seven

TRANSPORTATION

SEVEN
TRANSPORTATION

TRANSPORTATION MASTER PLAN

The Transportation Chapter consists of the *Transportation Master Plan*. The *Transportation Master Plan* is being updated and the draft may be viewed at this link:

https://www.cityoftacoma.org/government/city_departments/public_works/engineering/transportation_master_plan

Book I: Goals + Policies

1 Introduction + Vision
2 Urban Form
3 Design + Development
4 Environment + Watershed Health
5 Housing
6 Economic Development
7 Transportation
8 Parks + Recreation
9 Public Facilities + Services
10 Container Port
11 Engagement, Administration + Implementation
12 Downtown

Book II: Implementation Programs + Strategies

1 Shoreline Master Program
2 Capital Facilities Program
3 Downtown Regional Growth Center Plans
4 Historic Preservation Plan

Tacoma Narrow's Bridge during the 2007 public opening ceremony (opposite page)

FINAL

City of Tacoma TRANSPORTATION MASTER PLAN

December 2015

Tacoma

Tacoma is a **sustainable** community with many diverse residents, businesses, and visitors who have various transportation priorities. The City is **strategic** in how it plans its transportation system with an emphasis on carrying the people and goods that foster Tacoma's culture, character, and competitiveness. The transportation system offers **multimodal** travel options that provide safe **access** for all users and neighborhoods, encourage **healthy living**, and protect the **environment**.

This vision is supported by six key goals, which provide guidance for the priorities and recommendations embodied in this plan:

Being a Partner

Proactively **develop partnerships** to best serve all users of the regional transportation system.

Protecting Community

Protect natural, as well as neighborhood, assets to create and connect places where people can live, work, and play in a safe and healthy environment.

Providing Mobility for All

Prioritize the movement of people and goods via modes that have the least environmental impact and greatest contribution to livability in order to build a **balanced transportation network** that provides mobility options, accessibility, equity, and economic vitality for all.

Striving for Fiscal/ Environmental/ Social Sustainability

Design an **environmentally and fiscally sustainable transportation system** that serves its users through strategic planning efforts, funding, and projects.

Leveraging Programs/Strategies

Develop and implement **transportation demand management strategies** and programs that contribute to the overall effectiveness of the multimodal transportation system.

Linking to Land Use

Build a transportation network that **reinforces Tacoma's land use vision, the region's Vision 2040, and the Growth Management Act**.

TABLE OF CONTENTS

1. Introduction 7

a. Overall Vision 9
b. Regional Context 11
c. Relevant Plans 12

2. Public Outreach 17

a. Plan Guidance & Community Outreach 18

3. Planning Context 29

a. History 31
b. People & Economy 34
c. Regional Transportation System Today 39
d. Forecasts & Growth 49

4. Future Vision 53

a. Goals & Policies 55
b. The Layered Network 66
c. Modal Networks 70
   i. Pedestrian Priority Network 70
   ii. Bicycle Priority Network 76
   iii. Transit Priority Network 80
   iv. Freight Priority Network 88
   v. Auto Priority Network 92
d. Demand-Side Approaches 99
e. Roadway Typologies 105
f. Project List 108

5. Implementation 111

a. Financial 113
b. Performance Measurement & Project Prioritization 120

6. Future Conditions 129

a. 2040 and Beyond 131

Glossary 135

Appendix 139

a. Model Documentation
b. Detailed Project List
c. Mobility Master Plan Update
d. City Pedestrian Safety Improvement Project
e. Centers of Local Importance

Acknowledgements

The City of Tacoma wishes to acknowledge the contributions made by volunteer commissions and the general public to the Tacoma Transportation Master Plan (TMP). The participation of these groups in commission meetings, work sessions, and public outreach events was invaluable to shaping this plan. The City of Tacoma Transportation Commission took the lead in guiding and informing the TMP through many meetings and hours of review and comment, for which the City owes its gratitude. The City acknowledges the support of the following individuals and groups in development of the Transportation Master Plan:

TACOMA CITY COUNCIL AND CITY MANAGER

Mayor Marilyn Strickland
City Manager T.C. Broadnax
Councilmember Anders Ibsen
Councilmember Robert Thoms
Councilmember Lauren Walker
Councilmember Marty Campbell
Councilmember Joe Lonergan
Councilmember Victoria Woodards
Councilmember David Boe
Councilmember Ryan Mello

CITY OF TACOMA TRANSPORTATION COMMISSION

Co-Chair Justin Leighton
Co-Chair Jane Ann Moore
Gary Hofmann
Michael Hutchinson
Judi Hyman
Yoshi Kumara
Vance Lelli
Jacki Skaught
Andrew Strobel
John Thurlow
Kristina Walker

Acknowledgements

CITY OF TACOMA PLANNING COMMISSION

Chair Chris Beale
Vice-Chair Scott Winship
Donald Erickson
Benjamin Fields
Stephen Wamback
Erle Thompson
Anna Petersen
Meredith Neal

CITY OF TACOMA BICYCLE AND PEDESTRIAN TECHNICAL ADVISORY GROUP (BPTAG)

Co-Chair David Cook
Co-Chair Kris Symer
Justin Camarata (former)
Jennifer Halverson-Kuehn
Janet Higbee
Anne James
Aaron Knight
Paul Nordquist
Kendal Reid (former)
Brandi Riddle

CONSULTANT TEAM

Fehr & Peers
Nelson\Nygaard
Alta Planning + Design Inc.
3 Square Blocks
VIA Architecture, Inc.
Henderson, Young & Company

CHAPTER 1
INTRODUCTION

Overall Vision

Our vision for Tacoma...

> *"... is a destination place with the amenities of a big city and the charm of a small town, a dynamic and exciting locale poised to embrace the future."*

In support of this vision, over the past 18 months, City staff and a citizen-volunteer Transportation Commission have embarked on a major undertaking to establish Tacoma's first ever Transportation Master Plan (TMP).
The Plan's role is to help the Tacoma community consider its transportation systems, how well they're functioning and what needs, including funding, will be necessary over the next 25 years and beyond. To set the tone for this Plan, the Transportation Commission established the following future vision for Tacoma, which guides all aspects of this TMP:

"Tacoma is a **sustainable** community with many diverse residents, businesses, and visitors who have various transportation priorities. The City is **strategic** in how it plans its transportation system with an emphasis on carrying the people and goods that foster Tacoma's culture, character, and competitiveness. The transportation system offers **multimodal** travel options that provide safe **access** for all users and neighborhoods, encourage **healthy living**, and protect the **environment**."

"Tacoma is a **sustainable** community with many diverse residents, businesses, and visitors who have various transportation priorities. The City is **strategic** in how it plans its transportation system with an emphasis on carrying the people and goods that foster Tacoma's culture, character, and competitiveness. The transportation system offers **multimodal** travel options that provide safe **access** for all users and neighborhoods, encourage **healthy living**, and protect the **environment**."

This vision is supported by six key goals, which provide guidance for the priorities and recommendations embodied in this plan:

Being a Partner

Proactively **develop partnerships** to best serve all users of the regional transportation system.

Protecting Community

Protect natural, as well as neighborhood, assets to create and connect places where people can live, work, and play in a safe and healthy environment.

Providing Mobility for All

Prioritize the movement of people and goods via modes that have the least environmental impact and greatest contribution to livability in order to build a **balanced transportation network** that provides mobility options, accessibility, equity, and economic vitality for all.

Striving for Fiscal/ Environmental/ Social Sustainability

Design an **environmentally and fiscally sustainable transportation system** that serves its users through strategic planning efforts, funding, and projects.

Leveraging Programs/Strategies

Develop and implement **transportation demand management strategies** and programs that contribute to the overall effectiveness of the multimodal transportation system.

Linking to Land Use

Build a transportation network that **reinforces Tacoma's land use vision, the region's Vision 2040, and the Growth Management Act**.

