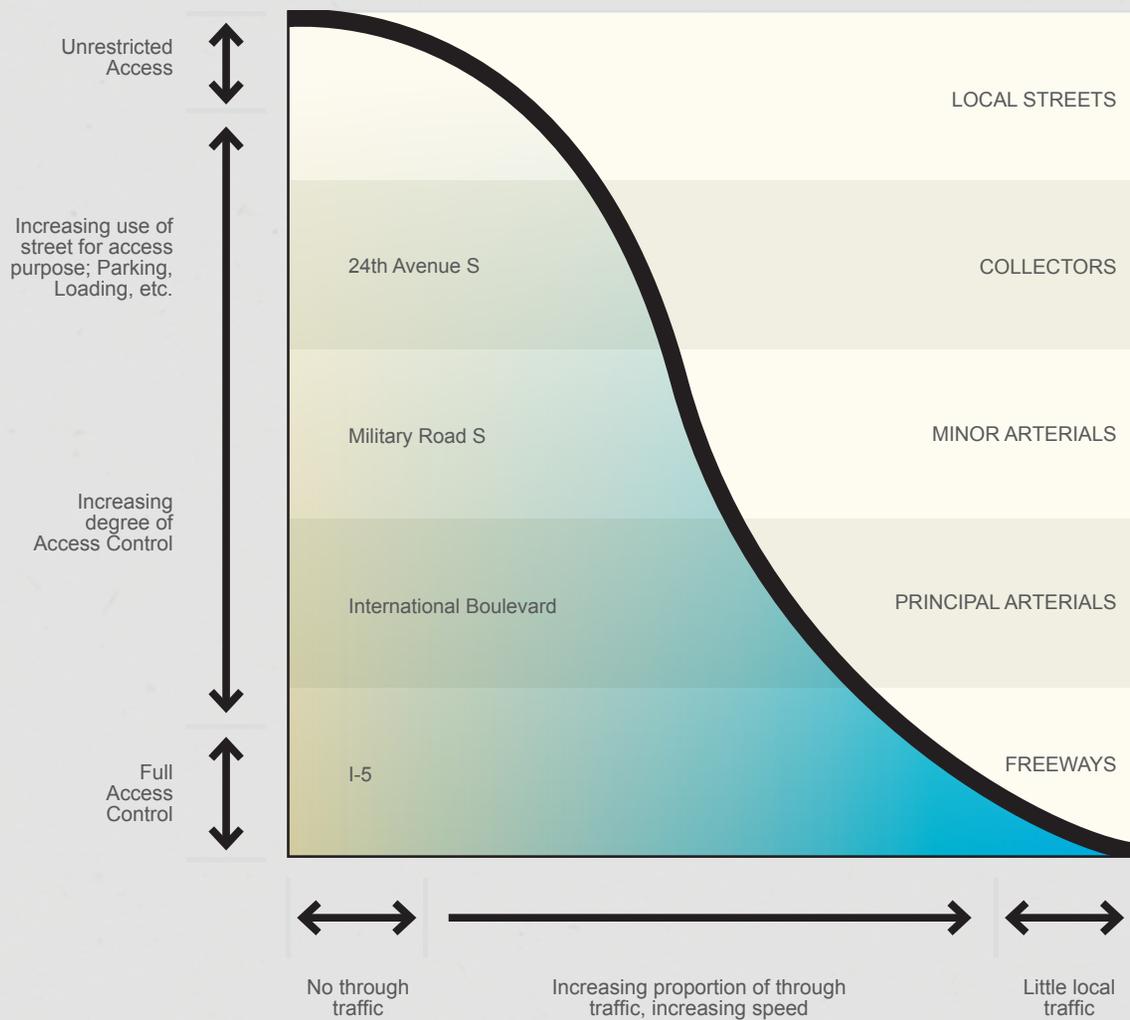
The roadway system provides the background for travel in and around the City of SeaTac. The roadway system is used by various travel modes – cars, freight, pedestrians, bicyclists, and transit. The roadways are classified in a hierarchy based on the intended purpose and desired service for each facility for the full range of travel modes.

The following summarizes the basic characteristics of state highway arterials and other main roadways, traffic volumes, intersection traffic operations, collision data, and information on the freight system. Summaries of the pedestrian and bicycle systems, and transit system and transportation demand management programs are described in subsequent sections.

### 2.1.1 Streets & Highways

The City of SeaTac classifies its roadways based on their intended function and projected land uses as principal arterials, minor arterials, collector arterials, and local or private streets. The definitions for the roadway classifications are summarized in Table 4-1 in Chapter 4 (Transportation Systems Plans). In addition, Figure 4-1 in Chapter 4 shows the City's adopted roadway functional classification system.





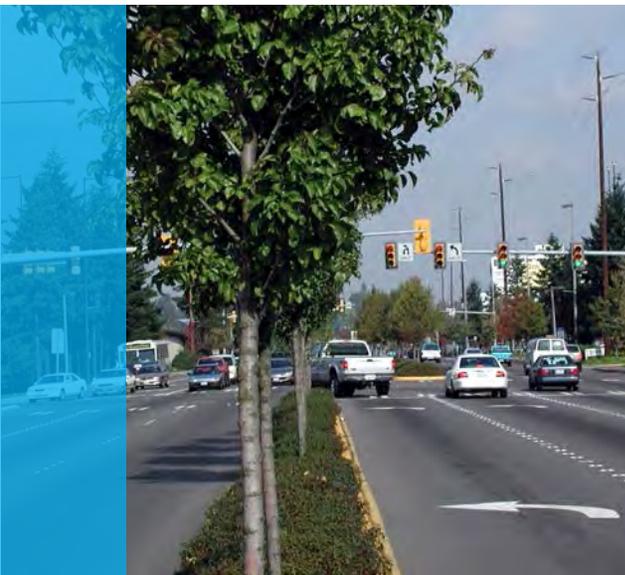
ROADWAY CLASSIFICATION RELATIONSHIPS BETWEEN MOBILITY AND ACCESS

### Freeways

- Interstate 5 (I-5)** is one of the primary north-south routes within the eastern portion of the SeaTac study area. I-5 is an interstate, limited access freeway under the jurisdiction of the Washington State Department of Transportation (WSDOT). It has four travel general purpose lanes and one high occupancy vehicle (HOV) lane in the northbound direction and five general purpose travel lanes and one HOV lane in the southbound direction near SeaTac. I-5 connects SeaTac north to Seattle and south to Tacoma. Two interchanges directly serve the SeaTac community and are located at S 188th Street/Orilla Road and Military Road S/S 200th Street. I-5 also has an interchange at I-405/SR 518; SR 518 serves the north part of SeaTac.
- State Route 509 (SR 509)** is another primary north-south state highway located in the western portion of the City. SR 509 is under the jurisdiction of WSDOT. North of S188th Street, SR 509 is a four-lane (two lanes in each direction), limited access freeway. South of S 188th Street, the SR 509 highway designation follows 1st Avenue S to the City of Des Moines. This southern section is generally a two-to-four lane arterial roadway. The WSDOT has plans to extend the limited access freeway between S 188th Street and I-5. The right-of-way is in place for the freeway corridor, but funding is not yet in place. The 2015 State Legislature is considering a legislation that would fund the initial phase of the freeway extension project.



- **State Route 518 (SR 518)** is one of the primary east-west routes within the northern portion of the City of SeaTac. SR 518 is a state highway which has two-to-three travel lanes in each direction, with additional auxiliary lanes at interchanges. SR 518 connects SeaTac east to Burien and west to I-5 and I-405 in Tukwila. Four interchanges serve the SeaTac community. They are located on Des Moines Memorial Drive S, S 154th Street, North Airport Expressway (NAE), and International Boulevard. SR 518 does not directly provide access to businesses or residential but connects users with other principal and minor arterials.
- **North Airport Expressway (NAE)** is a short, north-south limited access freeway under the jurisdiction of the Port of Seattle. It connects the regional highway system to Sea-Tac



INTERNATIONAL BOULEVARD

International Airport. It generally has three-to-five travel lanes in each direction. It is classified as a Port Arterial. NAE is located along the east portion of Sea-Tac International Airport. It connects to the Airport terminal arrivals and departure drives, main parking garage, and cell phone lot. It also has a northbound on-ramp from S 160th Street which serves the Airport Rental Car Facility.

### **North-South Principal and Minor Arterials**

- **International Boulevard (SR 99)** is the primary north-south arterial serving SeaTac, including the full length of the City's designated Urban Center. It is part of the SR 99 state highway route which parallels I-5. It is located in the central part of the City, located on the east boundary of Sea-Tac International Airport. It is classified as a principal arterial and has a 40 mph speed limit within the City. It generally has two travel lanes in the northbound direction and two travel lanes and one HOV lane in the southbound direction. Between S 166th Street and SR 518, three lanes are provided in the northbound direction. Additional left and right-turn lanes are provided at major intersections. Right-turn movements from southbound International Boulevard use the HOV lane. A median divides much of International Boulevard; where there is not a center median a two-way, left-turn lane is provided.

Sidewalks and crosswalks are provided along the portion of International Boulevard located within the City of SeaTac. A pedestrian bridge is also provided across International Boulevard connecting the east side of the street with the

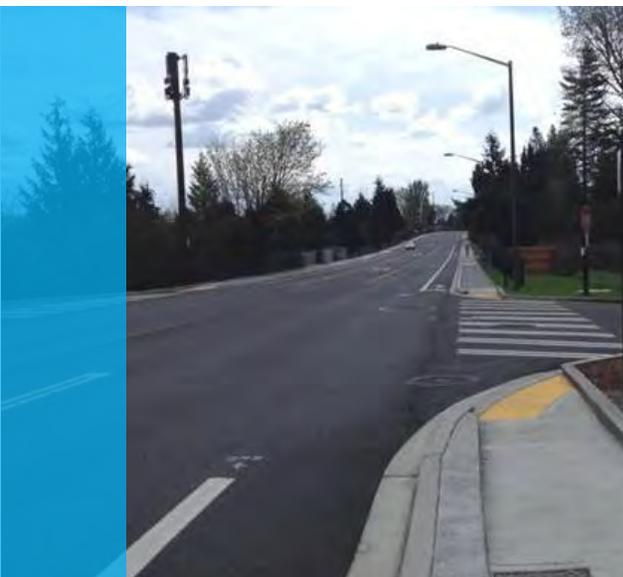
Link light rail station and Sea-Tac International Airport on the west side of the arterial. International Boulevard provides access to many amenities in the City of SeaTac including Sea-Tac International Airport, hotels, park-and-fly lots, and car rental agencies. International Boulevard also serves as a route for north-south through traffic through the City since it is a designated state highway.

- **Des Moines Memorial Drive S** is a minor arterial located along the west city limits of SeaTac. Access to SR 518 is provided at a partial interchange on Des Moines Memorial Drive S; the partial interchange only connects Des Moines Memorial Drive S to/from the east. North of S Normandy Road, the west side of the Des Moines Memorial Drive S abuts the City of Burien. At S Normandy Road/S188th Street, Des Moines Memorial Drive S shifts to the east and then continues south to the City of Des Moines. Between S 194th Street and S 208th Street, the west side of the arterial abuts the City of Des Moines. Des Moines Memorial Drive S typically has one travel lane in each direction, with additional turn lanes at several intersections. It has a speed limit of 35 mph. Sidewalks are not provided along most of Des Moines Memorial Drive S; however, the roadway has relatively wide shoulders. The corridor serves a variety of relatively low density residential and commercial developments.





MILITARY ROAD S CONSTRUCTION - BEFORE



MILITARY ROAD S CONSTRUCTION - AFTER

- **Military Road S** has one travel lane in each direction and is classified as a minor arterial. It is located along the east city limits. Military Road S primarily provides connections between local streets, neighborhoods, and has two I-5 access locations. It typically has a posted speed limit of 35 mph. The corridor generally serves residential properties, with some commercial areas near S 152nd Street and S 160th Street. The City recently completed reconstructing and widening the section of Military Road S between S 166th and S 176th Streets. These improvements brought the arterial to current roadway standards with a center two-way left turn lane, bicycle lanes, sidewalks, and drainage. Similar improvements had been constructed between S 176th and S 188th Streets. In other areas of the City, sidewalks and pedestrian/bicycle facilities along Military Road S are provided intermittently. In some locations where sidewalks are not provided wide shoulders are available. Crosswalks are provided at the major intersections along Military Road S.
- **28th Avenue S** was recently re-classified as a principal arterial and has two travel lanes in each direction. It serves as the key roadway in the City's designated Urban Center area south of Sea-Tac Airport. It runs parallel to International Boulevard, connecting S 188th and S 200th Streets. The speed limit is 35 mph and sidewalks are provided along both sides of the roadway. A new Link light rail station is under construction near the intersection of 28th Avenue S/S 200th Street, near Angle Lake. Like other sections of the Link light rail

in SeaTac, this extension will have an elevated track. In addition to the future Link light rail station, 28th Avenue S provides access to hotels, airport parking services, and commercial developments. The arterial currently terminates at S 200th Street.

The City of SeaTac will be extending the arterial to S 208th Street (Des Moines city limits) in the next couple of years. The extension will include facilities for bicyclists and pedestrians. This extension will complete the principal arterial corridor between S 188th Street and S 216th Street in Des Moines to serve existing and planned commercial and office growth. The extension also will be the location for new interchange ramps with the planned extension of the SR 509 freeway between S 188th Street and I-5. The City of Des Moines is in the process of widening its portion of the corridor between S 208th and S 216th Streets five lanes with comparable non-motorized facilities. When complete, the corridor will provide an alternative north-south route to International Boulevard south of the Airport.

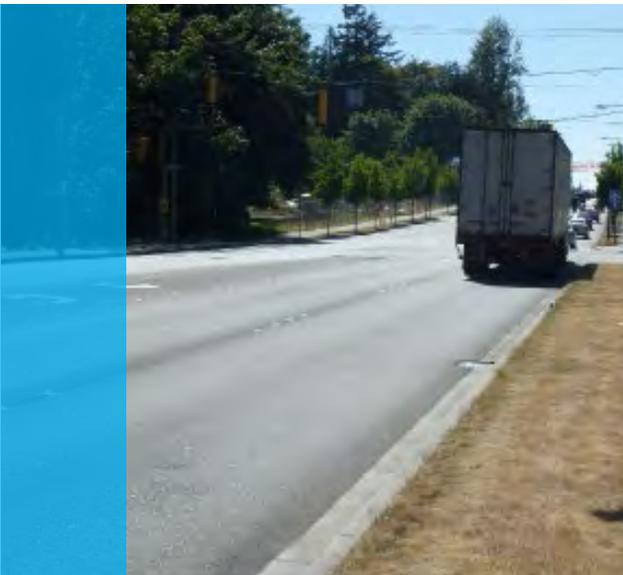
- **1st Avenue S** is located west of the SeaTac city limits but connects with many primary east-west routes serving SeaTac. In the City of Burien, 1st Avenue S is a principal arterial with a speed limit of 35 mph. The speed limit is higher outside the City of Burien, at 40 mph north of Burien and 45 mph south of Burien. It has two travel lanes in each direction and a two-way left-turn south of S 140th Street. South of S 174th Street this section of 1st Avenue S is currently designated as SR 509; this



designation as a state highway will be removed upon construction of the planned extension of the SR 509 limited access freeway between S 188th Street and I-5. South of S Normandy Road, 1st Avenue S narrows to one travel lane in each direction. Sidewalks are provided along most of 1st Avenue S south of S 140th Street. Where sidewalks are not available wide shoulders are provided. 1st Avenue S primarily connects neighborhoods with retail areas and local streets.

**East-West Principal and Minor Arterials**

- **S 188th Street** is the primary east-west principal arterial serving SeaTac. It is located along the southern boundary of the Sea-Tac International Airport. It serves as a primary connection between SR 509 to the west and I-5



S 188TH STREET BY CHINOOK MIDDLE SCHOOL

to the east. It also provides access to several schools, community centers, and residential areas located adjacent to or within the vicinity of the arterial. There are two travel lanes in each direction and a two-way left-turn lane. The two-way left-turn lane is not provided from Des Moines Memorial Drive to Alaska Service Road, including the segment under the Airport runways. S 188th Street has a speed limit of 40 mph west of International Boulevard and 35 mph east of International Boulevard. Sidewalks are provided along S 188th Street with crosswalks at major intersections.

- **S 200th Street** is principal arterial located south of S 188th Street. It has one travel lane in each direction west of 26th Avenue S and two travel lanes in each direction east of 26th Avenue S. The east end of S 200th Street connects with an interchange with I-5 at Military Road S. The speed limit along the roadway is 35 mph west of International Boulevard and 25 mph east of International Boulevard. Between Military Road S and just east of International Boulevard, the arterial serves a mix of residential developments. From International Boulevard to 26th Avenue S, commercial developments are the primary land uses. Further west, there are some large areas of vacant or relatively undeveloped properties. The undeveloped properties include the right-of-way for the extension of SR 509 and a portion of Des Moines Creek Park. East of Des Moines Memorial Drive S, the arterial serves single-family residential land uses and other limited developments.

Sidewalks are not provided west of 26th Avenue S but are provided along both sides of the roadway east of 26th Avenue S. The extension of the 28th Avenue S corridor will intersect with S 200th Street at 26th Avenue S. The extension of the Link light rail is planned to be served by the new Angle Lake Station near the intersection of S 200th Street at 26th Avenue S. Sound Transit will make improvements to the section of S 200th Street between International Boulevard to west of 26th Avenue S to improve non-motorized facilities and traffic operations and safety.

- **S 128th Street** is a minor arterial located along the north city limits of SeaTac. It has one travel lane in each direction and a 35 mph speed limit. Sidewalks are provided along both sides of the street. S 128th Avenue S primarily connects neighborhoods and local streets and runs adjacent to the northern edge of North SeaTac Park. West of SeaTac the arterial connects with an interchange SR 509.
- **S 156th Way/S 154th Street** is a minor arterial on the north side of Sea-Tac International Airport. One travel lane runs in each direction and the speed limit is 35 mph. Sidewalks are provided along the northern side of the road and bike lanes are provided on both sides of the road. East of 24th Avenue S, the corridor serves a mix of residential developments. West of 24th Avenue S, the arterial provides access to some Airport properties.
- **S 160th Street** is a minor arterial connecting Air Cargo Road on the east side of the Airport with Military Road S east of International Boulevard. This section provides access to



hotels, park-and-fly lots, other commercial uses, and some residential developments. It also provides a primary access to the Airport Rental Car Facility garage located in the northwest quadrant of the intersection of International Boulevard/S 160th Street. There are two travel lanes in each direction with sidewalks provided intermittently along both sides of the roadway. The speed limit is 35 mph. S 160th Street also provides access to eastbound SR 518 via an on-ramp to the NAE.

- **S 170th Street** is located centrally in SeaTac, east of the Sea-Tac International Airport. It is a minor arterial west of International Boulevard with two lanes in each direction and a 35 mph speed limit. This segment connects to Air Cargo Road, the airport cell phone lot, airport parking, hotels, and also connects with NAE.

Between International Boulevard and Military Road S, S 170th Street is designated as a collector arterial serving mostly residential development, with one lane in each direction and a posted speed limit of 30 mph. S 170th Street is also classified as a minor arterial east of Military Road S connecting with 51st Avenue S and the City of Tukwila. Sidewalks and bicycle lanes are provided east of International Boulevard; west of International Boulevard sidewalks are very limited. Crosswalks are provided at major intersections along the roadway.

- **S 176th Street/S 178th Street** is a minor arterial that connects International Boulevard just east of the Airport to Military Road and Tukwila. There is one travel lane in each

direction with a two-way, left-turn lane east of the airport. East of Military Road S the corridor becomes S 178th Street. S 178th Street crosses over I-5 and connects to the south end of the Southcenter regional shopping area. Adjacent land uses include hotels and other commercial developments between International Boulevard and 34th Avenue S, with residential uses east of 34th Avenue S. The speed limit is 30 mph between International Boulevard and Military Road S; and 35 mph east of Military Road S. Sidewalks are not provided west of the airport but are provided along both sides of the roadway east of the airport with crosswalks at major intersections.

- **S 208th Street** a two lane minor arterial located in along the south city limits of SeaTac. It connects the 28th Avenue S/24th Avenue S principal arterial corridor with International Boulevard. It serves office, park-and-fly, and other commercial development. It has a 25 mph speed limit. Sidewalks are limited to newer developments near International Boulevard.
- **S 216th Street** is located in along the south city limits of SeaTac, in Des Moines. It is a minor arterial connecting International Boulevard with Military Road S, including an overcrossing of I-5. Single-family residences are the primary land use along the corridor. There is one travel lane in each direction and a two-way left-turn lane west of I-5. Sidewalks and bicycle lanes are provided along both sides of the roadway west of I-5 with wide shoulders provided east of I-5 within the SeaTac city limits. East of Military Road S the roadway becomes 35th Avenue S (a collector arterial) which winds down to the Kent Valley.

## 2.1.2 Traffic Volumes

Daily traffic volumes were assembled to provide a general understanding of travel patterns and fluctuation of traffic volumes throughout a typical weekday. In addition PM peak hour volumes were assembled for use in evaluating traffic operations during the weekday commuter time period. The count data were assembled from various data sources. Daily volumes were assembled from:

- The City of SeaTac (2008 to 2013)
- The Port of Seattle (2009 and 2014), and
- WSDOT's Ramp and Roadway Average Daily Volumes Report (2012 or 2013) and WSDOT's 2013 Annual Traffic Report.

PM peak hour volumes were assembled from:

- The City of SeaTac data base (2008 to 2013), from WSDOT in the Ramp and Roadway Report (2012 or 2013), and
- Additional counts conducted in May and June 2014 for the TMP.

### Daily Volumes

Average Daily Traffic (ADT) volumes vary throughout the City and are shown in Figure 2-1. State routes within and near the City carry the highest volume of traffic. Within the City, streets connecting to State routes carry the highest traffic volumes while streets connecting neighborhoods, particularly in the north, carry lower volumes of traffic. The following illustrates the range of volumes on area freeways and key arterials. This is followed by a discussion of hourly traffic patterns and truck volumes.





- I-5 (South of I-405 to Military Road) has fairly consistent volumes in the study area, ranging between 202,000 and 204,000 vehicles per day (vpd). These high volumes reflect its function as the primary regional freeway serving the Seattle area and western Washington.
- SR 518 (I-5 to SR 509) has its highest volumes east of International Boulevard at 113,000 vpd. West of the NAE, volumes decrease significantly due to traffic to/from the Airport and I-5 and I-405. Near SR 509 on the west end of the freeway, the volumes are 55,000 vpd which are less than half the volume east of International Boulevard.
- **SR 509** (S 136th Street to S 188th Street) near the north end of the study area has volumes of approximately 55,000 vpd decreasing to 28,000 vpd just north of S 188th Street. This decrease results from the travel patterns to/from SR 518 and also the use of SR 509 between Burien and Seattle.
- **North Airport Expressway** (south of SR 518) carries 58,000 vpd near SR 518, which is a similar volumes as found on SR 509 and SR 518 in the north-west portion of the

Existing traffic volumes on the City's arterials range from below 5,000 to over 30,000 vehicles per day. Daily traffic volumes on the freeways serving the City range from about 30,000 to over 200,000 vehicles per day.

City. This illustrates the high level of travel generated by the Airport.

- **International Boulevard** (S 150th Street to S 216th Street) volumes in the north part of the City are around 25,600 vpd. The volumes increase to 30,000 to 35,000 vpd between SR 518 and S 200th Street due to the increased traffic associated with local commercial and Airport-related traffic. South of S 200th Street, traffic volumes on International Boulevard decrease back to 28,300 vpd, reflecting lower levels of development and less Airport-related traffic.
- **S 188th Street** (SR 509 to I-5) has its highest volumes (approximately 32,000 vpd) just east of the SR 509 interchange, which is the terminus of the limited access freeway. Between International Boulevard and I-5, traffic volumes on S 188th Street range from 20,000 to over 25,000 vpd.
- **S 200th Street** (Des Moines Memorial Drive S to I-5) has its highest daily traffic volumes in the vicinity of I-5 (25,000 vpd). These are comparable to the daily volumes on the similar segment of S 188th Street. In the vicinity of Des Moines Memorial Drive S, the daily traffic volumes on S 200th Street are much lower at 6,000 vpd, reflecting the lower levels of development in that part of the corridor.
- **Des Moines Memorial Drive S** (within city limits) has relatively low volumes of 7,000 vpd at the north end of the City. South of SR 518, the volumes increase to almost 9,000 vpd; the increase is largely related to travel patterns

to/from SR 518 and arterials serving Burien. South of S 188th Street the volumes on Des Moines Memorial Drive S are over 12,000 vpd. The higher volumes on this southern segment reflect the travel patterns associated with the terminus of the SR 509 freeway at S 188th Street. The freeways traffic disperses to S 188th Street, Des Moines Memorial Drive S, and 1st Avenue S.

- **Military Road S** (within city limits) has relatively low volumes of 8,000 vpd at the north end of the City; these volumes are similar to the volumes on Des Moines Memorial Drive S near S 128th Street. Between S 160th and S 188th Streets, traffic volumes on Military Road S increase to over 10,000 vpd, reflecting the more central location, proximity to I-5, and the higher traffic generators found in the Urban Center and adjacent neighborhoods. Between S 188th and S 200th Streets, traffic volumes on Military Road decrease due to the interchanges that provide access with I-5 at both locations. Therefore, this section primarily serves the needs of the adjacent neighborhoods and a limited volume of through traffic. The highest traffic volumes on Military Road S are on the segment south of the northbound ramps at the Military Road S/I-5 interchange. Traffic connecting between S 216th Street and other areas to the south use this segment to access/ egress northbound I-5.

Most other streets within the City typically carry 15,000 or fewer vehicles per day (vpd). City streets with 10,000 to 15,000 vpd include S 216th Street near Military Road S, S 176th



Street east of International Boulevard, Military Road S near S 176th Street, and S 154th Street east of International Boulevard. These roadways serve are classified as minor arterials and are intended to carry moderate levels of traffic volumes. S 176th Street and S 216th Street include crossings of I-5, while S 154th Street is part of the SR 518/SR 99 interchange

Collector arterials which serve local neighborhoods serve approximately 5,000 vpd or less. These include 24th Avenue S with 5,100 vpd, S 142nd Street with 2,000 vpd, and S 170th Street with 4,700 vpd.

**Hourly Variations.** Historical hourly traffic volumes were compared to current hourly traffic volumes at various locations within the City. Data for the 4 to 5 year period between 2008/2009 and 2012/2013 were reviewed for several locations throughout the City. Hourly volume graphs for locations around the City are presented in the Supporting Materials documents. The volumes on the various roadways are consistent with the roadway classifications. Lesser volumes are seen on collector arterials (24th Avenue S), slightly higher volumes are found on minor arterials (S 176th Street and Des Moines Memorial Drive S), and the highest volumes are on principal arterials (International Boulevard and S 188th Street).

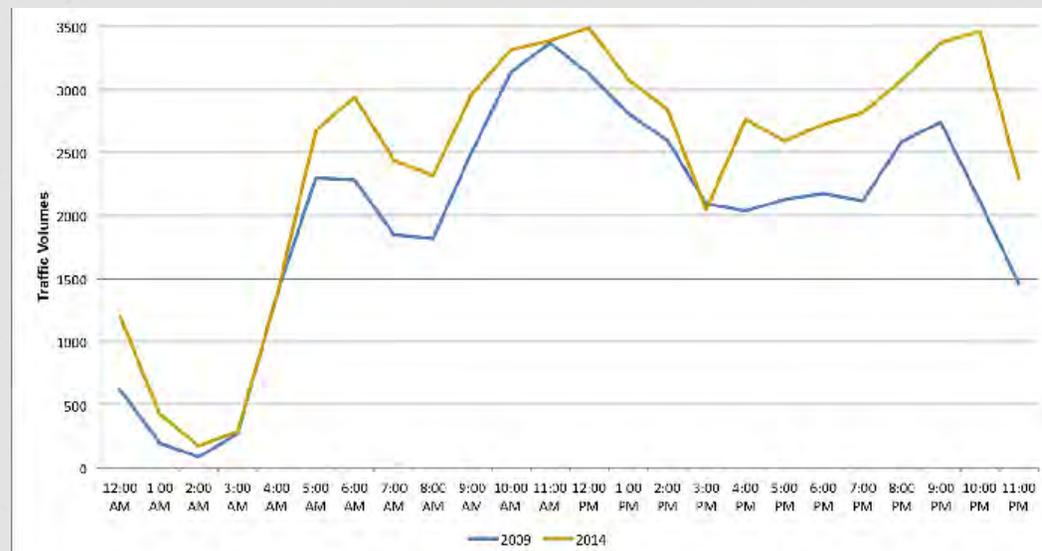
In most locations, the 2012/2013 volumes are very similar to or are slightly lower than the historical volumes. The most notable differences occur along S 188th Street east of International Boulevard and west of Military Road S. Near International Boulevard the volumes increased

whereas near Military Road S the volumes have decreased. When comparing 2013 volumes between the two intersections there is not as much difference – average daily traffic totals are approximately 25,400 near International Boulevard and 20,700 near Military Road S. The increased PM peak hour traffic volumes on S 188th Street near International Boulevard appear to be related to local traffic patterns near the intersection and not general traffic growth over the past several years.

In most cases, the two peak commuting hours (AM and PM) show up as peaks on the volume graphs, with the PM peak hour being the higher of the two peaks, which is typical of suburban

areas such as SeaTac. The most prominent exception to this pattern is found on NAE south of SR 518 (see chart). On the NAE there are distinct peak traffic periods; however, the highest peak occurs during the mid-day period between 11 am and 1 pm. The morning traffic on NAE peaks around 6 am. Another peak occurs near 9 or 10 pm. These peak periods are different than the normal weekday peak hours during commuting hours (6-8 am and 4-6 pm). These correlate with peak travel times at Sea-Tac International Airport.

Other streets, such as S 160th Street (west of International Boulevard) and 24th Avenue S



Typical Weekly Traffic Volumes on North Airport Expressway South of SR 518



(north of S 154th Street) show pretty flat hourly profiles, with no distinct peak hours. These appear to relate to Airport related activities, such as the rental car facility located at S 160th Street/ International Boulevard. The Airport employee parking lot and Boeing Spares site located north of the Airport affect the hourly traffic patterns on 24th Avenue S.

**Truck Volumes.** Daily truck traffic on arterials and collector streets in the City is roughly between 20 percent and 30 percent of the total daily volumes. The highest percentage of truck traffic is around Sea-Tac International Airport, with truck traffic representing 35 percent of daily vehicle traffic. Truck volumes are discussed more thoroughly in a later section. These data include all sizes

of trucks, from semis to trucks that are used for delivery services such as UPS or FedEx. Larger trucks (with a higher number of axles) typically represent one to two percent of the daily traffic volumes on arterials in the City.

Along International Boulevard there are typically between 6,000 and 9,000 trucks per day. North of S 188th Street, there are more trucks traveling in the northbound direction. Between S 188th and S 208th Streets, there is a higher volume of trucks in the southbound direction on a typical weekday. Near S 208th Street the northbound/southbound split of daily truck traffic is about equal.

#### **PM Peak Hour Volumes**

As noted above, the time of day with the highest amount of traffic is typically the weekday PM peak

commute period. This time period accounts for trips related to commuting, shopping, and other day-to-day trips, and usually occurs between 4 pm and 6 pm, Monday through Friday. Volumes during the PM peak hour typically account for between 7 and 11 percent of the total daily traffic on City of SeaTac roadways. PM peak hour traffic volumes were counted at several intersections within the City during May and June of 2014. Historical volumes for previous years were provided by the City of SeaTac. The 2014 PM peak hour counts collected as part of the TMP are included in the Supporting Materials. Figure 2-2 shows PM peak hour directional volumes along City roadways.

As would be expected, the highest volumes during the PM peak hour are along I-5. There are around 15,000 vehicles during the PM peak hour, with 60 percent of the traffic heading southbound. SR 518 has just over 5,000 vehicles during the PM peak hour; however, the traffic is fairly evenly split between eastbound and westbound directions.

The NAE carries approximately 2,600 vehicles per hour (vph) during the PM peak hour, which is one of the higher volumes for the PM peak hour within the City. As previously discussed, the traffic volumes on the NAE occur around noon on a typical weekday and not during the weekday commuter period. This is due to the nature of traffic traveling to and from the Airport, which is controlled by flight departure and arrival times. There are two peak travel hours along NAE that have volumes of approximately 3,500 vph. These hours are at 12 pm and 10 pm. The directional



AIR CARGO AREA OF SEA-TAC



DELIVERY TRUCK IN SEATAC



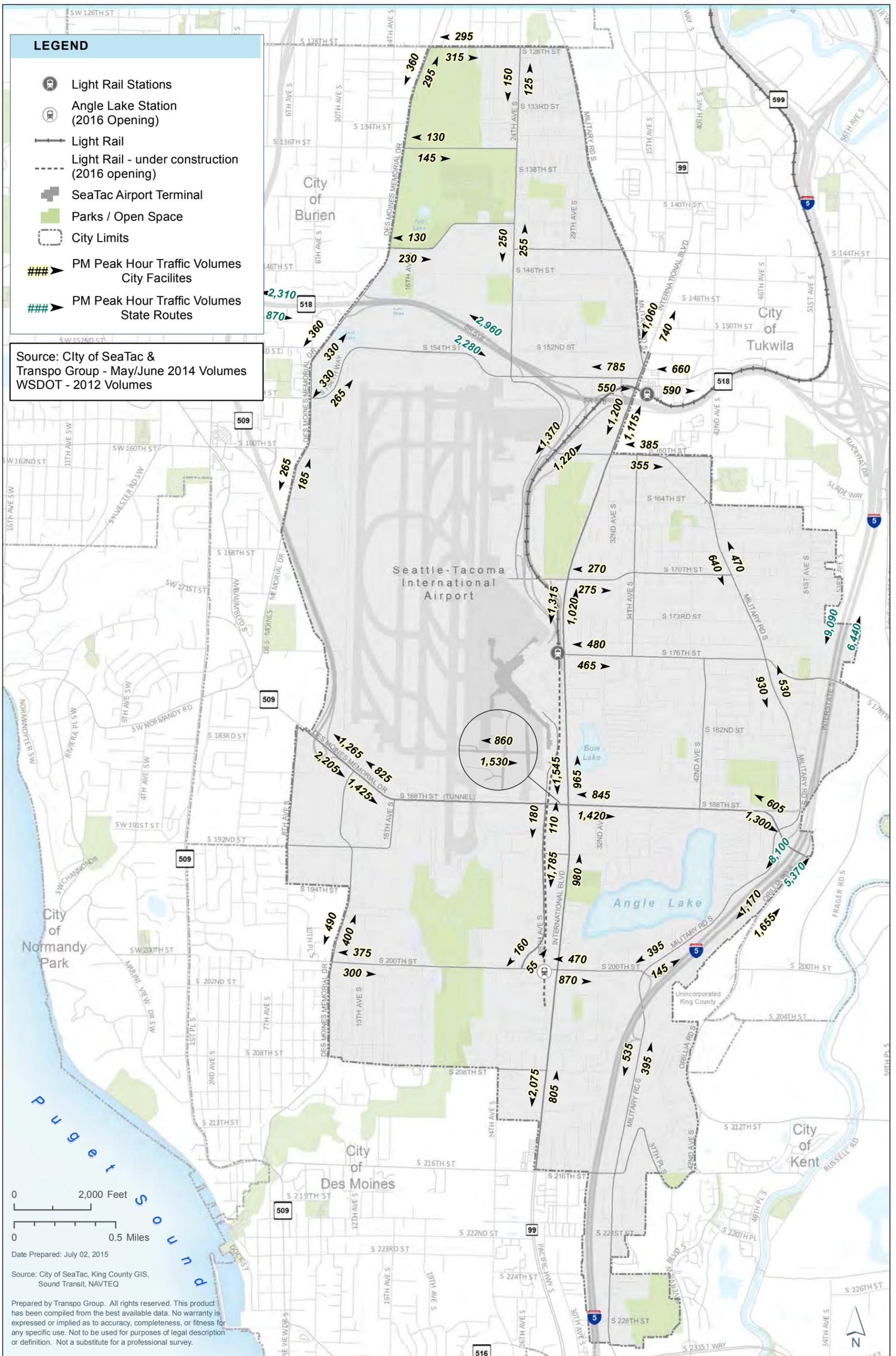


Figure 2-2: 2014 PM Peak Hour Directional Volumes

splits at 12 pm is 50/50 northbound and southbound. The late night peak traffic volumes have 55 percent in the northbound direction (exiting the Airport) and 45 percent southbound. Volumes along NAE stay above 2,200 throughout the day, except during the very early morning hours of 12 am to 5 am. In the morning hours starting around 3 am, 60 to 65 percent of the traffic is traveling southbound to the Airport, while in the afternoon and evening hours the southbound traffic towards the Airport represents between 40 to 50 percent of the total volumes.

International Boulevard provides the main north-south route through the City, which accounts for the higher PM peak hour volumes when compared to other City roadways. Two-way PM peak hour volumes on International Boulevard range from 2,300 vph between SR 518 and S 188th Street. South of S 188th Street weekday PM peak hour volumes on international Boulevard increase to 2,700 to 2,900 vph. In the vicinity of SR 518 the PM peak hour northbound/southbound traffic volumes are fairly equal. This reflects the inbound residential trips, the outbound employee traffic, and the balanced Airport traffic patterns. Adjacent to the Sea-Tac International Airport terminal southbound traffic accounts for 60 percent of the traffic, increasing to 70 percent south of S 208th Street. The higher percentage of southbound traffic south of S 208th Street is more typical of suburban travel patterns.