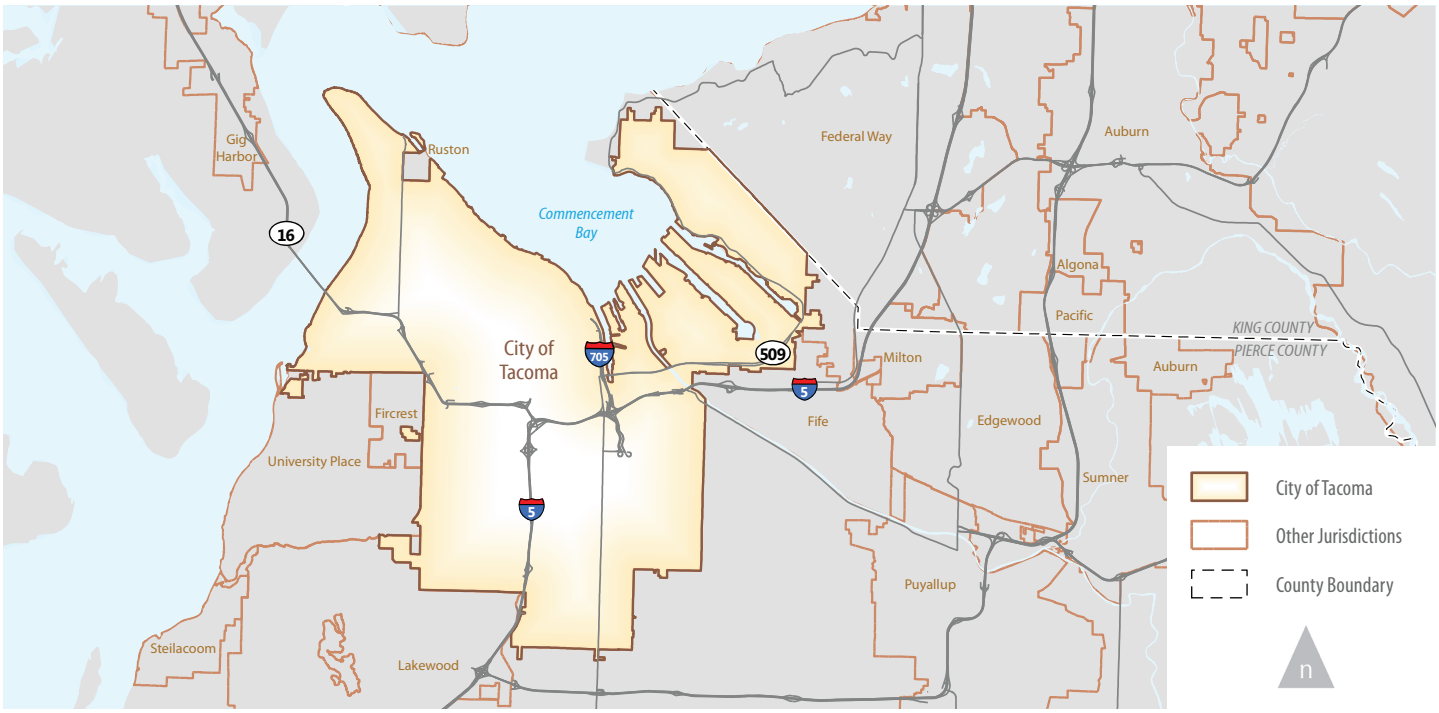
This TMP recommends projects, programs, and strategies aimed at achieving these goals, as well as encouraging a more vibrant and healthy community where people increasingly choose alternatives to driving alone.

Regional Context

Tacoma's regional setting is important. Nestled in the South Sound, the City is bounded by Puget Sound and Commencement Bay (a deep water harbor of international significance), as well as the communities of Ruston, Fife, Federal Way, Fircrest, Lakewood, University Place, and unincorporated Pierce County. Tacoma sits just north of a major military installation, the Joint Base Lewis McChord (JBLM), and is home to the Port of Tacoma. The City is bisected by two major state facilities (I-5 and SR 16) and includes other highways of regional importance (I-705 and SR 509). The City also hosts a segment of the SR 167 gap, which is among the State's top priorities for completing the highway system. Tacoma is served by Pierce Transit, Sound Transit, Intercity Transit, numerous regional recreational trails, and other state services such as the Tahlequah Ferry and Amtrak.

Given this strategic location, transportation conditions in Tacoma are strongly influenced by forces beyond the City's control, including pass-through JBLM employees, freight vehicles from the Port, and travelers commuting between Pierce County communities and employment centers to the north. As such, the City must coordinate its transportation planning with a variety of jurisdictions, including Pierce County, the Puget Sound Regional Council (PSRC), transit agencies, and the State of Washington. The figure below shows the location of Tacoma in this regional setting.

TACOMA AND ADJACENT JURISDICTIONS



GMA REQUIREMENTS

The State's Growth Management Act (GMA) of 1990 requires communities to prepare a transportation plan that ties directly to the City's land use decisions and financial planning. Specifically, the GMA lays out five main requirements:

- The transportation plan accommodates the **future land use plan** envisioned by the Comprehensive Plan
- The plan recognizes trends that cross over jurisdictional boundaries through effective **intergovernmental coordination**
- The plan considers transportation **accommodations for all**, by including performance objectives for all travel modes
- The **projects, policies, and programs** resulting from the plan tie to the modal performance objectives described in this plan
- The plan is rooted in **financial realities**, being open and honest about what's affordable and what's not

This TMP serves as the Transportation Element of the Comprehensive Plan and fulfills the GMA planning requirement.

The following section describes relevant plans that have been incorporated into the development of this TMP.

Relevant Plans

This TMP was prepared within the context of many other planning processes conducted by federal, tribal, state, regional, and local agencies. Regional coordination and consistency are integral to Tacoma's transportation program. The City's transportation facilities are part of the large regional network of roads, trails, transit service, and other infrastructure and services. City streets carry both local and regional traffic, which can result in tension related to planning and use.

The TMP addresses transportation facilities and services that are within the City or under its control. At the same time, Tacoma is influenced by what happens beyond the City limits. Growth in adjacent cities, lack of funding for regional road capacity expansion, and competing demands for transit all impact mobility for City residents and businesses. The City has a voice in the decision-making processes of the regional agencies through standing committees and task forces. In these challenging times, the TMP calls for even more coordination and cooperation with others to address cross-jurisdictional issues.

Elected officials and City staff are active members of regional groups such as the Tacoma-Pierce County Chamber of Commerce and the Regional Access Mobility Partnership, as well as various special issue environmental task forces involving adjacent jurisdictions. For Tacoma to have a robust transportation system and thriving community for years to come, it is necessary to work within these boards and groups to secure funding for transportation projects.

The City works closely with representatives from the Washington State Department of Transportation (WSDOT), Sound Transit, Pierce Transit, Pierce County, Puyallup Tribe of Indians, the Freight Mobility Strategic Investment Board, and PSRC. The City has also been engaged with the Port of Tacoma on the City's Port Container Element and the Port's Land Use and Transportation Plan. The City previously partnered with many of the entities listed above on the Tideflats Area Transportation Study.

The following describes the City's major partnering agencies and those agencies' responsibilities as they relate to the TMP:

WSDOT is the owner and operator of the State highway system. In Tacoma this includes I-5, SR 16, I-705, SR 7, SR 163, SR 167, and SR 509. SR 167 is not a complete freeway between Puyallup and Tacoma. This uncompleted freeway link has been identified as a critical missing link in the State's highway network. WSDOT, as the administrator for federal and state transportation funds, works with the City to improve the transportation system locally and regionally.

Port of Tacoma maritime shipping and industrial activities are concentrated in the Commencement Bay tideflats area (Tideflats), located in Tacoma's central waterfront. The area includes the natural deepwater port and industrial lands adjoining the Hylebos Waterway, Blair Waterway, Sitcum Waterway, the Puyallup River, Saint Paul Waterway, Middle Waterway, Milwaukee Waterway, and Thea Foss Waterway. The Tideflats area is also located at the intersection of three jurisdictions – the cities of Tacoma and Fife and Pierce County – together with territory within Puyallup tribal boundaries.

With ownership of over 2,500 acres, the Port of Tacoma is a major landowner in the Tideflats area operating and leasing significant piers, docks, wharves, cargo handling equipment, and related upland facilities. The Port serves as a major economic engine for Pierce County, creating thousands of family-wage jobs and serving as a catalyst for economic development. It is estimated that Port activities are related to over 40,000 jobs in Pierce County, paying about 40 percent more than the county average wage. The Port's Strategic Plan targets call for doubling container volume and dry bulk throughput, increasing breakbulk volume by 30 percent, and increasing auto import volume by 20 percent, while adding port-related direct jobs over the next 10 years. The complex nature of the Tideflats area results in a variety of transportation opportunities and constraints that influence the need for improvements. The Port completed its Land Use and Transportation Plan in 2014. The City provided technical review as part of the Plan development process.

Sound Transit is a regional provider of high capacity transit services for King, Snohomish, and Pierce counties, including bus, commuter rail, and light rail. Sound Transit operates a network of regional express bus service that connects the park-and-ride system to employment centers and other regional transportation facilities.

Tacoma Link light rail operates 1.6 miles serving a total of six stations from the Tacoma Dome Station through Downtown, and terminates at the Theater District/S. 9th Station. There are two "Sounder" commuter rail stations in Tacoma. Tacoma Dome Station, located adjacent to Downtown Tacoma, has 2,283 parking spaces, and South Tacoma Station has 220 parking spaces for riders who drive to the station in addition to the many riders who walk, ride a bicycle, or take connecting transit service. Sound Transit also operates express buses with regional travel between major cities in King, Snohomish, and Pierce counties.

Sound Transit is currently working with the City and other stakeholders on the Tacoma Link Expansion project. An alignment for expansion has been approved and the proposed route continues north along Commerce Street to the Hilltop District via Stadium Way, North 1st Street, Division Street, and Martin Luther King Jr. Way. The route identified for the expansion is approximately 2.4 miles with six new stations.

The City is also working with Sound Transit to inform the Regional Transit Long-Range Plan Update. The Long-Range Plan identifies proposed transit service technologies in major corridors throughout the region and will serve as a guide for future phases of voter-approved transit projects.