The primary east-west arterial through the City is S 188th Street. The highest volumes on a City street during the PM peak hour occur on S 188th Street near SR 509, which carries approximately

3,500 vph during the PM peak hour. Nearly 65 percent of those vehicles are traveling in the eastbound direction. The overall volumes decrease east of Des Moines Memorial Drive S. This reflects the traffic exiting the SR 509 freeway turning south to Des Moines Memorial Drive S. The volumes on S 188th Street further decrease east of International Boulevard, where they total roughly 2,200 vph and decrease to 1,900 vph at Military Road S at the east city limits. Approximately two-thirds of the PM peak hour traffic on S 188th Street east of International Boulevard is in the eastbound direction which is consistent with employees leaving the office or similar developments.

Other higher-volume roadways have similar directional splits with the higher volume of traffic in the southbound or eastbound direction. S 200th Street has a 65 eastbound/35 westbound PM peak hour traffic split near Military Road S. Approximately 60 percent of the PM peak hour traffic on Des Moines Memorial Drive S near S 160th Street is in the southbound direction. Traffic volumes on Military Road S near S 170th Street and in the vicinity of the I-5 northbound ramps show the same predominately southbound traffic patterns. These are typical of suburban travel patterns in south King County.

Lower volume roadways in the City were observed to most typically have a 50/50 split during the PM peak hour. Examples of this are 24th Avenue S near S 146th Street, S 170th Street east of International Boulevard, and S 128th Street near Des Moines Memorial Drive.

### 2.1.3 Traffic Operations

Traffic operations analyses provide a quantitative method for evaluating how the transportation system is functioning. It is applied to existing and forecast conditions to assist in identifying issues and potential improvement options. The traffic operations are reported for weekday PM peak hour conditions, which typically represent the worst peak hour of daily traffic within the City.

#### **Level of Service (LOS) Standards**

Level of service is a measure of the quality of traffic flow and operations. It can be described in terms of speeds, travel times, delays, convenience, interruptions, and comfort. The *Highway Capacity Manual* (HCM) (Transportation Research Board, 2010), provides methodologies for evaluation level of service (LOS) for transportation facilities and services. The HCM criteria range from LOS A indicating free-flow conditions with minimal delays, to LOS F indicating extreme congestion and long vehicle delays. The Supporting Materials provides a more detailed explanation of the HCM level of service definitions.

LOS standards for intersections and roadways have previously been established by the City. The current LOS standards were reassessed in the update of the 2015 Transportation Element (TE). To establish a baseline condition for that review, existing traffic operations were compared to the City's prior adopted LOS standards. The City's LOS standards are based on weekday PM peak hour conditions and are as follows:

- LOS E or better for principal or minor arterials
- LOS D or better on collector arterials and lower classification streets.

The LOS E criteria on principal and minor arterials are meant to encourage the use of alternative transportation modes. In addition, the adopted LOS E standard takes into account the limitations on improving roadways and intersections, especially prior to the planned extension of the SR 509 freeway. The LOS D criteria on collector arterials and lower classification streets are intended to discourage use of those roadways by through traffic.

Using state and regional guidance, the City allows exceptions to the LOS E standard along principal and minor arterials if future improvements are included in the City's adopted TE (and this associated TMP) and regional transportation plans. Exceptions to the LOS standards should be reflective of acceptable traffic engineering methodologies. The City also provides exceptions where the City determines improvements beyond those identified in the TE and TMP are not desirable, feasible, or cost-effective.

The Transportation Element recognizes needed exceptions to the level of service policy (LOS E standard) for principal and minor arterial intersections at the following locations:

- S 188th Street/International Boulevard
- S 200th Street/International Boulevard
- S 170th Street/International Boulevard
- SR 518 Westbound Off-ramp/  
S 154th Street

### **WSDOT LOS Standards**

Three state freeway routes serve the City of SeaTac: I-5 to the east, SR 518 in the north, and SR 509 to the east. All three state routes are designated as a Highway of Statewide Significance (HSS). The WSDOT has adopted LOS D or better for HSS facilities in urban areas and LOS C or better for HSS facilities in rural areas. The City of SeaTac is considered an urban area and thus all three of these HSS freeways serving SeaTac have an LOS D standard.

In addition, International Boulevard is an arterial state highway (SR 99). SR 99 in the City of SeaTac is defined by PSRC as a Tier 1 regionally significant state highway. Tier 1 regionally significant highways have a standard of "LOS E-mitigated", meaning that congestion should be mitigated through transit, transportation demand management, or other means. This standard is consistent with the City's exceptions to the LOS E standard on principal and minor arterials.

In addition, the existing arterial segment of SR 509 (1st Avenue S) west of SeaTac also is classified as a Tier 1 regionally significant state highway. Therefore, its LOS standard is also set at LOS E-mitigated.

### **City of Burien LOS Standards**

The City of Burien's LOS standards vary by facility type and location. For roadways within its Urban Center, the standard is LOS E. For roadways designated as auto/truck priority routes, the standard is LOS D. For all other roadways, the standard is LOS C. The roadways classified as auto/truck priority routes that are near the City of SeaTac are SR 509, 1st Avenue S,

Military Road S, Des Moines Memorial Drive S between the northern city limits and SW 160th Street, SW 128th St between Ambaum Boulevard SW and the eastern city limits, SW 148th Street between Ambaum Boulevard SW and SR 518, and S 160th Street from Des Moines Memorial Drive to Sylvester Road SW.

### **City of Des Moines LOS Standards**

The City of Des Moines has an adopted LOS standard based on the AM or PM peak hour of LOS D or better. Exceptions to this standard are selected intersections along major arterials and in the Marina District, which have a standard of LOS E or F. In addition, the City of Des Moines requires all signalized intersections with a 120 second cycle length to operate with a volume-to-capacity (v/c) ratio of 1.0 or less, with the exception of the Kent-Des Moines Road/Pacific Highway S intersection which is permitted to operate with a maximum v/c ratio of 1.2 using a 150 second cycle length.

### **City of Kent LOS Standards**

The City of Kent evaluates LOS by roadway corridor, by calculating seconds of delay for key corridor intersections and developing a corridor-wide average based on a weighting of the corridor intersection volumes. For signalized intersections, the average delay of all approaches of the intersection is weighted by the total PM peak hour volume entering the intersection; for unsignalized intersections, the delay is based on the worst individual movement or approach and weighted by the volume of that same movement or approach. The LOS standard for the corridors is LOS E, with two exceptions that allow LOS F.



One exception is Pacific Highway S (SR 99) which is adjacent to SeaTac and the other is within Downtown Kent.

### City of Tukwila LOS Standards

The City of Tukwila LOS standards vary both by location and by the function of the surrounding areas. For corridors in the Southcenter area the standard is LOS E, except for along Strander Boulevard and a portion of Andover Park E which both have a standard of LOS F but are not to exceed an average delay of 120 seconds per vehicle. Non-residential arterial intersection has a standard of LOS E and minor and collector streets in residential areas have a standard of LOS D.

### Intersection Levels of Service and Operations Issues

The following section reviews the methodology used in evaluating LOS and details the existing LOS by intersection. Most of the intersections analyzed are signalized intersections. Figure 4-1 in Chapter 4 shows the locations of the signalized intersections in the City of SeaTac. International Boulevard has 17 signalized intersections with in the City, which makes it the most signalized corridor in the City of SeaTac. S 188th Street has 9 signalized intersections, Des Moines Memorial Drive S has 8 signalized intersections, and Military Road has 7 signalized intersections and 2 flashing crosswalks or flashing beacon systems.

### Level of Service Methodology

The operational characteristics of an intersection are determined by calculating the intersection level of service (LOS). For signalized locations, LOS is measured in average delay per vehicle and

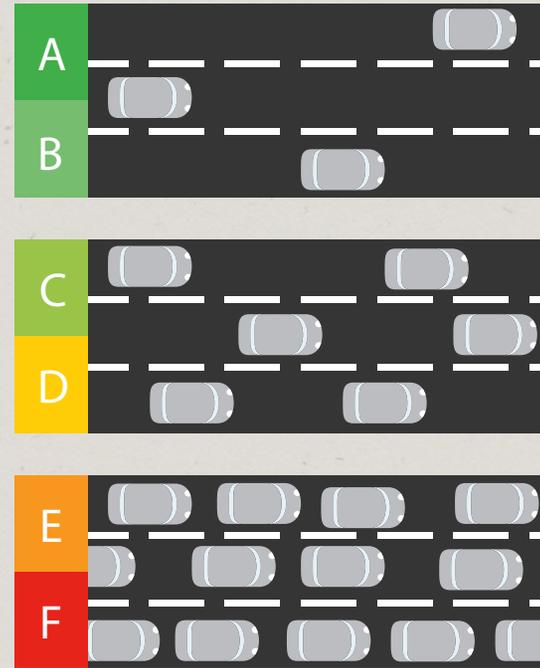
is reported for the intersections as a whole. At side-street stop-controlled intersections, LOS is measured in average delay per vehicle during the peak hour of traffic and is reported for the worst operating approach of the intersection.

Weekday PM peak hour traffic operations for existing conditions were evaluated at major intersections in the City of SeaTac using the Synchro 8 software program, based on the procedures identified in the *Highway Capacity Manual* (HCM) (2000). The HCM 2000 methodology was used due to signal timings at City intersections which cannot be readily coded using the HCM 2010 methodology.

### Existing (2014) Intersection Levels of Service

Figure 2-3 and Table 2-1 summarizes the 2014 PM peak hour intersection LOS and control type for each of the study intersections. The Synchro files for the existing LOS analyses are available in electronic format in the Supported Materials.

## Level of Service Standards



LOS	CONTROL DELAY (per Vehicle)	DESCRIPTION
A	10	Free flow
B	>10-20	Stable flow (slight delays)
C	>20-25	Stable flow (acceptable delay)
D	>35-55	Approaching unstable flow (tolerable delay, occasional wait through more than one signal)
E	>55-80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)



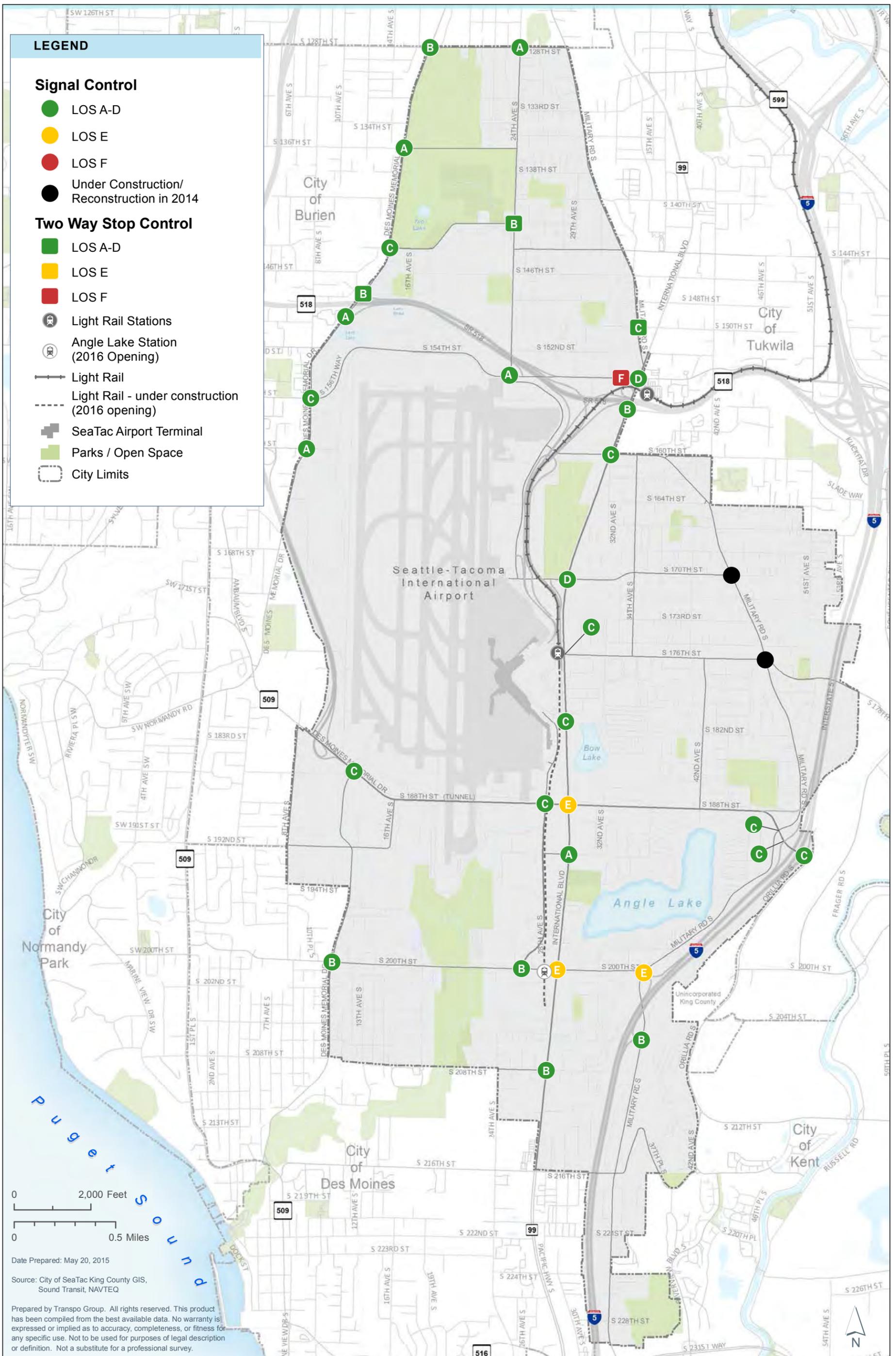


Figure 2-3: Existing (2014) Intersection PM Peak Hour Levels of Service

Table 2-1: Existing (2014) Weekday Peak Hour Intersection LOS Summary (HCM 2000)

INTERSECTION	TRAFFIC CONTROL	EXISTING		
		LOS <sup>1</sup>	Delay <sup>2</sup>	VC <sup>3</sup> WM <sup>4</sup>
International Boulevard/S 182nd Street (Arrivals Drive)	Signalized	C	20	0.53
International Boulevard/S 188th Street	Signalized	E	68	0.97
International Boulevard/S 192nd Street	Signalized	A	10	0.51
International Boulevard/S 200th Street	Signalized	E	58	0.92
International Boulevard/S 208th Street	Signalized	B	18	0.72
International Boulevard/S 154th Street (Southcenter Boulevard)	Signalized	D	46	0.74
International Boulevard/SR 518 EB On-Ramp	Signalized	B	11	0.61
International Boulevard/S 160th Street	Signalized	C	28	0.47
International Boulevard/S 170th Street	Signalized	D	43	0.63
International Boulevard/S 176th Street	Signalized	C	28	0.52
Des Moines Memorial Drive S/S 188th Street	Signalized	C	27	0.83
Des Moines Memorial Drive S/S 200th Street	Signalized	B	18	0.81
Des Moines Memorial Drive S/S 128th Street	Signalized	B	19	0.44
Des Moines Memorial Drive S/S 136th Street	Signalized	A	8	0.43
Des Moines Memorial Drive S/S 144th Street	Signalized	C	23	0.57
Des Moines Memorial Drive S/SR 518 WB Off-Ramp	Two-Way Stop	B	14	WB
Des Moines Memorial Drive S/SR 518 EB On-Ramp	Signalized	A	8	0.33
Des Moines Memorial Drive S/S 156th Way	Signalized	C	33	0.43
Des Moines Memorial Drive S/S 160th Street	Signalized	A	8	0.58
Military Road S/S 170th Street	Under Construction <sup>5</sup>	-	-	-
Military Road S/S 176th Street	Under Construction <sup>5</sup>	-	-	-
Military Road S/I-5 SB Ramps (S 200th Street)	Signalized	E	56	0.81
Military Road S/I-5 NB Ramps	Signalized	B	18	0.68
Military Road S/S 150th Street	Two-Way Stop	C	19	EB
Military Road S/S 188th Street	Signalized	C	30	0.66
24th Avenue S/128th Street	Signalized	A	7	0.35
24th Avenue S/S 142nd Street	Two-Way Stop	B	14	WB
24th Avenue S/S 154th Street	Signalized	A	9	0.50
26th Avenue S/S 200th Street	Signalized	B	15	0.50
28th Avenue S/S 188th Street	Signalized	C	30	0.61
I-5 NB Ramps/S 188th Street	Signalized	C	35	0.88
I-5 SB Ramps/S 188th Street	Signalized	C	34	0.83
SR 518 WB Off-Ramp/S 154th Street	Two-Way Stop	F	69	NB

Four intersections in the City operated at LOS E or F in 2014, signifying congested traffic conditions. All of these intersections are located either along International Boulevard (SR 99) or at a freeway interchange ramp. The only intersection exceeding the applicable LOS standards is SR 518 westbound off-ramp/S 154th Street intersection, which currently operates at LOS F. The poor LOS at this unsignalized intersection is for the north-to-west left-turn movement.

1. Level of Service (A – F) as defined by the Highway Capacity Manual (TRB, 2000)
2. Average delay per vehicle in seconds.
3. Volume-to-capacity (V/C) ratio reported for signalized intersections.
4. Worst Movement (WM) for stop controlled intersections.
5. Military Road S intersections with S 170th Street and S 176th Street were under construction at the time of this report. The intersections will be analyzed under future conditions.



Four intersections in the City operate at LOS E or F, signifying congested traffic conditions. The four intersections are:

- **International Boulevard/S 188th Street.** This signalized intersection has the highest volume of traffic in the City of SeaTac, with nearly 5,000 vph during the PM peak hour (2014 traffic counts). International Boulevard serves as the primary north-south arterial, while S 188th Street is the main east-west arterial south of Sea-Tac Airport. S 188th Street also connects with the south end of the existing SR 509 freeway and has an interchange with I-5. This intersection is located in a high demand, high volume area which results in congestion. In addition, there are many left-turn movements which require green signal time to process, which results in longer delays for through traffic. The City's prior Transportation Element notes that the planned extension of the SR 509 freeway between S 188th Street and I-5 would greatly reduce forecast traffic at this intersection. *Additional widening of the intersection is not planned or desired due to impacts on adjacent businesses and non-motorized travel near this key junction.*

- **International Boulevard/S 200th Street.** This intersection is another high volume intersection south of Sea-Tac Airport. In 2014, this signalized intersection carried almost 4,200 vph during the weekday PM peak hour. S 200th Street also connects with an interchange with I-5. It is located near many access points to various amenities including parking-and-fly lots, hotels, and restaurants. The planned extension of the SR 509 freeway will help improve traffic operations at this intersection.
- **Military Road S/I-5 SB Ramps (S 200th Street).** This intersection is part of the I-5 southbound on and off-ramps and is controlled by a traffic signal. S 200th Street is a principal arterial and Military Road S is classified as a minor arterial. Military Road S only has one travel lane in each direction, with additional turn lanes at the intersection. Sound Transit is working with the City and WSDOT to construct improvements at this intersection as part of the extension of the Link light rail to S 200th Street. As with the above two intersections, the SR 509 freeway extension has been identified in prior plans to reduce traffic congestion at this I-5 interchange ramp intersection.

- **SR 518 Westbound Off-ramp/S 154th Street.** This unsignalized intersection serves the SR 518 westbound off-ramps and is two-way stop controlled. This intersection is located near International Boulevard and the Tukwila International Boulevard Link light rail station. The poor level of service primarily associated with the north-to-west left turn movement. This left-turn from SR 518 accounts for approximately 10 percent of the total traffic using the intersection (based on 2014 weekday PM peak hour traffic counts).

The intersections along Military Road S at S 170th Street and S 176th Street were under construction at the time the analysis was conducted. They are shown on Figure 2-3 as a placeholder for future conditions analysis, presented in Chapter 3.

Two intersections currently operate at LOS D, approaching congested conditions. The intersections approaching congested conditions are the International Boulevard/S 154th Street and International Boulevard/S 170th Street intersections, which both are controlled by traffic signals.

### **Traffic Queues**

The analysis shows that a majority of intersections in the City operate within the LOS standard during the weekday PM peak hour. However, the operational analysis can underestimate the full traffic demands at some locations due to congestion and the inability for some intersections to process the vehicular demands during peak periods, resulting in traffic queues backing to adjacent intersections. For example, the 28th Avenue S/S 188th Street intersection

The planned extension of the SR 509 freeway will help improve traffic operations at intersections along International Boulevard.



experiences long eastbound queues, and westbound queues which are metered by the congestion at the traffic signal at the International Boulevard/S 188th Street intersection. During peak periods, congestion occurs in the vicinity of the I-5 interchange at S 188th Street and Military Road S as well as along the principal arterials serving the City.

Many intersections along International Boulevard experience long or metered queues. Metered queues are due to the proximity to other signalized intersections. Long queues are also present along S 188th Street at major intersections.

There is a southbound High Occupancy Vehicle (HOV) lane along International Boulevard from S 160th Street to the south city limits. This HOV restriction in this lane helps reduce delays for buses, shuttles and other HOVs.



TRAFFIC QUEUES

### 2.1.4 Traffic Safety

An analysis of traffic safety was conducted on major roadways and intersections within the City of SeaTac. Historical collision data along all major roadways were provided by the WSDOT for the three-year period from 2011 to 2013, which were the latest full years of data available at the time the TMP analysis was initiated in 2014. Figure 2-4 shows the location of fatality collisions, collisions involving pedestrians and bicyclists, and intersections and roadway segments with higher numbers of collisions, which are summarized below. The Supporting Materials documents include full summaries of the collision data.

The initial analysis focused on accidents resulting in fatalities or involving pedestrians or bicycles. Additional analyses reviewed collisions at intersections and along roadway segments. Almost 2,000 collisions were reported in the City during the three year analyses period, or 650

per year. Over 1,200 of the collisions occurred at intersections and 750 between intersections, along roadway segments. Approximately 16 percent of the collisions were classified as “driver inattention.” Another 6 percent were classified as “driver impairment” (drugs, alcohol, or medication). Five traffic fatalities were reported in the City of SeaTac during the 2011-2013 analyses period. In addition, 68 total collisions involved pedestrians or bicyclists. Of the 68 total collisions involving bicycles or pedestrians, 1 was along I-5 and the remaining 67 were reported along City streets, intersections, or various airport locations.

#### Collision Severity

The severity of the collisions is summarized by year and intersection or roadway segment in Table 2-2.

As shown in Table 2-2 approximately 10 percent (122) of the recorded collisions during that three year period resulted in injuries at

Table 2-2: Collision Severity Summary for Intersections and Segments (2011-2013)

YEAR	NO INJURY	POSSIBLE INJURY	INJURY	FATALITY	UNKNOWN	TOTAL
<b>Intersection Summary</b>						
2011	240	102	40	1	3	386
2012	252	97	49	1	4	403
2013	285	105	33	0	4	427
<b>Total</b>	<b>777</b>	<b>304</b>	<b>122</b>	<b>2</b>	<b>11</b>	<b>1,216</b>
<b>Roadway Segment Summary</b>						
2011	180	43	26	0	6	255
2012	182	45	26	1	12	266
2013	162	32	22	1	12	229
<b>Total</b>	<b>524</b>	<b>120</b>	<b>74</b>	<b>2</b>	<b>30</b>	<b>750</b>



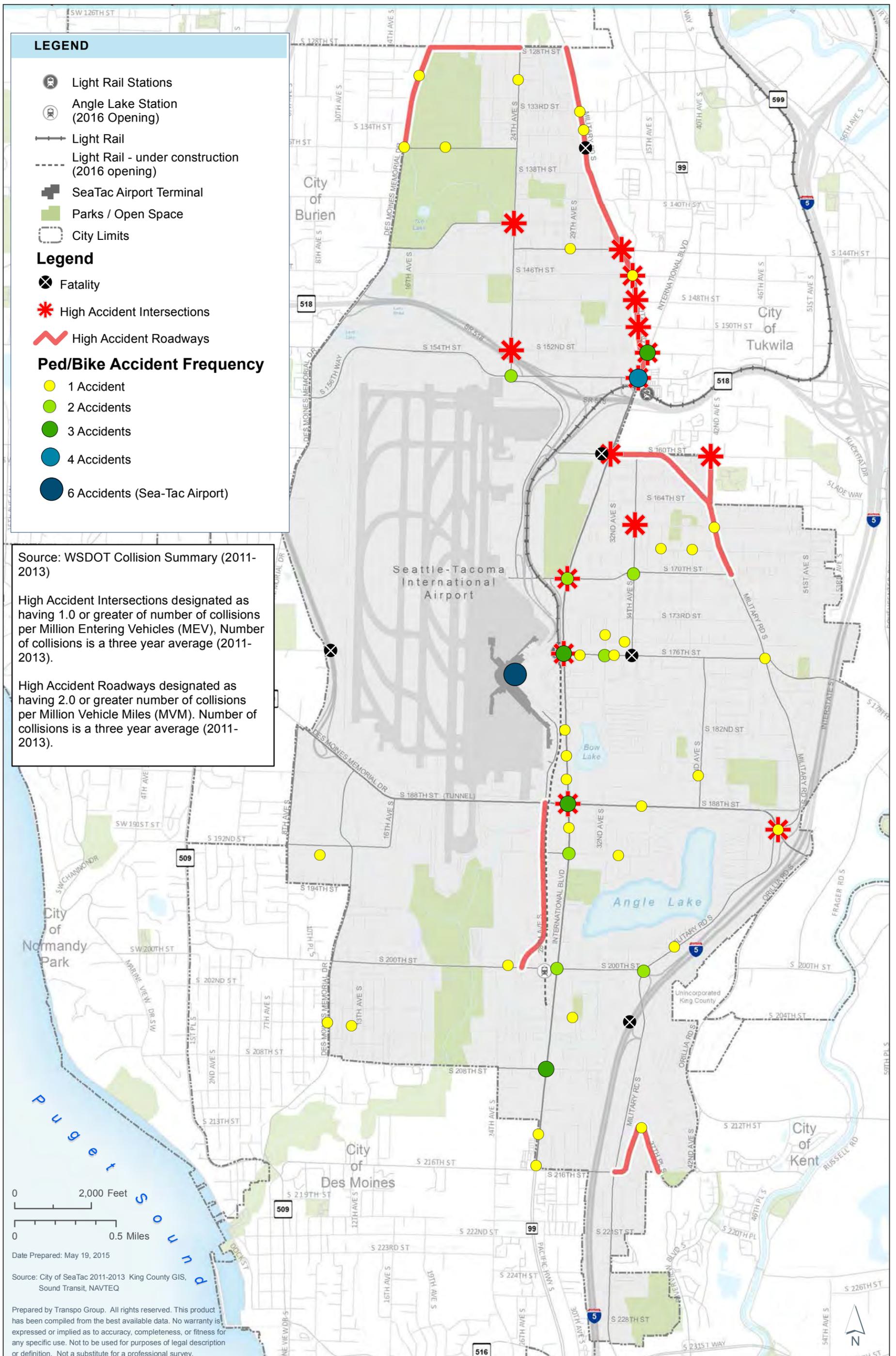


Figure 2-4: High Accident Locations (2011-2013)



intersections and approximately 10 percent (74) of the recorded collisions resulted in injuries on roadway segments. Approximately 25 percent (304) of the collisions at intersections resulted in possible injury and approximately 16 percent (120) collisions on roadway segments resulted in possible injury. The remaining 64 percent (788) of recorded collisions resulted in no injury or was not stated at intersections. 74 percent (554) of recorded collisions on roadway segments resulted in no injury or was not stated.

Of the collisions that resulted in an evident injury, 24 of the 40 (60 percent) occurred at intersections on International Boulevard, and 11 (28 percent) occurred at intersections along Military Road S. Similarly, 9 of a total 14 (64 percent) of collisions that resulted in serious injury occurred at intersections along International Boulevard.

### Fatalities

During the three-year study period (2011-2013), five fatal traffic accidents occurred in the study area. Some were on City streets and others on the freeways serving the City. One of the fatality collisions occurred in 2011 at the intersection of the temporary SR 509 off-ramp for runway reconstruction. The fatal accident was the result of a vehicle colliding with a concrete barrier/ Jersey barrier. Two fatality collisions occurred in 2012, one at the intersection of 34th Avenue S and S 176th Street. The fatal accident was the result of a vehicle colliding with a utility pole. The other 2012 accident occurred on S 160th Street approximately 156 feet west of International Boulevard at a driveway. The fatal accident was a result of a vehicle not granting right-of-way to a motorcycle. The other two collisions resulting in fatalities occurred in 2013. One was on I-5, south of S 200th Street. The collision involved a truck trailer colliding with

a pedestrian. The other 2013 fatality resulted from a head-on collision on Military Road S approximately 100 feet south of S 135th Street.

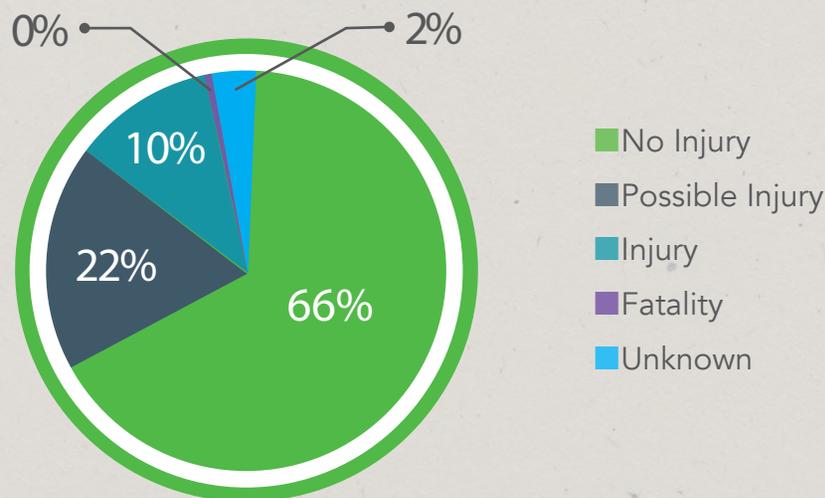
### Pedestrian & Bicycle Collisions

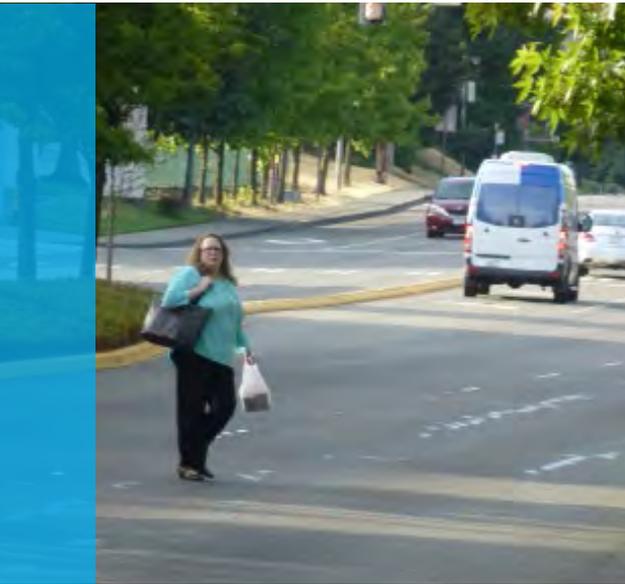
As previously mentioned, 67 bicycle or pedestrian collisions were reported. Of these collisions 42 occurred at intersections and 25 occurred on roadway segments. Of the 42 collisions involving pedestrians and bicyclists at intersections, 22 occurred along International Boulevard, 3 occurred on Des Moines Memorial Drive, and 4 on Military Road S. The remaining pedestrian and bicycle collisions occurred at a variety of locations throughout the study area. The locations of the bicycle and pedestrian collisions are shown on Figure 2-4.

Out of the 67 bicycle or pedestrian collisions, 22 occurred when a vehicle failed to yield right-of-way to the pedestrian. Other collisions involving pedestrians or bicyclists were the result of drivers of vehicles disregarding traffic lights, driver inattention, and exceeding safe residential speeds. Two non-motorized collisions resulted from pedestrians or bicyclists not granting right-of-way to the vehicle and two others were drug or alcohol related. The remaining 38 collisions either did not report a cause or the cause was listed as "other". Of the bicycle or pedestrian collisions 27 occurred at night.

Some of the highest locations for pedestrian or bicycle collisions were at intersections with or along International Boulevard. A total of 28 bicycle or pedestrian collisions are associated with International Boulevard. As previously mentioned International Boulevard is one of the major north-south arterials in SeaTac and typically has a 5 to 6-lane cross section with sidewalks and

**3-Year Collision Summary by Severity (2011- 2013)**





JAYWALKER ON INTERNATIONAL BOULEVARD

no bicycle facilities. Additionally, there left and right-turn lanes at most of the major intersections along International Boulevard. Of the 28 collisions that occurred along or at intersections with International Boulevard 18 involved vehicles making left or right turns, and 10 resulted from the vehicle failing to yield to the right-of-way to the pedestrian or inattention by the driver. There are lots of potential distractions along this section of International Boulevard and the areas serves lots of people associated with the Airport, hotels, or other destinations that are not very familiar with SeaTac which may factor into the relatively high number of non-motorized collisions in this area.

Another higher concentration of bicycle or pedestrian collisions is found along Military Road S just north of SR 518. Of the 6 non-motorized collisions, 4 resulted from the

vehicle failing to yield to the right-of-way to the pedestrian or bicyclists.

Six pedestrian collisions occurred at various airline check-in or departure locations at the arrival or departure roadways at the Seattle-Tacoma International Airport terminal. Typically these collisions occurred during the day and were recorded as drivers failing to yield to the right-of-way to the pedestrian or inattention by the driver.

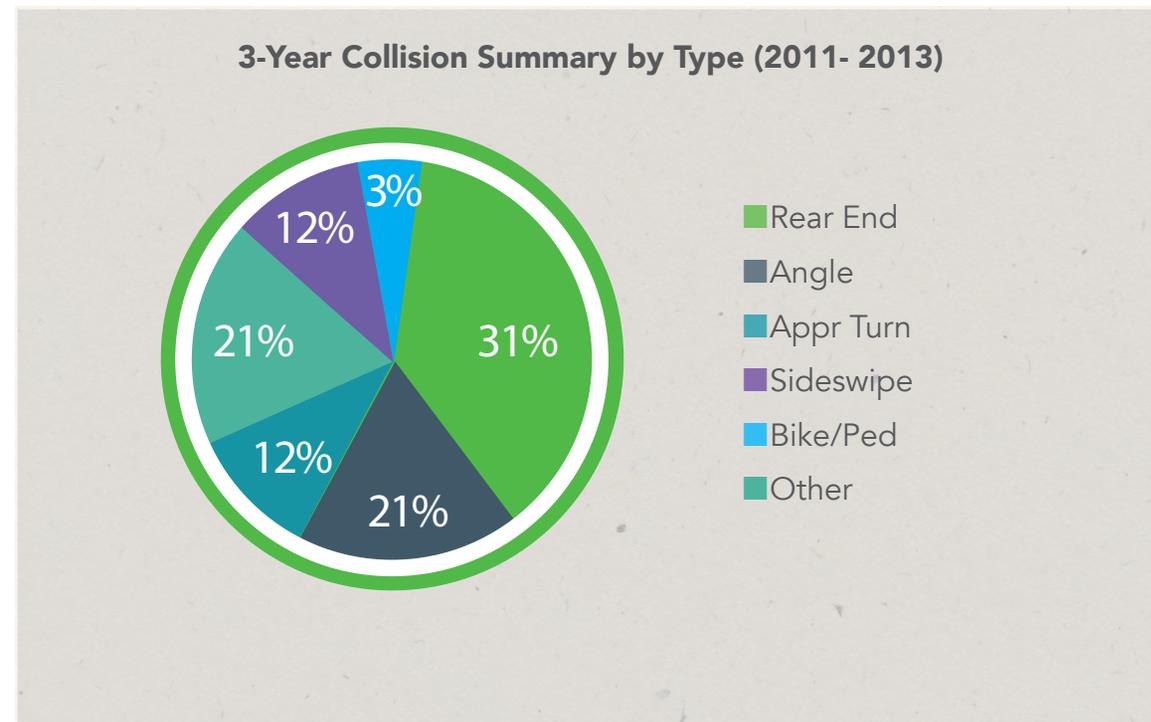
### Collision Type

Rear-end accidents were the predominant type of collision (609 of the total 1,966). This represents approximately 31 percent of the total collisions within the study area. Approximately 410 (24percent) of the 1,216 traffic accidents recorded at intersections were rear-end collisions. Of the collisions occurring along roadway segments (not at an intersection), approximately 27 percent were recorded as rear-end crashes. Rear-end collisions

are typically the predominate type of collision at signalized intersections as drivers may need to rapidly alter vehicle speeds while approaching an intersection in response to traffic signal changes (e.g. green to yellow or yellow to red) or to turn onto the intersecting roadway.

Angle collisions were the second highest type of collision with 402 of the total 1,966 collisions, or approximately 20 percent. Angle collisions also represent the second highest number of intersection collisions with 343 (28 percent) and the fourth highest number of roadway segment collisions with 59 (8 percent). Angle collisions typically occur at roadway or driveway intersections where drivers have to correctly judge whether to enter onto the intersecting roadway.

Approach turns represent the third largest category of crashes at with 240 of the 1,966 total



collisions. Approach turns also represent the third highest number of intersection collisions with 196 (16 percent). Similar to angle collisions, turn related collisions typically occur at roadway or driveway intersections where drivers have to correctly judge whether to cross intersecting roadway traffic.