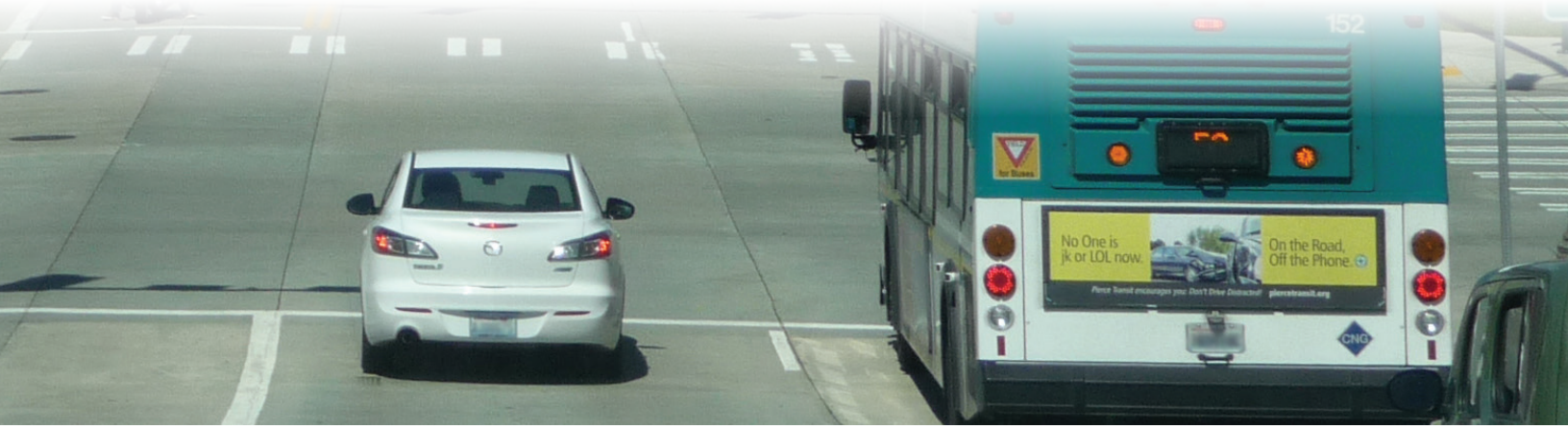
Pierce Transit is the public transit authority of Pierce County and is based in Lakewood. Founded in 1979, Pierce Transit operates buses, para-transit services for people with disabilities, vanpool, and a ridematching database for those who wish to carpool. Pierce Transit serves as a vital link in Tacoma's regional transportation system with connections to transit centers, ferry terminals, interstate train and bus terminals, and light rail and express bus stations that serve riders throughout the City. The Agency also constructs improvements on City streets and is a partner in constructing transportation capital projects. The City is also working with Pierce Transit to inform their long-range planning efforts.

The **Puget Sound Regional Council** (PSRC) is the region's metropolitan planning organization made up of cities, towns, counties, ports, tribes, transit agencies, and major employers. PSRC has set policy for King, Pierce, Snohomish, and Kitsap Counties through Vision 2040, which lays out the long term goals for growth management, economic, and transportation issues.

Vision 2040 identifies several key goals for transportation in the region:

- **Maintenance, Management, and Safety –** Maintain, preserve, and operate the existing transportation system in a safe and usable state.
- **Support the Growth Strategy –** Support the regional growth strategy by focusing on connecting centers with a highly efficient multimodal transportation network.
- **Greater Options, Mobility, and Access –** Invest in transportation systems that offer greater options, mobility, and access in support of the regional growth strategy.

This TMP is consistent with Vision 2040 priorities.



The **Puyallup Tribe of Indians**, or S'Puyalupubsh, are a federally recognized Coast Salish Native American tribe forcibly relocated onto reservation lands more than 100 years ago. Today they have an enrolled population of 4,000, of whom 2,500 live on the reservation. In the 1980s, the Tribe claimed that it owned the land under much of downtown Tacoma and the Port of Tacoma. A federal appeals court ruled in 1983 in the tribe's favor, awarding 12.5 acres within the Port of Tacoma to the Tribe. In 1988, the Tribe, the Port, and numerous other governments and private entities entered into a Land Settlement Agreement, a historic event that resolved a number of land, jurisdictional, and other issues between the parties. The tribe remains an important partner in planning land use and transportation facilities in Tacoma, as well as improving City streets that serve the tribal community.

ADJACENT CITIES

The City of Tacoma is surrounded by several communities and the Puget Sound. The cities of Ruston, Fife, Federal Way, Lakewood, Fircrest, and University Place share boundaries with the City. Unincorporated portions of Pierce County also share a significant boundary with the City. The travel patterns of residents in these adjacent communities will continue to influence traffic on the streets in Tacoma for all trip purposes, including the commute to and from work, travel to schools and colleges, and business traffic throughout the day.

INFLUENTIAL PLANS FOR TACOMA

The City of Tacoma and other agencies have been developing various plans, documents, ordinances, and policies that have influence on the TMP. Many of these are noted below:

- **Current Transportation Element**
- **Six-Year Comprehensive Transportation Program**
- **Mobility Master Plan**
- **Container Port Element**
- **Strategic Plan**
- **Affordable Housing Planning Work Program**
- **Amtrak Station Relocation Plan**
- **Emergency Response/ Intelligent Transportation System**
- **Hilltop Subarea Plan and EIS**
- **North Downtown Subarea Plan and EIS**
- **Prairie Line Trail Corridor Plan**
- **Schuster Corridor Multi-Use Trail**
- **Shoreline Master Program**
- **South Downtown Subarea Plan and EIS**
- **Tacoma 2040: Growing Tomorrow's City**
- **Tacoma Mall Subarea Plan**
- **Transfer of Development Rights**
- **Complete Streets Design Guidelines**
- **Tideflats Emergency Response / Intelligent Transportation System Study**
- **Metro Parks Capital Improvement Work Plan**
- **Metro Parks Strategic Parks & Program Services Plan**
- **Metro Parks Strategic Action Plan**
- **Parking Services Adopted Guiding Principles & Policies**
- **Green Transportation Hierarchy Principles**
- **PSRC Regional ITS Implementation**
- **Pierce County Realize 2030 — Comprehensive Plan Update**
- **Draft Pierce County Transportation Element**
- **PSRC Travel Demand Forecast Model**

CHAPTER 2

PUBLIC OUTREACH

Plan Guidance & Community Outreach

The TMP was created in collaboration with a variety of stakeholders and the general public. The community outreach program provided several forums for stakeholders to learn about the TMP and provide feedback to the City. This section describes ways that the community was involved in the planning effort.

TRANSPORTATION COMMISSION

In 2013, the City Council adopted Resolution 38669 that established a Transportation Commission. The Transportation Commission consists of eleven members, appointed by the City Council and/or City Manager's office. Transportation commissioners bring a range of perspectives about the City's long-term vision as they include representatives from:

- Professional engineering sector
- Construction/private business sector
- Bicycle and pedestrian/public transit sector
- Planning/urban growth sector
- Environmental/sustainability sector
- General community
- Americans with Disabilities Act (ADA) advocates
- Bicycle Pedestrian Technical Advisory Group (BPTAG). BPTAG advises the Transportation Commission on active transportation matters, such as short-term and long-range pedestrian and bicycle planning, and compliance with local, regional and federal transportation regulations.

The Transportation Commission advises the City Council on transportation-related matters including:

- Short-term and long-range transportation planning
- Compliance with local, regional, and federal transportation regulations
- Bicycle, pedestrian, and public transit-related planning initiatives
- Parking and capital improvement plans

The Transportation Commission was the primary reviewing body during development of the TMP. City staff worked closely with Commission members over an 18 month timeframe.

GUIDING PRINCIPLES FOR THE TMP

An important early effort was identifying guiding principles to help determine what the Transportation Master Plan should accomplish. These concepts helped steer the TMP from formulation of goals and policies to identification of projects. These principles are presented on the following page.

SUPPORT ALL MODES

Account for all modes of travel in planning Tacoma's streets, sidewalks, trails, and other facilities.

- Plan for people instead of cars
- Use level of service standards that account for all modes
- Update the City's Concurrency Ordinance
- Continue implementation of the Mobility Master Plan to support walking and bicycling and promote healthy living
- Support speed and on-time performance enhancements for buses and trains
- Promote 20-minute neighborhoods

LAND USE AND TRANSPORTATION

Link transportation with community priorities and existing plans for land use.

- Provide a transportation system that will support the Hilltop Sub-Area Plan, and North & South Downtown Sub-Area Plans
- Establish parking strategies for downtown and other key areas
- Promote mixed-use centers

SUSTAINABILITY

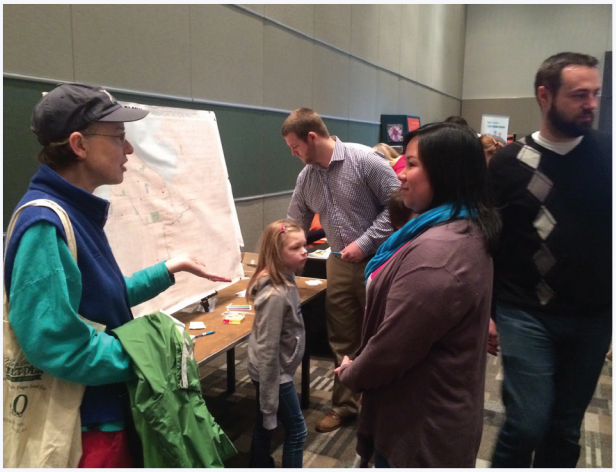
Provide a transportation system that supports triple bottom line of environmental, fiscal, and social sustainability.

- Consider community or public health, climate change, and pollution goals in planning transportation projects
- Prioritize pursuit and spending of funds on maintaining existing infrastructure
- Employ emerging technology to enhance transportation system efficiency
- Reduce vehicle miles traveled (VMT) and emissions through pricing, technology, and providing travel options
- Apply components of Sustainable Transportation Analysis and Rating System (STARS), which is an integrated planning framework for transportation plans and projects

COORDINATION

Work with other agencies and levels of government to put funds toward transportation priorities.

- Build local, regional, and state partnerships to accomplish transportation goals
- Seek new and more flexible funding to align spending with transportation priorities
- Work with partnering agencies to identify co-funding opportunities



PURPOSE OF THE COMMUNITY OUTREACH PROGRAM

The community outreach was designed to encourage interested groups and individuals to participate in the development of the TMP, as well as understand the overall planning process. The objectives for the community outreach activities included:

- Gather community perspectives on transportation issues
- Enhance the quality of and support for the TMP through meaningful public and agency participation
- Inform City staff and Council members about the preferences of the community with regard to transportation issues in Tacoma
- Balance the interests of the community with the interests of the State and Region
- Share project information with interested groups and individuals and encourage people to offer comments during the planning process
- Identify issues early and resolve conflicts during the planning process
- Meet or exceed all State laws and regulations related to public participation and agency coordination

When selecting the outreach methods, the City opted to select methods that were broad-reaching, and yet cost-effective including:

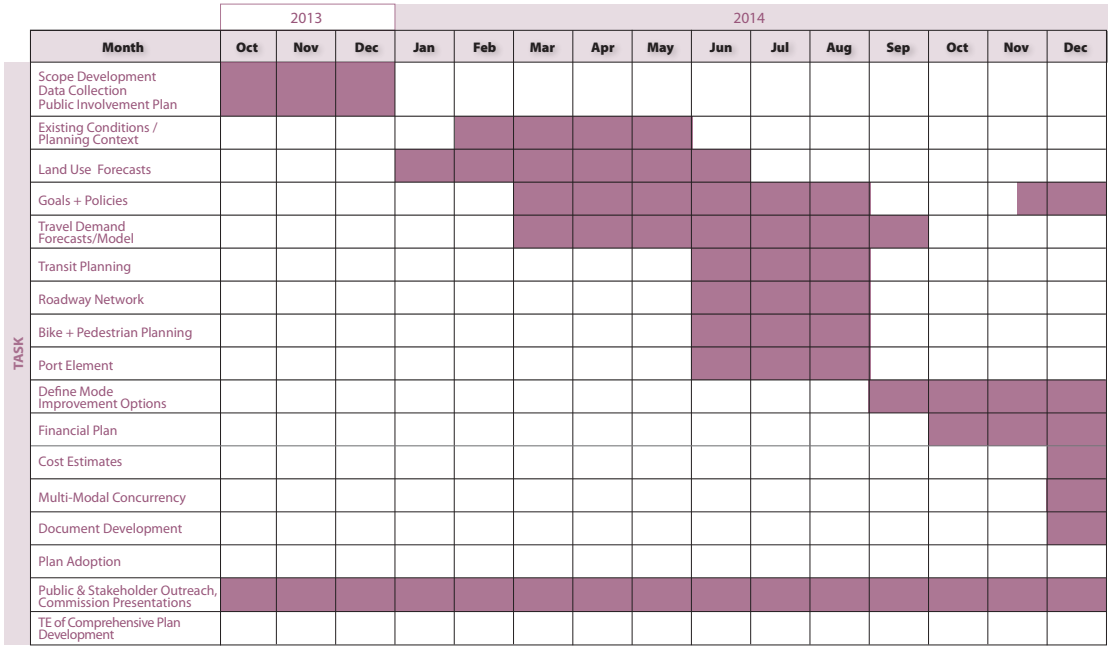
- Interviews with the Plan Stakeholders
- Reports and presentations to the Infrastructure, Planning, and Sustainability Committee
- Reports and presentations to the Planning Commission
- Reports and presentations with the other interested groups (Tacoma-Pierce County Chamber of Commerce, Community Council, UW Tacoma, Port of Tacoma, and others)
- Interactive outreach activities at selected public and community events (numerous Farmer's Markets, Community Cleanup Day Events, Tacoma Pride, Ethnic Fest, South Sound Sustainability Expo, 'Tacoma 2025' Visioning Workshop, and others)
- Maintaining project website with online survey capabilities
- Public workshops and open houses conducted as a part of Tacoma's Comprehensive Plan Update process

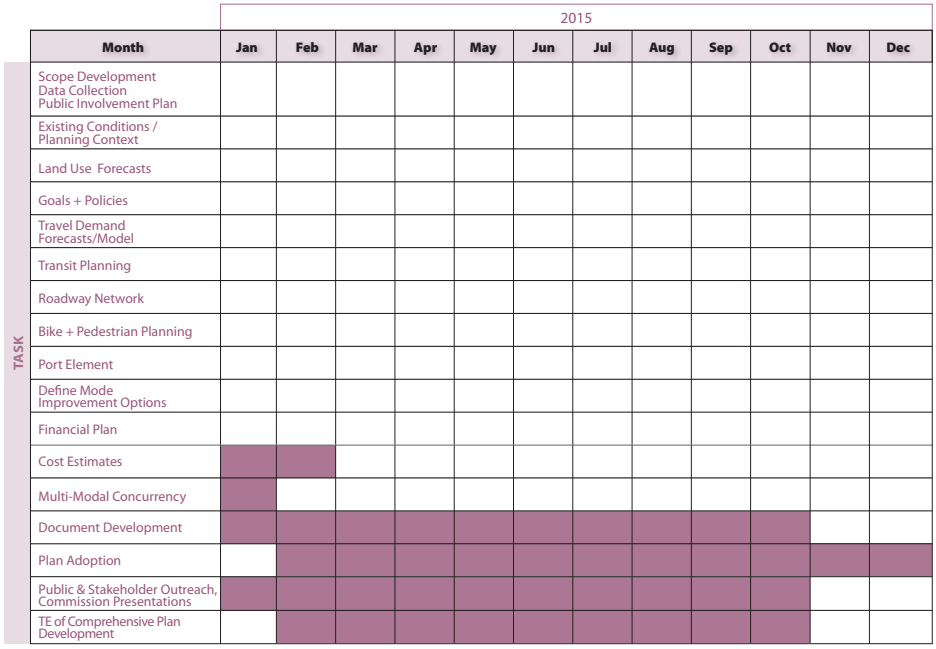
In addition to the community outreach efforts described in this plan, the City of Tacoma coordinated with other agencies (Sound Transit, Pierce Transit, WSDOT, Pierce County, and others) and responded to any public requests via phone, email, or in person at City Hall.

TIMELINE FOR DEVELOPMENT OF THE TMP

The TMP was developed over a year and a half with the intent of developing a plan that achieves all of the identified objectives, as well as significant community agreement. To achieve community acceptance, engaging a wide variety of stakeholders using robust and diverse methods was essential.

The below schedule shows how the community engagement tasks generally fit within the flow of the overall TMP.





STAKEHOLDER INVOLVEMENT BY TIER

The following matrix includes the list of stakeholders by involvement tier. The first two tiers (Technical Advisory Group/Project Management Team and Decision/Advising Bodies) were engaged during Phase 1 (scoping). The remaining stakeholders became engaged as Phase 2 of the project got underway, in early 2014.

STAKEHOLDER OUTREACH TIERS

TIER	INVOLVEMENT LEVEL	WHO	
Technical Advisory Committee/ Project Management Team	Active Involvement In Plan Development	• Josh Diekmann • Steve Atkinson • Brian Boudet • Dana Brown • Sue Comis, Sound Transit • Gary Hendricks, Pierce County • Brennan Kidd • Jennifer Kammerzell	• Kurtis Kingsolver • Chris Larson • Evette Mason, Port of Tacoma • Ian Munce • Sue O'Neill • Peter Stackpole, Pierce Transit • Diane Wiatr • Lihuang Wung
Decision/ Advisory Bodies	Input is Key, Regular Check Ins	• City Council Members • Planning Commission • Transportation Commission	• Bicycle and Pedestrian Technical Advisory Group • Infrastructure, Planning, and Sustainability Committee • Parking Technical Advisory Group
Key Stakeholders	Engaged	• Police/Fire/Emergency Services • Economic Development Board • Neighborhood Councils • School Districts • University of Washington • Tacoma Community College • Metro Parks of Tacoma • Puyallup Tribe of Indians • Tacoma-Pierce County Chamber of Commerce • Tacoma Housing Authority • Tacoma Rail • Major Employer (State Farm) • Pierce County Coalition for Active Transportation • Downtown Merchants Group • Other Business Interests	• Tacoma-Pierce County Health • Parking Services • Washington State Ferries • Washington Department of Transportation • Freight Mobility Strategic Investment Board • Modal Interests (Biking, Walking, Freight communities) • Americans with Disabilities Act/ Aging community interests • Interested members of the public (self-identified) • Tacoma Commission on Disabilities • ForeverGreen Trails • Hilltop Action Coalition • Historic Tacoma • Food Bank Representatives • Realtors
Neighboring Communities	Consult	• Puget Sound Regional Council • City of Federal Way • City of Fife • City of Fircrest	• City of Lakewood • City of University Place • Pierce County • City of Ruston
Everyone Else	Inform/Engage	• Larger community	

STAKEHOLDER INTERVIEWS

Planning Commissioners, City Council representatives, Transportation Commissioners, community leaders, business groups, general public, and other stakeholders were interviewed to gather comments on the City's transportation system.