Sideswipe collisions account for 227 of the total collisions during the three year study period. The majority (124 collisions) of these occur along roadway segments, the third highest type of collisions on roadway segments. Sideswipe collisions typically occur when vehicles are attempting to change lanes without first ensuring the adjacent lane is clear. More sideswipe type collisions can occur in areas where more lane changes are necessary as drivers find their way through a roadway network.

In total, rear-end, angle, sideswipe, and turn related collisions represent 1,478 of the 1,966 collisions, or 75 percent. They account for 428 of the 750 roadway segment collisions (57 percent) and 1,050 of the 1,216 intersection related collisions (86 percent).

There also were 44 head-on collisions recorded, 67 bicycle or pedestrian related collisions, 233 fixed object collisions, 79 parking related collisions, and 75 other or non-designated collisions. Fixed object collisions were the second highest type of collision along roadway segments with 150 of a total 750 or 20 percent of collisions. Two rear-end collisions at intersections on International Boulevard were the result of improper U-turns

### High Collision Locations

Figure 2-4 shows the locations of the high collision intersections and roadway segments. Table 2-3 summarizes the average number of collisions at major intersections and roadway segments. To provide meaningful comparisons, accidents along intersections are summarized by number of collisions per million entering vehicles (MEV) and roadway segments are typically analyzed in terms of collisions per million vehicle miles (MVM) traveled. Intersections with a collision rate of 1.0 collisions/MEV were considered locations for further review. This is consistent with thresholds in other communities in the Puget Sound Region. For roadway segments,

a rate of 2.0 or greater collisions/MVM was utilized based on the 2013 Washington State Annual Collision Summary. The WSDOT summary data showed that the average collisions per million vehicle miles traveled for King County was 2.17.

As shown in Table 2-3, there are 15 intersections with a collision rate of 1.0 or higher, and 9 roadway segments with a rate of 2.0 or more collisions/MVM. The two intersections with the highest collision rates are both two-way stop controlled intersections located in residential areas with relatively low volumes. The intersection with the third highest collision rate is located just north of the Sea-Tac International Airport Rental Car Facility. Of the 15 intersections with the highest collision rates, 6 are located along International Boulevard near the airport. More detailed information regarding collision types for the high collision rate intersections is listed below:

- **34th Avenue S/S 166th Street.** Angle type collisions were the highest reported type of collision at this intersection. Of the 11 reported collisions, 10 were angle type collisions. There was also one pedestrian or bicycle collision reported at this location.
- **42nd Avenue S/S 160th Street.** Angle type collisions were the highest reported type of collision at this intersection. Of the 9 reported collisions, 6 were angle type collisions.
- **International Boulevard/S 152nd Street.** Rear-end and sideswipe collisions were the highest reported collision type with 6 and 5

**67** Bicycle or Pedestrian-related collisions were recorded in a 3-year period.



Table 2-3: Summary of High Collision Locations (2011-2013)

LOCATION	ANNUAL AVERAGE	COLLISIONS PER MEV <sup>1</sup>
<b>Intersections</b>		
34th Avenue S/S 166th Street <sup>3</sup>	3.67	5.02
42nd Avenue S/S 160th Street <sup>3</sup>	3.00	2.05
International Boulevard (SR 99)/S 152nd Street	5.67	1.89
International Boulevard (SR 99)/S 160th Street	15.33	1.46
24th Avenue S/S 152nd Street <sup>3</sup>	3.67	1.45
24th Avenue S/S 142nd Street	3.00	1.40
Military Road S/S 188th Street	14.00	1.39
Military Road S/S 148th Street <sup>3</sup>	4.00	1.35
International Boulevard (SR 99)/S 188th Street	24.00	1.33
International Boulevard (SR 99)/S 154th Street (Southcenter Boulevard)	15.67	1.32
International Boulevard (SR 99)/S 176th Street	12.67	1.29
Military Road S/S 144th Street <sup>3</sup>	3.67	1.24
International Boulevard (SR 99)/S 170th Street	13.00	1.21
Military Road S/S 146th Street <sup>3</sup>	3.33	1.13
Military Road S/S 150th Street <sup>3</sup>	3.00	1.01
LOCATION	ANNUAL AVERAGE	COLLISIONS PER MVM <sup>2</sup>
<b>Roadway Segments</b>		
37th Place S (Military Road and S 216th Street) <sup>3</sup>	4.00	8.15
42nd Avenue S (S 160th Street and S 164th Street) <sup>3</sup>	2.00	7.94
International Boulevard (S152nd Street and S 154th Street)	3.33	3.90
Military Road S/S160th Street (International Boulevard and S 170th Street)	13.00	3.47
Military Road S (S 144th Street and S 152nd Street) <sup>3</sup>	4.33	2.92
Des Moines Memorial Drive S (S 128th Street and S 136th Street)	3.00	2.68
S 128th Street (Des Moines Memorial Drive and 24th Avenue S)	2.33	2.63
28th Avenue S (S 188th Street and S 200th Street)	2.00	2.52
Military Road S (128th Street S and S 144th Street) <sup>3</sup>	6.00	2.26

1. MEV = Million Entering Vehicles  
 2. MVM = Million Vehicle Miles Traveled  
 3. Rates Volumes estimated based on surrounding intersection volumes or previous counts.

reported, respectively. Additionally, 1 bicycle or pedestrian collision occurred in each of the study years (2011-2013).

- **International Boulevard/S 160th Street.** The predominate type of collision were rear-ends with 24 of a total 46 collisions, or approximately 52 percent.
- **24th Avenue S/S 142nd Street.** Angle collisions were the highest collision type with 8 of a total 9 collisions or 89 percent.
- **24th Avenue S/S 152nd Street.** Angle type collisions were also the highest type of collision reported at this intersection along 24th Avenue. Nine out of a total 11 reported collisions were angle type collisions.
- **Military Road S/S 188th Street.** Rear-end collisions were the highest reported collisions with 24 of a total 42 collisions, or 57 percent at this intersection. One pedestrian or bicycle collision was reported at this intersection. This intersection has lower volumes than other intersections with collision rates over 1.0 per MEV.
- **International Boulevard/S 188th Street.** Rear-end collisions represent 34 of a total 72 collisions (47 percent), and three pedestrian or bicycle collisions were reported at this intersection. This intersection is congested and operates at LOS E during the weekday PM peak hour. In addition, traffic queues can develop resulting in traffic safety issues. As discussed above, there are lots of potential distractions and out-of-area travelers that may not be familiar with this part of the City.



# FGTS Roadway Classification

The FGTS classifies roadways using five freight tonnage classifications, T-1 through T-5. Routes classified as T-1 or T-2 are considered strategic freight corridors and are given priority for receiving FMSIB funding. The classifications are as follows:

**T-1** over 10,000,000 annual gross tonnages (over approximately 800 trucks per day).

**T-2** 4,000,000 to 10,000,000 annual gross tonnage (approximately 320 to 800 trucks per day).

**T-3** 300,000 to 4,000,000 annual gross tonnage (approximately 24 to 320 trucks per day).

**T-4** 100,000 to 300,000 annual gross tonnage (approximately 8 to 24 trucks per day).

**T-5** Over 20,000 gross tonnage in a 60 day period and less than 100,000 annual gross tonnage.

- **International Boulevard/S 176th Street.**

Approach turns and rear-end collisions were the predominate type of collision with 13 of a total 38 collisions (34 percent) each, and there were three pedestrian or bicycle collisions reported at this intersection.

- **International Boulevard/S 170th Street.** One pedestrian or bicycle collision was reported at this intersection, and rear-ends were the most common type of collision with 23 of a total 39 collisions (59 percent). This is an intersection with moderate congestion and dual turn lanes.

Of the roadway segments, collisions primarily occurred on Military Road S, International Boulevard and Des Moines Memorial Drive S. These roads are principal or minor arterials and experience higher volumes than other roads.

## 2.1.5 Freight System

The movement of freight is a major issue for the City of SeaTac due to not only the businesses within the City, but also freight associated with Sea-Tac International Airport. The Washington State Freight and Goods Transportation System (FGTS) is used to classify state highways, county roads, and city streets according to average annual gross truck tonnage they carry as directed by RCW 47.05.021. The FGTS is primarily used to establish funding eligibility for the Freight Mobility Strategic Investment Board (FMSIB) grants. In addition, it also supports designations of HSS (Highway of Statewide Significance) corridors, pavement upgrades, traffic congestion management, and other state investment decisions.

A map of the City's truck routes is shown in Figure 4-2 in Chapter 4 – Transportation Systems Plans.

Within the City of SeaTac the following roadways are classified as T-1:

- International Boulevard (SR 518 to Military Road S) and
- I-5 (through all of SeaTac).

The following roadways are classified as T-2:

- International Boulevard (SR 518 to S 216th Street),
- SR 509 (Des Moines Memorial Drive S to S 188th Street),
- S 188th Street (Des Moines Memorial Drive S to I-5), and
- SR 518 Eastbound (Des Moines Memorial Drive S to International Boulevard).

Several roadways in the City are classified as T-3 roadways but are not designated truck routes.

These roadways are:

- S 128th Street (Des Moines Memorial Drive S to Military Road S),
- S 136th Street (Des Moines Memorial Drive S to 24th Avenue S),
- 24th Avenue S (S 128th Street to S 146th Street),
- Military Road S (S 128th Street to International Boulevard), and
- 42nd Avenue S (S 176th Street to S 288th Street).





ARRIVALS AT SEA-TAC INTERNATIONAL AIRPORT

## 2.2 Sea-Tac International Airport

Sea-Tac International Airport is located within the City of SeaTac and is operated by the Port of Seattle. It is a large contributor to both freight traffic and personal vehicle traffic within the City of SeaTac.

In 2013, the facility served over 34,700,000 air passengers and supported over 292,000 metric tons of air cargo. Looking closer at the freight operations, in May 2014 the total amount of air cargo for the month was 25,565 metric tons, which when compared to 22,891 metric tons in May 2013, is over an 11 percent increase.

## 2.3 Rail Crossings

There are no railroads located within the City of SeaTac. Sound Transit's Link light rail serves the City of SeaTac with an elevated track. Therefore, there are no at-grade rail crossings. More discussion of Link light rail can be found in section 2.5.

## 2.4 Non-Motorized Transportation Systems

The non-motorized transportation systems in SeaTac are comprised of facilities that promote mobility without the aid of motorized vehicles. A well-established system encourages healthy recreational activities, reduces travel demand on City roadways, and enhances safety within a livable community. Pedestrian and bicycle facilities also provide access to/from transit stops. Good transit access can increase the use of non-auto travel modes.

In January 2012, the City of SeaTac's Safe and Complete Streets Plan (S&CSP) was completed. The S&CSP is a long-range plan with the goal for developing SeaTac's pedestrian and bicycle facilities through the year 2040. The S&CSP provides a thorough analysis of the existing bicycle and pedestrian facilities. The S&CSP was used as the primary basis for the pedestrian and bicycle systems plans presented in Chapter 4 of the TMP, and in the Comprehensive Plan's Transportation Element. The original S&CSP and a summary of changes that resulted from the 2015 TE and TMP are provided in the Supporting Materials documents.

## 2.4.1 Pedestrian Facilities

Since incorporation, the City has constructed over 30 miles of new sidewalks as part of roadway projects or standalone sidewalk projects. This compares with less than 11 miles of sidewalks before incorporation. Over the past several years, the City has targeted specific funding toward improving pedestrian and bicycle facilities on local neighborhood streets. As part of this annual sidewalk program, the City completed improvements on S 179th Street, S 168th Street, 42nd Avenue S, and others. The City has funded construction on other corridors including improvements along 37th and 40th Avenues S. However, the funding source for this program is coming to a close. As discussed in Chapter 5, the City can consider other sources of funding to continue or expand the neighborhood sidewalk program.

Sidewalks are located on many of the principal arterials, major arterials, and collector arterials. However, gaps in the pedestrian facilities reduce the connectivity between various subareas of the City. Figure 4-3 in the Transportation Systems Plans chapter shows locations of existing sidewalks and how they fit into the long range vision for pedestrian facilities in the City. Additional detail on the types of existing pedestrian facilities is included in the S&CSP included in the Supporting Materials documents.

There are five types of pedestrian facilities in the City:

- **Paved separated walkway:** a paved path parallel to the roadway but separated from it with either a planter strip or other infrastructure.
- **Paved shoulder walkway:** a paved path that is extended from the roadway pavement to provide room to walk. Pedestrians would be traveling next to traveling vehicles.
- **Sidewalk:** a raised paved path that is separated by height from traveling vehicles.
- **Multi-use trail:** a paved trail which, similar to a paved separated walkway is typically separated from the roadways. It can but does not always travel parallel to roadways.



PEDESTRIAN BRIDGE AT S 176TH STREET AND INTERNATIONAL BOULEVARD

- **Park circulation trail:** a paved trail solely within parks.

There are also multi-use trails along the northwestern city limits and park circulation trails in three of SeaTac's parks.

In addition to the trails and walkways, the City has a pedestrian signal on International Boulevard south of S 171st Street, as well as rapid flashing beacons at the following locations:

- 24th Avenue S at S 138th Street,
- Military Road S at S 166th Street, and
- Military Road S at S 179th Street.

A pedestrian bridge over International Boulevard connects the east side of the street with the SeaTac/Airport LINK station and Airport terminal on the west side of International Boulevard. This reduces the need for pedestrians to cross International Boulevard to connect between bus stops, residential areas, businesses with the Link light rail or Airport terminal. As previously mentioned, 22 of the 24 pedestrian and bicycle collisions that happened at intersections during 2011-2013 occurred on International Boulevard; this indicates pedestrian and bicycle safety on International Boulevard warrants additional focus.

Within parts of the City, pedestrians need to walk on roadway shoulders in areas where sidewalks are not provided. This results in less separation between pedestrians and vehicles, which can pose safety issues and reduce the likelihood for pedestrian travel in the City.

Pedestrian routes within close proximity to school zones are vitally important to the pedestrian

network for a variety of reasons: school children are often unsupervised and are unfamiliar with driving regulations and stopping speeds, peak hours of school traffic (especially the am peak) often coincide with typical peak hour drive times for non-school related activities, neighborhoods surrounding school zones were often established prior to school construction and are not designed to accommodate pedestrians, and many schools lack a coordinated plan to separate walking trips from driving trips.

Key areas with missing or otherwise deficient pedestrian facilities are typically on residential or non-arterial neighborhood streets. Designated walk-to-school routes have several routes with adequate sidewalks or walkways on the roadway, mostly along arterial roadways. The school with the most routes without pedestrian facilities is Bow Lake School; while designated routes have sidewalks or walkways on the arterials and along S 182nd Street, there are no pedestrian facilities on the local streets identified as routes. Walk-to-school routes were one of the factors in developing the pedestrian systems plan, discussed in Chapter 4. The plan helps address these issues to make a more complete walk-to-school network for students.

A high level review of the pedestrian volumes indicates that during the weekday PM peak hour, the highest pedestrian volumes are located along International Boulevard. Patterns indicate that people are walking along International Boulevard in a higher concentration near the Sea-Tac International Airport and the Link light rail station. International Boulevard/S 154th Street



intersection had the highest observed number of pedestrian crossings at the intersection during the PM peak hour, with over 130 pedestrians during the PM peak hour. Other intersections with high pedestrian volumes were International Boulevard/ S 176th Street and International Boulevard/S 188th Street, with both having over 100 pedestrians cross the intersection during the PM peak hour.



DES MOINES CREEK TRAIL

## 2.4.2 Bicycle Facilities

Bicycle facilities in the City of SeaTac consist of both on-street and off-street facilities. Designated bike lanes are located along the following facilities:

- S 156th Way/S 154th Street from Des Moines Memorial Drive S to International Boulevard,
- Des Moines Memorial Drive S from S 128th Street to S 156th Way,
- S 136th Street from Des Moines Memorial Drive S to 24th Avenue S,
- S 170th Street from International Boulevard to Military Road S, and
- Military Road S from S 176th Street to S 186th Street.

Along the remaining principal, minor, and collector arterials, shared bicycle facilities are available. Additional information on existing Bicycle facilities and gaps in the system are found in the Supporting Materials documents, including the S&CSP.

Much like the pedestrian network, bicycle facilities are missing on non-arterial neighborhood streets. Figure 4-4 in the Chapter 4 – Transportation Systems Plans shows the existing bicycle facilities in the context of the long-range plan for the City's bicycle network.

Bike lockers and bike racks are also provided at the Sea-Tac International Airport Station on International Boulevard and S 176th Street. Approximately 24 bike lockers are provided.

A high level review of the bicycle volumes indicates that during the weekday PM peak hour,

the highest bicycle volumes are located along principal and minor arterials throughout the City with no established pattern. These volumes are relatively low, with less than five bicycles traveling in a particular direction through any one intersection.

Key gaps in the system were identified in the S&CSP. These gaps occur:

- East to west between 24th Avenue S and Military Road S in the northern portion of the City,
- North to south between roughly S 160th Street and S 188th Street,
- East to west between Military Road S and the east city Limits,
- East to west between 42nd Avenue S and Military Road S,
- Along S 188th Street between 24th Avenue S and Military Road S,
- North to south between approximately Des Moines Memorial Drive S and S 208th Street,
- Along S 200th Street between the west city limits and the I-5 Ramps, and
- Both east to west and north to south in the area south of S 200th Street down to S 216th Street and from Des Moines Creek to I-5.



## 2.5 Transit and Transportation Demand Management

Both transit and Transportation Demand Management (TDM) programs contribute to the reduction of single-occupancy vehicles using the roadway system, helping alleviate congestion. The existing transit system is discussed first, followed by the City of SeaTac's Commute Trip Reduction (CTR) plan.

### 2.5.1 Transit Facilities & Services

The City of SeaTac is served by two transit agencies, King County Metro and Sound Transit. In 2015, King County Metro operated ten transit routes serving the City, including two Bus Rapid Transit (BRT) routes, and Sound Transit operates two routes in and through the City of SeaTac. Sound Transit also operates the Link light rail system serving SeaTac. Table 2-4 summarizes service characteristics of the individual routes. It also provides the 2014 average weekday ridership, where applicable, as reported in the King County Metro Spring 2014 Service Guidelines Report. Figure 2-5 shows the existing (2015) transit facilities and routes.

#### Sound Transit

In 2015, Sound Transit operated two express routes with services in the City of SeaTac, both which provide all-day service on weekdays and weekends. Route 574 is an express route and provides service between SeaTac, Tacoma, and Lakewood. Service is provided approximately 30 to 60 minutes. Route 560 is an express route and provides service between Bellevue, Renton,

Table 2-4: Transit Service Routes (2015)

ROUTE NUMBER	ROUTE DESCRIPTION	WEEKDAY SERVICE	WEEKEND SERVICE	2014 AVERAGE WEEKDAY RIDERSHIP <sup>1</sup>
<b>Metro Routes</b>				
121	Downtown Seattle to Burien, Highline Community College	Peak	None	900
122	Downtown Seattle to Burien, Highline Community College	Peak	None	500
124	Downtown Seattle to Tukwila	All Day	All Day	3,400
128	Southcenter to West Seattle	All Day	All Day	4,400
132	Downtown Seattle to Burien	All Day	All Day	3,000
156	Southcenter to Des Moines, Highline College	All Day	All Day	1,200
166	Kent to Burien	All Day	All Day	2,200
180	Kent, SE Auburn to Kent, Sea-Tac, Burien	All Day	All Day	5,000
A-Line	Tukwila to Federal Way	All Day BRT <sup>3</sup>	All Day BRT <sup>3</sup>	10,100
F-Line	Renton to Burien	All Day BRT <sup>3</sup>	All Day BRT <sup>3</sup>	n/a <sup>2</sup>
<b>Sound Transit Routes</b>				
560	Bellevue to West Seattle	All Day	All Day	n/a <sup>2</sup>
574	Lakewood to Sea-Tac Int'l Airport	All Day	All Day	n/a <sup>2</sup>

1. Ridership numbers as reported in the King County Metro 2014 Service Guidelines Report.
2. Routes 560 and 574 are Sound Transit routes that were not measured by King County Metro; F-Line ridership numbers were not provided in the report.
3. BRT is Bus Rapid Transit, also referred to as Rapid Ride. These buses run on a more frequent schedule than regular transit service.



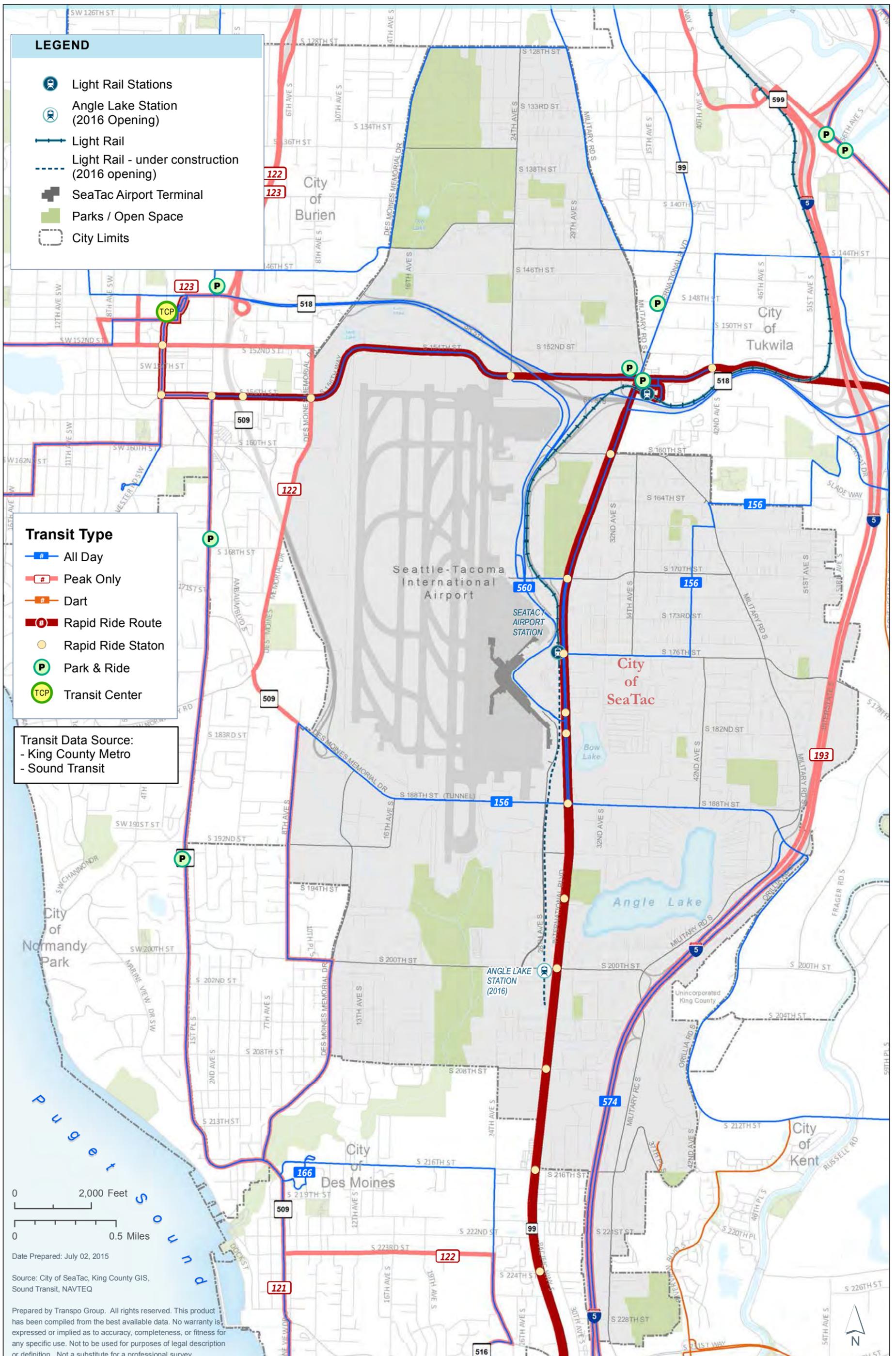


Figure 2-5: Existing (2015) Transit Facilities and Routes

SeaTac, Burien, and White Center. Service is provided approximately 30 minutes.

Sound Transit also operates the Central Link light rail which operates between downtown Seattle and Sea-Tac International Airport. Travel time is approximately 40 minutes and train frequencies are approximately every 8 to 20 minutes throughout the day. More frequent train arrivals occur during the peak hours.

There are two existing light rail stations within the City, plus another one scheduled to be completed in 2016. At the Tukwila International Boulevard Station 600 parking stalls are available; however the lot is usually filled to 90% or more capacity by 9:00am on weekdays. The SeaTac/Airport Station does not provide parking and

instead has a small drop off lot. The future Angle Lake Station will have a parking garage, with 1,050 stalls planned.

Sound Transit reports total number of boardings for each route in their Service Delivery Quarterly Performance Report. For 2014 Quarter 1, Route 560 had 133,478 total boardings and Route 574 had 185,192 total boardings. The Central Link light rail had 2,351,389 total boardings in Quarter 1, with an average weekday ridership of 29,919. Average weekday ridership was not provided for Routes 560 and 574 in the report.

### **King County Metro**

Routes 121 and 122 serve downtown Seattle and northeastern parts of the City of SeaTac. Service is provided with approximately 30 minute

headways; these are the only route serving the City that operate only during peak hours with no service provided on the weekend. Route 124 runs between SeaTac and Downtown Seattle with headways varying between 15 and 30 minutes. Route 128 runs from West Seattle, through White Center to Tukwila/Southcenter Mall; it provides service roughly every 30 minutes. Route 132 operates between Burien on the west side of SeaTac and Downtown Seattle; the route has roughly 30 minute headways. Route 156 provides service between Tukwila, Sea-Tac Airport, and Des Moines with service every 30 minutes. Route 166 operates between Burien (along 1st Avenue S just west of SeaTac) through Des Moines to Kent with roughly 30 minute headways on the weekdays and Saturdays and hour headways on Sundays. Route 180 runs through SeaTac between Kent, Auburn, and Kent with service approximately every 30 minutes.

The RapidRide A Line bus rapid transit (BRT) operates between SeaTac and Federal Way along International Boulevard/Pacific Highway S and has headways of approximately 10 to 15 minutes. The RapidRide F Line BRT operates between Renton and Burien, running along S 154th Street and through Downtown Renton; service headways are every 15 to 30 minutes. For all routes, bus stops are primarily located along principal and minor arterials.

King County Metro also operates transit services such as vanpool, vanshare, and paratransit transit services. Vanpool is a program where people who live in the same area and work in the same area commute together in a van provided, for a fee, by



LIGHT RAIL STATION AT SEATAC



KING COUNTY METRO TRANSIT TO AIRPORT

King County Metro. Vanshare is for commuters to share a ride, in a van provided for a fee by King County Metro, between either home or work and an alternative transit service such as a ferry terminal or rail station. Paratransit services are for those who disabilities prevent them from utilizing accessible, non-commuter, fixed route service. The service is by application only.

### **Park-and-Ride Lots/Park & Fly Lots**

In 2014, three park-and-ride lots were located within or just outside of the City of SeaTac. The lot inside the City, called the SeaTac Center Garage, is near the northwest corner of the intersection of International Boulevard/ S 154th Street. It is a leased garage with 62 parking spaces and an 89 percent utilization in Quarter

4 of 2014 (utilization from the KC Metro Park-and-Ride Utilization Report, Fourth Quarter 2014). Park-and-ride lots located just outside of the City include the previously-mentioned Tukwila International Boulevard Station, which is on the southwest corner of the intersection of International Boulevard/ S 154th Street, and a leased lot from a church near the intersection of International Boulevard/S 148th Street. Tukwila Station has 600 parking spaces with 98 percent utilization in the 4th quarter of 2014 and the church lot has 28 parking spaces and 24 percent utilization.

Other park-and-ride lots further from the City of SeaTac include the Burien Transit Center and the Kent/Des Moines park-and-ride. The Burien

Transit Center is located in downtown Burien near 1st Avenue S. It has 488 parking spaces with 70 percent utilization reported in the 4th Quarter of 2014. The Kent/Des Moines park-and-ride has 370 parking spaces with 92 percent utilization in the last quarter of 2014, as well as a freeway station for transit easy access on and off the freeway.

The City of SeaTac is unique in that there are a number of commercial parking lots utilized for longer-term airport parking than the daily commuter park-and-ride lots. These lots are called park-and-fly lots, and are used by airport travelers. Several lots are located along International Boulevard, with some located a block or two off International Boulevard both north and south of the Airport. Most, if not all, of these lots provide free 24-hour shuttle service to the airport.

Another unique lot is the one adjacent to the Central Link light rail SeaTac/Airport Station. This lot is a drop off lot, also known as a kiss-and-ride lot. The lot is signed for 15 minute parking and has less than ten designated stalls. The purpose is for drivers to drop off a passenger and then drive away; the passenger can then either walk or use a form of transit to travel to their destination. There is no short- or long-term parking provided in this lot as it is intended for drop off use only.



PARK AND FLY LOT IN SEATAC



## 2.5.2 Transportation Demand Management

To help manage the transportation demand to and from SeaTac, the City has a Commute Trip Reduction Plan (CTR, July 2007). This plan was updated in 2015, though the main document was not updated. The original 2007 plan identifies seventeen major work sites within the City, the majority of which are located near the Sea-Tac International Airport and/or along International Boulevard. The existing (2007) conditions of these sites are described, as well as their existing and planned transit facilities and services. The plan reviews the many Comprehensive Plan policies which support the reduction of commute trips. The update complies with the recent changes to the Washington Administrative Code (WAC) regarding new statewide minimum programs goals and targets for local jurisdictions, as well as the newly defined performance criteria of Non Drive Alone Travel (NDAT).

The City's updated CTR identifies goals for the different criteria involved: Non Drive Alone Travel will be increased to 34.9 percent, Vehicle Miles Traveled (VMT) per employee at major work sites will be decreased to 11.89, and Greenhouse Gases (GHG) by CTR commuters will also be decreased to 11.89. Listed strategies to achieve these goals include increasing the use of transit, vanpool, and carpool user, instituting biking and walking programs, and telecommuting. The last section of the document identifies funding sources to help implement the Plan, such as federal funds, the WSDOT CTR grant, and employer contributions. The 2015 TE includes policies and programs to help achieve those goals.

## 2.6 Parking

On-street and off-street parking is available throughout the City of SeaTac. While all parking was not inventoried, a specific area of concern of the City's was looked at in closer detail. Parking observations were done in the general area between 32nd Avenue S and 40th Avenue S east to west, and between S 160th Street and S 176th Street north to south. These observations were conducted on a weekday morning between 6:00 am and 9:00 am, a time period which accounts for peak commuting hours and is also one of the peak travel times for Sea-Tac International Airport.

The areas with the most observed parked cars were along the following roadways:

- S 175th Street between 32nd Avenue S and 34th Avenue S,
- S 173rd Street between 33rd Avenue S and 34th Avenue S,

- 33rd Avenue between S 175th Street and S 172nd Street, and
- 34th Avenue S between S 176th Street and S 173rd Street.

Along these roadways cars were often tightly parked parallel to the roadway, and in some cases were parked illegally, either in areas not zoned for parking or less than five feet from a driveway. Additionally, buckets and cones were located in that area to keep vehicles from parking along roadways in certain spots.

In the rest of the area, cars were parked sporadically along the roadways. The exception to this was near McMicken Heights Elementary School, where toward the end of the observation time period parked cars were accumulating along the roadways. This coincides with the school's start time of 8:40 am



PARKING ON A NEIGHBORHOOD STREET



# 3

# TRAVEL FORECASTS AND ALTERNATIVES EVALUATION



# CHAPTER 3: TRAVEL FORECASTS AND ALTERNATIVES EVALUATION

In addition to addressing existing needs, the City's transportation systems must accommodate forecast growth.

The GMA requires that the transportation planning horizon be at least ten years in the future. For the 2015 Transportation Element (TE) and Transportation Master Plan (TMP), the City (in discussions with the Port of Seattle and Puget Sound Regional Council) selected a horizon year of 2035, consistent with the Land Use Element. An interim forecast year of 2025 was also evaluated in order to help address the timing and phasing needs for major transportation improvements, such as the extension of the SR 509 freeway.

The following provides an overview of the travel demand model used to create the forecasts and evaluate alternatives. It summarizes the land use assumptions and network alternatives. The alternatives evaluations are then presented, resulting in the development of the framework for the City's TMP and TE. The framework for the TMP and TE is then refined into the Transportation Systems Plans and improvement projects which are presented in Chapter 4.

## 3.1 Travel Demand Model

The travel forecasts and analyses for the City of SeaTac's TMP which are the basis of the TE were prepared using a travel demand forecast model. The travel demand model provides a tool for forecasting long-range traffic volumes based on the projected growth in housing and

employment in and around the City of SeaTac. The City/Port model incorporates detailed vehicle trip generation related to Sea-Tac Airport related activities, such as passenger arrivals and departures, employees, and freight operations. In addition to understanding future travel demands on City roadways, the model is also useful in evaluating the impact of changes to the transportation system, such as the planned extension of SR 509.

The City's TMP travel demand model is an update of the Port of Seattle's Sea-Tac Airport model which was developed in 2010 to support Airport transportation planning efforts. The Port's 2010 model had a base year of 2006 and a forecast year of 2040. The Port and the City decided that it was in both of their transportation planning interests to jointly update the model to support the City's TMP and TE and the Port's Sustainable Airport Master Plan (SAMP). The City led the update of the model because of the June 2015 GMA timeline for the required Comprehensive Plan update; the Port's SAMP schedule is longer term than the City's requirement under GMA. The City and Port also agreed that the model and travel forecasts should be consistent with the travel demand models prepared by the Puget Sound Regional Council's (PSRC) VISION 2040 and Transportation 2040 plans for the region.

HORIZON YEAR OF  
**2035**



The Port's prior model base year of 2006 was updated to 2010 to be consistent with the current PSRC model and land use data. The 2010 base year also incorporates the extension of the Link light rail to the City of SeaTac and to Sea-Tac Airport; the light rail was not in place in 2006. The forecast year for the model was jointly established by the City and Port as 2035. The 2035 forecast year is consistent with the City's Land Use Element and overall Comprehensive Plan. The 2035 horizon year also would be consistent with the Port's estimated maximum forecast of 66 million air passengers (MAP) by 2034.

The model directly ties in the PSRC land use forecasts, trip generation, and travel patterns from areas outside the City of SeaTac. The City/Port model incorporates the regional mode share forecasts based on the 2035 forecasts from the PSRC's Vision 2040 planning models. This is a key part of the forecasting assumptions for both the City and Port's planning needs which support the use of alternative travel modes, including the existing and future extension of Sound Transit's Link light rail to serve the Airport and the City's designated urban center.

The model was used to forecast 2025 and 2035 weekday PM peak hour volumes and travel patterns. The average weekday PM peak hour represents one hour between 4 and 6 pm. which is consistent with the highest traffic volumes on the majority of City's arterials and collector streets, as discussed in Chapter 2. Traffic volumes at Sea-Tac Airport peak earlier in the afternoon, as shown for North Airport Expressway (NAE) in the discussion in Chapter 2. However, since the

focus of the initial application of the model is to support the update of the City's TE, the weekday PM peak hour commute period was selected for the forecast period and evaluation of alternatives. The model set-up also allows the Port of Seattle to adjust the model to reflect the Airport weekday peak travel periods for its use in the SAMP.

Additional detail and the modeling assumptions, data, processes and operations are available in the City of SeaTac and Sea-Tac Airport Travel Model document (Transpo Group, July 2015).

### 3.2 Land Use and Trip Generation Forecasts

Travel forecasts are largely derived based on changes in households and employment within the study area. For the areas associated with the Sea-Tac Airport, travel forecasts are based on the level of air passenger and air cargo activity, which can be correlated to traffic volumes at the arrivals and departures drives, parking garage, taxis, shuttles and other modes based on historical data. In addition, the travel forecasts must incorporate growth in the volume of traffic entering and exiting the greater Puget Sound Region, including connections to/from the Airport and through traffic on freeways such as I-5 and I-405.

The model land use forecasts reflect regional planning assumptions for 2035 based on King County's growth allocations and PSRC VISION 2040 travel demand models. PSRC converted the land use data into the primary trip generation inputs to the City/Port model. These are then

converted into the 2010 and 2035 weekday PM peak hour vehicle trips through application of the regional mode share forecasts and other parameters. The vehicle forecasts for 2025 reflect straight-line interpolation between 2010 and 2035 PM peak hour vehicle trip tables.

The following summarizes the overall projected growth in residential households and employment that were used in forecasting the 2025 and 2035 travel demands.

#### 3.2.1 City Growth

Growth forecasts for areas within the City of SeaTac (exclusive of the Airport) are based on the adopted King County Growth Targets for SeaTac. These forecasts basically reflect maximum build out of the City's land capacity ("full build out"). The King County growth forecasts result in a significantly higher level of development than has historically occurred in the City. The forecasts in the travel demand model must be consistent with the City's Land Use Element and regional planning; therefore, the King County forecasts were the basis for the 2035 travel demand model assumptions.

Table 3-1 and Figure 3-1 summarize the existing 2010 and forecast 2035 land use data which are used as inputs to the travel demand model. Household and employment data are not shown for Sea-Tac Airport because the travel demands for the Airport are based on employment and air passenger and other related data.

The City allocated the growth to transportation analysis zones (TAZs) based on the land use plans and buildable lands analysis. The City's Urban



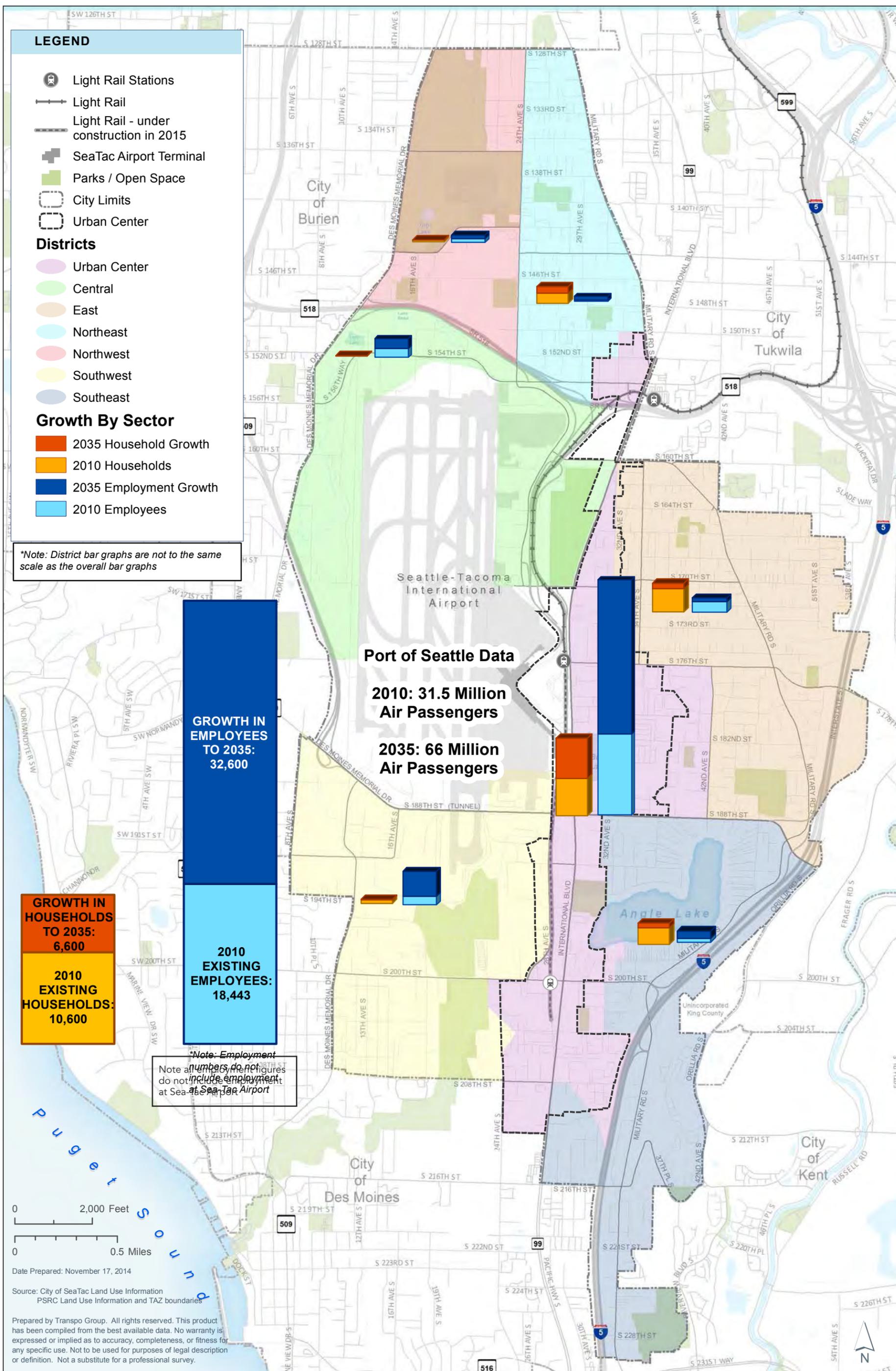


Figure 3-1: 2010-2035 City of SeaTac Housing & Employment Growth Assumptions



Center encompasses the commercial core from S 150th Street to S 212th Street and includes the City Center, the S 154th Street Station Area, and the Angle Lake Station Area, which are all served (or will be served) by Link light rail. The Land Use Element calls for focusing the majority of the City's commercial and residential growth, and redevelopment, into these three subareas within the Urban Center. Directing the growth to the Urban Center supports the use of Link light rail, bus transit, and also supports walking and bicycling modes of travel. Figure 3-1 shows the location of the Urban Center.

Households within the City are forecast to increase by 6,600 units, compared to the existing 10,600 units, or an increase of over 60 percent. Approximately 69 percent of this growth is anticipated to occur in the Urban Center area of the City along International Boulevard. This is consistent with the Land Use Element. The remaining growth is generally allocated within the eastern areas of the City (Northeast, East, and Southeast)

Employment within the City is forecast to increase by 32,600 jobs not including growth in employment at Sea-Tac Airport. This is an increase of 175 percent over the 2010 level of employment. Approximately 75 percent of this growth is anticipated to occur in the Urban Center area of the City, which reflects the goals and policies of the City. Employment growth is also expected to be high in the southwest area of the City, with about 3,800 new jobs.

The City land use data were converted to PM peak hour vehicle trips based on PSRC's trip

Table 3-1: 2010 and 2035 Housing and Employment Data by District

DISTRICT	HOUSEHOLDS			EMPLOYEES		
	2010	2035	Growth	2010	2035	Growth
Airport	NA <sup>1</sup>					
Urban Center	4,265	8,847	4,582	12,756	37,101	24,345
Central	3	50	47	1,404	2,977	1,573
Northeast	1,156	1,908	752	159	780	621
East	2,648	3,270	622	1,622	2,235	613
Southeast	1,897	2,419	522	621	1,763	1,142
Southwest	408	471	63	1,294	5,064	3,770
Northwest	202	229	27	587	1,157	570
<b>Total</b>	<b>10,579</b>	<b>17,194</b>	<b>6,615</b>	<b>18,443</b>	<b>51,079</b>	<b>32,636</b>

Source: City of SeaTac

1. Households and employment were not compiled for the Airport area. The travel demand model uses the number of air passengers and other related data to forecast travel demands.
2. Totals do not include employment at Sea-Tac Airport

generation rates and application of mode splits and other parameters. The process results in an increase of 9,600 vehicle trips during the weekday PM peak hour generated within the City's Urban Center and 2,300 new PM peak hour trips in other parts of the City. This is an increase of nearly 12,000 PM peak hour trips, exclusive of traffic growth at the Airport. This is a doubling of the PM peak hour vehicle trips between 2010 and 2035 which is significantly lower than the combined 135 percent increase in households plus employment in the City. This indicates that the forecast vehicular trips are forecast to increase at a rate 25 percent slower than the changes in the combined growth in housing and employment. The lower increase in PM peak hour vehicle trips reflects the higher transit and other travel mode shares, consistent with the regional forecasts that incorporate the

extension of Link light rail and addition of bus transit serving the City of SeaTac and Sea-Tac Airport. This directly reflects the City's plans and regional growth strategy to concentrate growth around increased transit. In addition, the lower growth in vehicles reflects the higher potential for walking and bicycling supported by the high density and concentrated growth in the Urban Center.

### 3.2.2 Sea-Tac Airport

Sea-Tac Airport generates person and vehicle trips in a different way than typical land uses within the City; therefore, land uses and travel demands for the Airport area were summarized in a way that better correlates with trip generation. Rather than only using forecasts of households and employment, traffic growth at Sea-Tac Airport also takes into account the



level of air passenger travel. In 2010, the airport processed 31.5 million air passengers (MAP). By 2034, the airport is expected to reach its maximum passenger total at 66 MAP. The Port's SAMP will further define the maximum level of air passenger traffic, but the 66 MAP was used for the 2035 model forecasts based on direction from the Port. The projected increase in MAP is more than double the 2010 level of air passengers. This is an annual growth rate of approximately 3 percent. For comparison, City households are expected to grow at 2 percent per year and employment is expected to grow at 4.2 percent annually. These data were then converted to PM peak hour vehicle trips based on the relationship of vehicle traffic counts at the Airport and air passenger levels. The net result is an increase of over 3,800 additional PM peak hour vehicle trips to/from the Airport.

The forecast process also applies the changes in regional mode share to incorporate increases in

**66**  
MILLION AIR  
PASSENGERS

the maximum passenger total the airport is expected to reach by 2034.

transit use to/from the Airport. While the number of air passengers doubles, the application of the increased transit and higher occupancy vehicle shares results in Airport vehicle trips increasing by only 70 percent. The reduced growth rate in vehicle travel at the Airport is similar to that forecast for the City Urban Center.

### 3.2.3 Areas Outside the City

For model areas outside the City of SeaTac, the 2035 PSRC land use forecast were directly used in the City/Port model. For some areas adjacent to the City of SeaTac, the PSRC data were divided into smaller TAZs to better match the arterial and collector roadways which were being evaluated. This process was coordinated with PSRC. Further away from the City of SeaTac travel demand model used the PSRC TAZ structure and land use data without any changes.

The City/Port model does not include the entire Puget Sound Region. For areas beyond the model area, regional traffic is assigned to "external" zones based on the PSRC model for that year (e.g. 2010 or 2035). This process incorporates the regional model data for travel into/out-of, and through the City/Port model study area.

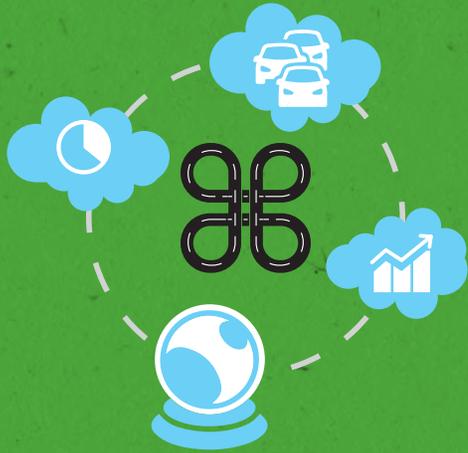
## 3.3 Transportation System Alternatives

The updated travel forecasting model was used to convert the 2010 and forecast (2025 and 2035) land use data into travel demands. The 2010 data were used to calibrate and validate the model. The forecast model assigns the future land use and resulting trips to transportation system scenarios in order to understand where transportation improvements may be needed to add capacity, improve traffic operations, or support connectivity. Several network alternatives were defined, building from regional and local plans. The assumptions for the alternative improvements were coordinated with PSRC, WSDOT, the Port of Seattle, and the adjacent cities.

As previously noted, the travel demand forecasts take into account the reduced vehicle trip generation associated with the planned extension of the Link light rail south of the City of SeaTac and other regional transit service planes. Therefore, all of the alternatives analyses include those assumptions.

The potential extension of the SR 509 freeway between S 188th Street and I-5 has been discussed and planned for over 25 years. Current plans call for the SR 509 freeway extension to be phased. The phases are discussed further below under the transportation alternatives. The SR 509 freeway extension also would support and be part of the planned South Airport Expressway (SAE) which would provide a fairly direct, grade-separated freeway connection between I-5 and the Airport terminal drive system and





The planned SR 509 freeway extension and South Airport connection provide the primarily basis for defining transportation system alternatives. Alternatives for the SR 509 freeway extension and the South Airport Access were developed and analyzed to help answer the following questions related to the timing of the benefits of specific phases of these planned improvements.

1. How long will the transportation system “work” without the SR 509 extension?
2. How will the completion of the SR 509 Phase I in conjunction with the Interim Airport South Access via 24th/28th Avenue S meet future demands, and for how long?
3. What additional benefit would the full SR 509 and South Airport Expressway (SAE) provide?

main parking garage. This would be similar to the NAE which currently connects the Airport to the regional freeway system. Studies prepared by WSDOT in conjunction with the Port, City of SeaTac, and other stakeholders also defined an option for providing an Interim South Airport connection between the terminal and initial phase of the SR 509 freeway extension (see sidebar left).

### 3.3.1 2025 Transportation System Alternatives Definitions

Two primary transportation networks were defined for the 2025 forecasts to help address these big picture questions. Additional refinements were incorporated based on the forecast results. The two 2025 alternatives were developed and analyzed to help answer the key questions. These are defined below and are labeled:

- 2025 Without the Extension of the SR 509 Freeway
- 2025 Baseline with SR 509 Phase 1 and Interim Airport South Access.

#### 2025 Without the SR 509 Freeway Extension

The 2025 forecast model was initially set up assuming only currently committed and funded transportation improvement projects that would be constructed by 2025. This includes completion of the 28th/24th Avenue S arterial link between S 188th Street and S 216th Street. Other local roadway improvements that were under construction and/or funded for construction in the next several years also were included if they would add capacity to the arterials or highway

system.

This option essentially reflects that the major investments in the regional highways serving the City of SeaTac and Sea-Tac Airport would not be completed in the next 10 years. The lack of these major investments may result in a slower rate of growth compared to the projected forecasts used in the 2025 horizon year. However, in order to provide a consistent basis for the alternatives evaluation no changes to the land use and/or trip generation forecasts for 2025 were made in the model.

#### 2025 Baseline - SR 509 Phase 1 and Interim Airport South Access

This scenario provides a baseline for identifying potential alternative transportation improvement needs in the mid-to-long term horizon. It includes the improvements included in the 2025 Without SR 509 Extension scenario. The 2025 Baseline model was developed based on capacity improvement projects identified in prior plans including the PSRC VISION 2040 travel demand model assumptions and the transportation improvement project lists prepared by WSDOT, King County, the City of SeaTac, and the other adjacent cities. Some of these improvements are funded or are expected to be funded in the next few years. These improvements are shown on Figure 3-2 and summarized below.

- **28th/24th Avenue S Arterial** – Completes the construction and widening of 28th/24th Avenue S between S 188th Street and S 216th Street (included as part of the 2025 Without the SR 509 Extension alternative).
- **SR 509 Extension Phase 1** - Extend the



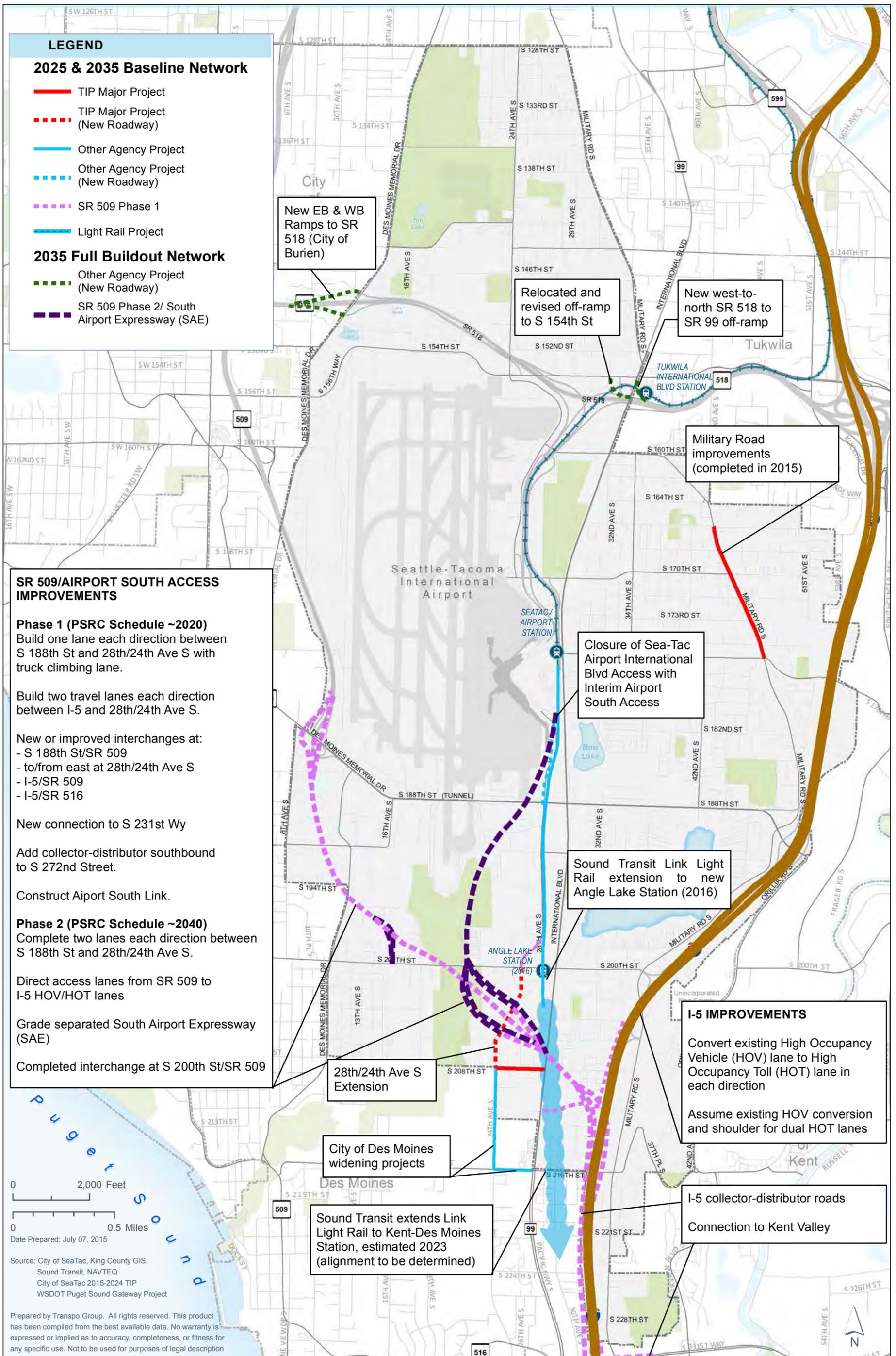


Figure 3-2: Major Transportation Alternatives



existing SR 509 freeway to connect between S 188th Street and I-5 as a tolled highway.

Phase 1 includes:

- > One lane in each direction between S 188th Street and 28th/24th Avenue S arterial with added truck climbing lanes in each direction;
- > Two lanes between 28th/24th Avenue S and I-5;
- > A new full interchange at SR 509/28th/24th Avenue S;
- > A modified interchange at SR 509/S 188th Street;
- > New collector–distributor roadways on I-5 from SR 509 interchange to south of the SR 516 interchange and modify the SR 516 interchange.



HIGH OCCUPANCY TOLL LANE ON SR 167

- **Interim South Access (24th/28th Avenue S arterial)** – based on WSDOT studies conducted in 2011 and 2012, and Interim Airport South Access configuration was defined. This includes:

- > Port construction of its proposed South Link project between the terminal drive system and parking garage to S 188th Street;
- > Port closing the existing Airport terminal access intersection with International Boulevard/S 182nd Street;
- > Completion of a new interchange of SR 509 with 28th/24th Avenue S.

- **I-5 High Occupancy Toll (HOT) Lanes** – HOT lanes can be used by transit, vanpools, and carpools. They also can be used by non-carpools by payment of a toll.

- > Converts the existing High Occupancy Vehicle (HOV) lanes on I-5 to HOT lanes;
- > Reconstructs freeway shoulder as a second HOT lane on I-5 between I-405 and Federal Way.

- **SR 518 Eastbound Off-ramp to Des Moines Memorial Drive S** – the City of Burien is working with WSDOT to construct new ramps to/from the west at the SR 518/Des Moines Memorial Drive S interchange. The City of Burien is moving forward with designs for the eastbound off-ramp; the westbound on-ramp has some constraints, so it was not assumed in the 2025 Baseline network.

### 3.3.2 2035 Transportation System Alternatives Definitions

#### **2035 Baseline - SR 509 Phase 1 and Interim Airport South Access**

The network for this alternative is the same as described for the 2025 Baseline alternative. The only change is the higher level of growth and trips based on the 2035 land use forecasts. The alternative also addresses the second question, especially as it relates to how long will the SR 509 Phase 1 and Interim Airport South Access roadway accommodate travel in this part of the Puget Sound Region.

#### **2035 With SR 509 Phase 1 and South Airport Expressway**

This alternative network builds from the evaluation of the 2035 Baseline scenario which indicated that the Interim Airport South Access via 28th/24th Avenue S would not be adequate to accommodate the projected growth at Sea-Tac Airport and the City's Urban Center. Building from the prior Port, WSDOT, and PSRC regional plans, this alternative adds the grade-separated South Airport Expressway (SAE) to the 2025 and 2035 Baseline network described above. The SR 509 freeway extension is assumed to remain as defined under Phase 1.

#### **2035 With SR 509 Full Build and South Airport Expressway**

This alternative incorporates the planned final stage of the SR 509 freeway extension project. In addition, it includes other longer-term transportation system improvements identified in prior transportation plans and/or identified as part of the development of the TMP. It starts from



the above 2035 with SR 509 Phase 1 and South Airport Expressway network and adds:

- Widening of SR 509 freeway to four lanes between S 188th Street and 28th/24th Avenue S;
- New partial (to/from the west) SR 509 Interchange at S 200th Street;
- SR 518 Westbound on-ramp from Des Moines Memorial Drive S;
- Relocated and revised SR 518 off-ramp to S 154th Street;
- New westbound-to-northbound off-ramp from SR 518 to International Boulevard (SR 99).

### 3.4 Alternatives Evaluation

As previously noted, the purpose of the alternatives evaluation is to answer the major questions about key elements of the City's future transportation system. In addition, the analyses provide input to the transportation improvements projects discussed in Chapter 4.

The travel demand model results were evaluated to understand changes in the relative level of traffic volumes on the arterials and at key intersections based on the forecast growth and changes in travel patterns resulting from new roadway facilities defined for each scenario. The focus of the alternatives analyses is on the locations that were shown to have congestion or operational issues under existing or forecast conditions and areas that are forecasts to have significant growth. The analyses reviewed generalized roadway volume/capacity results to

understand the overall levels of congestion on the arterial system. In addition, the analyses included a review of intersection traffic operations, similar to those defined for the existing transportation system. The Supporting Materials include additional tables related to the travel forecasts and alternatives analyses.

#### 3.4.1 Evaluation of 2025 Travel Forecasts

The 2025 forecast analyses assumed a straight line growth in traffic growth between the 2010 base year on 2035 forecast horizon used in the travel demand model. The City's prior Transportation Element (1994) was prepared and adopted assuming timely completion of the SR 509 freeway extension and SAE projects. Due to the delays in funding and constructing those projects, the TMP analyses for 2025 starts with evaluating traffic volumes and operations without those major regional investments. Based on the results of the without SR 509 extension, 2025 forecasts with Phase 1 of the SR 509 freeway extension and the Interim Airport South Access was evaluated to determine if those projects would be adequate to address the mid-term growth forecasts.

Figure 3-3 shows the resulting weekday PM peak hour intersection levels of service for the two 2025 alternatives. The existing 2014 levels of service are shown for comparison. The 2025 PM peak hour level of services shown on Figure 3-3 include additional improvements that would be needed to address poor levels of service. For example, the intersection of S 154th Street/

SR 518 westbound off-ramp was assumed to be signalized. This improvement results in LOS B conditions for 2025 without the SR 509 extension compared to the LOS F in 2014. As discussed below, some intersections may not be able to cost effectively be brought up to the City's and /or WSDOT's traffic level of service standards.

#### ***How long will the transportation system "work" without the SR 509 freeway extension?***

By 2025, forecast traffic volumes during the PM hour at the most currently congested locations within the City will increase by 25 to 35 percent over 2014 volumes. These include all of the major intersections along International Boulevard. This is directly related to the substantial housing and employment growth in the City's Urban Center and projected growth in traffic at Sea-Tac Airport. Significant increases in PM peak hour traffic also would occur at the City of SeaTac's interchanges. Without the SR 509 freeway extension, access to the regional freeway system from the core areas of the City will continue to focus on the I-5 interchanges at S 200th Street/Military Road S and S 188th Street. Growth in Airport traffic

**“BY 2025, forecast traffic volumes during the PM peak hour at the most currently congested locations within the City will increase by 25 to 35 percent over 2014 volumes without the planned extension of the SR 509 freeway**



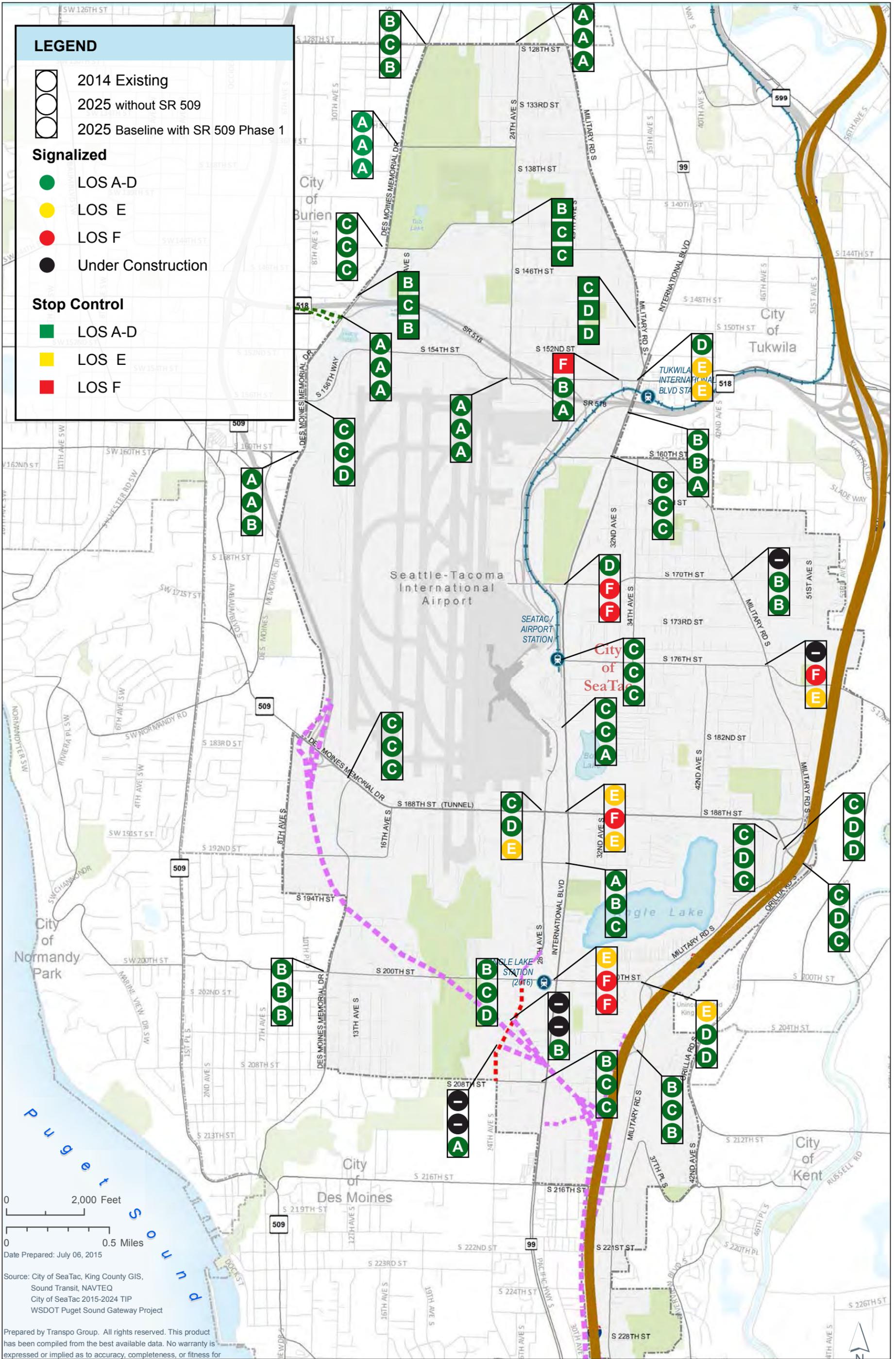


Figure 3-3: 2025 PM Peak Hour Intersection Levels of Service



and in the S 154th Street Station Area in the north end of the City will impact traffic volumes and operations at the SR 518 interchange at International Boulevard.

The increase in traffic volumes would result in several intersections operating at LOS E or LOS F during the PM peak hour. These include four key intersections along International Boulevard – S 154th Street, S 170th Street, S 188th Street, and S 200th Street. These poorly operating intersections would result in greatly increased travel times and delays along the City's major north-south arterial. These intersections are also the major east-west arterials serving the City. The congestion would not only affect vehicular traffic flow, but would likely result in significant impacts to traffic safety. Furthermore, these are key intersections for pedestrian and bicycle travel and access to transit. The added congestion would affect the comfort and safety of for these



MOVING TOWARDS A MULTIMODAL INTERNATIONAL BOULEVARD

other travel modes and would also adversely affect the reliability of bus transit in the City.

The congestion along International Boulevard also could likely result in traffic diversion to other corridors, such as S 176th Street. The diversion of traffic would result in LOS F conditions at the intersection of S 176th Street/Military Road S, which was improved in 2015. Traffic also would likely divert through neighborhoods, adversely affecting the quality of life in those residential areas.

Major intersection improvements would be needed to accommodate this growth at key intersections such as S 188th Street/International Boulevard, but these improvements would not be considered cost effective, especially with the future extension of SR 509 freeway. These intersection improvements would also result in wider roadways and would be less accommodating to pedestrians and bicyclists. The City's transportation plans and policies call for the Urban Center (and the rest of the City, as well) to become more multi-modal, including enhancing walking, bicycling, and access to transit.

The added congestion and lack of improved regional access that would be provided with the SR 509 freeway extension also could result in lower levels of growth than forecast for the Urban Center. The City will need to monitor growth and prioritize intersection and roadway improvements to support the resulting level of employment and housing.

### ***How will completion of SR 509 Phase I with an Interim Airport South Access meet future 2025 traffic demands?***

Through 2025, SR 509 and Interim Airport South Access (as defined in the alternatives section above) will greatly reduce traffic growth along International Boulevard south of S 176th Street. For example, 2025 PM peak hour traffic volumes at the intersection of S 188th Street/International Boulevard are forecast to increase by 30 percent over 2014 volumes without SR 509 Extension and Interim Airport South Access, but only increase 10 percent with these new roadways. This results from the shift of Airport traffic from the existing S 182nd Street/International Boulevard intersection to the 28th/24th Avenue S corridor west of International Boulevard.

The shift of Airport traffic to the Interim Airport South Access would greatly increase traffic at the intersection of S 188th Street/28th Avenue S. The increase in traffic would result in LOS F conditions even with the Port's previously identified improvement concept for the intersection. A major issue at this location is the resulting traffic queues on S 188th Street between 28th Avenue S and International Boulevard. In order to reduce traffic operation issues and the queues on S 188th Street, the analyses resulted in a recommendation to eliminate the south-to-east left-turn movement from 28th Avenue S to S 188th Street. These left-turns would be re-directed to S 192nd Street to connect back to International Boulevard. While this adds travel distance, overall travel times would be comparable due to the reduced congestion. The analyses also showed that the existing north-to-east right-turn lane on



International Boulevard to S 188th Street should be extended in the future when the adjacent properties redevelop.

The Interim Airport South Access also increases traffic volumes at S 200th Street/26th Avenue S. This intersection will, however, operate at LOS D with the forecast PM peak hour traffic. The increased traffic at S 200th Street/International Boulevard would result in LOS F conditions. However, the LOS F at this intersection would be barely below LOS E; based on the uncertainty of achieving the high levels of projected growth by 2025, it is likely that the intersection would operate at LOS E or better under this scenario. In addition, the City plans to sign traffic traveling to/from the south of S 200th Street to use S 208th Street once it is improved. This will help disperse traffic to multiple routes, reducing the forecast levels of congestion.

Other changes include reductions in forecast growth in traffic volumes at S 188th and S 200th Street Interchanges with I-5 compared to the Without SR 509 extension alternative. This result is due to the more direct and faster travel times provided by SR 509 to/from I-5 compared to using S 188th Street or S 200th Street interchanges.

The traffic forecasts with the SR 509 freeway extension show very little traffic volume growth on Des Moines Memorial Drive S. As previously noted, Des Moines Memorial Drive S currently carries lots of traffic that exits SR 509 at S 188th Street where the existing freeway ends. The extension of the freeway provides an alternative route for that traffic.

### ***How will completion of SR 509 Phase I and Interim Airport South Access affect other locations in the City?***

Completion of SR 509 Phase I with Interim Airport South Access supports increased development in City's Urban Center by enhancing accessibility and reduces congestion. Other roadways and intersections in the City will see some more limited benefits and would need improvements to meet 2025 traffic volume demands.

The intersection of S 170th Street/International Boulevard is forecast to operate at LOS F under this alternative. However, the forecast traffic delays would be reduced by approximately 15 percent compared to the forecasts without the SR 509 extension. There are no easy solutions for improving the forecast operations at this intersection due to impacts on adjacent properties. The City will continue to monitor the operations at this intersection and adjust signal timing to help reduce delays and impacts of traffic queues.

The SR 509 freeway extension and closure of the S 182nd Street/International Boulevard access to the Sea-Tac Airport terminal reduce the forecast traffic volumes at S 176th Street/Military Road S. This reduction in traffic results in LOS E under this alternative compared to LOS F without those improvements.

The intersection of S 154th Street/International Boulevard is forecast to operate at LOS E with the increase in traffic volumes of approximately 25 percent. The increase in traffic at this intersection is partly due to the development proposed in the S 154th Street Station Area Plan. In addition, this intersection is a key location connecting SeaTac with the regional highway system via SR 518.

# SR509

## COMPLETION SUPPORTS INCREASED DEVELOPMENT IN THE CITY'S URBAN CENTER.



### 3.4.2 Evaluation of 2035 Travel Forecasts

The 2035 forecast analyses are based on the long-term growth projections for the City and Airport. They basically reflect build-out conditions for the SeaTac area. As noted above, three network alternatives were evaluated for 2035 to establish the framework for the City's TE and TMP. The first 2035 alternative network is the same baseline network analyzed for 2025. The second option adds the grade-separated South Airport Expressway (SAE) to the network. The final 2035 alternative adds in Phase 2 of the SR 509 freeway extension project, as described above.

Figure 3-4 shows the resulting weekday PM peak hour intersection levels of service for the 2035 alternatives. The 2035 PM peak hour level of services shown on Figure 3-4 include additional improvements that would be needed to address poor levels of service. For example, the left-turn restriction from southbound 28th Avenue S to eastbound S 188th Street and other improvements discussed for the 2025 Baseline alternative are included in all three of the 2035 levels of service shown on Figure 3-4.

#### **How long will SR 509 Phase I with Interim Airport South Access serve future travel demands?**

While the SR 509 Phase I/Interim South Access will generally accommodate forecast growth through 2025, by 2035 the analyses show that they will not adequately accommodate traffic south of the Airport. Traffic volumes at key intersections along 28th/24th Avenue S and on International Boulevard are forecast to be 15 to

20 percent higher than the PM peak hour volumes for 2025 Baseline scenario. These increases in PM peak hour volumes will result in three key intersections operating at a forecast LOS F during the PM peak hour. These include:

- S 188th Street/International Boulevard
- S 188th Street/28th Avenue S
- S 200th Street/International Boulevard.

For these three intersections and associated road segments of S 188th and S 200th Streets:

- The shorter term (2025) improvements will not meet 2035 traffic demands;
- Additional turn lanes would be required resulting in a large roadway footprint;
- Any significant improvements would impact existing businesses;
- Widening the roadways and intersections would be inconsistent with the City's Urban Center and Angle Lake Station Area plans for a more walkable and bike friendly neighborhood in the corridor.

The SR 509 Phase I/Interim Airport South Access alternative also would not address forecast congestion issues in north part of the City. The intersection of S 170th Street/International Boulevard is forecast to be heavily congestion with no additional improvements. As discussed above, improvements at this intersection would be very difficult and costly. They also would impact adjacent properties.

The intersection of S 154th Street/International Boulevard also would operate at LOS F under this

scenario. The S 154th Station Area Plan identified a project to construct a new west-to-north off-ramp from SR 518 to International Boulevard (SR 99). That would greatly reduce the flow of east-to-north left-turns and would result in LOS E. The new off-ramp also may allow the elimination of one of the two existing east-to-north lanes, which would reduce pedestrian crossing distances in this transit-oriented development area.

The intersection of S 150th Street/Military Road S would operate at a forecast LOS E. This intersection is unsignalized; installing a traffic signal (when warranted) and/or adding in turn lanes would resolve the LOS E condition.

The intersection of S 176th Street/Military Road S would continue to operate at LOS E, similar to the 2025 results.

#### **What additional benefits would the South Airport Expressway (SAE) and Phase 2 of SR 509 provide?**

To address the 2035 traffic operations and congestion issues identified under the Baseline scenario with Phase 1 of SR 509 and Interim Airport South Access, the travel demand model was adjusted to evaluate traffic shifts and intersection operations with the addition of the SAE with the SR 509 Phase 1 freeway extension and the SAE with the additional capacity provided under Phase 2 of the SR 509 freeway extension project. An option with the Phase 2 of the SR 509 Extension without SAE did not address the key issues along the 28th/24th Avenue S or International Boulevard corridors, so more detailed analyses were not conducted for that strategy.



The SR 509 and SAE reduce traffic growth on several City roadways including:

- International Boulevard south of the Airport,
- 24th/28th Avenue S arterial (the Interim Airport South Access corridor),
- S 188th Street corridor, and at;
- the I-5 interchanges serving the City of SeaTac.

SAE provides the higher benefit to the City compared to the additional widening of SR 509 under Phase 2. The SAE reduces future traffic volumes on City arterials as well as reduces traffic at I-5 interchanges in SeaTac. As shown in Figure 3-4, the addition of SAE to the 2035 Baseline alternative results in LOS E at 28th Avenue S/S 188th Street. The addition of the SR 509 Phase 2 widening and additional interchange ramps at S 200th Street further reduce traffic volumes on S 188th Street resulting in LOS D at this intersection.

The intersections of S 188th Street/International Boulevard and S 200th Street/International Boulevard are forecast to remain at LOS F with the addition of the SAE with or without the SR 509 Phase 2 widening. However, the forecast delays at these key intersections would be reduced compared to those reported for the 2035 Baseline scenario.