The City began by identifying Plan stakeholders and associations that could provide valuable input for the TMP process. Individual interviews and group meetings were organized to gather information regarding the community's perceived transportation issues, needs, and what types of solutions might be effective. A set of common questions and a standard summary form was developed to ensure consistency across interviews, and to identify common themes.

COMMUNITY EVENTS

During the development of the TMP, numerous community events were attended by City and Consultant staff to explain the TMP process and offer an opportunity for public input and feedback. Different tools were used to collect the input and feedback, including comment forms/cards, writing on flip charts, verbal feedback where comments were written down, and aerial maps of the City where the public could record issues. Some of the major outreach that was conducted at community events is summarized below:

- Tacoma-Pierce County Chamber of Commerce (Spring 2014)
- South Sound Sustainability Expo (March 2014) Tacoma Convention and Trade Center
- Community Council of Tacoma (June 2014)
- Various Community Cleanups (April through September 2014)
- Regional Access and Mobility Partnership Meeting (July 2014)
- Tacoma Pride Festival (July 2014)
- Tacoma Metro Parks Ethnic Festival (July 2014)
- Tacoma's Strategic Visioning Community Meeting (July 2014) Tacoma Convention and Trade Center
- Tacoma Farmer's Markets – Broadway Market, 6th Avenue Market, South Tacoma Market, and Proctor Farmer's Market, (May through October 2014)

Community outreach continued during Spring 2015 and included:

- TMP Open House (March 2015)
- Comprehensive Plan Vision 2040 Workshops (March/April 2015)
- Monthly Non-English Speaking Senior Luncheons (April/May 2015)
- Neighborhood Council Monthly Meetings (March/April/May 2015)
- Various interested stakeholder meetings – Hillside Development Council, Downtown Merchant Group, TPC Chamber of Commerce (March/April/May 2015)
- Various City Committees and Commissions – BPTAG, PTAG, Sustainable Tacoma Commission, Planning Commission (March/April/May 2015)

PROJECT WEBSITE

The purpose of the website was not only to serve as an independent source of information, but to serve as a support tool to all other TMP outreach activities. The website initially identified the TMP update and provided regular updates as needed. The City posted interactive on-line surveys to gain feedback and public involvement from residents, businesses, and organizations that helped further shape this long-range planning effort and understand future land use needs and how pedestrian, bicycle, transit, and vehicle networks can support those. About 150 people participated in the online survey.

COMMUNITY OUTREACH RESULTS

The community outreach offered several avenues for public input, including stakeholder interviews, one-on-one discussions at community events, comment cards, and online surveys. This feedback provided the TMP team with data about current issues and project ideas that ultimately flowed into the recommendations of the plan. Most of the community's transportation concerns relate to congestion, safety, connectivity, community livability, the desire for more frequent transit service, basic maintenance needs, as well as an interest in more connected pedestrian and bicycle facilities. Residents value certain characteristics of the community – safe streets and sidewalks, mobility, and efficient connections within and outside the City. These values were heard during the interviews with stakeholders and identified by the City Council. The values are integrated into the policies that guide the City and the evaluation criteria that are used to prioritize transportation improvement projects.

HOW WERE THESE COMMENTS INCORPORATED IN THE TRANSPORTATION MASTER PLAN?

The City is committed to providing a transportation system that serves Tacoma residents and businesses. The final recommendations in the Plan consider the stakeholder comments and other issues raised from the public meetings. Some issues are very expensive and some will require close coordination with, or action from, other agencies and cities. The City strives to address issues in a timely manner. Plan stakeholders should remain involved to monitor the Plan as it is implemented. The City provides many opportunities and ways to participate - special task forces, standing council committees, and comments directed to Council members and City staff.

The above word cloud was created from public responses to open-ended questions asked on the TMP website. The size of each word indicates the frequency that each word was used.

PERMITTED ON GREEN ARROW
P ARKING
9700
P
SOUNDTRANSIT
MOTOR COACH INDUSTRIES
COURTYARD

PUBLIC OUTREACH

CHAPTER 3

PLANNING CONTEXT

Union Station
594 LAKEWOOD

History

Tacoma is a city with a rich history and a bright future. Home to the Puyallup tribe for thousands of years, Tacoma stands on a land of great natural beauty and resource abundance. Incorporated in 1875, Tacoma was branded the "City of Destiny" and selected as the western terminus of the Northern Pacific Railroad. Since the 1880s, Tacoma grew from a railroad outpost to a bustling port city of the early 20th Century.

In the middle of the 20th Century, Downtown Tacoma struggled, losing residents to suburbanization and jobs to downtown Seattle. Things began to turn around as the City led a downtown revival starting in the late 20th Century. This revival was accompanied by the establishment of the University of Washington, Tacoma campus, the restoration of Union Station, the opening of Tacoma Link, and the introduction of museums (America's Car Museum, Washington State History Museum, Museum of Glass, and the Tacoma Art Museum) that restored Tacoma as a destination place.

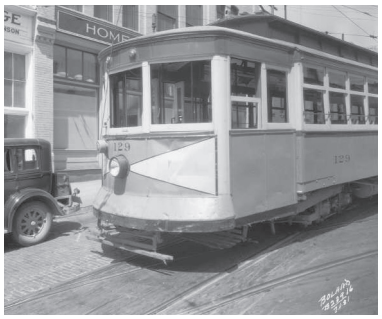
In recent years, Tacoma has only accelerated this revival. In 2008, Tacoma was named by Prevention Magazine as one of the most livable and walkable communities in the country. The City has achieved this while also working hand-in-hand with the Port of Tacoma to be simultaneously a great place to live and a great place for commerce. This TMP seeks to build on this rich history and provide a transportation system that truly serves the "City of Destiny."

Tacoma also has a deep multimodal transportation history including a sizeable streetcar network, bicycle facilities, waterborne passenger service, a growing automobile network that started prior to World War I, and even two airfields. Tacoma is one of the older cities in the Puget Sound area and has always been an important connection in the regional transportation network.

The following text on specific transportation infrastructure history was adapted from *Vanishing Tacoma* (Caroline Gallaci and Ron Karabaich, 2013).

STREETCARS

Streetcars were an important part of Tacoma's transportation system for about 50 years (approximately 1890 to 1940). In fact, notable streetcars lines existed on the following streets:



Source: Tacoma Public Library

- North Tacoma Avenue (tracks were laid in 1880). The streetcar lines moved continually outward from Downtown north of Division Street, helping create some of Tacoma's most historic neighborhoods.
- K Street (now Martin Luther King Jr. Way) was an area that was an ethnic center for immigrants, and still is today. The streetcar was operational in 1925.
- South McKinley Avenue. A streetcar line linked this neighborhood to the Downtown. This streetcar line was also operational in 1925.
- Sixth Avenue. This streetcar line connected the University of Puget Sound to the Downtown area. During 1940, the tracks were removed and sold as scrap.

Streetcars transformed the City as lines radiated outward from Downtown helping establish some of Tacoma's first neighborhoods, including present-day Stadium, Manitou, Proctor, and South Tacoma. By 1941 most of Tacoma's streetcar tracks were gone, buses were the major public transit mode, and the automobile was having a major influence on how transportation investments were being made.

Source: Tacoma Public Library

RAILWAY

In 1902, the Seattle-Tacoma Interurban Railway was launched. The railway was run by the Puget Sound Electric Railway Company and operated between 1902 and 1928.

BICYCLE FACILITIES

Source: Tacoma Public Library

Bicycle riding was popular in Tacoma in the late 1800s and the Tacoma Wheelmen's Bicycle Club was formed in 1888.
In fact, Tacoma even had a bicycle-only bridge crossing Galliher Gulch (near present day Holy Rosary Church). The bridge was promoted as the "longest, highest, and only exclusive bicycle bridge in the world".

AIRFIELDS

During the 1940s the Tacoma Flying Service was one of three companies with headquarters at Mueller-Harkins Airport in what is now Lakewood. This company had contracts with the Federal Government to train new pilots under the Civilian Pilot Program. There was one airfield in Tacoma, known as Oswald's, which was located near what is present-day Tacoma Community College. There was also a landing strip in Northeast Tacoma.