These scenarios also carry over the construction of a new west-to-north off-ramp from SR 518 to International Boulevard. As noted above, the new ramp reduces the volume of east-to-north left turns and would likely allow removal of one of the existing two left turn lanes. The improvement would provide LOS E.

The reduction of Airport-related traffic on City streets also improves safety for non-motorized trips made by residents, employees and visitors in general.

The addition of the SAE and SR 509 Phase 2 do not resolve the capacity and operational issues for S 170th Street/International Boulevard. The City will need to continue to monitor this location and adjust traffic signal timing to best reduce delays, traffic queue impacts, and safety issues that may arise.

SR 509 Phase 2 improvements also provide specific benefits. For example, traffic is reduced on Des Moines Memorial Drive S west of International Boulevard. However, traffic increases traffic on S 200th Street.

### 3.5 Framework for the 2035 Transportation Element

As previously discussed, the traffic forecasts basically assume build-out of the Airport and City; therefore, the reported levels of congestion may not result by 2035 under any of the scenarios. However, the analyses provide for insights into the strategies for phasing major and localized transportation improvements to help the City accommodate the growth. Based on the 2025 and 2035 alternatives evaluation, the City established a framework for its long-range highway and street system. The framework builds from the City's prior Transportation Element, as well as other agency transportation improvement programs. These transportation improvements will support economic development through improved regional accessibility.

Key elements of the framework plan by horizon year include:

#### By 2025:

- Target state and regional funding for construction of SR 509 Phase I;
- Port construction of its South Link project to connect the terminal to S 188th Street and close S 182nd Street/International Boulevard terminal access;
- Completion of 28th/24th Avenue S between S 188th Street and S 216th Street, including interchange with the SR 509 Phase 1 freeway extension as Interim Airport South Access;
- Construction of additional intersection and other associated roadway improvements in connection with these major projects.

#### By 2035:

- Work with Port and regional stakeholders to fund and construct implement the grade-separated South Airport Expressway (SAE). The SAE reduces the need for larger intersection and roadway improvements. In addition, it reduces travel times to/from Airport compared to Interim Airport South Access.

#### By 2040:

- Continue working with WSDOT and regional stakeholders to advance Phase 2 of SR 509 by 2040, consistent with PSRC vision 2040.



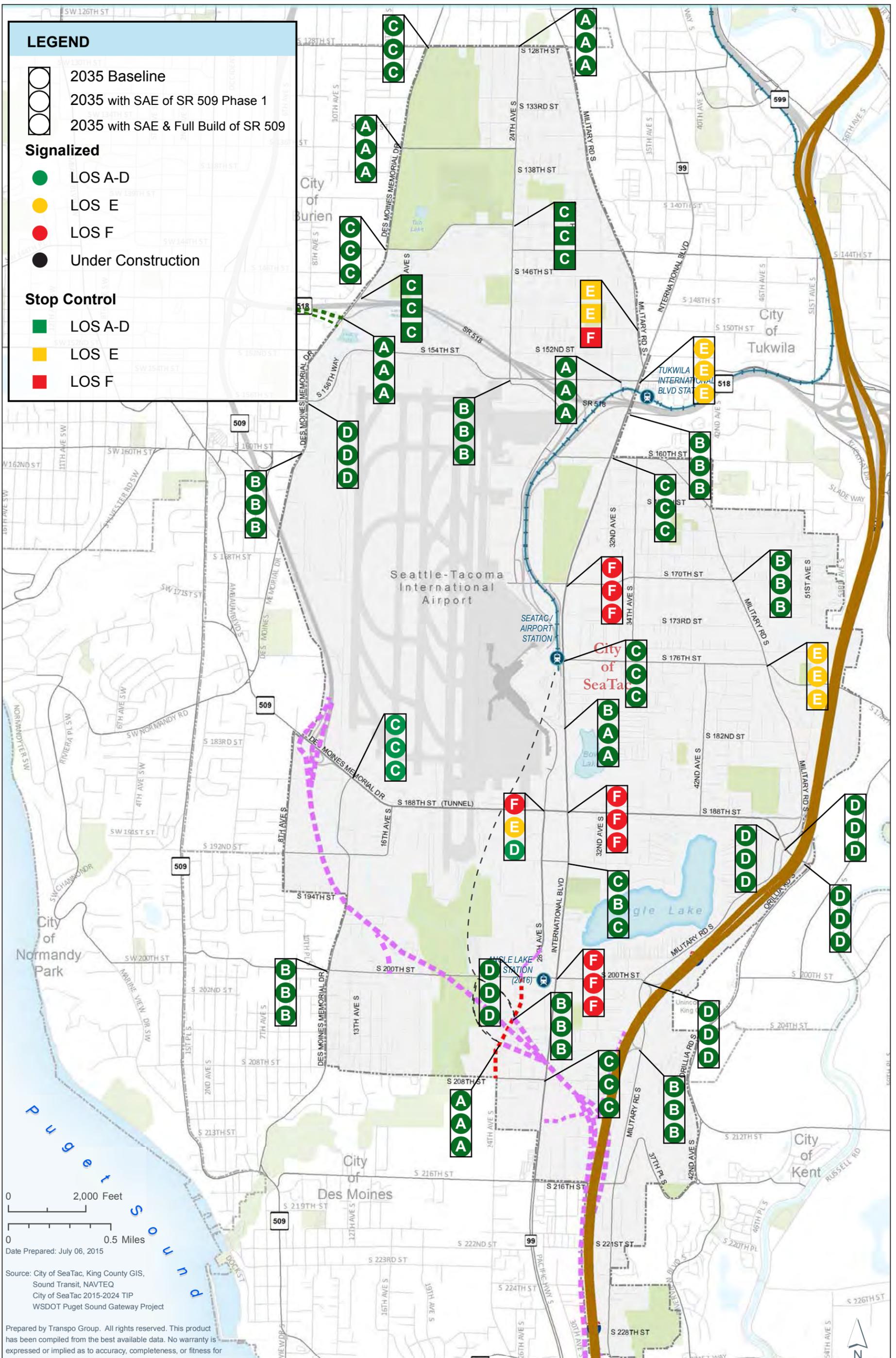


Figure 3-4: 2035 PM Peak Hour Intersection Levels of Service



*This page left intentionally blank.*



# MULTI-MODAL TRANSPORTATION SYSTEMS PLANS



# CHAPTER 4: MULTI-MODAL TRANSPORTATION SYSTEMS PLANS

The multi-modal transportation systems plans show the long-term vision for travel in, around, and through the City of SeaTac.



The systems plans provide the blueprints for systematically advancing multi-modal transportation improvement projects and programs to support the existing community and the forecast growth. The transportation systems plans incorporate the analyses of existing and forecast conditions, community input, and prior planning efforts. The identified improvement projects and programs must be balanced with available funding, as discussed in Chapter 5.

The transportation systems plans are organized and presented by travel mode to provide an overview of key components of each element. However, the systems plans and improvement projects and programs are integrated through the implementation process. For example, improvements along arterial streets include pedestrian and bicycle facilities. As another example, improvements of intersections also integrate the needs for improved pedestrian crossings, street lighting, and drainage that work together to support walking. The pedestrian and bicycle systems plans developed in the Safe and Complete Streets Plan (S&CSP) support improved access to and from transit.

The modal transportation systems plans illustrate how the City of SeaTac's transportation system supports, as well as relies on, transportation facilities and investments provided by other agencies. These include many projects such as

Sound Transit's Link light rail, extension of the SR 509 freeway, and the Lake-to-Sound Trail. In addition, the City's plans must be integrated with other agencies through consistency in the arterial and collector roadway designations, connectivity of trails and other non-motorized facilities, and coordination of transit facilities (such as bus stops) into City improvement projects and programs. The City will continue to coordinate with WSDOT, the Port of Seattle, Sound Transit, King County and its neighboring cities to coordinate implementation of its transportation systems plans with their projects and programs. This will lead to a more cost-effective, connected multi-modal transportation system serving the greater SeaTac region.

“As improvement projects are prioritized through the City's Six-Year Transportation Improvement Program (TIP) and funded through the Capital Improvement Program (CIP), the City will refine the projects. This will include project-level environmental review, input from the public and stakeholders, and detailed design studies.”

## 4.1 Streets and Highways

As with most suburban communities, streets and highways are the core of the various multi-modal transportation systems serving the City of SeaTac. Streets and highways provide for regional access to Sea-Tac Airport for passengers, freight, and workers. They also connect the City's residents and businesses with the Puget Sound region and other parts of Washington State, as well as for travel within the City.

The majority of the existing and planned pedestrian and bicycle facilities also are part of the City's Street system. Local and express bus transit also relies on the streets and highways, both where the buses operate as well as connections with the City's neighborhoods and businesses via sidewalks or bicycle facilities.

### 4.1.1 Roadway Classifications

The streets and highways provide the framework for the overall transportation system for the City of SeaTac. Roadways are classified based on their desired function and service characteristics. The classification hierarchy is based on the relationship between the function of the roadway and the land uses it serves, as

presented in Chapter 2. As an example, lower density residential development, parks, and schools would typically be located along lower volume roadways such as collector arterials or local streets. Higher density multi-family and many commercial developments (such as hotels, office buildings, and retail centers) would typically be located along principal, minor, or collector arterials based on a higher level of mobility and visibility.

Table 4-1 describes the functional classification categories for the City of SeaTac's street systems, including state highways. Figure 4-1 shows the City's adopted roadway classification for existing and planned streets and highways. Chapter 2 summarizes key characteristics of the freeways and principals and minor arterials serving the City of SeaTac.

In 2012 the City upgraded the classification of 28/24th Avenue S from a minor arterial to a principal arterial. That change reflects the increased traffic volumes expected on the arterial associated with use of the 28th/24th Avenue S as the Interim Airport South Access including an interchange with the planned extension of the SR 509 freeway. The arterial also provides access to the Angle Lake light rail station under construction by Sound Transit. The corridor also serves as a key roadway serving the various modes of travel within the City's designated Urban Center.

The 2015 TMP and TE identified a couple of changes in the roadway classification from the City's prior adopted roadway classifications. S 208th Street between 24th Avenue S and

International Boulevard was classified as a minor arterial from its prior designation as a collector arterial. This change reflects the City's desire to have this segment of S 208th Street to provide an alternative to S 200th Street and the higher level development planned along the 28th/24th Avenue S corridor in both SeaTac and Des Moines. In addition, S 208th Street will provide a connection between International Boulevard and the future interchange at SR 509 at 28th/24th Avenue S.

In addition, S 192nd Street between 28th/24th Avenue S and International Boulevard is also now classified as a minor arterial. This roadway serves a similar function as described for S 208th Street.

### 4.1.2 Freight Routes

Sea-Tac International Airport is a major truck destination serving air cargo operators in the Puget Sound Region. The Port of Seattle also owns several properties that can be developed for trucking-related land uses. In addition to Port-owned properties, other industrial and flex-type spaces rely on trucks for delivery of materials and their products. The City's hotels, retail, and other commercial development also generate a significant level of truck traffic, especially along International Boulevard and on principal and minor arterials connecting businesses with freeways.

Figure 4-2 shows the City's adopted truck route map. It only shows the freeways and arterials in the City of SeaTac since the City does not designate routes in other jurisdictions. All

ROADWAYS  
ARE CLASSIFIED  
BASED ON THEIR  
DESIRED FUNCTION  
AND SERVICE  
CHARACTERISTICS.



Table 4 1. Functional Classification of City of SeaTac Roadways

ROADWAY TYPE	DESCRIPTION/PURPOSE	EXAMPLES
Freeway (Interstate or Expressway)	Freeways are multi-lane, high speed, high capacity roadways. Freeways have controlled access and are intended to serve longer, regional intra-state or interstate travel. Freeways that serve the City of SeaTac are under the jurisdiction of the Washington State Department of Transportation (WSDOT) or Port of Seattle.	I-5 SR 509 North Airport Expressway
Principal Arterial	Principal arterials connect focal points of traffic generation throughout the City and adjacent areas. They are used to provide access to the regional highway system, connect major community centers and connect to adjacent cities. These streets are intended to primarily serve “through” traffic with limited access to abutting land use. Principal arterials typically carry the highest traffic volumes.	International Boulevard S 188th Street S 200th Street
Minor Arterial	Minor arterials are inter-community roadways that connect community centers with each other or to principal arterials or freeways. Minor arterials serve lesser points of traffic generation, and provide greater land access than principal arterials. Generally, minor arterials have moderate to high traffic volumes and may include some restriction of traffic movements and limitations on spacing of driveways and local streets.	Military Road S Des Moines Memorial Drive S S 176th Street
Collector Arterials	Collector arterials distribute trips between local streets and arterials and serve as transition roads to or from residential and commercial areas. They provide land access as well as connections between neighborhoods and smaller community centers. Collectors typically have low to moderate traffic volumes and limited regulation of access control. On-street parking is usually limited.	24th Avenue S 34th Avenue S 8th Avenue S
Local or Private Streets	Local streets primarily provide direct property access and generally discourage through traffic. These streets typically have low to moderate traffic volumes and few access controls. On-street parking is generally allowed.	S 152nd Street S 166th Street S 204th Street

freeways within the city limits are designated truck routes, including the future extension of SR 509 between S 188th Street and I-5.

All principal arterials in the City are designated as truck routes. These corridors provide access to/from the primary commercial and industrial lands in the City. These routes also serve as through routes to adjacent cities such as Burien and Des Moines. Truck routes also include Air Cargo Road north and south of the terminal. Air Cargo Road is designated as a Port arterial.

Other truck routes in the north part of the City include Des Moines Memorial Drive S and S 152nd/S 154th Street, as well as segments of S 142nd/S 144th Street, 24th Avenue S, S 146th Street and 16th Avenue S. These routes serve Port and other airport related land uses located north of the airport.

Segments of S 160th and S 170th Streets east of the Airport are also truck routes. These serve various types of land uses including smaller retail developments, parking and hotels. Both routes



FREIGHT TRUCK ON INTERNATIONAL BOULEVARD

connect to Air Cargo Road, which is the primary access for many air cargo operators.

South of the Airport, truck routes include Des Moines Memorial Drive S between S 188th and S 200th Streets. This route currently provides a connection from the SR 509 freeway to I-5 via S 200th Street. Military Road S between the I-5 northbound interchange ramps and S 200th Street also is designated as a truck route to complete the connection with the regional freeway system. Segments of 8th Avenue S, 16th Avenue S, and S 192nd Street also serve industrial lands near the terminals of the SR 509 freeways.

As previously discussed, S 208th Street between 28th/24th Avenue S and International Boulevard was re-classified as a minor arterial during the development of the 2015 TMP and TE. This segment also is designated as a truck route to reduce truck traffic along S 200th Street near the Link light rail station.



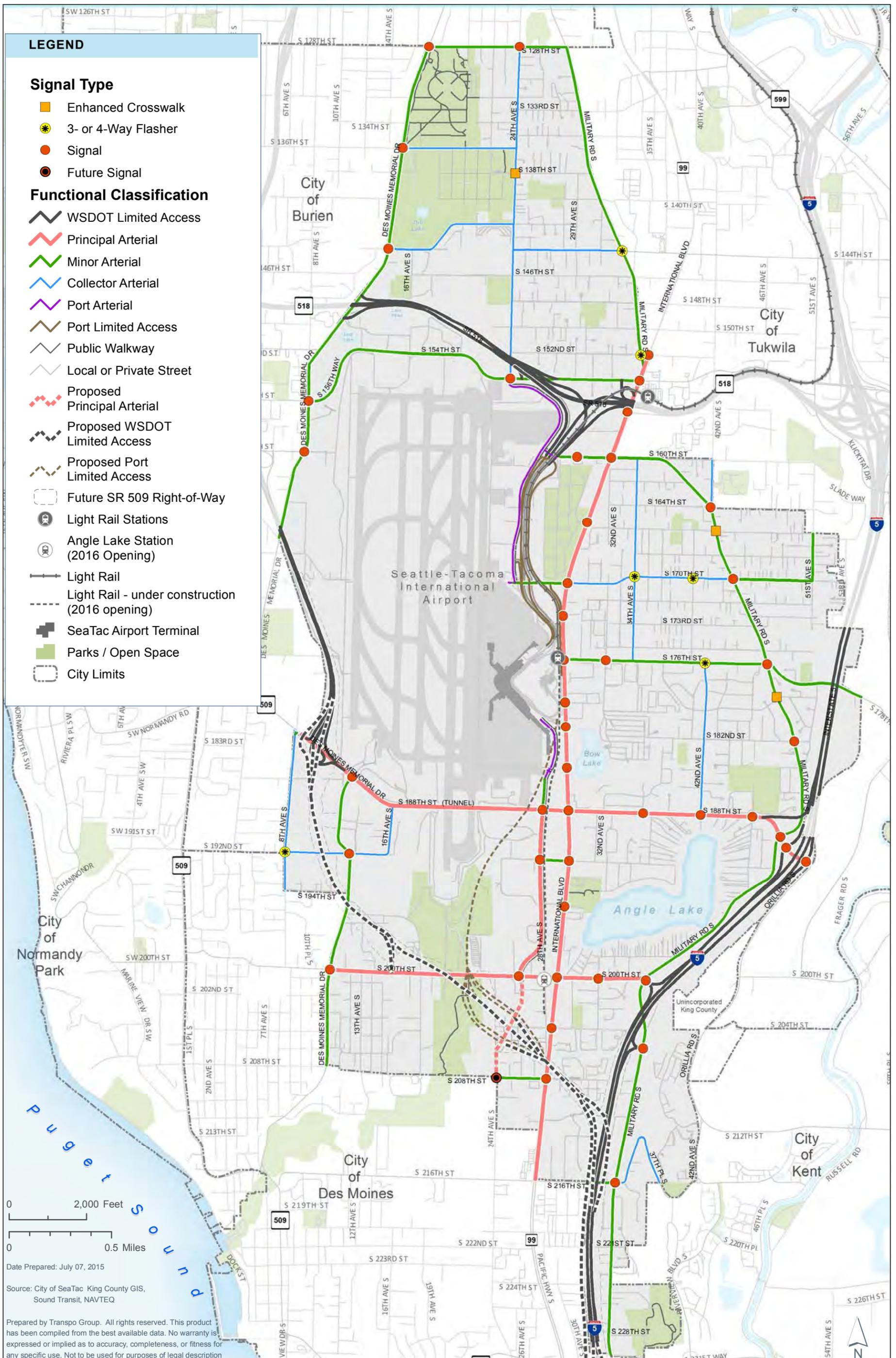


Figure 4-1: Roadway Functional Classification & Signal Locations



### 4.1.3 Parking

Parking plays a vital role in the multi-modal transportation system and identifying effective parking management strategies that support transit use and vital neighborhood business and residential areas is important. Parking management strategies are intended to more efficiently utilize available parking but can also support multi-modal goals and objectives by reducing the dependence of the automobile, improve traffic operations, and lessen the impacts to the environment. Successful parking management strategies provide a clearly defined and fundamental purpose and priority to the parking system. Parking management strategies typically look for opportunities to:

- **Improve Efficiency.** These are strategies that are aimed at maximizing the use and efficiency of parking supply. The majority of typical neighborhoods use between 40-70 percent of their parking supply on average or have areas that are not well defined that could be used for parking.
- **Reduce Demand.** These are strategies that are aimed at reducing parking demands through shifting travel modes during peak parking periods. Parking management strategies can play a key role in influencing modal choice and should be developed in coordination with other commute trip reduction strategies.

- **Increase Awareness, Enforcement, and Authority.** These are strategies related to making the public aware of the parking regulations and locations, enforcing regulations and policies, and monitoring parking conditions to continually make improvements and ensure strategies are appropriate as conditions change. Without enforcement, policies, regulations and other strategies will not be as effective. This often requires more enforcement required as more regulations are implemented.

The parking issues and complaints related to public on-street parking typically depends on who you are. Residents often want long-term spaces to store their car, businesses want short-term spaces in front of their stores, and commuters often want free or low cost parking during the work day. In order to strike the right balance for competing desires a variety of strategies need to be implemented to support the overall goals and objectives of the City and local neighborhoods. Often times the approach should use an iterative process where small changes are made over time to educate, build compliance and utilize the most cost effective solution.

THERE ARE OFTEN  
DISCREPANCIES  
BETWEEN PERCEIVED  
VERSUS ACTUAL  
PARKING USAGE.

### **Define the Problem**

A parking study is often required that includes data collection of supply, utilization, and duration of existing parking to objectively define what the problem is. There are often discrepancies between perceived versus actual parking usage and utilizing data is often the best and most objective way to define the current conditions.

Spill-over impacts into adjacent residential neighborhoods could be caused by either the lack of available parking in adjacent areas or inefficient use of available parking in desired areas. In addition, these types of impacts can result when there is a lack of good pedestrian connections between designated parking areas and the destinations or when parking in neighborhoods is more convenient than the designated parking areas.

Follow-up or monitoring studies can then be used to track the impacts of parking strategies that are implemented.

Some of the common and frequent approaches to managing parking in residential neighborhoods that are impacted by spill-over from adjacent areas or uses include:

### **Reconfigure Parking**

The existing parking supply in the area where the spill-over is generated or within the neighborhoods could be optimized to provide more parking. This could include restriping lots, reducing parking space sizes (i.e., compact and motorcycle parking), minimizing curb cuts, reevaluating street widths/cross-sections, and utilizing undeveloped or wasted areas for parking.



### **Wayfinding and Information**

Wayfinding is used to link drivers to available parking. Spill-over into adjacent neighborhoods could be created if not all of the available parking in desired parking areas is utilized. Proper wayfinding decreases traffic congestion and increases efficiency in finding a parking space by directing drivers to available parking and avoiding added traffic from people circulating through the system to locate spaces. Studies in urban areas show that as much as 30 percent of traffic can be associated with drivers circulating to find parking. With drivers guided on a direct path to available parking the more traffic and environmental impacts will be reduced and the overall transportation system will function more efficiently.



PARKING LOT AT SEATAC

### **Regulate Parking**

Parking regulations can be implemented to control who, when, and how long vehicles are allowed to park. This helps prioritize parking and allows the most convenient parking spaces to be available for the most important uses. Regulating parking includes implementing time restrictions; designating areas for employees; providing residential permit parking; and dedicating carpool, loading zone, car sharing, and electric vehicle spaces. Residential Parking Zones (RPZ) or Permits can be managed in many different ways but there are costs associated with implementing a program that often requires residents to purchase permits to utilize on-street parking to help off-set the costs of such programs.

### **Enforcement**

Enforcing parking regulations is an important component to making sure the parking system and regulations are followed. Without enforcement many parking management strategies will be ignored, abused, and ineffective. Developing a parking enforcement plan needs to be a part of any parking management program and should be reviewed and updated to meet the changing needs of the system as well as available technologies. Each parking management strategy requires a different form or level of enforcement that needs to be considered in the overall cost-benefit. Typically, enforcement costs are offset by revenues generated from ticketing violators.

### **Charge for Parking**

Charging for parking is simply having people directly pay for the use of parking spaces. This can be implemented for both public and private lots and essentially is a management tool that reduces demand, motivates ride sharing, promotes higher turnover, and can generate revenue. In recent years, there have been numerous studies that show positive support for paid parking in urban settings with a high demand for parking. Consideration for how much you charge and where you charge is important as this could move the parking problem to another area if looked at for just an isolated area.

## **4.2 Non-Motorized Transportation Systems Plan**

The City of SeaTac will continue to develop pedestrian and bicycle facilities as part of its transportation system improvements. The TE identifies the desired pedestrian and bicycle systems plans, which will guide the development and implementation of improvement projects throughout the City. The non-motorized systems plans include facilities on arterials, collectors, and local streets, as well as multi-use trails.

Both system plans were developed using the Safe and Complete Streets Plan (S&CSP) as the foundation. The goals presented in the S&CSP were used to guide development of the pedestrian and bicycle systems plans which are included in the TMP and TE. These goals focus on improving safety, completing the non-motorized systems by filling in gaps, encouraging multi-modal transportation, creating opportunities



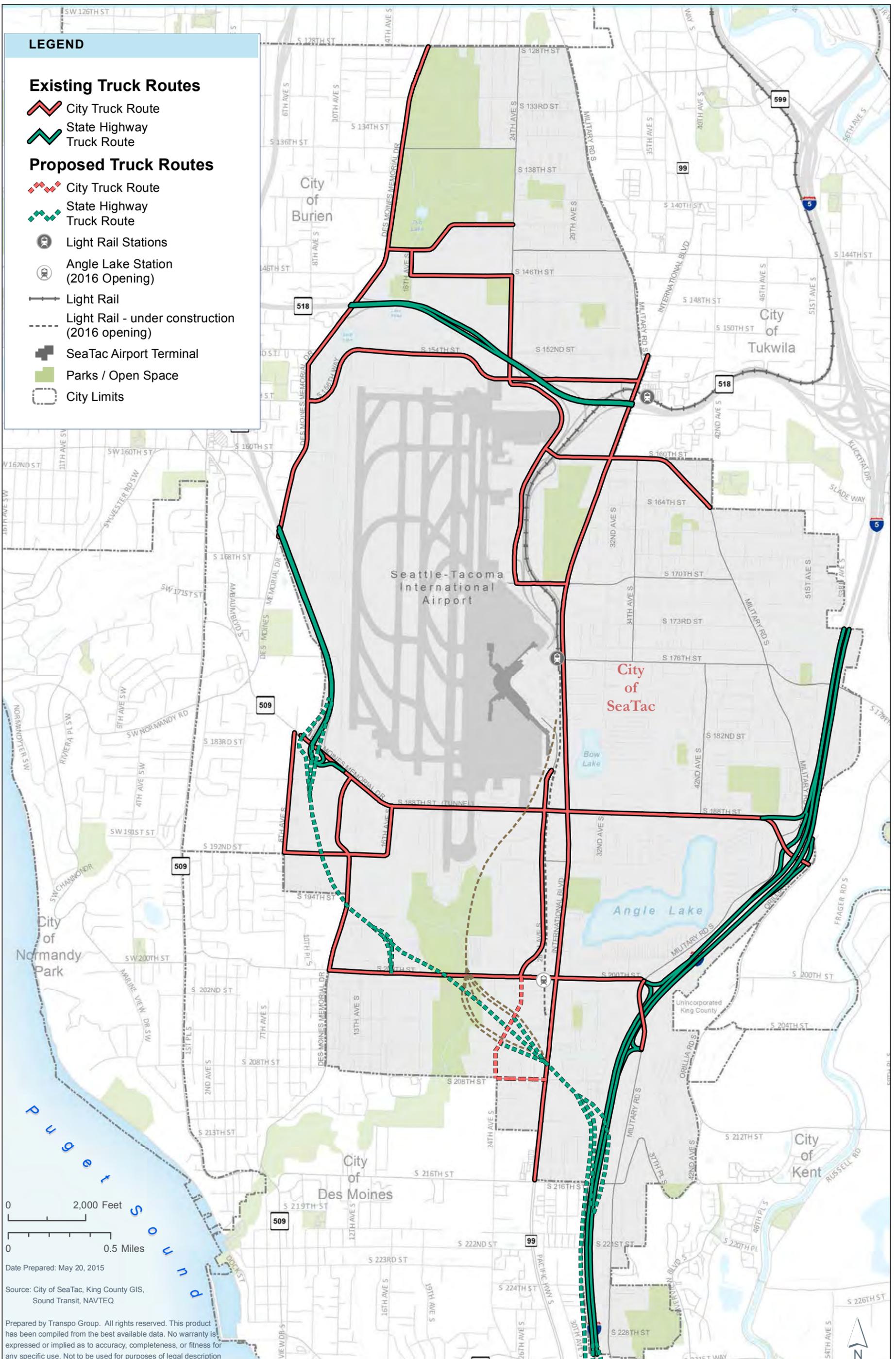


Figure 4-2: Truck Routes



for a more active lifestyle, and focusing on improvements that provide the most benefit. The goals from the S&CSP were then assessed and blended with the roadway system needs and the Land Use and other elements of the Comprehensive Plan. Changes to the S&CSP incorporated as part of the TMP are summarized in the Supporting Materials.

The following summarizes how these goals were used to finalize the non-motorized systems plans and development of improvement projects and priorities.

- **Improve safety.** Providing non-motorized facilities gives pedestrians and bicyclists a safer space to travel. The proposed non-motorized improvement projects take this into consideration.
- **Support safe routes to schools.** Improvements throughout the City focus on creating pedestrian facilities where students could safely get to schools, including McMicken Heights Elementary, Madrona Elementary, and Bow Lake Elementary.
- **Fill-in missing gaps.** In order for more people to choose walking or bicycling as a means of travel there needs to be infrastructure for them to get where they need to go. New or upgraded non-motorized facilities were defined to fill system gaps, such as in the north end of the City and near the new Angle Lake light rail station.
- **Reduce barriers to non-motorized travel.** Barriers to walking and biking can be natural (such as a river or steep grade) or man-made

(such as a freeway or a building). Reducing the barriers helps make non-motorized travel an easier and more convenient choice. The pedestrian overcrossing project near the S 154th Station Area is an example of reducing the barrier of a wide, high-volume intersection.

- **Enhance access to transit.** Several transit modes serve the City of SeaTac. Implementing non-motorized improvements that make it easier to access transit can increase the likelihood people will use transit instead of driving alone. Projects near the RapidRide stations and Link light rail stations, as well as local bus routes were given additional consideration since they serve a variety of modes that can help reduce auto travel.

#### 4.2.1 Pedestrian System Plan

Sidewalks, walkways, and multiuse trails are integral to the City's overall transportation system. Figure 4-3 illustrates the pedestrian system plan for the City and demonstrates how the identified future facilities tie into the existing system. Figure 4-3 also shows corridors where future arterial and collector projects will construct or complete the sidewalk network. This includes regional projects like the Lake-to-Sound Trail and improvements identified as part of the WSDOT SR 509 Corridor Completion and Sound Transit S 200th Link Extension projects.

The majority of the proposed pedestrian facilities are relatively unchanged from those identified in the S&CSP. However, in some locations additional proposed projects were added to fill in gaps or were altered to better fit within the



NEIGHBORHOOD WITH NO SIDEWALKS

existing environment or right-of-way. Additional improvements also were incorporated from the Angle Lake Station Area Plan which was being completed at the same time the TMP was being finalized. The Supporting Materials documents include more detail on the process for integrating the Safe and Complete Streets Plan and the changes from the S&CSP incorporated into the TMP and TE.

The pedestrian projects are spread throughout the City. This reflects the lack of sidewalks or other pedestrian facilities when the roadways were originally constructed under King County standards. Some notable concentrations of the proposed pedestrian system improvements are in the McMicken Heights area, the S 154th Station Area, and the Angle Lake Station area. Several projects link to existing or future trails, including

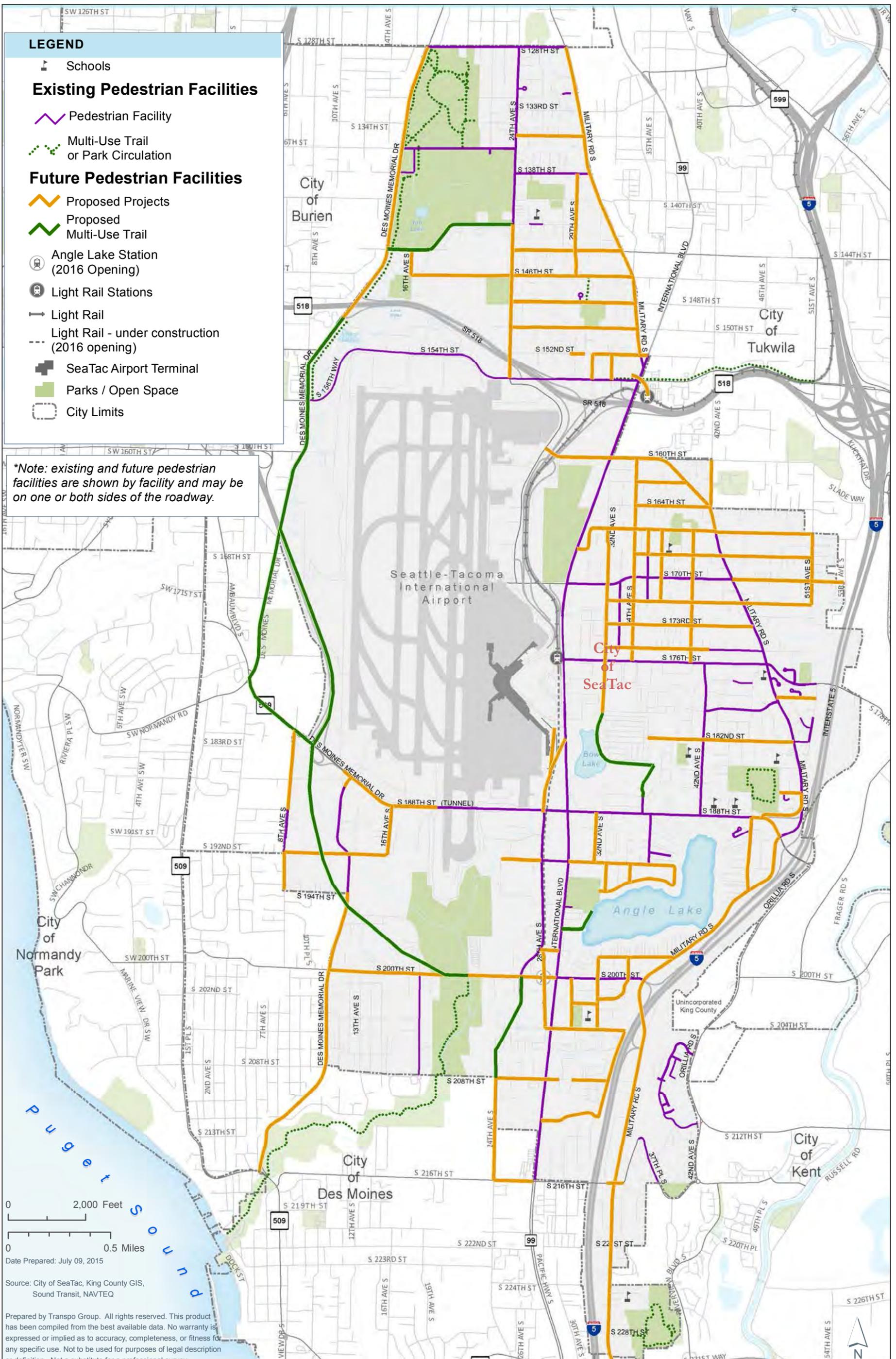


Figure 4-3: Pedestrian Network



the Lake-to-Sound Trail and the Des Moines Creek Park Trail, as well as projects which connect to existing paths in parks.

The City also will look to secure funding and set a timeline for completion of an Americans with Disabilities Act (ADA) Title II Self-Assessment and Transition Plan. The Federal Highway Administration (FHWA) and the Department of Justice (DOJ) have emphasized the importance of compliance with ADA Title II compliance over the last few years. The City will complete many of the needed ADA improvements as part of the roadway and or non-motorized improvement projects. However, there are segments of substandard sidewalks and curb ramps within the City that would not be included in planned roadway projects. A Transition Plan is required for

establishing policies and priorities and identifying programs to address any deficiencies in a comprehensive manner.

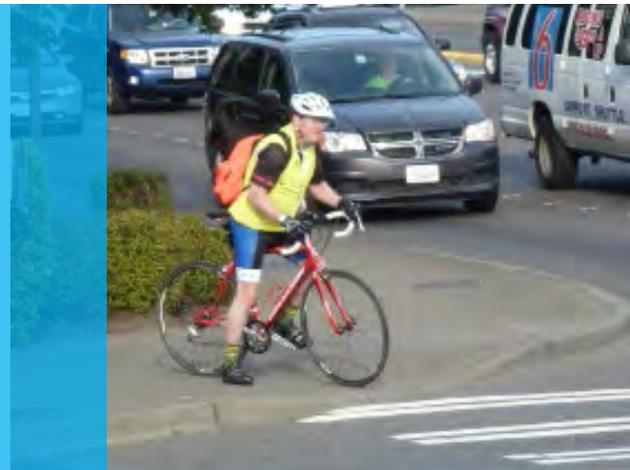
#### 4.2.2 Bicycle System Plan

Figure 4-4 shows the planned bicycle system plan for SeaTac. The bicycle system plan, when completed, will provide a comprehensive network of attractive bicycle facilities between the City's residential neighborhoods, the transit system, employment areas, schools, and parks. The bicycle facilities will include multiuse trails, bike lanes, and sharrows on lower volume roadways. Specific improvements for each corridor are identified; however, project level planning and engineering studies are still required to determine feasibility on a project by project basis.

As shown on Figure 4-4, bicycle facilities would be along most key arterials, excluding International Boulevard due to high volume of cars and trucks. Key east-west bicycle proposed projects include S 188th Street from 28th Avenue S to Military Road S and S 200th Street from Des Moines Memorial Drive S to Military Road S. Key north-south bicycle projects include Military Road S throughout the City (minus the already completed section in the middle of the City) and 40th Avenue S/42nd Avenue S between S 166th and S 188th Streets.



EXAMPLE OF "SHARROWS" ON A CITY STREET



BICYCLIST IN SEATAC



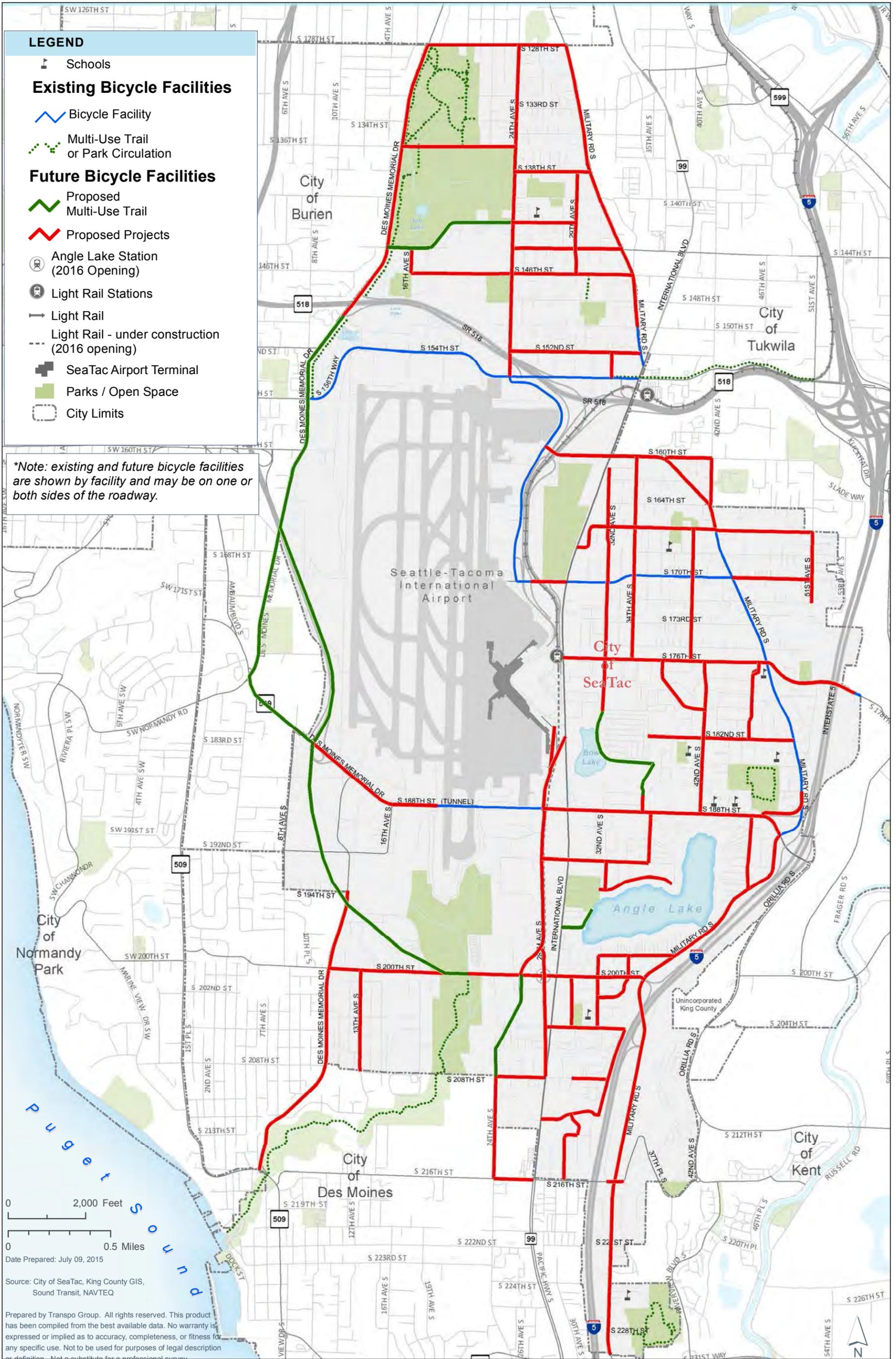


Figure 4-4: Bicycle Network



### 4.3 Transit and Transportation Demand Management

In order to provide a comprehensive transportation system, the City of SeaTac recognizes the importance of transit and transportation demand management (TDM) programs. In general these programs build on regional programs, as discussed below.

#### 4.3.1 Future Transit Services

Transit service in SeaTac is provided by both King County Metro and Sound Transit. In December 2014, Sound Transit adopted an update of its Regional Transit Long Range Plan. The Plan provides a framework to guide the expansion of Sound Transit's service delivery through 2040. Sound Transit is also developing a Sound Transit 3 ballot measure for a possible vote in 2016 to help fund mass transit investments identified in the Plan.

Sound Transit's South 200th Link Extension project is expected to be complete in late 2016. This will provide additional light rail service to the City as well as a new parking garage for commuters. The extension to the University of Washington is also anticipated to be complete in 2016, creating a more robust light rail system.

King County is in the process of updating its Long Range Plan. The Plan is in its first stages of gathering public input and is not expected to be finalized until 2016. King County Metro has some service improvements planned in 2015 and 2016 improve schedule reliability on existing transit routes, including routes that serve the City of SeaTac. Routes serving SeaTac that are listed for these improvements are Routes 124, 128, 132, 166, and 180.

The City will continue to work with both King County and Sound Transit to improve transit services and develop a convenient, integrated and efficient transit system that supports future growth. In particular the City supports improving local east-west bus transit connections to the Urban Center, light rail stations, and connections with the Bus Rapid Transit (BRT) lines serving the City. Improved connections to the higher capacity, more frequent express services and to the Urban Center will help reduce the need for use of cars for local area travel.

In addition, the City will work with King County Metro to expand operating hours for bus service in the City. Extended service hours would better support the regional investment in Link light rail by allowing residents and employees in the City and surrounding communities to choose later evening and night service. At the community open houses, it was noted that the lack of local bus services that connect with Link light rail reduces the use due to longer walks to/from Link light rail and the associated safety concerns and inclement weather.

#### 4.3.2 Transportation Demand Management (TDM) Program

In addition to improving the transit system, expansion of existing TDM programs are recommended to reduce the overall amount of travel by single-occupancy vehicles within the City. TDM programs are coordinated with regional agencies such as King County, Sound Transit and PSRC. The City's Commute Trip Reduction (CTR) Program will guide TDM strategies for larger employers.

### Reduction (CTR) program

(see Chapter 11.30 of the Municipal Code). The plan establishes goals consistent with the state legislation (RCW 70.94.521) and focuses on major employers located in the City. Strategies focus on transit incentives, ridesharing services, parking management and work scheduling.

- **Transit Incentives.** Employers can provide free or reduced-rate transit passes to all employees.
- **Ridesharing.** Employers can develop and maintain a database of home addresses to facilitate carpool and vanpool matching between employees working on the same site. Employers can also provide financial incentives or reserved parking spaces for carpool and vanpool vehicles.
- **Flexible Work Schedules.** Flexible work hour schedules allow employees to adjust start/end times to accommodate carpools, vanpools, or transit options. Alternative work schedules can also be used to reduce the number of days an employee commutes during peak travel periods. These programs help reduce the need for adding capacity to highways and arterials, and reduce the levels of peak hour congestion.
- **Telecommuting.** The use of telecommunications technology can allow some employees to work from home, reducing the need for travel to and from a work site for some work days.



## 4.4 Multi-modal Transportation Improvement Projects and Programs

The TMP identifies an extensive array of multi-modal transportation system improvement projects and programs. The improvement projects and programs address the safety, connectivity, capacity, and operations needs to enhance the various travel modes in the City.

The programs and projects are organized into four groups:

- Other Agency Multi-modal Transportation Projects;
- Transportation Programs;
- Arterial and Collector Multi-modal Transportation Improvement Projects;
- Additional Non-motorized Transportation Improvement Projects.

The list of projects and programs includes the TMP project ID, which is also shown on the associated figures, as applicable. The project ID carries over from the TMP to the TIP and CIP as projects move into implementation.

In addition to the street name, limits and description, the tables list the City of SeaTac's estimated cost for implementation, exclusive of costs to be covered by other agencies such as WSDOT, the Port, Sound Transit, or other cities. Therefore, there are no City cost shares shown for the Other Agency Multi-modal Transportation projects. Costs for the City Transportation Programs are primarily based on historical data, with some refinements as discussed below and in Chapter 5.

The planning level cost estimates for the Arterial and Collector Multi-modal Transportation Improvement Projects were developed based on typical unit costs for different types of improvements. Costs for the Additional Non-motorized transportation Improvement projects were based on a generalized cost based on typical cross-sections and project components, such as bike lanes, sidewalks, sharrows, and signing. The planning level cost estimates account for potential right-of-way acquisition, at a generalized level. All costs are reported in 2014 dollars. The cost estimates will be refined as projects move into design and construction.

The project lists also were assigned a relative timing of short (2015-2020), mid (2021-2026), long (2027-2035), or Beyond 2035. The assigned relative timing blends the priority of the project; the relationship to other projects (such as the extension of SR 509); the time needed to fund, design, and construct improvements; and the evaluation of available funding (see Chapter 5 for a discussion of transportation revenue forecasts). The project timing listed in the TMP one concept based on a snapshot as of 2015 conditions. It takes into account direction from the City Council, Planning Commission, public comments, as well as the technical analyses. The project priorities, available funding, and other factors will be reviewed as part of the City's annual development and adoption of the Six-Year Transportation Improvement Program (TIP). The TMP ranking is intended to provide a framework for those discussions and decisions.

The TE goals and policies that the project is based on, or supports, are also included in the project lists. In addition, the City Council goals and PSRC Vision 2040 Transportation goals that the project or program addresses is included. The goals will assist the City in decisions related to the TIP and also can support pursuit of grants or other funding.

### 4.4.1 Other Agency Multi-modal Transportation Improvement Projects

As discussed in Chapter 3, the City of SeaTac's transportation system is highly tied to state highway, Port of Seattle, and regional transit projects that the City does not control. The City supports these projects, which are summarized in Table 4-2 and shown in Figure 4-5. Key projects, by agency, include:

#### WSDOT

- Extension of the SR 509 freeway between S 188th Street and I-5. The freeway extension project includes several local streets and non-motorized improvements to reduce the potential impacts on SeaTac neighborhoods.
- Construction of Express Toll Lanes and High Occupancy Vehicle (HOV) lanes connecting I-5 and SR 509, and along I-5.
- Modifications at interchanges of SR 518 at International Boulevard and at Des Moines Memorial Drive S.

Table 4-2: Other Agency Multi-modal Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
Other Agency							
MP-013	South Access Expressway	Airport Drive to SR 509 Extension	Construct limited access roadway to connect the south end of Sea-Tac Airport to the new SR 509 extension.	Long	Port of Seattle	Goal 4.1, 4.2, 4.7, 4.9, Policy 4.1A, 4.2E, 4.7A, 4.9A, 4.9B	PSRC MPP-G-1, T-1, 9, 14, 17, 18, 26, 27, 30, 31
MP-025	S 204th St Sidewalk Project	30th Ave S to 32nd Ave S	Constructed by Sound Transit for the S 200th St Link Extension. Approximately 800 lineal feet of new sidewalk on the south side of S 204th St from 30th Ave S to approximately 100 feet east of 32nd Ave S. Improvements include sidewalk, curb, gutter, and storm drainage, driveway reconstruction, crosswalks, and Americans with Disabilities Act (ADA) compliant curb ramps.	Short	Sound Transit	Goal 4.1, 4.2, 4.4, 4.5, 4.9, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.5A, 4.5F, 4.9A, 4.9B, 4.9C	Council Goal 1, 5 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 21, 22, 23, 24, 25 "
MP-025, ST-004	S 200th St Link Extension	SeaTac/Airport Station to S 200th St	<p>Construct 1.6 mile elevated guideway and new Angle Lake Station with a 700 parking stall garage, 400 surface parking stalls, and bus access.</p> <p>This will include widening of S 200th St between International Blvd and 28th/24th Ave S. The existing five lane urban arterial will be widened in the areas of S 200th St outside the SR 509 improvements with curb, gutter, sidewalk, bicycle lanes, associated intersection improvements, consolidation of driveways, and possible underground of overhead utility improvements. Also includes sidewalks along 28th Ave S (east of the alignment).</p> <p>Interim non-motorized improvements of a bicycle climbing lane on south side and five foot wide pedestrian walkway on north side also included along S 200th St between 28th/24th Ave S and Des Moines Creek Park Trail.</p>	Short	Sound Transit	Goal 4.1, 4.2, 4.4, 4.5, 4.9, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.5A, 4.5F, 4.9A, 4.9B, 4.9C	Council Goal 1, 5 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 21, 23, 24
MP-043.1	SR 509 Extension Phase 1	Des Moines Memorial Dr S to I-5	Construct new, full access control freeway, with tolls, to connect the existing SR 509 freeway terminus with 28th/24th Ave S and I-5. Phase 1 includes one lane each way, with truck climbing lanes, between S 188th St and 28th/24th Ave S. Two lanes each way are planned between 28th/24th Ave S and I-5.	Mid	WSDOT	Goal 4.1, 4.2, 4.9, Policy 4.1A, 4.2C, 4.2D, 4.2F, 4.2M, 4.9B	Council Goal 6 PSRC MPP-G-1, T-1, 9, 14, 17, 18, 26
MP-043.2	SR 509 Extension Phase 2	Des Moines Memorial Dr S to I-5	"Widen Phase 1 freeway to four lanes between S 188th St and 28th/24th Ave S. Complete interchange at S 200th St. Provide direct access connection to Sea-Tac Airport."	Mid	WSDOT	Goal 4.1, 4.2, 4.7, 4.9, Policy 4.1A, 4.2C, 4.2D, 4.2F, 4.2M, 4.9B	Council Goal 6 PSRC MPP-G-1, T-1, 9, 14, 17, 18, 26
MP-064	I-5 Express Toll Lanes	Pierce County Line to I-405	Convert the existing High Occupancy Volume (HOV) lanes to High Occupancy Toll (HOT) lanes and develop second HOT lane using roadway shoulders.	Mid	WSDOT	Goal 4.1, 4.2, 4.9, Policy 4.1A, 4.2G, 4.2I, 4.9B	PSRC MPP-G-1, T-1, 9, 14, 17, 18, 26, 32



Table 4-2 continued: Other Agency Multi-modal Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
MP-066.1	24th Ave S	S 208th St to S 216th St	Second phase of the Des Moines Gateway Project. Widen to provide additional travel lanes, bicycle lanes, curb, gutter, and sidewalks.	Completed 2014	Des Moines	Goal 4.1, 4.4, 4.9, Policy 4.1A, 4.4A, 4.4D, 4.4G, 4.5D, 4.9B	PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24
MP-066.2	S 216th St	24th Ave S to International Blvd	Third and final phase of the Des Moines Gateway Project. Widen roadway to a five lane urban arterial and provide a continuous center turn lane, bicycle lanes, transit stops, curb and gutter, landscaping, and sidewalks.	Short	Des Moines	Goal 4.1, 4.4, 4.9, Policy 4.1A, 4.4A, 4.4D, 4.4G, 4.5D, 4.9B	PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24
MP-067	SR 518/ Des Moines Memorial Dr S Interchange Eastbound Off Ramp	SR 518 & Des Moines Memorial Dr S	Burien is currently designing this first phase of improvements to the SR 518/Des Moines Memorial Dr Interchange. This phase includes construction of an off ramp from eastbound SR 518 to Des Moines Memorial Dr. Upgrade of multi-jurisdictional Lake To Sound separated trail should be included.	Long	WSDOT (Burien)	Goal 4.1, 4.2, 4.4, 4.9, Policy 4.1A, 4.2H, 4.4A, 4.4B, 4.4C, 4.4D, 4.4E, 4.4G, 4.9B	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26
MP-068	SR 518/ Des Moines Memorial Dr Interchange Westbound On Ramp	SR 518 & Des Moines Memorial Dr S	This project is the second phase of improvements to the SR 518/Des Moines Memorial Dr Interchange. This phase includes construction of an on ramp from Des Moines Memorial Dr to westbound SR 518. Upgrade of multi-jurisdictional Lake To Sound separated trail should be included.	Long	WSDOT (Burien)	Goal 4.1, 4.2, 4.4, 4.9, Policy 4.1A, 4.2H, 4.4A, 4.4B, 4.4C, 4.4D, 4.4E, 4.4G, 4.9B	PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26
MP-069	Federal Way Transit Extension	S 200th St to Federal Way	Sound Transit is evaluating alternatives to extend light rail from the future Angle Lake light rail station on S 200th St in SeaTac to the Federal Way Transit Center, a distance of about 7.6 miles. The current schedule includes a draft Environmental Impact Statement (EIS) and conceptual engineering by late 2014, and final EIS and preliminary engineering from early 2015 to mid 2016.	Mid	Sound Transit	Goal 4.1, 4.5, 4.9, Policy 4.1A, 4.5A, 4.5D, 4.5F, 4.9B, 4.9C	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 21, 23, 24, 26
MP-070	S 170th St Roundabout	S 170th St at Doug Fox Car Rental/ New Cell Phone Waiting Lot Driveways	The Port of Seattle is planning to construct a roundabout at the intersection of S 170th St and the driveways to the New Cell Phone Waiting Lot and the Doug Fox Rental Car Facility.	Short	Port of Seattle	Goal 4.1, 4.2, 4.7, 4.9, Policy 4.1A, 4.7A, 4.9A, 4.9B	PSRC MPP-G-1, T-1, 9, 14, 26, 30
MP-071	South Link/ 28th Ave S	Terminal Dr/ Parking Garage to S 188th St	Construct new arterial connecting Sea-Tac Airport to S 188th St. Restrict southbound left turns at 28th Ave S/S 188th St to minimize eastbound queues; put signage up directing traffic to S 192nd St. Construct sidewalks on both sides of the roadways. May also include pedestrian improvements at S 188th St (extended pedestrian crossing time or no eastbound right turn on red). Includes shared bicycle facilities.	Short	Port of Seattle	Goal 4.1, 4.2, 4.4, 4.7, 4.9, Policy 4.1A, 4.2D, 4.4A, 4.4C, 4.4D, 4.4E, 4.4F, 4.4G, 4.7A, 4.9A, 4.9B	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 17, 18, 23, 24, 26, 30, 31
ST-033.1	SR 518 Off Ramp Adjustment	S 154th St & 32nd Ave S	Relocate the existing SR 518 westbound off ramp to align with 32nd Ave S (as part of 154th Station Area Plan).	Mid	WSDOT	Goal 4.1, 4.2, 4.9, Policy 4.1A, 4.2H, 4.9B	Council Goal 4 PSRC MPP-G-1, T-1, 9, 14, 21, 26
ST-033.2	SR 518 Off Ramp Construction	S 154th St & International Blvd	Construct new SR 518 westbound off ramp to connect with south leg of S 154th St/International Blvd intersection for northbound and eastbound movements.	Mid	WSDOT	Goal 4.1, 4.2, 4.9, Policy 4.1A, 4.2H, 4.9B	Council Goal 4 PSRC MPP-G-1, T-1, 9, 14, 21, 26



Table 4-2 continued: Other Agency Multi-modal Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-050	Des Moines Memorial Dr S	SeaTac City Limit to S Normandy Park Rd	Reconstruct and widen roadway to 36 feet to provide for drainage, bicycle, and pedestrian facilities.	Mid	Des Moines	Goal 4.1, 4.2, 4.4, 4.9, Policy 4.1A, 4.2K, 4.4A, 4.4D, 4.4G, 4.5D, 4.9B;	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26
ST-052	Des Moines Memorial Dr S	S 208th St to Marine View Dr	Reconstruct and widen roadway to 36 feet to include storm drainage, bicycle lanes, landscaping, street lighting, channelization, paving, modification to overhead utility lines, curb, gutter, and sidewalks (one side).	Long	Des Moines	Goal 4.1, 4.2, 4.4, 4.9, Policy 4.1A, 4.2K, 4.4A, 4.4D, 4.4G, 4.5D, 4.9B	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26
ST-056	Military Rd & S 200th St/I-5 Southbound Ramps	Intersection	Widen I-5 southbound off ramp to provide for a left turn lane. Reconstruct west leg to provide left, thru, and right turn lanes. Modify signal to facilitate lane changes. Remove free right turn on north leg.	Short	Sound Transit	Goal 4.1, 4.2, 4.9, Policy 4.1A, 4.2I, 4.9B	PSRC MPP-G-1, T-1, 9, 14, 26
ST-132	S 208th St	International Blvd east to SR 509 & SR 509 to 34th Ave S	In conjunction with the extension of SR 509, terminate roadway either side of SR 509. Widen roadway to principal arterial standards including construction of sidewalks on both sides on eastern portion and west cul-de-sac. Includes sharrows on eastern portion only.	Mid	WSDOT	Goal 4.1, 4.2, 4.3, 4.4, 4.9, Policy 4.1A, 4.2C, 4.2F, 4.2N, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.9B	Council Goal 1, 6 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24
ST-133	34th Ave S	S 204th St to S 211th St	In conjunction with the SR 509 extension, construct new 28 foot wide roadway with sidewalk on one side and sharrows.	Mid	WSDOT	Goal 4.1, 4.2, 4.3, 4.4, 4.9, Policy 4.1A, 4.2C, 4.2F, 4.2N, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G, 4.9B;	Council Goal 1, 6 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24
ST-134	S 204th St	32nd Ave S to 34th Ave S	In conjunction with the SR 509 extension, widen roadway to 28 feet. Construct sidewalks on both sides. Shared roadway for bicycles.	Mid	WSDOT	Goal 4.1, 4.2, 4.3, 4.4, 4.9, Policy 4.1A, 4.2C, 4.2F, 4.2N, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.9B	Council Goal 1, 6 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24
ST-848	Lake to Sound Trail	Des Moines Memorial Dr S from S 156th St to S 188th St/ S Normandy Park Rd	This portion of the multi-jurisdictional Lake to Sound Trail projects is located in SeaTac. A bicycle and pedestrian trail would be extended south from S 156th St along Des Moines Memorial Dr to S 188th St/ S Normandy Park Rd. The improvements are being designed by King County. The Lake to Sound Trail would provided a trail connection from Lake Washington to Puget Sound.	Committed	King County	Goal 4.1, 4.4, 4.9, Policy 4.1A, 4.4A, 4.4B, 4.4D, 4.4E, 4.4G, 4.9B	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24
ST-849	Lake to Sound Trail	Des Moines Memorial Dr S from S 188th St/S Normandy Park Rd to 8th Ave S	This portion of the multi-jurisdictional Lake to Sound Trail projects is located in Burien. A bicycle/pedestrian trail would be extended south of SR 509 along Des Moines Memorial Dr S to 8th Ave S. The improvements are being designed by King County. The Lake to Sound Trail would provided a trail connection from Lake Washington to Puget Sound.	Mid	King County	Goal 4.1, 4.4, 4.9, Policy 4.1A, 4.4A, 4.4B, 4.4D, 4.4E, 4.4G, 4.9B	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24

1. 2014 planning level cost estimates  
 2. Relative Timing categories are as follows: Committed & Short (2015-2020), Mid (2021-2027), Long (2028-2035), Beyond 2035 (2036+)  
 3. WSDOT = Washington State Department of Transportation

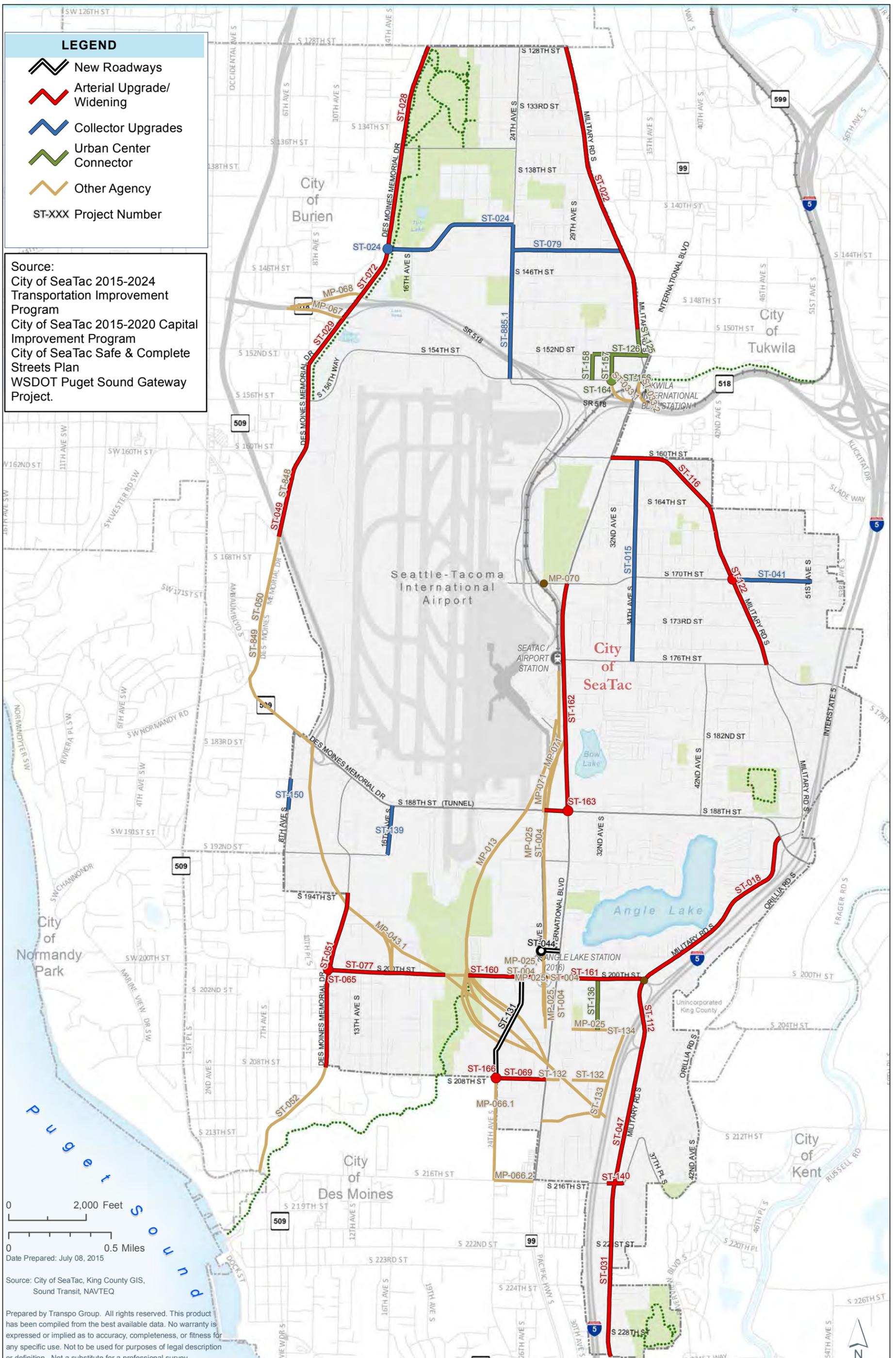


Figure 4-5: Arterial & Collector Multi-modal Transportation Improvement Projects



### **Port of Seattle**

- Construction of the Port's South Link connection between Airport Terminal and S 188th Street/28th Avenue S intersection and closure of the terminal access at S 182nd Street/International Boulevard.
- Construction of the South Airport Expressway (SAE) to connect the Airport terminal with the SR 509 extension with grade-separations at S 188th and S 200th Streets.

### **Sound Transit**

- Extension of Link light rail from the SeaTac/ Airport station to S 200th Street (Angle Lake Station) including a new parking garage. Also includes local area roadway and non-motorized improvements in SeaTac.
- Extension of Link light rail from Angle Lake Station to Des Moines and other locations south of SeaTac, including adequate parking at those stations.

### **King County**

- Construction of the Lake-to-Sound Trail along Des Moines Memorial Drive as part of regional trail system.
  - > S 156th Street to S 188th Street.
  - > S 188th Street to 8th Avenue S.

### **City of Des Moines**

- Widened 24th Avenue S between S 208th and S 216th Streets to complete 28th/24th Avenue S multi-modal arterial corridor (completed 2014).

- Widen S 216th Street between 24th Avenue S and International Boulevard as an extension of 28th/24th Avenue S corridor from Sea-Tac Airport.
- Reconstruct segments of Des Moines Memorial Drive S to match City of SeaTac's planned improvements to improve safety and operations.

### **City of Burien (with WSDOT)**

- New SR 518 interchange ramps to/from the west at Des Moines Memorial Drive S.

### **4.4.2 City of SeaTac Transportation Programs**

The City of SeaTac has developed a range of programs for maintaining and operating its transportation system. These programs cover a wide range of activities as summarized in Table 4-3.

#### **Construction Management, Overlays, Maintenance, Operations and Administration**

The City has several programs to systematically implement ongoing preservation, maintenance, operations and administration of the transportation system. These ongoing activities include:

- Street overlays;
- Street cleaning;
- Maintenance of traffic signals, signs, markings, and illumination;
- Administration of funding, grants, and day-to-day transportation issues;

- Spot safety improvements for all modes;
- Bicycle and Pedestrian way finding;
- Freight signs;
- Neighborhood parking issues;
- Construction management;
- Other miscellaneous transportation activities.

### **Commute Trip Reduction**

The transportation programs also focus on administration of the City's CTR program. The CTR program, as previously discussed under the Transportation Demand Management section of this Chapter, requires staff time to review and monitor the trip reduction programs of major employers. In addition, City staff coordinates with state and regional agencies in developing and refining CTR and TDM programs to reduce the use of single occupant vehicles.

### **Intelligent Transportation Systems**

The Intelligent Transportation Systems (ITS) program is shown as a standalone item in Table 4-3. ITS is a broad array of applications to improve the efficiency of the transportation system through enhanced information and use of technology. The focus of the ITS program for the City of SeaTac relates to the operations of traffic signals along key arterial corridors. Implementation of an advanced traffic management system (ATMS) would allow the City to improve the coordination and specific issues such as back-ups and traffic diversions relating to an event or a collision, while providing capabilities to make timely adjustments to signal timing remotely. An ITS program also



could include Closed Circuit Television (CCTV) cameras to enhance situational awareness of the traffic conditions and variable message signs to direct traffic to alternate routes. ITS also has the capability to provide the City with additional data about its transportation system which will assist it in design of capital projects or refinement of other operational processes. Especially with the mainstream use of mobile communication technology and software applications, the available traffic data sources and data analytics provided by ITS offers a wide variety of benefits towards understanding traffic characteristics that will help the City of SeaTac plan for future needs.

A first step in implementing ITS for the City of SeaTac would be the preparation of the ITS architecture plan and systems engineering document. In addition to ensuring conformance with the National ITS Architecture for ITS implementation, the architecture plan and systems engineering document will establish the objectives, priorities and implementation phases for the system. It will include an evaluation of options to connect with the WSDOT, Port of Seattle, or King County and other agency ITS systems.

It is recommended that the systems engineering plan be prepared over the next few years. In order to successfully implement an ATMS and other related systems, the City will need to define communication system needs, such as fiber optic connections, IT interfaces, and networking infrastructure, which typically amount to one of the highest costs for ITS deployments. The communication systems needs can then be implemented as part of other transportation

improvement projects implemented by the City, State, Port or transit agencies.

### **Pedestrian Crossing Program**

In response to public input and discussions with the Planning Commission and City Council, the TMP includes a separate pedestrian crossing program. These types of activities were previously included in the broader operations and administration programs. The pedestrian crossing program is intended to provide a systematic approach for defining locations and priorities for implementing crosswalk enhancements including enhanced signing for better visibility, pedestrian actuated crossing treatments, refuge medians, etc. A systematic, repeatable approach should be applied to each pedestrian crossing to insure the most appropriate treatment is applied.



ITS TRAFFIC CAMERA

Key criteria for crosswalk enhancements include:

- Pedestrian Demand;
- Vehicular Volumes and Speeds;
- Pedestrian Delay;
- Roadway Geometrics i.e., sight distance, crossing distance, lane configurations, etc.;
- Pedestrian Routing i.e., attractions/generators, available routes.

### **Additional Non-Motorized Transportation Improvement Program**

This program is used to implement non-motorized transportation projects that are not part of a roadway improvement project. Most of these are located on local neighborhood streets; however, some are located along arterials and collectors to fill-in or upgrade existing non-motorized facilities. These projects and how they were assembled are discussed further in section 4.4.4 of the TMP.



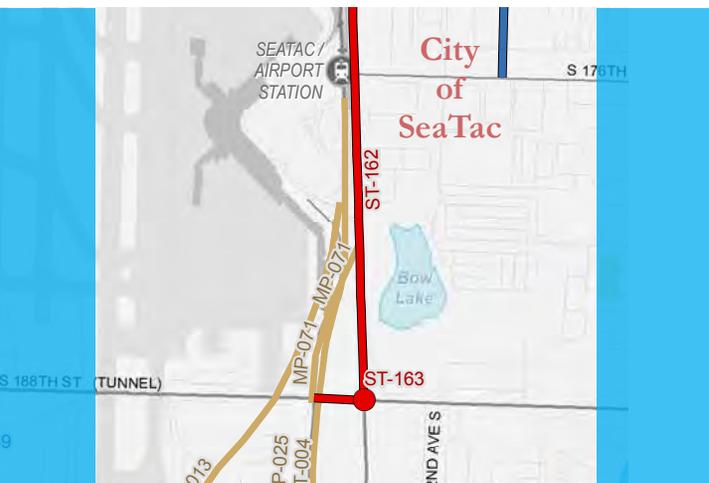
RECTANGULAR RAPID FLASHING BEACON (RRFB)



Table 4-3: Transportation Program Summary

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
MP-033	Commute Trip Reduction Program Annual Element	Citywide	Provide for review, approval, and monitoring of the Commute Trip Reduction (CTR) programs for major employers within the City including the implementation of the City's CTR program. Cost included in ST-885 (Maintenance, Operations, and Administration).	–	Short	SeaTac	Goal 4.1, Policy 4.1A, 4.1B	Council Goal 1 PSRC MPP-G-1, T-1, 3, 5, 9, 14, 23, 24
ST-833	Neighborhood Multi-Modal Transportation Improvement Program	Various locations throughout City	Annual projects to implement the Safe and Complete Streets Plan to construct pedestrian and bicycle facilities on non-arterial streets. The projects will be drawn from the Neighborhood Multi-Modal Transportation Improvement Projects table and figure.	\$140,565,000	Short	SeaTac	Goal 4.1, 4.3, 4.4 Policy 4.1A, 4.3A, 4.4A, 4.4B, 4.4C, 4.4D, 4.4E, 4.4F, 4.4G, 4.4H, 4.4I	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-834	Pedestrian Crossing Program	Citywide	Develop criteria for installation of rectangular rapid flashing beacons at pedestrian crossings and install at highest priority locations.	\$1,050,000	Short	SeaTac	Goal 4.1, 4.4 Policy 4.1A, 4.4A, 4.4C, 4.4F	Council Goal 1 PSRC MPP-G-1, T-1, 4, 14, 15, 16, 23, 24
ST-885	Maintenance, Operations, and Administration	Citywide	Address maintenance needs, including, but not limited to, the repair, rehabilitation, or replacement of roadways, walkways, trails, and other facilities maintained by the City. Also addresses spot safety programs and includes signing/wayfinding for auto, freight, and non-motorized modes as well as speed control, markups, signing, illumination, and other related items.	\$87,620,000	Short	SeaTac	Goal 4.1, 4.2, 4.3, Policy 4.1A, 4.2M, 4.2O, 4.2R, 4.2S, 4.2T, 4.2U	Council Goal 1, 3 PSRC MPP-G-1, T-1, 2, 14, 15, 16, 17, 18, 26
ST-886	Construction Management and Street Overlays Program	Citywide	Maintain and preserve the integrity of the City's existing roadway surfaces through a combination of repair to major pavement failures, crack sealing of existing pavements to extend their usable life, and overlay pavements that are structurally declining. Oversee and manage transportation construction activities.	\$45,070,000	Short	SeaTac	Goal 4.1, Policy 4.1A, 4.2S	Council Goal 1 PSRC MPP-G-1, T-1, 2, 14
ST-887	Intelligent Transportation Systems (ITS) Program	Citywide	Implement Intelligent Transportation Systems Program to improve signal coordination and management, transit signal priority, roadway monitoring and response, ITS device management, and data collection. System could include communications equipment, traffic signal equipment, video surveillance and monitoring, video detection, or a satellite traffic management center.	\$5,000,000	-	SeaTac	Goal 4.1, 4.2, Policy 4.1A, 4.2T	PSRC MPP-G-1, T-1, 3, 14





SAFETY PROGRAM ALONG INTERNATIONAL BOULEVARD



ADVANCED SIGNAL DESIGN

### 4.4.3 Arterial and Collector Multi-modal Transportation Improvement Projects

This section of the improvement projects and programs addressed safety, non-motorized, operations, connectivity and capacity needs. The projects are categorized as follows, as shown in Table 4-4 and on Figure 4-5.

- New Roadways
- Arterial Upgrades/Widening
- Collector Upgrades
- Urban Center Connectors

#### **New Roadways**

The TMP and TE call for constructing two new roadways. These include the extension of the 28th/24th Avenue S principal arterial between S 200th and S 208th Streets. This project is funded and is in design. It includes two lanes

in each direction plus additional turn lanes at intersections. The design accommodates the future intersections for the interchange ramps with the SR 509 freeway extension. The designs also include a separated multi-use trail that will connect with a planned facility in the City of Des Moines.

The other new roadway is located north of S 200th Street between 28th/24th Avenue S and International Boulevard. It will provide for additional circulation, connectivity, and access near the Angle Lake light rail station to support increased development in this part of the City's designated Urban Center.

#### **Arterial Upgrade/Widening**

This category makes up the bulk of the arterial and collector improvement projects. The bulk of these projects include widening and reconstructing the older King County rural designs into multi-modal urban streets. The

City has started this conversion to urban streets, as illustrated with the recent improvements to Military Road between S 166th and S 176th Streets. These projects are very expensive due to drainage, right-of-way, and lack of pedestrian or bicycle facilities.