WATERBORNE PASSENGER TRANSPORTATION

In 1911, the City of Tacoma had its first dock, which was situated below what is present-day Murray Morgan Bridge. The Tacoma Municipal Dock, as it was called, was the focal point for all public waterborne passenger transportation. The dock served both steamers and ferry boats whose routes included traveling to Seattle and crossing the Narrows. The last ferry service from the dock was in 1940. The dock was demolished in 2002 due to neglect.

Source: Tacoma Public Library

AUTOMOBILES

The automobile arrived in Tacoma prior to World War I and its influence has continued to present day. By 1945 it was the dominant form of transportation. For many, the automobile meant greater mobility and now a family could live outside established neighborhoods helping create Tacoma's suburbs. Freeway development expanded the reach of the automobile throughout the Puget Sound region.
During the 1960s, I-5 was constructed with numerous interchanges with other highways such as SR 16, I-705, SR 7, and SR 167. The SR 16 corridor became a controlled-access freeway with the construction of the Nalley Valley Viaduct in 1969.

Source: Tacoma Public Library

I-705 is a short Interstate Highway spur route of Interstate 5 located entirely within Tacoma. I-705 serves as the connector between Interstate 5, Downtown Tacoma, Tacoma's waterfront, North Tacoma, and the Tacoma Dome. I-705, completed in 1990, was the last portion of the Interstate Highway System to be constructed in Washington State. Initially envisioned as an important link for mobility, many residents and policy makers now view I-705 as a major barrier between Downtown and the waterfront.

DEMOGRAPHICS (2010 CENSUS)

As of the 2010 census there were 198,397 people, 78,541 households, and 45,716 families residing in the City.[1] The population density was 3,865 inhabitants per square mile. There were 81,102 housing units at an average density of 1,619 per square mile. In 2010, the racial makeup of the City was 64.9% White, 12.2% African American, 8.2% Asian, 1.8% Native American, 1.2% Pacific Islander, and 8.1% were from two or more races. Hispanic or Latino of any race were 11.3% of the population. Non-Hispanic Whites were 60.5% of the population, compared to 89.7% in 1970. In terms of these statistics, Tacoma's peer cities include Bellevue, Renton, and Everett.

Tacoma's historical population growth is shown to the right. The household and job allocations the City is planning for represent significant growth by 2040. Tacoma may not see this level of growth in that time frame but the TMP prepares the City for development up to these levels.

Tacoma's Housing and Transportation Affordability Index, which represents the cost of housing and transportation, indicates that living in and getting around Tacoma costs the average household 43 percent of its income.[2]

HISTORICAL POPULATION		
CENSUS	POP.	%±
1870	78	—
1880	1,098	1,307.7%
1890	36,006	3,179.2%
1900	37,714	4.7%
1910	83,743	122.0%
1920	96,965	15.8%
1930	106,817	10.2%
1940	109,408	2.4%
1950	143,673	31.3%
1960	147,979	3.0%
1970	154,581	4.5%
1980	158,501	2.5%
1990	176,664	11.5%
2000	193,556	9.6%
2010	198,397	2.5%
Est. 2013	203,446	2.5%

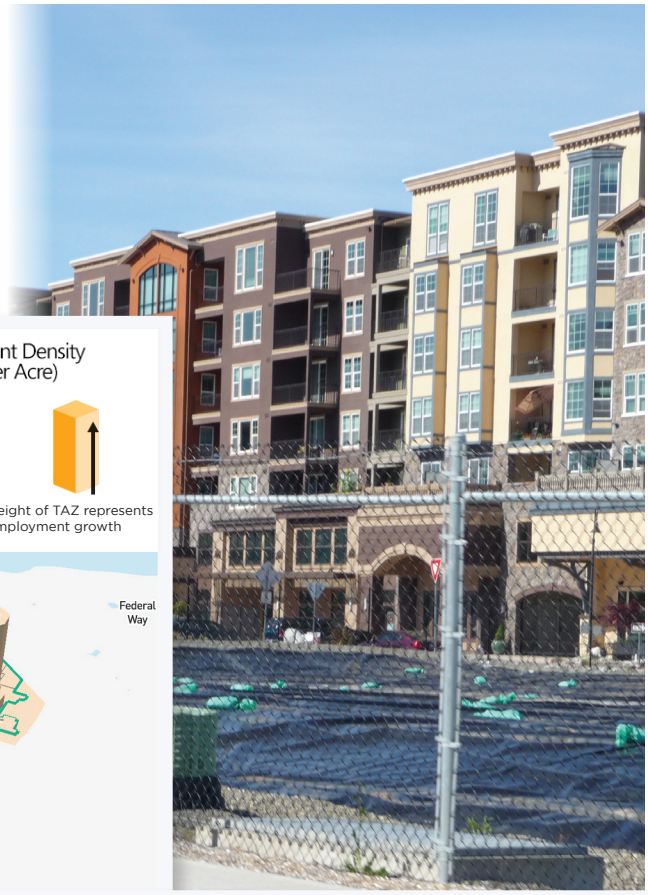
Source:
U.S. Decennial Census 2013 Estimate

[1] 2010 Census Brief CS2010BR-14.

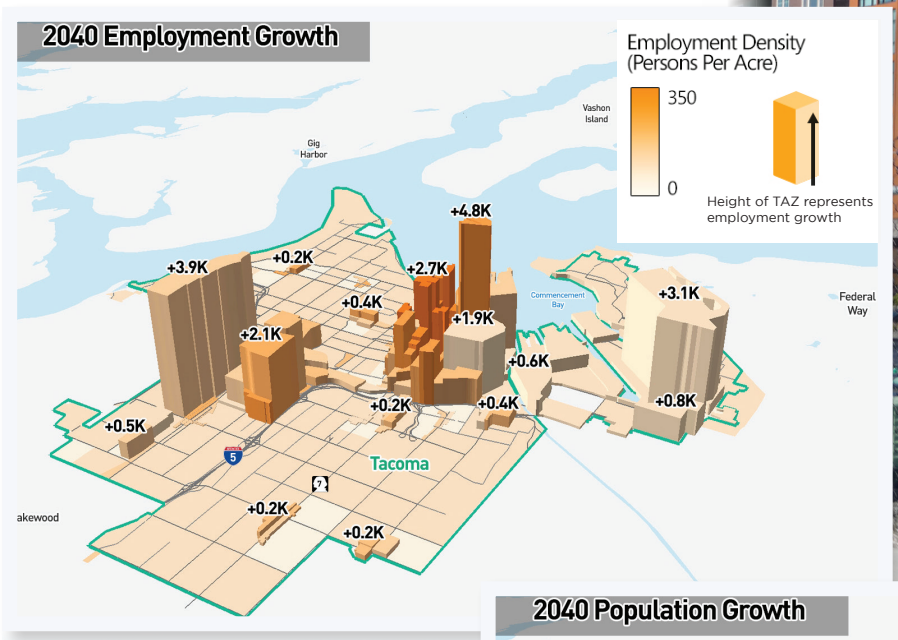
[2] Center for Neighborhood Technology, 2015.

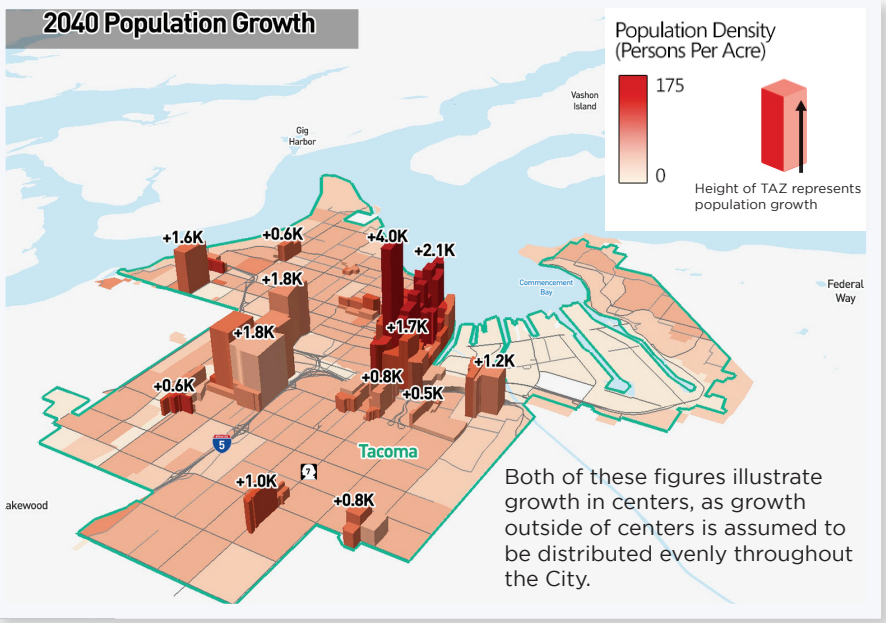
People & Economy

One of the key mandates of this plan is accommodating expected future growth in Tacoma. Between now and 2040, Tacoma can expect to plan for 127,000 new residents and 97,000 new jobs, according to the PSRC and the Urban Form Chapter of this Comprehensive Plan.



SPATIAL DISTRIBUTION OF CITY'S 2040 GROWTH





Both of these figures illustrate growth in centers, as growth outside of centers is assumed to be distributed evenly throughout the City.

MIXED USE CENTERS

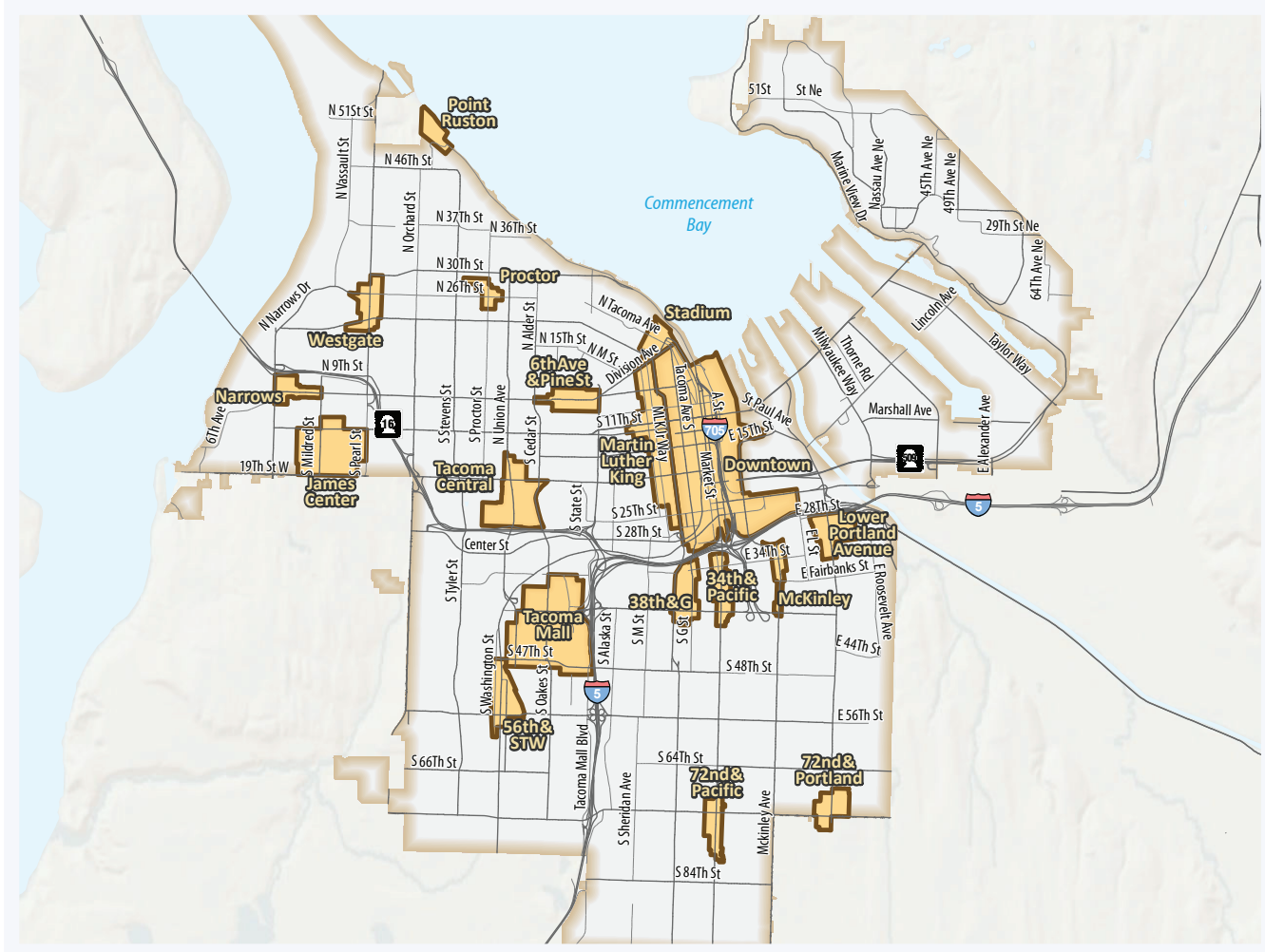
The City has established a vision for where this growth in households and employment will occur. Much of the City's growth is intended to occur within 18 Mixed Use Centers (MUCs). These MUCs are intended to be "urban villages"—places that are distinctive, attractive, and rich in amenities and that provide more convenience and choice for residents and employees.

A key strategy within MUCs is creating dense, walkable environments that are served by transit. Within MUCs, the City would focus on creating Complete Streets that accommodate a range of transportation choices.

REGIONAL GROWTH CENTERS

A key element of VISION 2040 is focusing future growth into dense, walkable, mixed-use areas called Regional Growth Centers (RGC). Tacoma has two RGCs – Downtown and the Mall Area. These RGCs represent an important subset of the City's designated MUCs, as these regional centers are high priority locations for transportation investments that will reduce overall vehicle miles traveled (VMT) and greenhouse gas emissions (GHG).

DESIGNATED MIXED USE CENTERS

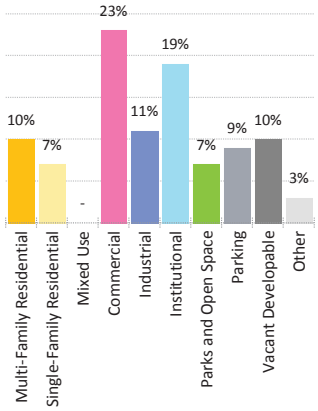


DOWNTOWN TACOMA

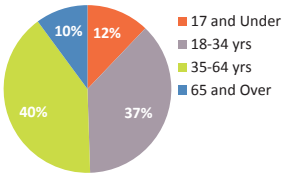
The Downtown Tacoma RGC includes a wide variety of commercial, industrial, residential, institutional, and civic uses. Downtown Tacoma includes several city, county, and state government offices, as well as hospitals and schools, including the University of Washington, Evergreen State College and Bates Technical College. Downtown Tacoma includes a number of restaurants and small retailers, which are supported by patrons from other businesses and offices within walking distance in Downtown. The Tacoma Dome and Tacoma Convention Center accommodate a variety of events and exhibits, and cultural opportunities are offered in facilities like the Tacoma Art Museum, the Washington State History Museum, the Broadway Center for the Performing Arts, the International Museum of Glass, and the Children's Museum, all within walking distance of each other. Refurbished historic theaters such as the Rialto, Pantages, Temple, and Theater on the Square provide both entertainment and a sense of Tacoma's rich history. The remodeled Union Depot Federal Court Building, the Old City Hall Historic District, and the Union Station Warehouse Historic District also contribute to the character of the center. Downtown Tacoma includes many small blocks, creating a fine-grained street network that is easily accessible to users by any mode.

Tacoma Downtown covers 1,424 acres with a net developable acreage of 807 acres (57% of gross acres). In terms of its role in the City overall, Downtown Tacoma currently contains 4.3 percent of the City's land area, 7 percent of the population, 9 percent of the housing, and 33 percent of the employment. Today, commute mode share in Downtown is 72 percent single occupancy vehicles (SOV), 10 percent high occupancy vehicles (HOV), 10 percent transit, and 7 percent walk and bicycle.

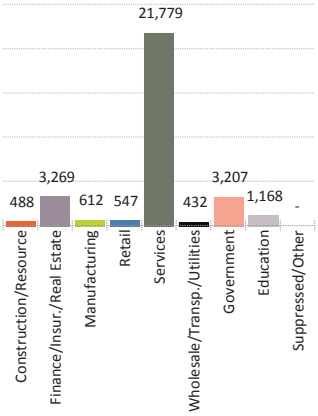
Current Land Use
(807 net acres)



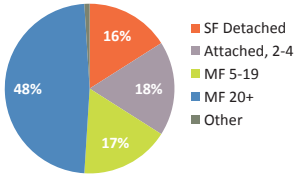
Age of Residents
(13,360 residents)



Jobs by Sector
(31,502 jobs)

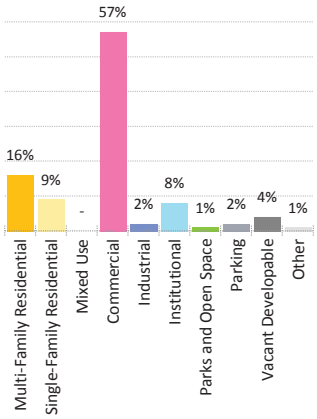


Housing Units, by Type
(8,495 units)

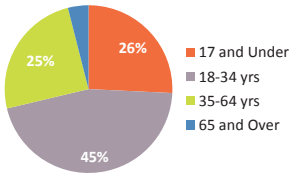


Source: PSRC

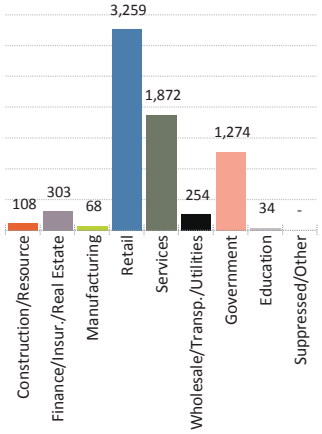
Current Land Use
(394 net acres)