Key corridors included for reconstruction and widening in the TMP include:

- Military Road
- Des Moines Memorial Drive
- S 200th Street east of 28th/24th Avenue S
- S 208th Street west of International Boulevard

The arterial upgrade projects also include implementing safety improvements along International Boulevard between S 170th and S 188th Streets, and on S 188th Street between 28th Avenue S to east of International Boulevard. As discussed in Chapter 2, there have been numerous collisions in these areas including several collisions including pedestrians or bicyclists. A more detailed study of the issues and options would be conducted to define the improvements that would be implemented. The study would include working with businesses and users of the corridor and other stakeholders to help inform the final selection of improvements. Possible options include addition of advance traffic signals to reduce rear-end collisions. Other solutions would focus on providing safe crossing opportunities and positive guidance for pedestrians crossing International Boulevard. Other possible options include changing signal timing and operations related to the U-Turn movements at the intersections or relocating the bus stops.



Table 4-4: Arterial and Collector Multi-modal Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
<b>New Roadways</b>								
ST-044	S 198th St	International Blvd to 28th/24th Ave S	Construct a new three lane roadway with sidewalks to provide an additional access point to the Aviation Business Center. Includes a roundabout at the intersection with 28th Ave S.	\$3,420,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.2P, 4.4A, 4.4E	PSRC MPP-G-1, T-1, 14, 26
ST-131	28th/24th Ave S Extension	S 200th St to S 208th St	Construct a five lane principal arterial roadway including curb, gutter, bicycle and pedestrian facilities, storm drainage, street lighting, channelization, landscaping, and utility extensions. This project will provide a connection between Des Moines' 24th Ave S improvements at S 208th St and the existing 26th Ave S at S 200th St. This project completes the gap in the overall 28th/24th Ave S corridor which extends from S 188th St and 28th Ave S to S 216th St and 24th Ave S. Project also includes forward compatible structures to accommodate future extension of SR 509 freeway underneath 28th/24th Ave S without disruption.	\$1,836,000	Committed	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.4A, 4.4C, 4.4E, 4.4G	Council Goal 1, 5 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 17, 18, 21, 23, 24, 26
<b>Arterial Upgrade/Widening</b>								
ST-018	Military Rd S	S 188th St to I-5 south of S 200th St	Reconstruct and widen to provide for drainage, bicycle lanes and pedestrian facilities, upgrade existing signals, channelization, street lighting, continuous left turn lane, and underground overhead utilities.	\$15,860,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24, 26
ST-022	Military Rd S	S 128th St to S 150th St	Reconstruct and widen to provide for drainage, bicycle lanes, and pedestrian facilities. Construct left turn lanes at high volume intersections.	\$22,480,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1, 4 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24, 26
ST-028	Des Moines Memorial Dr S	S 128th St to S 136th St	Reconstruct and widen road to include storm drainage, bicycle lanes, landscaping, street lighting, channelization, signal modification, paving, and modify the overhead utility lines. Install curb, gutter, and sidewalks (one side).	\$5,500,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26



Table 4-4 continued: Arterial and Collector Multi-modal Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-029	Des Moines Memorial Dr S	SR 518 to S 156th St	Reconstruct and widen road to include storm drainage, bicycle lanes, landscaping, street lighting, channelization, signal modification, paving, and modify the overhead utility lines. Install curb, gutter, and sidewalks (one side). This project is part of the Lake To Sound Trail.	\$5,280,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26
ST-031	Military Road S	South City Limits to S 216th St	Reconstruct and widen to provide for drainage, bicycle lanes and pedestrian facilities, upgrade existing signals, channelization, street lighting, and underground overhead utilities. Construct left turn lanes as necessary.	\$10,860,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24, 26
ST-047	Military Road S	S 208th St to S 216th St	Reconstruct and widen to provide for drainage, bicycle lanes and pedestrian facilities, upgrade existing signals, channelization, street lighting, and underground overhead utilities. Construct left turn lanes as necessary.	\$6,880,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24, 26
ST-049	Des Moines Memorial Dr S	S 156th St to SeaTac City Limits/SR 509	Reconstruct and widen road to include storm drainage, bicycle lanes, landscaping, street lighting, channelization, signal modification, paving, and modify the overhead utility lines. Install curb, gutter, and sidewalks (one side). This project connects to the Lake To Sound Trail.	\$7,230,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4B, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26
ST-051	Des Moines Memorial Dr S	S 194th St to S 208th St	Reconstruct and widen road to include storm drainage, bicycle lanes, landscaping, street lighting, channelization, signal modification, paving, and modify the overhead utility lines. Install curb, gutter, and sidewalks (one side).	\$7,800,000	Long	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26
ST-065	Des Moines Memorial Dr S & S 200th St	Intersection	Widen to provide left turn lanes on all legs, and right turn lane on east leg. Upgrade traffic signal and channelization improvements. The improvements would be done in partnership with Des Moines.	\$200,000	Mid	SeaTac	Goal 4.1, 4.2, Policy 4.1A, 4.2R	PSRC MPP-G-1, T-1, 9, 14, 26
ST-069	S 208th St	International Blvd to 28th/24th Ave S	Reconstruct roadway to urban principal arterial with pedestrian and separated bicycle facilities.	\$4,530,000	Mid	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 17, 18, 23, 24, 26

Arterial Upgrade/Widening



Prepared by Transpo Group • July 2015

City of SeaTac Transportation Master Plan

Table 4-4 continued: Arterial and Collector Multi-modal Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-072	Des Moines Memorial Dr S	S 136th St to SR 518	Reconstruct and widen road to include storm drainage, bicycle lanes, landscaping, street lighting, channelization, signal modification, paving, and modify the overhead utility lines. Install curb, gutter, and sidewalks (one side).	\$8,840,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4B, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 23, 24, 26
ST-077	S 200th St	Des Moines Creek Park Trail to Des Moines Memorial Dr S	Widen to principal arterial standards, including curb, gutter, and pedestrian and separated bicycle facilities, associated intersection improvements, consolidation of driveways, and possible underground of overhead utility improvements. Facility will be three lanes except between Des Moines Creek Park trailhead and 14th Ave S where there will be two lanes.	\$20,510,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1, 5 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 17, 18, 26
ST-112	Military Road S	S 200th St to S 208th St	Reconstruct and widen to provide for drainage, bicycle lanes and pedestrian facilities, upgrade existing signals, channelization, street lighting, and underground overhead utilities. Construct left turn lanes as necessary.	\$15,920,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24, 26
ST-116	Military Rd S & S 160th St	International Blvd to S 166th St	Reconstruct and widen to provide for drainage, bicycle lanes and pedestrian facilities, upgrade existing signals, channelization, street lighting, continuous left turn lane, and underground overhead utilities. Reconfigure the section between 24th Ave S and Military Rd S from four lanes to three lanes with a two way left turn lane, bicycle lanes, and a sidewalk on the north side.	\$14,870,000	Mid	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24, 26
ST-122	Military Rd S	S 176th St to S 166th St	Reconstruct roadway to include a continuous center turn lane, curb, gutter, sidewalk, bicycle lanes, storm drainage, landscaping, street lighting, traffic signal at S 170th St, channelization, paving, and undergrounding aerial utility lines.	\$1,700,000	Completed 2015	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.1B, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24, 26
ST-140	S 216th St	I-5 to 35th Ave S	Reconstruct roadway, install drainage, curb, gutter, sharrows, and sidewalks, and underground utility lines.	\$2,110,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24, 26

Arterial Upgrade/Widening



Prepared by Transpo Group • July 2015

City of SeaTac Transportation Master Plan

Table 4-4 continued: Arterial and Collector Multi-modal Transportation Improvement Projects

	TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
Arterial Upgrade/Widening	ST-160	S 200th St	28th/24th Ave S to Des Moines Creek Park Trail	Widen roadway to three lanes, including drainage, curb, gutter, sidewalks, and bicycle lanes.	\$4,250,000	Long	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 17, 18, 23, 24, 26
	ST-161	S 200th St	International Blvd to Military Rd S	Reconfigure existing roadway to include one lane each direction, a two way left turn lane, and bicycle lanes.	\$240,000	Long	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4D, 4.4E, 4.4G	Council Goal 1, 5 PSRC MPP-G-1, T-1, 14, 15, 16, 17, 18, 21, 23, 24, 26
	ST-162	International Blvd	S 170th St to S 188th St	Corridor study to evaluate safety improvements for collision reduction. Possible improvements assumed in cost estimates include four near-side traffic signals and improvements to discourage illegal pedestrian crossings.	\$500,000	Short	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2R, 4.4A, 4.4C, 4.4F	Council Goal 1 MPP-G-1, T-1, 4, 14
	ST-163	International Blvd	S 188th St to approximately 700 feet south of S 188th St	Extend northbound right turn lane when southwest corner properties redevelop.	\$540,000	Mid	SeaTac	Goal 4.1, 4.2, Policy 4.1A, 4.2B, 4.2R	Council Goal 2 PSRC MPP-G-1, T-1, 14, 26
	ST-166	24th Ave S & S 208th St	Intersection	Install traffic signal at new 24th Ave S intersection. This project is in conjunction with the 28th/24th Ave S extension project and would be done in partnership with Des Moines.	\$125,000	Short	SeaTac	Goal 4.1, 4.2, 4.9, Policy 4.1A, 4.9B	Council Goal 5 PSRC MPP-G-1, T-1, 9, 14, 17, 18, 26
<b>Collector Upgrades</b>									
Collector Upgrades	ST-015	34th Ave S	S 160th St to S 176th St	Reconstruct roadway to collector arterial standards. Construct drainage, curb, gutter, shared bicycle facilities, and sidewalks. Install traffic calming measures. Consider underground utility lines.	\$10,120,000	Short	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 4, 14, 15, 16, 23, 24, 26
	ST-024	S 142nd/ S 144th St	Des Moines Memorial Dr S to 24th Ave S	Improve existing arterial to serve planned north end development. Provide sidewalks and non-motorized path. Modify traffic signal at S 144th St/Des Moines Memorial Dr.	\$10,740,000	Long	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 2, 14, 15, 16, 17, 18, 23, 24, 26



Table 4-4 continued: Arterial and Collector Multi-modal Transportation Improvement Projects

	TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
Collector Upgrades	ST-041	S 170th St	Military Rd S to 51st Ave S	Reconstruct roadway to collector arterial standards. Improvements include curb, gutter, sidewalk, shared bicycle facilities, storm drainage, landscaping, street lighting, channelization, paving, and undergrounding of utility lines.	\$3,510,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24
	ST-079	S 144th St	24th Ave S to Military Rd S	Reconstruct roadway to collector arterial standards. Improvements include curb, gutter, sidewalk, bicycle lanes, storm drainage, landscaping, street lighting, channelization, paving, and undergrounding of utility lines.	\$8,030,000	Long	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 23, 24
	ST-139	16th Ave S	S 188th St to S 192nd St	Reconstruct roadway, install drainage, curb, gutter, and sidewalks and underground utility lines.	\$1,680,000	Beyond 2035	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4D, 4.4E	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 17, 18, 23, 24
	ST-150	8th Ave S	S 186th St to S 188th St	Reconstruct roadway, install drainage, curb, gutter, and sidewalks on east side only. Underground utility lines.	\$1,350,000	Long	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4D, 4.4E	Council Goal 1 PSRC MPP-G-1, T-1, 14, 15, 16, 17, 18, 23, 24
	ST-885	24th Ave S	S 142nd St to S 154th St	Grind and overlay the existing pavement on 24th Ave S from S 142nd St to S 154th St. Replace portions of the existing storm drain within the alignment where pipe is beyond its service life. Work will include partial replacement of the existing sidewalks and curb and gutter. The existing ramps will be upgraded to current Americans with Disabilities Act (ADA) standards.	\$1,180,000	Complete Summer 2015	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4D, 4.4E	Council Goal 1 PSRC MPP-G-1, T-1, 2, 14, 15, 16, 17, 18, 23, 24, 25
<b>Urban Center Connector</b>									
Urban Center Connector	ST-125	Military Rd S & S 152nd St	Military Rd S from S 150th St to S 152nd St; and S 152nd St from Military Rd S to International Blvd.	Widen existing roadway, construct sidewalks, pavement overlay, street lighting, undergrounding of aerial utilities, landscaping, and storm drainage. Provide access and circulation improvements. Construct right turn lane on S 152nd St from Military Rd to International Blvd. These improvements support redevelopment of the S 154th St Station Area and facilities potential Military Rd closure between S 152nd St and International Blvd.	\$4,080,000	Short	SeaTac	Goal 4.1, 4.2, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.2R, 4.4A, 4.4D, 4.4E	Council Goal 1, 4 PSRC MPP-G-1, T-1, 14, 15, 16, 21, 23, 24, 26
	ST-126	S 152nd St	30th Ave S to Military Rd S	Widen existing roadway and construct sidewalks, bicycle lanes, street lighting, and storm drainage. Provide access and circulation improvements for vehicle and pedestrian movements in support of redevelopment.	\$5,400,000	Short	SeaTac	Goal 4.1, 4.2, 4.3, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1, 4 PSRC MPP-G-1, T-1, 14, 15, 16, 21, 23, 24, 26

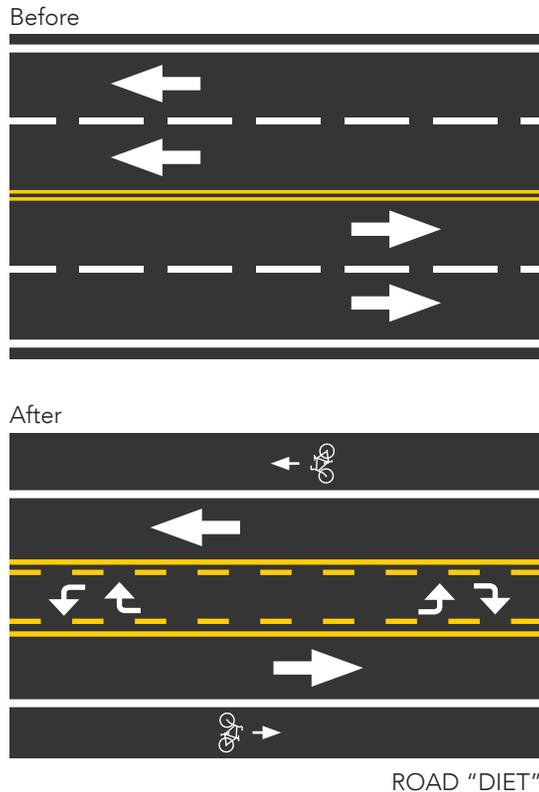


Table 4-4 continued: Arterial and Collector Multi-modal Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-136	32nd Ave S	S 200th St to S 204th St	This is a City project in conjunction with the extension of SR 509. Install sidewalks, a shared bicycle facility, and neighborhood traffic calming measures.	\$1,200,000	Mid	WSDOT	Goal 4.1, 4.2, 4.3, 4.4, Policy 4.1A, 4.2J, 4.2P, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goals 1, 6 PSRC MPP-G-1, T-1, 4, 9, 14, 15, 16, 21, 23, 24, 26
ST-148	S 154th St Transit Station Area Improvements	Area generally bounded by S 152nd St, SR 518, 30th Ave S, and International Blvd	Developers to work with City to construct new streets as envisioned in the S 154th Street Station Area Plan. Improve and create pedestrian connections. Includes closure of Military Rd between S 152nd St and S 154th St.	\$7,500,000	Mid	SeaTac	Goal 4.1, 4.2, 4.3, 4.4, Policy 4.1A, 4.2J, 4.2H, 4.2P, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goals 1, 4 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 21, 23, 24, 26
ST-156	S 154th St Pedestrian Grade Separation	Link to Tukwila International Blvd Station	Plan, design, and construct a grade-separated pedestrian crossing to directly link the S 154th St Station Area with the Tukwila Blvd Station.	\$10,200,000	Beyond 2035	SeaTac	Goal 4.1, 4.4 Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.5F	Council Goals 1, 4 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 21, 23, 24
ST-157	32nd Ave S Improvements	S 152nd St to S 154th St	Reconstruct and widen roadway; install curb, gutter, storm drainage, bicycle lanes, and sidewalk improvements.	\$2,290,000	Short	SeaTac	Goal 4.1, 4.2, 4.3, 4.4, Policy 4.1A, 4.2J, 4.2H, 4.2P, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goals 1, 4 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 21, 23, 24, 26
ST-158	30th Ave S Improvements	S 152nd St to S 154th St	Reconstruct and widen roadway; install curb, gutter, storm drainage and sidewalk improvements.	\$1,740,000	Long	SeaTac	Goal 4.1, 4.2, 4.3, 4.4, Policy 4.1A, 4.2J, 4.2H, 4.2P, 4.3A, 4.4A, 4.4D, 4.4E	Council Goals 1, 4 PSRC MPP-G-1, T-1, 9, 14, 15, 16, 21, 23, 24, 26
ST-164	S 154th St	32nd Ave S and SR 518 Westbound Off Ramp	Install traffic signal at new 32nd Ave S intersection. This is consistent with the S 154th St Station Area Plan.	\$910,000	Short	SeaTac	Goal 4.1, 4.2 Policy 4.1A, 4.2H	Council Goals 4 PSRC MPP-G-1, T-1, 9, 14, 21, 26

1. 2014 planning level cost estimates  
 2. Relative Timing categories are as follows: Committed & Short (2015-2020), Mid (2021-2027), Long (2028-2035), Beyond 2035 (2036+)





ROAD "DIET"

The TMP also includes a future project to convert S 200th Street from east of International Boulevard to west of Military Road from four lanes to three lanes. With the future extension of SR 509 freeway to I-5, the S 200th Street connection to I-5 will carry lower volumes of traffic. This conversion will better serve left-turn improvements by providing a center two-way left-turn lane. In addition, the lane reduction would provide for on-street bicycle lanes, consistent

with the S&CSP. As with all of the improvement projects, the potential conversion will go through a project design study and incorporate public input.

### Collector Upgrades

Upgrades to several collector arterials are also included in the TMP project list. These corridors are typically shorter than the arterial upgrades. In the north part of the City, upgrades to the collector arterials are identified for S 142nd/ S 144th Streets and 24th Avenue S. S 142nd/ S 144th Streets west of 24th Avenue S is a truck route and lacks complete pedestrian and bicycle facilities. S 144th Street between 24th Ave S and Military Road S is a key east-west route for pedestrians and bicyclists, but needs to be reconstructed to better meet those uses.

In the central part of SeaTac, east of the airport, the TMP includes projects to upgrade sections of 34th Avenue S and S 170th Street. 34th Avenue S is a key north-south collector serving this residential area. Providing an upgraded collector route between S 160th and S 170th Streets will further promote the City's objectives related to the use of alternative travel modes, active lifestyles, and improve safety.

In the south part of the City, the collector upgrades cover short segments of 8th and 16th Avenues S. The 8th Avenue S segment serves a school and 16th Avenue S would connect with other pedestrian facilities to further complete the system.

### Urban Center Connectors

Most of the projects in this category were defined as part of the S 154th Street Station Area Plan. The projects include upgrading and/or reconstructing existing roadways and intersections to support redevelopment of the area to take advantage of the proximity to the Link light rail station on the east side of International Boulevard. The improvements would include sidewalks, bicycle facilities, and improved roadways to make the area more walkable to support higher densities and access to Link light rail.

They also include two new local streets (between 32nd Avenue S and International Boulevard, and between S. 154th Street and S. 152nd Street) to break up this large site to improve circulation and access, and improve the pedestrian environment. These streets would only be built as part of a major redevelopment of that site.

In the south part of the City, the Urban Center connection projects include upgrading 32nd Avenue S between S 200th and S 204th Streets. Improvements to this corridor will help complete connections to/from the Angle Lake Link light rail station and improve non-motorized connectivity in this neighborhood east of International Boulevard. Additional non-motorized improvements are also included in this area, as presented in the next section.

#### 4.4.4 Additional Non-motorized Transportation Improvement Projects

The City's S&CSP also identified pedestrian and bicycle routes on other arterials and on local neighborhood streets. Many of these routes require additional improvements to complete safer pedestrian and bicycle routes. As part of the TMP, additional improvement projects were identified based on the S&CSP and existing conditions. This process will assist in setting priorities and programming the improvements either through the City's Non-motorized Transportation Improvement Program, Maintenance and Operations Program, or as part of a transportation capital improvements project.

Figure 4-6 shows the location of these additional non-motorized projects. Table 4-5 provides an overview of each project. As previously discussed, the pedestrian and bicycle system plans focus on improving safety, connectivity, and enhancing access to transit. The bicycle projects range in scale from simply signing and marking shared-use bikeways to constructing new separated bike paths along existing roadways. Pedestrian Improvements include upgrading existing pedestrian facilities to constructing new sidewalks on both sides of the street. The goals and priorities for these projects will vary over time, but are based on the goals from the S&CSP, as discussed in section 4.2 of the TMP.



PROMOTING SAFE ROUTES TO SCHOOL



BICYCLE AND PEDESTRIAN LANES



BICYCLE LOCKERS AT LIGHT RAIL STATION

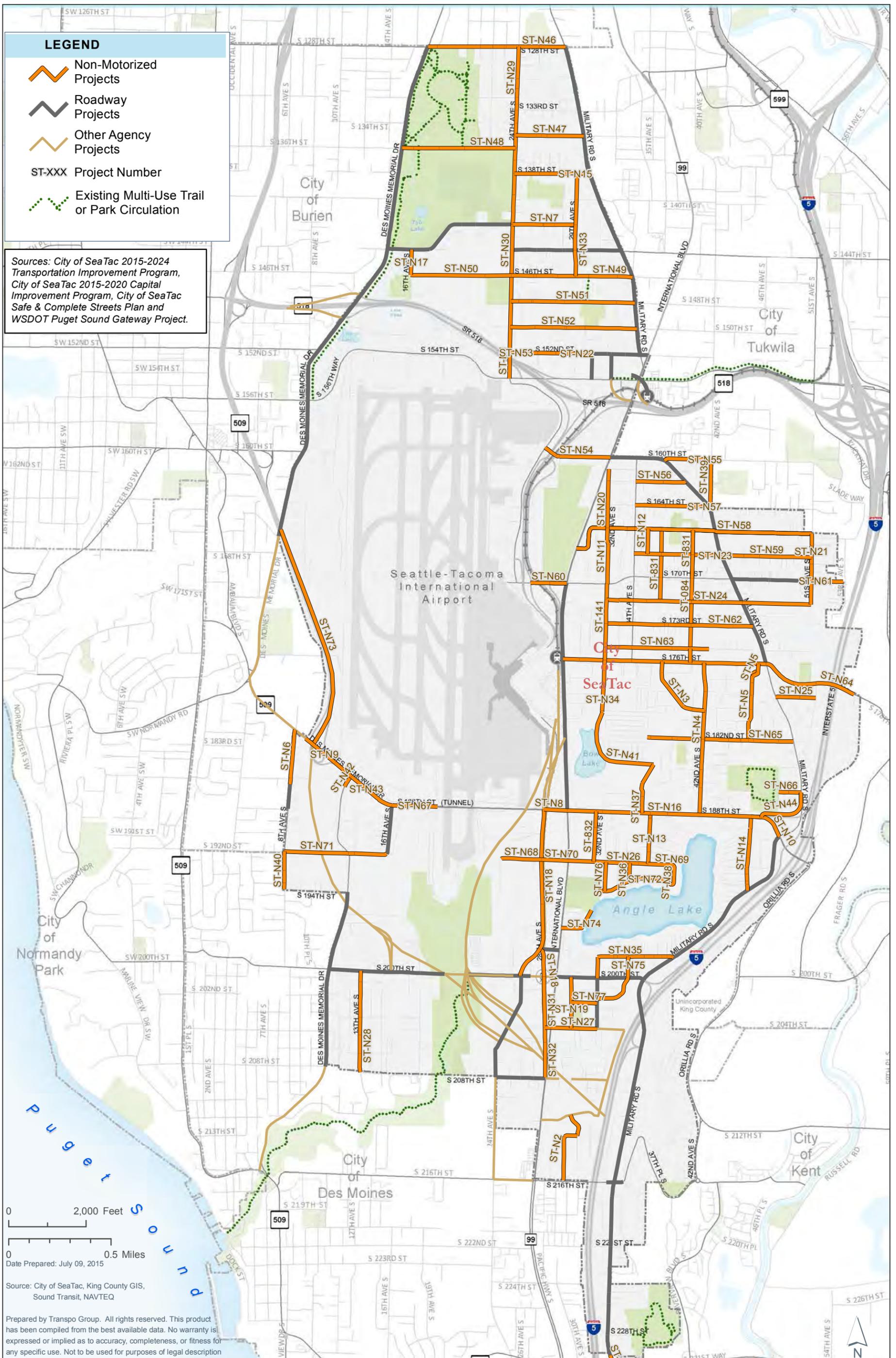


Figure 4-6: Additional Non-motorized Transportation Improvement Projects



Table 4-5: Additional Non-motorized Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-831	37th Ave S	S 166th St to S 172nd St	Construct new sidewalk on both sides of the street, with curb, gutter, storm drainage, retaining walls, and fencing.	\$803,000	Committed	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-831	40th Ave S	S 166th St to S 170th St	Construct new sidewalk on both sides of the street, with curb, gutter, storm drainage, retaining walls, and fencing.	\$803,000	Committed	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-832	32nd Ave S	S 188th St to S 192nd St	Construct new pedestrian facility.	\$1,168,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N1	24th Ave S	S 152nd St to S 154th St	Construct new pedestrian facility and new bicycle lane.	\$901,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N10	S 188th St	Military Rd S to 46th Ave S	Improve existing pedestrian facility.	\$476,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N14	46th Ave S	S 188th St to Military Rd S	Construct new pedestrian facility and new shared bikeway.	\$1,718,000	Short-Mid	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N2	30th Ave S / 31st Ave S	S 211th St to S 216th St	Construct new shared bikeway.	\$53,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N3	38th Ave S / S 179th St	S 176th St to 42nd Ave S	Construct new shared bikeway.	\$49,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N4	42nd Ave S	S 176th St to S 188th St	Construct new shared bikeway.	\$101,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N6	8th Ave S	Des Moines Memorial Dr S to S 187th Ln	Improve existing pedestrian facility.	\$677,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N7	S 142nd St	24th Ave S to 29th Ave S	Construct new shared bikeway.	\$42,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24



Table 4-5 continued: Additional Non-motorized Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-N8	S 188th St	28th Ave S to International Blvd	Construct new shared bikeway.	\$15,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1, 5 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N9	S 188th St	Existing SR 509 Ramps to Des Moines Memorial Dr S	Construct new shared bikeway.	\$32,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-084	40th Ave S	S 170th St to S 176th St	Reconstruct roadway to provide for drainage and pedestrian facilities. Improvements could include curb, gutter, sidewalk, shared bicycle facilities, storm drainage, landscaping, street lighting, channelization, paving, signalizations, and undergrounding of utility lines.	\$4,020,000	Short	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N11	32nd Ave S	S 166th St to S 170th St	Construct new pedestrian facility and undefined separated bicycle facility until dead end of 32nd Ave S. Construct new shared-use path from dead end to S 170th St.	\$1,959,000	Short-Mid	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N12	35th Ave S	S 166th St to S 168th St	Improve existing pedestrian facility.	\$307,000	Short-Mid	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N13	37th Ave S	S 188th St to S 192nd St	Construct new shared bikeway.	\$34,000	Short-Mid	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N15	S 138th St	24th Ave S to Military Rd S	Construct new shared bikeway.	\$50,000	Short-Mid	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N5	46th Ave S	S 176th St to S 182nd St	Construct new shared bikeway.	\$59,000	Short-Mid	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-141	32nd Ave S	S 170th St to S 176th St	Reconstruct roadway, construct drainage, curb, gutter, sharrows, and sidewalks.	\$1,771,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N16	S 188th St	International Blvd to Military Rd S	Construct new separated bikeway.	\$5,304,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1, 5 MPP-G-1, T-1, 14, 15, 16, 23, 24



Table 4-5 continued: Additional Non-motorized Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-N25	S 179th St	Military Rd S to 51st Ave S	Improve existing pedestrian facility.	\$494,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N35	32nd Ave S/ S 198th St	S 200th St to Military Rd S	Construct new pedestrian facility and shared bikeway	\$2,243,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N72	S 194th St	Angle Lake Park to 33rd Ave S	Construct new pedestrian facility and new shared bikeway.	\$1,789,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N74	Angle Lake Park	Southeast corner of park to International Blvd	Construct new shared use path.	\$1,294,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N75	S 202nd St /35th Ave S	32nd Ave S to S 198th St	Construct new pedestrian facility and new shared bikeway.	\$1,498,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N76	33rd Ave S	S 192nd St to S 194th St/Angle Lake Park	Construct new pedestrian facility and new shared bikeway.	\$665,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N77	S 202nd St	30th Ave S to 32nd Ave S	Construct new pedestrian facility.	\$593,000	Mid-Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24
ST-N17	16th Ave S	S 144th St to S 146th St	Construct new separated bikeway and new pedestrian facility.	\$876,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N18	28th Ave S	S 188th St to S 200th St	Construct new shared bikeway.	\$135,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1, 5 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24
ST-N19	30th Ave S	S 200th St to S 204th St	Improve existing pedestrian facility and construct new separated bikeway on north half and new shared bikeway on southern half.	\$1,519,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24
ST-N20	32nd Ave S	S 161st St/ International Blvd to S 166th St	Construct new shared bikeway.	\$39,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N21	51st Ave S	S 166th St to S 172nd St	Construct new shared bikeway from S 160th St to S 170th St and new pedestrian facility.	\$1,641,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N22	S 152nd St	29th Ln S to 30th Ave S	Construct new pedestrian facility.	\$349,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24
ST-N23	S 168th St	34th Ave S to Military Rd S	Improve existing pedestrian facility.	\$1,080,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24



Table 4-5 continued: Additional Non-motorized Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-N24	S 172nd St	32nd Ave S to 51st Ave S	Construct new pedestrian facility.	\$4,732,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N26	S 192nd St	International Blvd to 37th Ave S	Improve existing pedestrian facility from International Blvd to 32nd Ave S and construct new shared bikeway.	\$995,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N27	S 204th St	28th Ave S to 32nd Ave S	Construct new shared bikeway and improved pedestrian facility from 30th Ave S to 32nd Ave S.	\$645,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24
ST-N28	13th Ave S	S 200th St to S 208th St	Construct new shared bikeway.	\$67,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N29	24th Ave S	S 128th St to S 136th St	Construct new separated bikeway.	\$2,309,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N30	24th Ave S	S 136th St to S 152nd St	Construct new bicycle lane.	\$4,638,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N31	28th Ave S	S 200th St to S 204th St	Construct new shared bikeway.	\$44,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1, 5 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24
ST-N32	28th Ave S	S 205th St to S 208th St	Construct new separated bikeway.	\$793,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1, 5 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N33	29th Ave S	S 138th St to S 146th St	Construct new shared bikeway and new pedestrian facility between S 144th St and S 146th St.	\$2,376,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N34	32nd Ave S	S 176th St to S 180th PI	Construct new separated bikeway and improved intermittent pedestrian facility.	\$1,564,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N36	35th Ave S	S 192nd St to S 194th St	Construct new pedestrian facility.	\$424,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N37	36th Ave S	38th Ave S to S 188th St	Construct new separated bikeway.	\$375,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N38	39th Ave S	S 192nd St to S 194th St	Construct new pedestrian facility.	\$472,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24

Table 4-5 continued: Additional Non-motorized Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-N39	42nd Ave S	S 160th St to Military Rd	Construct new separated bikeway and improved pedestrian facility.	\$1,417,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N40	8th Ave S	S 192nd St to S 194th St	Improve existing pedestrian facility.	\$466,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N41	Bow Lake Mobile Home Trail	32nd Ave S to 36th Ave S	Construct new shared use path.	\$4,225,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G, 4.4H	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N42	Des Moines Memorial Dr S	S 188th St to 12th Ave S	Improve existing pedestrian facility.	\$152,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N43	Des Moines Memorial Dr S	West City Limits to 16th Ave S	Construct new separated bikeway and new pedestrian facility (NB 509 on ramp to 16th Ave S).	\$2,120,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N44	Military Rd S/ S 187th PI	Military Rd. S/ S 186th St to 46th Ave S/ S 188th St	Construct bicycle facility along Military Rd S south of S 186th St and construct new separated multi-use trail from Military Rd S to S 187th PI to connect to 46th Ave S/S 188th St.	\$2,323,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N45	Military Rd S	South City Limits to Veterans Dr/ S 228th St	Improve existing pedestrian facility.	\$347,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N46	S 128th St	Des Moines Memorial Dr S to Military Rd S	Construct new separated bikeway.	\$3,109,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N47	S 135th St	24th Ave S to Military Rd S	Construct new pedestrian facility.	\$1,572,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N48	S 136th St	Des Moines Memorial Dr S to 24th Ave S	Construct new bicycle lane.	\$2,564,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N49	S 146th St	24th Ave S to Military Rd S	Construct new separated bikeway and new pedestrian facility.	\$4,195,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N50	S 146th St	16th Ave S to 24th Ave S	Construct new separated bikeway and improved pedestrian facility from 16th Ave S to west boundary of water tower field.	\$3,001,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24



Table 4-5 continued: Additional Non-motorized Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-N51	S 148th St	24th Ave S to Military Rd S	Improve existing pedestrian facility.	\$1,531,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N52	S 150th St	24th Ave S to Military Rd S	Construct new pedestrian facility.	\$2,932,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24
ST-N53	S 152nd St	24th Ave S to 30th Ave S	Construct new separated bikeway.	\$1,861,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 21, 23, 24
ST-N54	S 160th St	Air Cargo Rd to 42nd Ave S	Construct new separated bikeway and new pedestrian facility from Airport Expressway to International Blvd.	\$2,349,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N55	S 160th St	Military Rd S to 42nd Ave S	Construct new separated bikeway.	\$1,070,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N56	S 162nd St	34th Ave S to Military Rd S	Construct new pedestrian facility.	\$1,160,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N57	S 164th St	34th Ave S to Military Rd S	Construct new pedestrian facility.	\$1,727,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N58	S 166th St	International Blvd to 51st Ave S	New sidewalk construction, sidewalk reconstruction between 32nd and 37th. Undefined separated bikeway from International Blvd to 32nd Ave S and undefined shared bikeway from 32nd Ave S to 51st Ave S.	\$17,538,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N59	S 168th St	Military Rd S to 51st Ave S	Construct new pedestrian facility.	\$2,091,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N60	S 170th St	Airport Expressway Southbound Off Ramp to International Blvd	Construct new separated bikeway.	\$1,195,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N61	S 170th St	51st Ave S to 53rd Ave S	Improve existing pedestrian facility.	\$395,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N62	S 173rd St	32nd Ave S to Military Rd S	Construct new pedestrian facility.	\$3,406,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24



Table 4-5 continued: Additional Non-motorized Transportation Improvement Projects

TMP ID	PROJECT NAME	PROJECT LIMITS	PROJECT DESCRIPTION	SEATAC COST (2014\$) <sup>1</sup>	RELATIVE TIMING	LEAD AGENCY <sup>3</sup>	TE GOALS & POLICIES	COUNCIL & PSRC GOALS
ST-N63	S 175th St	32nd Ave S to 42nd Ln S	Improve existing pedestrian facility.	\$1,280,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N64	S 176th St	International Blvd to East City Limits	Construct new separated bikeway.	\$6,809,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N65	S 182nd St	36th Pl S to Military Rd S	Construct new separated bicycle facility 42nd Ave S to Military Rd S and improved pedestrian facility.	\$4,359,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N66	S 186th St	48th Ave S to Military Rd S	Improve existing pedestrian facility. Alternative would be S 184th St to connect to north end of Valley Ridge Park.	\$275,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N67	S 188th St	16th Ave S to West End of Tunnel	Construct new separated bikeway and new pedestrian facility.	\$1,582,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4C, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N68	S 192nd St	24th Ave S to 28th Ave S	Improve existing pedestrian facility.	\$500,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N69	S 192nd St	37th Ave S to 39th Ave S	Construct new pedestrian facility.	\$594,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N70	S 192nd St	28th Ave S to International Blvd	Construct new separated bikeway.	\$602,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N71	S 192nd St	8th Ave S to Des Moines Memorial Dr S	Improve existing pedestrian facility.	\$1,269,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.3A, 4.4A, 4.4C, 4.4D, 4.4E	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24
ST-N73	SR 509	Des Moines Memorial Dr S to Des Moines Memorial Dr S/ S 188th St	Construct new shared use path.	\$7,233,000	Long	SeaTac	Goal 4.1, 4.4, Policy 4.1A, 4.4A, 4.4D, 4.4E, 4.4G	Council Goal 1 MPP-G-1, T-1, 14, 15, 16, 23, 24





# 5 FUNDING AND IMPLEMENTATION STRATEGIES



# CHAPTER 5: FUNDING AND IMPLEMENTATION STRATEGIES

The multi-modal improvement projects and programs provide the blueprint for the transportation system to meet existing and future travel demands in and around the City of SeaTac.

Like most communities, the costs of the desired transportation system improvements and programs will greatly exceed the current revenues. The financing program presented in this section is intended to provide a framework for decisions on which projects and programs are funded and when they may be able to be built. A summary of the estimated costs of the transportation projects and program is presented and compared to estimated revenues for implementing the projects and programs. The financing program also includes a discussion of options for additional funding to help implement the projects and programs over the life of the plan.

## 5.1 Project and Program Costs

Table 5-1 summarizes the costs of the recommended transportation improvement projects and programs. These cover maintenance and operations, and capital projects. The costs are summarized for the short-range (2015-2020), mid-range (2020-2026), long-range (2027-2035), and beyond 2035 relative time periods presented in Tables 4-2, 4-3, 4-4, and 4-5. The cost summary includes only project and program costs that would be under the jurisdiction of the City of SeaTac. The project and program costs are presented in constant 2014 dollars.

## 5.1.1 Program Costs

As discussed in Chapter 4, the annual transportation programs address a variety of transportation needs. These include preservation, maintenance, operations, and administration. Annual costs for these programs reflect historical data extrapolated to 2035 (in 2014 dollars). In addition, funding for the preservation program was increased to \$875,000 per year (2014 dollars) which is approximately double the historical funding rate. This level of funding is based on the range evaluated in the City of SeaTac, WA 2013 Pavement Management Analyses Report (IMS Infrastructure Management Services, 2013). The 2013 Pavement Management Analyses Report recommended funding increase to \$920,000 per year in order to maintain a pavement rating of 73



24TH AVENUE S RECONSTRUCTION PROJECT



Table 5-1: Transportation Program and Project Costs (2015-2035) – (1,000's of 2014 \$)

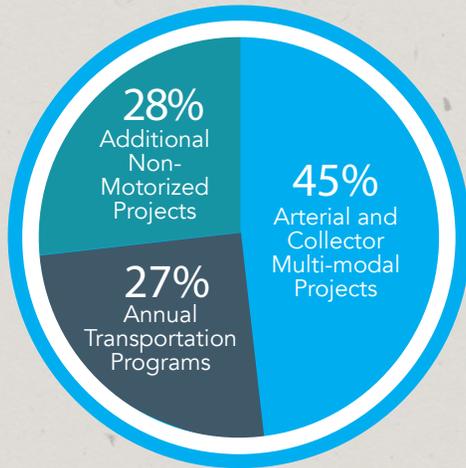
	SHORT-RANGE COSTS <sup>1</sup> (2015-2020)	MID-RANGE COSTS <sup>1</sup> (2021-2026)	LONG-RANGE COSTS <sup>1</sup> (2027-2035)	BEYOND 2035 COSTS <sup>1</sup> (2035 +)	TOTAL COSTS <sup>1</sup> (2015-2035)
Annual Transportation Programs	\$31,570	\$37,410	\$69,760	-	\$138,740
Arterial and Collector Multi-modal Projects <sup>2</sup>	\$31,561	\$28,840	\$34,150	\$136,860	\$231,411
Additional Non-Motorized Projects	\$6,000	\$6,000	\$9,000	\$119,565	\$140,565
<b>Total</b>	<b>\$69,131</b>	<b>\$72,250</b>	<b>\$112,910</b>	<b>\$256,425</b>	<b>\$510,716</b>

Sources: City of SeaTac, Transpo Group

1. All costs in \$1,000s of 2014 dollars

2. Allocation for timing assumes approximately \$1 million per year allocated to other non-motorized improvement projects based on historical and current funding outlook. The City can choose to shift funds from other projects/programs or raise more transportation revenues to increase the implementation of these projects that are largely based on the Safe and Complete Streets Plan and Station Area plans.

### Transportation Program and Project Costs



**Total \$501,836,000  
(2014 \$)**

or better. The \$875,000 assumption presented in the TMP funding analyses would generally meet that objective. The increase in funding more than doubles the City's historical expenditures for street overlays. Funding for overlays and preservation was increased by the City over the past several years.

The estimated cost for the Commute Trip Reduction Program reflects staff time based on historical and projected funding per the City's TIP and CIP. These costs are incorporated in the Maintenance, Operations, and Administration Program. Estimates of potential annual expenditures for the Intelligent Transportation System Program are based on a 2015-2035 funding level of \$5 million. This level of expenditure would cover a basic system and set the groundwork for an expanded system in the future. The Pedestrian Crossing Program assumes funding at \$50,000 per year. This level of funding would address 1 to 3 locations per year, depending on the specific scope for crossing

treatments.

Combined these programs are estimated to require over \$135 million in funding (2014 dollars) between 2015-2035. As shown in Table 5-1, all of the costs of transportation programs are within the life of the TMP and TE. These programs are a high priority for the City to address system preservation, safety, operations, and efficiency for all modes of travel. Reducing the funding for the transportation programs would likely add to costs in the future due to the need for more significant reconstruction of the existing system.

### 5.1.2 Project Costs

The transportation programs are a high priority for the City. As presented in Chapter 4, there are also significant costs associated with the identified improvements to the arterial and collector roadways (see Table 4-4). As shown in Table 5-1, these projects would require \$231 million (\$11 million per year) to be fully funded by 2035.

#### Arterial and Collector Project Costs

Approximately \$5 million of the \$231 million in costs are for the new roadway projects. This includes the remaining City cost of \$1.8 million for the extension of 28th/24th Avenue S. The other remaining cost of the 28th/24th Avenue S extension are covered by grants and other agency funding.

Upgrading and reconstructing the City's arterials and collectors would account for another \$150 to \$160 million (2014 dollars). Reconstructing roadways from the older King County rural arterial standards to meet urban traffic and multi-modal need is very expensive. Reconstruction and upgrading Military Road S and Des Moines





CONSTRUCTION ALONG S 168TH STREET

Memorial Drive S in the City accounts for a large portion of the \$150 to \$160 million costs included in this category. As an example, the City's recent reconstruction and upgrade of Military Road S between S 166th and S 176th Streets cost approximately \$10 million. This project covered a distance of approximately three-quarters of a mile.

Another \$70 million in project costs are estimated for multi-modal improvements in and around the City's Urban Center and other collector roads. These projects will improve safety, connectivity, and support the development of the Urban Center, including the Link light rail station areas. In addition these projects upgrade older County collector roadways to multi-modal urban standards.

### **Additional Non-motorized Projects**

In addition to the more significant arterial and

collector projects, the TMP has identified a comprehensive list of additional non-motorized transportation improvements. These projects were derived from the S&CSP, Station Area Plans, and analyses from the TMP. These projects are estimated to cost over \$140 million (2014 \$). This would require an average funding of over \$6.5 million per year to fully fund them by 2035.

The funding program presented in Table 5-1 allocates \$1 million per year to these projects. The City has recently been funding these types of non-motorized projects at approximately \$1.5 million per year. However, some of the core funding for that program is no longer available to be dedicated to these projects. The City estimates that less than \$400,000 per year will be available to advance these types of projects under the existing transportation funding program structure. The \$1 million per year allocation for the TMP falls approximately mid-way between these funding levels and better reflects the City's intent and policy direction. Additional options for funding these projects are discussed in section 5.2.2.

### **5.2 Revenue Projections**

Funding sources for transportation projects include various fees and tax revenues, grants, bonds, and developer contributions. The City of SeaTac funds transportation improvements through the Transportation Capital Improvement Fund, Arterial Street Fund and City Street Fund. Each of these funds tracks the City's revenues and expenditures for transportation projects and programs. Actual funding for transportation

improvement projects and programs is accomplished through the City's biennial budget process and document.

The following summarizes the estimated transportation revenues based on historical data for the City of SeaTac. It also provides insights into the levels of potential additional transportation revenues that could be generated during the TMP through changes in policies and/or new revenue sources. All of the fiscal data throughout this memorandum is provide in 2014 dollars (2014\$). The data sources and analysis are provided in the Transportation Funding Analysis, BERK, July 2015, included as part of the TMP's Supporting Materials documents.

#### **5.2.1 Forecast Revenues Under Current Policies**

Table 5-2 summarizes projected revenues for the primary sources of transportation revenue for the City of SeaTac. The revenues were spread over the 2015-2035 time horizon of the TMP for comparison with the project costs time horizons presented in Table 5-1. The City currently gets most of its revenues for funding transportation projects and programs from four primary sources:

- State and Federal grants;
- Motor vehicle fuel taxes (MVFT);
- Commercial Parking Taxes;
- GMA-based Transportation Impact Fees (TIF).

In addition, the City also uses other local funds for transportation projects and programs. These include various street-use permits, rental income, miscellaneous fees, and sale of City assets.



Table 5-2: Forecast Transportation Revenues (2015-2035) – (1,000's of 2014 \$)

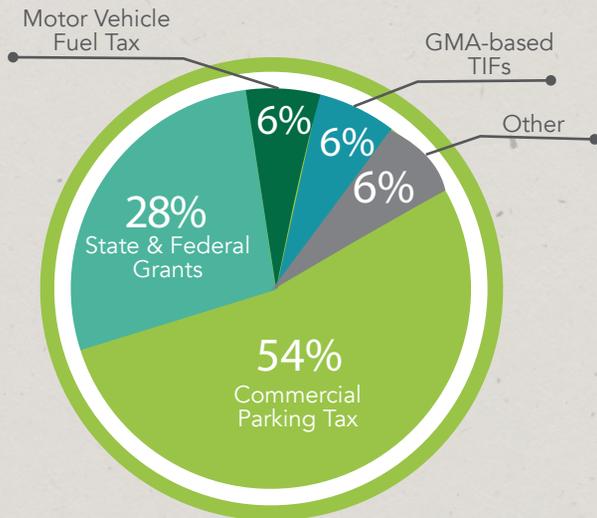
	SHORT-RANGE REVENUES <sup>1</sup> (2015-2020)	MID-RANGE REVENUES <sup>1</sup> (2021-2026)	LONG-RANGE REVENUES <sup>1</sup> (2027-2035)	TOTAL REVENUES <sup>1</sup> (2015-2035)
State and Federal Grants	\$12,400	\$14,900	\$28,100	\$55,400
Motor Vehicle Fuel Tax (MVFT)	\$3,800	\$3,470	\$4,630	\$11,900
Commercial Parking Tax	\$27,700	\$27,740	\$48,650	\$104,090
GMA-based Transportation Impact Fees <sup>2</sup>	\$3,480	\$3,480	\$5,220	\$12,180
Other Local Sources	\$2,900	\$3,450	\$5,700	\$12,050
<b>Total</b>	<b>\$50,280</b>	<b>\$53,040</b>	<b>\$92,300</b>	<b>\$195,620</b>

Sources: BERK; City of SeaTac Transportation Master Plan Transportation Funding Analysis, July 2015.

1. All revenues in \$1,000s of 2014 dollars

2. Impact fee forecast based on existing TIF rate multiplied by forecast 2015-2035 traffic growth in City, exclusive of growth at Sea-Tac International Airport.

### Projected Transportation Revenues (2015 - 2035)



**Total: \$195,620,000**  
(2014 \$)

### State and Federal Grants

The City has successfully secured grants for transportation projects. Between 2004 and 2013, the City secured over \$15 million (in 2014 dollars) in state and federal grants for transportation projects. This is an average of \$1.5 million per year in various transportation grants. The City also recently received grants for \$9.3 million for constructing 28th/24th Avenue S between S 200th and S 208th Streets in 2015 and 2016. In 2014/2015, the City also received \$3.8 million in grants for the recent improvements to Military Road S between S 166th and S 176th Streets. In 2013, the City was successful in getting almost \$3.7 million for improvements to S 154th Street west of International Boulevard.

Based on the historical and recent grants, it is projected that the City would be able to secure

\$55 million in federal and state transportation grants by 2035. This is an average of over \$2.5 million per year.

Funding through grants is tied to specific programs and types of projects. Several grant programs target transportation projects that support regional economic growth, mobility, and other travel models. Many of the projects identified in the Transportation Systems Plan support regional needs and would likely be eligible for some grant funding.

The Surface Transportation Program (STP) is one of the most flexible federal grant programs. STP funding can be used for highway and bridge projects, transit capital projects, and funding for bicycle, pedestrian, and recreational trail improvements. STP funding is one of the most flexible of the federal grant programs. They also can be used for public transportation capital improvements, car and vanpool projects, fringe and corridor parking facilities, and intercity or intracity bus terminals and bus facilities. STP funds also can be applied to surface transportation planning activities, wetland mitigation, transit research and development, and environmental analysis. STP funds also can be used for transportation control measures.

The Congestion Mitigation and Air Quality (CMAQ) program is a federally funded program administered through the Puget Sound Regional Council (PSRC). CMAQ funds projects and programs in air quality non-attainment and maintenance areas, which reduce transportation related emission. CMAQ grants cannot be used to fund general purpose roadway projects.



The Washington State Transportation Improvement Board (TIB) currently provides funding for urban areas in Washington through three grant programs:

- **Urban Arterial Program (UAP)** funds projects that address safety, growth & development, physical condition and mobility.
- **Urban Sidewalk Program (SP)** provides funding for sidewalk projects that improve safety and connectivity.
- **Arterial Preservation Program (APP)** provides assistance for roadway paving/overlays for cities/agencies with less than \$2 billion assessed valuation. The City of SeaTac exceeds the maximum assessed valuation criteria and therefore, is not eligible for this program.

The TIB projects are selected on a competitive basis. Each of the three programs has distinct criteria to rank the projects for funding. Once selected, TIB staff stays involved through grant oversight and helping bring projects to completion.

WSDOT administers various grants which fund non-motorized transportation improvements. The Safe Routes to Schools Program funds projects which are targeted at reducing collisions between vehicular and non-motorized road users and improving the accessibilities of schools to children on foot or bike. The WSDOT Pedestrian and Bicycle Program funds projects which promote healthy living through active transportation, improves non-motorized user safety, reduces vehicular travel, and has community support• Federal Grants

### **Motor Vehicle Fuel Taxes**

This tax, statutorily authorized by Chapter 82.36 RCW, funds both annual maintenance projects and, to a lesser degree, capacity enhancement projects. Revenues are used to fund administrative, construction, reconstruction, maintenance and repair costs to highways, major arterials, and city streets. There are separate allocations for city streets and highways. WSDOT allocates a small portion of MVFT funds to cities and counties through an allocation formula. The City is forecast to receive an average of \$550,000 per year in fuel taxes under the current state allocation formulas (2014 \$).

### **Commercial Parking Tax**

The City of SeaTac levies a special local option transportation tax of \$0.90 per short-term commercial parking transaction and \$3.00

per long-term commercial parking transaction within city limits. This tax applies to commercial, municipal, State of Washington and other governmental entities with parking operations. The tax is collected by parking service operators and remitted to the City each month. Those flat rates (\$3.00 for long term parking transactions and \$0.90 for short term parking transactions) have not been increased since 2010.

Following the events of September 11, 2001, air travel declined resulting in a short-term slowdown in parking tax revenues, which was extended as new airport security rules prevented people from picking travelers up at the gate, diverting people who might have parked to the airport pick-up lanes. After that period, from 2006 to 2010, commercial parking tax revenues increased due to increases to the parking tax rates. Since then, SeaTac's flat rates for this tax have not increased.



THE CITY IS FORECAST TO RECEIVE AN AVERAGE OF \$550,000 PER YEAR IN FUEL TAXES

THE CITY CURRENTLY RECEIVES \$3.00 PER LONG-TERM COMMERCIAL PARKING TRANSACTION WITHIN CITY LIMITS.



Because the rate is not increased on a regular schedule, nor indexed to inflation, the revenues from this approach are eroding annually based on the declining value of the dollar.

From 2010 to 2012, commercial parking tax revenues were fairly flat as erosion of the transaction rates negated any increases in parking transactions. Parking revenues increased by 6% in 2013 and 7.5% in 2014, which denotes an even more significant increase in parking transactions because of the opposite effect of the erosion of the value of the transaction rate happening at the same time.

For projection purposes, commercial parking tax revenues are based on the projected enplanements anticipated by the Port of Seattle. The projections used are linear, and do not account for the potential variation in the air travel market that could occur between now and 2035. As noted in Chapter 3, the percentage of auto vehicle trips accessing the airport is declining due to Link light rail, increased bus service, the increased availability of other modes of transportation to and from the airport, and the creation of the cell phone lot, which has further supported diversion of one-time parkers to the pickup lanes. This, coupled with the fact that an increased proportion of new enplanements are intra-airport flight transfers, is leading to a declining rate of parking transactions per enplanement.

Those factors coupled with the declining value of the dollar (due to inflation and demonstrated by the CPI factor used to compute the projections for the TMP in 2014 dollars) the effective rate

of this tax has been declining steadily since the transaction rate was raised. This effect is shown in the declining commercial parking tax revenues per year shown in Table 5-2. Under current policies, the City would expect almost \$105 million (2014 \$) in parking tax revenues between 2015 and 2035.

Commercial parking tax transaction fees were raised in 2006-2010 in concert with the renewal of the City's Interlocal Agreement (ILA) with the Port of Seattle. That ILA also contained some revenue sharing of these funds between the City and the Port. Appendix C, section 5.3.3 of the ILA states that "The parties agree that the parking tax collected by the City shall be applied according to the CIP as shown in the funding plan in the Joint Transportation Study (JTS)."

The JTS was the basis for the City's prior TE.



COMMERCIAL DEVELOPMENT IN SEATAC

Further, this dictates that 36.9% of the revenues are allocated to the Port to fund South Access, Westside Trail, and the Ring Road project. To this point, 14.9% of the funds have been allocated to the latter projects. Because no action has occurred furthering the South Access Expressway (SAE) project, the additional 22% of the funds have been held and spent on projects of mutual importance. Some of these funds were directed to the 28th/24th Avenue S improvement project, provided to WSDOT to help fund an additional eastbound lane on SR 518 connecting to the North Airport Expressway (NAE), and toward relocating the Port's Cell Phone parking lot. The City estimates that the "22%" allocation will have approximately \$4 million remaining at the end of 2015, when the existing ILA with the Port expires in February 2016. The disposition of these funds after the expiration of the current ILA will likely be determined in the new ILA.



### Transportation Impact Fees

The Growth Management Act (GMA) allows agencies to develop and implement a traffic impact fee (TIF) program to help fund some of the costs of transportation facilities needed to accommodate growth. State law (Chapter 82.02 RCW) requires that TIFs be:

- related to improvements to serve new developments and not existing deficiencies;
- assessed proportional to the impacts of new developments;
- allocated for improvements that reasonably benefit new development;
- spent on facilities identified in the Capital Facilities Plan.

The City of SeaTac adopted a transportation impact fee program in 1995. The original rate was set at \$773 per net new PM peak hour trip. This rate was significantly below the maximum allowable rate based on the relative costs of growth-related transportation projects versus the benefits to growth. In 2002, the City raised the TIF rate to \$1,020 per net new PM peak hour trip. This is the current TIF rate (Chapter 11.15 of the City of SeaTac Code). A single-family house generates, on average, one trip during the PM peak hour, so the TIF for a single-family house would be \$1,020.

Based on historical data for the past several years, the City would be expected to collect about \$1 million in impact fee revenues by 2035. This estimate does not take into account the designation of the City's Urban Center and associated growth in travel demands, including auto trips. As noted in Chapter 3, the forecast growth in the City (exclusive of the Airport) would generate approximately 12,000 PM peak hour trips. This growth could result in \$12 million in TIF revenues if all of that growth occurred. If the growth does not occur, then the revenues would not be generated; however, the need for the identified growth –related transportation improvements also would be delayed to a later date.

The City does not collect TIF payments from development at Sea-Tac Airport. As presented in Chapter 3, Airport traffic growth accounts for an additional 3,800 PM peak hour vehicle trips which could generate transportation revenues if that agreement was modified.

As part of the 2015 TMP, the traffic impact fee program calculation was updated to reflect the revised growth forecasts and impact fee project costs. The updated methodology and findings result in a maximum TIF rate of over \$11,000 per PM peak hour trip.

The City of SeaTac's current rate of \$1,020 per PM peak hour trip is lower than the 2014 TIF rates in all South King County cities, except Burien (see insert on this page). Burien's rate of \$948 per PM peak hour trip is the only TIF rate lower than SeaTac's. TIF rates in Maple Valley and Kent are much higher, at approximately \$4,000 per single-family household.

The City will not actually collect all of the TIF funds because developers will be asked to construct some of the projects. Where a developer is conditioned to construct all or a portion of TIF project, the City will provide credits, consistent with GMA requirements.

### Other Local Sources

Other local revenues are also used to help fund transportation projects or programs. These include street permit fees, rentals, and other miscellaneous fees. As shown on Table 5-2, other local funding sources are projected to generate \$575,000 in transportation revenues (2014 dollars) per year through 2035. The City also plans to use revenues from sales of City assets to help fund transportation improvements in the vicinity of the S 154th Street Station Area. In particular, the City's 2015-2020 CIP shows potential funding of \$5.4 million toward the S 152nd Street reconstruction project (ST-126 on Table 4-4). Since the asset sales revenues is not a regular, ongoing source of transportation revenues, this amount

Agency	Base Rate Per PM Peak Hour Trip	Rate per Single-family House	
		Citywide	Downtown
Auburn		\$3,641	\$2,950
Burien	\$948	\$957	
Covington		\$4,461	
Des Moines	\$3,194	\$3,656	
Enumclaw	\$2,907	\$2,937	
Federal Way		\$3,112	
Kent	\$4,006	\$3,877	\$3,141
Maple Valley	\$3,986	\$4,026	
Renton	\$2,503	\$2,857	
SeaTac	\$1,020		
Tukwilla	\$1,244	\$1,188	

SOUTH KING COUNTY 2014 TIF RATES



was not included in the 2015-2020 revenue projections. These monies may, however, become available in the future to help fund this and/or other transportation projects.

**Other Agency Contributions**

Other agencies also assist in funding the City of SeaTac transportation projects of mutual benefit. These could include sharing costs of a traffic signal improvement with the City of Des Moines when the city limits intersect. This is the case at the intersections of S 200th Street/Des Moines Memorial Drive S and S 208th/28th/24th Avenue S. Another example is funding contributed by the Port and Sound Transit for the extension of 28th/24th Avenue S extension project. In these cases the City of SeaTac project costs shown in Table 4-4 have been reduced to reflect the outside funding.

The Port of Seattle, Sound Transit, and other agencies also contribute to transportation improvements in the City of SeaTac. In some

cases, the other agency fully funds the project as part of mitigation for its project impacts. This was the case with Sound Transit funding intersection improvements at S 200th Street/Military Road S/ I-5 Southbound Off-ramp as part of the extension of Link light rail to S 200th Street. In these cases the project is listed in Table 4-2, Other Agency Multi-modal Transportation Improvement Projects.

**5.2.2 Forecast Revenues From Potential Policy Changes**

The analyses show that the City’s existing primary transportation revenue sources could generate up to \$195 million (2014 \$) over the 21-year life of the TMP. This is well short of the \$510 million in estimated costs in transportation projects and programs. As shown in Table 5-1, half of the project costs have been assigned to the post 2035 time horizon to reflect the significant shortfall in forecast transportation revenues. This still would leave a shortfall of almost \$60 million between 2015 and 2035.

The TMP evaluated possible strategies to increase revenues from changes in policies. These could be changes in policies around existing transportation revenue sources or new funding sources. The primary options for changes in the existing transportation revenues involve the TIF and commercial parking tax. Potential new transportation funding through creation of a Transportation Benefit District (TBD) also has been discussed with the Planning Commission and City Council in developing the TE and TMP. The potential revenues from these sources are presented below.

The potential for a business and occupation tax (B&O) to help fund transportation projects also was discussed during preparation of the 2015 TE and TMP. The City directed that that option be dropped from consideration at this time. In addition, the City could use Local Improvement Districts (LID) or direct other current taxes, such as the Real Estate Excise Tax (REET), to transportation projects. The City also chose not to build the TMP around those funding options.

**Transportation Impact Fees**

The City could change policies related to its TIF program in a couple of different ways. One option would be to increase the TIF rate from its current \$1,020 per PM peak hour trip. As discussed above, the TIF rate could be as high as \$11,000 per PM peak hour trip based on the 2015 TMP and TE calculations. It is unlikely that the City would consider such a high TIF. However, based on the 2014 TIF rates of other South King County cities, the City could increase its TIF rate to \$2,000 or \$3,000 per PM peak hour trip and remain at or below the average TIF rates of those cities. Based on these rates the City could generate \$20 to \$35 million in TIF funding assuming full build-out of the Urban Center and other parts of the City. This is an increase of \$8 to \$23 million with the same growth assumptions at the City’s existing rate of \$1,020 per PM peak hour trip.

However, the City is concerned over the potential for higher TIF rates to adversely affect economic growth. One option would be to phase in the increase over several years. The City of Des Moines phased implementation of its original TIF



CURRENT REVENUE FORECASTS ONLY ACCUNT FOR 38% OF PROPOSED COSTS (2014 \$)



in 2002, with the full rate taking effect in 2009. In 2009, the City of Des Moines updated their TIF calculation and determined that the maximum rate could be over \$6,000 per PM peak hour trip. The City did not change the rate TIF rate for 2009, but has been phasing in the updated rate. The full rate is scheduled to take effect in January 2017.

The City of Renton also recently updated their TIF program. The maximum TIF rate based on Renton's 2011 Rate Study is \$7,500 per PM peak hour trip. By policy, the City adopted a rate of \$2,856 per PM peak hour trip in 2011. Renton also adopted a phase-in schedule with the full adopted rate effective January 1, 2016.

Another consideration for the City of SeaTac would be to include an annual cost escalation factor. These could be applied to the existing TIF rate, a new rate, or a phased-in TIF rate. Des Moines and many other communities use the annual cost escalation factor to adjust their TIF rates to better track with construction costs. The WSDOT maintains a Construction Cost Index (CCI) which is based on actual costs of transportation improvement projects. Other cost indices, such as the Engineering News Record Construction Cost Index include costs for a much broader range of construction including buildings, dams, and other non-transportation projects. The Consumer Price Index also is not tailored to transportation construction so is not recommended for use in adjusting TIF rates.

The City of SeaTac does not collect TIF for development at Sea-Tac Airport through mutual agreement. If the City and Port were to agree

to have the Port pay the City's TIF, it would generate nearly \$4 million (2014 dollars) through 2035. If the City adopted a higher base trip rate or applied an annual cost escalation to its TIF, Airport-generated TIF revenues would increase proportionally.

### **Commercial Parking Tax**

Currently SeaTac levies a flat tax of \$0.90 for each short-stay parking transaction and a flat tax of \$3.00 for each long-stay parking transaction. A transaction based fee is reflective of a commercial parking trip's impact to the transportation system. The state statute allows the City to change the way it administers this tax (levying it on a per-stall basis or changing to a rate based tax).

These funds could be used for the arterial and collector projects identified in the TMP, or could help supplement funding of neighborhood non-motorized improvements, or ongoing preservation and maintenance programs. All of these elements of the transportation needs are impacted by traffic to/from the Airport and City.

Currently the City of SeaTac's Interlocal Agreement with the Port of Seattle dictates that Commercial Parking Taxes collected by the City of SeaTac will be shared with the Port of Seattle. The sharing agreement dictates that 14.9% of these funds are allocated to projects of mutual importance and administered by the City on their behalf. An additional 22% has been allocated to the Port for the South Access Expressway (SAE). As the SAE project has not begun, the City may elect to change its sharing agreement with the Port of Seattle. This change in policy could increase the City's Commercial Parking Tax

revenues by \$29 million over the next 21 years, based on the current parking rates.

### **Transportation Benefit District**

TBDs are independent taxing districts that can impose fees to fund transportation improvements, as described in their authorizing statute Chapter 36.73 RCW. Taxes that can be imposed include:

- Up to a 0.2% Sales and Use Tax (SUT) (not charged on sales of food and medicine);
- Up to a \$100 Motor Vehicle Excise Tax (MVET); \$20 of this can be levied without a vote of the people.

At this time, the City of SeaTac is considering exploring developing a TBD to levy a \$20 MVET tax or a 0.2% SUT. These funds could help provide a foundation for additional preservation (street overlays) or neighborhood non-motorized projects, as they are not restricted against these uses. The specific projects and programs would need to be defined and the TBD funds could only be spent toward those improvements.

A wide range of communities have created TBDs to help fund transportation projects. The Cities of Des Moines and Burien have formed TBDs with the focus on preservation and/or non-motorized transportation improvement projects. The City of Burien TBD was established in 2010 assesses a \$10 MVET. The City of Des Moines TBD assesses a \$20 MVET and was formed in 2009. The City of Renton is also considering exploring a TBD as part of its 2015 TE to help fund transportation preservation and/or non-motorized transportation projects.

The BERK analyses prepared for the City of



SeaTac TMP and TE estimate that a TBD based on a \$20 MVET would raise up to \$17 million (2014 dollars) between 2016 and 2035. A TBD based on an additional 0.2% sales tax would raise an estimated \$6 million over that same time period. If the TBD is started later than 2016, then lower levels of revenues would be generated.

### 5.3 Financing and Implementation Strategy

The TE and TMP are only effective if they can be systematically funded and implemented. Funding will take place over time meaning that some projects and programs will be implemented each year. For purposes of the TMP, the funding and implementation strategies are based on the same short (2015-2020), mid (2021-2026), long (2027-2035) and beyond 2035 time ranges reflecting the project concept presented in Chapter 4. The next section reviews the funding versus transportation costs during those time periods. That discussion is followed by a conceptual framework for implementation of the transportation programs and projects.

#### 5.3.1 Transportation Funding Summary

Table 5-3 compares the forecast transportation revenues from the existing sources and policies with the conceptual timing horizon for funding the improvement project. As previously noted the project implementation concept assigned half the costs of the transportation programs and projects as being funding beyond 2035; all of the

estimated costs of programs were included in the 2015-2035 time frame of the TMP since these are very important in reducing future costs associated with major reconstruction of arterials, collectors, local streets, and non-motorized facilities.

As discussed in Chapter 4, the relative timing for the transportation projects takes into account the ability to fund the projects. This resulted in a reasonable balance between costs and revenues during the short (2015-2020) time period, with a shortfall of \$18.9 million. To fully fund the short-range transportation costs by 2020, the City would need to raise an average of \$3.1 million more per year in revenue. Alternatively, the City could slide some of those project costs to beyond 2020, which would result in bigger shortfalls during later time periods. The costs and

revenues are also out of balance in the later time periods. Between 2021 and 2026, the shortfall would require an additional \$3.2 million per year in revenues. The shortfall in revenues shown for 2027-2035 would require \$2.3 million per year on average. Unless additional transportation revenues are available, the number of projects including arterials and non-motorized system improvements would be slid to beyond 2035.

#### 5.3.2 Implementation Strategy

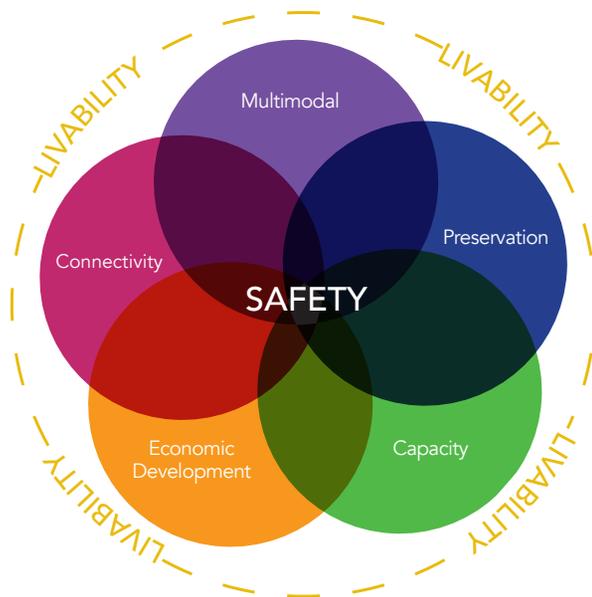
The shortfall in funding shown in Table 5-3 means that the City will need to be strategic in implementation of transportation projects to get the most bang for the buck. Other options for the City include potentially increasing transportation revenues, as discussed in section 5.2.2.

Table 5-3: Transportation Financing Summary by time Horizon (1,000's of 2014 \$)

	SHORT-RANGE <sup>1</sup> (2015-2020)	MID-RANGE <sup>1</sup> (2021-2026)	LONG-RANGE <sup>1</sup> (2027-2035)	BEYOND 2025 <sup>1</sup> (2035+)	TOTAL COSTS <sup>1</sup> (2015-2035)
Estimated Revenues from Existing Sources/Policies <sup>1, 2</sup>	\$50,280	\$53,040	\$92,300	-	\$195,620
Estimated Costs of Programs and Projects <sup>1, 3</sup>	\$69,131	\$72,250	\$112,910	\$256,425	\$510,716
<b>Net Difference<sup>4</sup></b>	<b>(\$18,851)</b>	<b>(\$19,210)</b>	<b>(\$20,610)</b>	<b>(\$256,425)</b>	<b>(\$315,096)</b>

- Sources: City of SeaTac, Transpo Group, BERK  
 1. All revenues and costs in \$1,000s of 2014 dollars  
 2. From Table 5-2  
 3. From Table 5-1  
 4. Estimated revenues less costs (\$X,XXX) means negative





**Project Priorities**

The relative timing shown for the projects and programs in Chapter 4 take into the availability of funding; the relative priority of the project; the relationship to other projects (such as the extension of SR 509); the time needed to fund, design, and construct improvements. The relative project priorities take into account direction from the City Council, Planning Commission, public comments, as well as the technical analyses. As previously noted that actual implementation and funding of projects and programs is annually reviewed as part of the City’s adoption of the Six-Year Transportation Improvement Program (TIP) and Capital improvement Program (CIP).

The City of SeaTac’s 2015 Comprehensive Plan

establishes a vision for the community. The transportation system priorities need to align with that vision to support the overall Plan for the City. In addition, the TMP priorities build from the City Council’s Vision as “a premier, global community, offering a solid, sustainable economy and a healthy, inclusive, and vibrant quality of life.”

Based on the high level framework provided by the Comprehensive Plan and City Council visions, community input, and the technical analyses, the TMP projects priorities and relative timing presented in Chapter 4 were based on 6 core factors to improve and support the livability and economic sustainability of the City. As shown in the adjacent diagram, safety of all travel modes is at the core of the transportation priorities. The other five elements of the priorities all support improved safety. The elements also overlap with each other. For example, added multi-modal capacity supports economic growth. New multi-modal facilities improve connectivity within the City and to other travel modes. The City will consider these elements in advancing transportation projects through its TIP and CIP.

**Additional Revenues**

The City’s transportation priorities also may result in a desire for additional revenues to help complete some projects sooner than would occur under current funding programs and policies. Based on the transportation funding analyses discussed above, the TMP suggests that the City consider potential additional funding opportunities. The additional funding options tie into different types of projects, so a combination

of the strategies may ultimately be desired. These include:

- **Increasing Transportation Impact Fee Revenues.** The City’s TIF rate is lower than most other cities in South King County and is approximately set at less than 10 percent of the maximum allowable TIF rate based on the 2015 TMP. The City could phase-in an increase to the TIF rate. The City also could consider including an annual escalator to help keep pace with changes in transportation project costs over time.

The City also could change its policy to not charge the TIF for new development at the Airport. This decision is tied into several agreements including the City/Port’s ILA and probably would affect other revenue or cost sharing agreements with the Port.

Increased TIF revenues can only be used for growth-related street and roadway projects. These would include reconstruction of Military Road S, Des Moines Memorial Drive S and many others. These types of multi-modal projects also support the City’s objectives to complete the pedestrian and bicycle system.

- **Increasing Commercial Parking Tax Revenues.** As part of the renegotiation of the City/Port ILA, the City could retain all or a portion of the current 22 % allocation of the commercial parking tax revenues earmarked

Each 1% of commercial parking tax shared equals approximately \$1.3 million (2014 \$) total between 2015 and 2035



for the SAE project. These revenues may best be directed toward funding implementation of the City's arterial, collector, and non-motorized projects shown in Tables 4-4 and 4-5. However, the parking tax revenues also could also be effective in funding preservation and other programs, such as the Pedestrian Crossing Program and the Intelligent Transportation Systems (ITS) programs listed in Table 4-3 to improve safety and efficiency of the transportation system.

- **Establishing a Transportation Benefit District (TBD).** Establishing a TBD could be considered by the City. Many agencies have used a TBD to provide additional and more stability to transportation preservation programs. Others have used the TBD funding for advancing implementation of non-motorized projects in neighborhoods or along arterials and collectors.

### Reassessment Strategy

Without additional revenues the financing summary recognizes the potential for a shortfall of over \$300 million (2014 \$) over the life of the plan. The City is committed to reassessing their transportation needs and funding sources each year as part of its Six-Year Transportation Improvement Program (TIP) and CIP processes. This allows the City to match the financing program with the short range transportation improvement projects and funding. The TE and TMP also include goals and policies to periodically review land use growth, adopted level of service standards, and funding sources to ensure they support one another and meet

concurrency requirement. As noted in Chapter 3, the forecast housing and employment growth used in the travel forecast reflect full build-out of SeaTac and maximum air passenger traffic at the Airport.

In order to implement the TE and TMP, the City will consider the following principals in its transportation funding program and TIP/CIP processes:

- As part of the development of the annual Six-Year Transportation Improvement Program and Six-Year Capital Improvement Program, the City will balance improvement costs with available revenues;
- Review project design standards to determine whether costs could be reduced through reasonable changes in scope or deviations from design standards;
- Fund improvements or require developer improvements as they become necessary to maintain LOS standards to meet concurrency and off-set impacts on traffic operations, safety of all modes, and support the completion of the multi-modal transportation systems;
- Explore ways to obtain more developer contributions to fund the improvements;
- Coordinate and partner with WSDOT, the Port of Seattle, PSRC, the state legislature and local cities to vigorously pursue funding and construction of the extension of SR 509 and SAE as identified in the TE and TMP;
- Review funding strategy to see if the

transportation impact fees or commercial parking taxes should be revised to account for the updated capital improvement project list and revised project cost estimates;

- Consider establishing a TBD to help fund transportation system needs;
- If the actions above are not sufficient, the City could consider changes in its level of service standards and/or possibly limit the rate of growth in the City as part of future updates of its Comprehensive Plan (however, the changes in land use allocations would need to be agreed to with King County and other agencies in King County);
- Lower priority projects in the Transportation Element may be slid to beyond 2035 or deleted from the program.