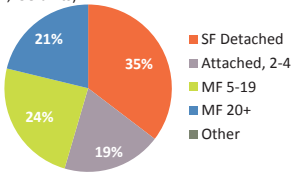
Age of Residents
(3,761 residents)



Jobs by Sector
(7,171 jobs)



Housing Units, by Type
(1,798 units)

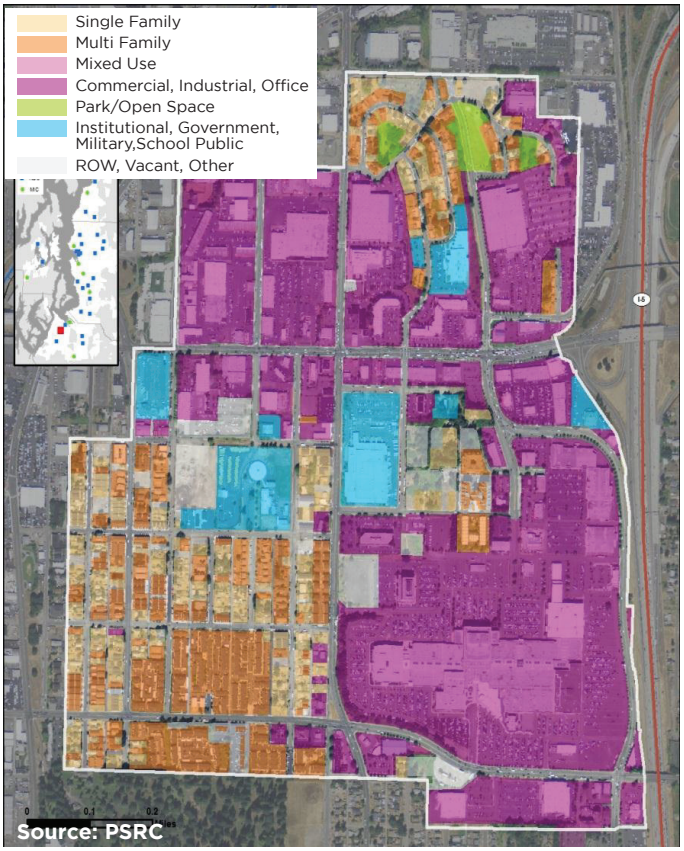


Source: PSRC

TACOMA MALL

Lying approximately two miles southwest of Downtown Tacoma, the Tacoma Mall RGC is an important retail district within the City. The City anticipates that the Tacoma Mall area will remain a major retail center, and that it will accommodate future growth, including the development of new office, supporting retail, and multifamily residential uses. The Tacoma Mall area covers 485 acres with a net developable acreage of 394 acres (81% of gross acres). In terms of its role in the City, the Tacoma Mall RGC contains 1.5 percent of the City's overall land area, 2 percent of the population, 2 percent of the housing, and 7 percent of the City's employment.

The City is currently developing a Subarea Plan for the Tacoma Mall area that will identify additional multimodal transportation improvements. Today, commute mode share in the Tacoma Mall area is 83 percent single occupancy vehicles, 8 percent high occupancy vehicles, 5 percent transit, and 4 percent walk and bicycle.



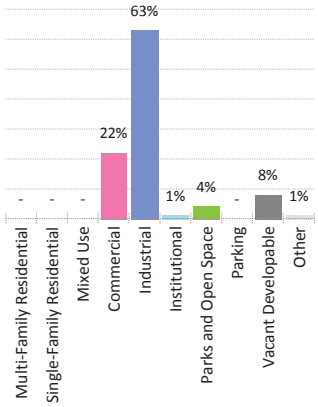
REGIONAL MANUFACTURING/ INDUSTRIAL CENTERS

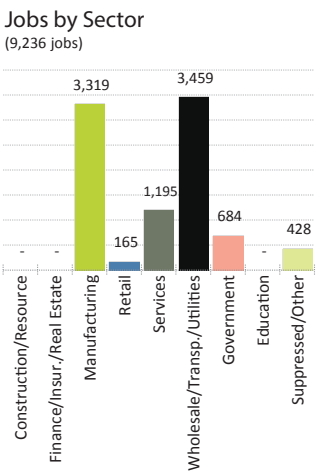
Another key element of VISION 2040 is focusing employment into eight dense nodes called Manufacturing/Industrial Centers (MIC). Tacoma has one MIC – the Port of Tacoma. MICs represent some of the region's most productive and intensely developed manufacturing and industrial lands.

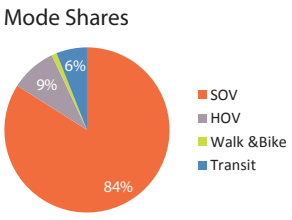
PORT OF TACOMA

The Port of Tacoma MIC comprises 5,160 acres of waterfront land and adjoining waterways on Tacoma's Commencement Bay. The center includes the natural deep-water port and industrial lands adjoining Hylebos Waterway, Blair Waterway, Sitcum Waterway, the Puyallup River, Saint Paul Waterway, Middle Waterway, Milwaukee Waterway, and Thea Foss Waterway. The Port is home to Tacoma and Pierce County's highest concentration of industrial and manufacturing activity, a major part of which is focused on port and marine terminals, marine cargo, on-dock intermodal rail yards, container terminals, roll-on/roll-off facilities, non-containerized cargo facilities, automobile import facilities, shipyards, boat building, and drydocks. The Port of Tacoma estimated the value of international trade passing through the Port in 2011 at $34.5 billion, with the value of domestic trade estimated at $3 billion. The industrial development district includes warehousing, transloading, manufacturing, fabrication, and storage on sites close to marine cargo terminals. The Center has excellent connections to two transcontinental railroads and the regional highway system.

Seventy-six percent of the Port of Tacoma MICs 5,160 acres are developable. In terms of its role in the City, the Port of Tacoma MIC contains 16 percent of the City's overall land area, 0.7 percent of the population, 0 percent of the housing, and 9.5 percent of the City's employment.







Source: PSRC

Regional Transportation System Today

TRAVEL PATTERNS

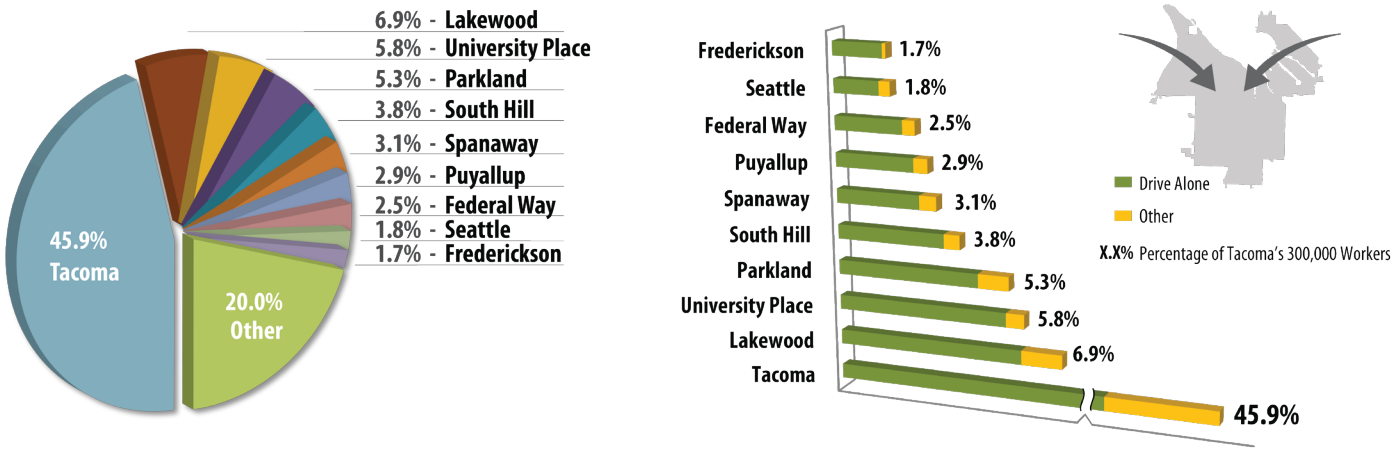
Tacoma's regional setting is important. Nestled in the South Sound, the City is bounded by Puget Sound and Commencement Bay (a deep water harbor of international significance), as well as the communities of Ruston, Fife, Federal Way, Fircrest, Lakewood, University Place, and unincorporated Pierce County. Tacoma sits just north of a major military installation, the Joint Base Lewis McChord (JBLM), and is home to the Port of Tacoma. The City is bisected by two major state facilities (I-5 and SR 16) and includes other highways of regional importance (I-705 and SR 509).

The City also hosts a segment of the SR 167 gap, which is among the State's top priorities for completing the highway system. Tacoma is served by Pierce Transit, Sound Transit, Intercity Transit, and numerous regional recreational trails, and other state services such as the Tahlequah Ferry and Amtrak.

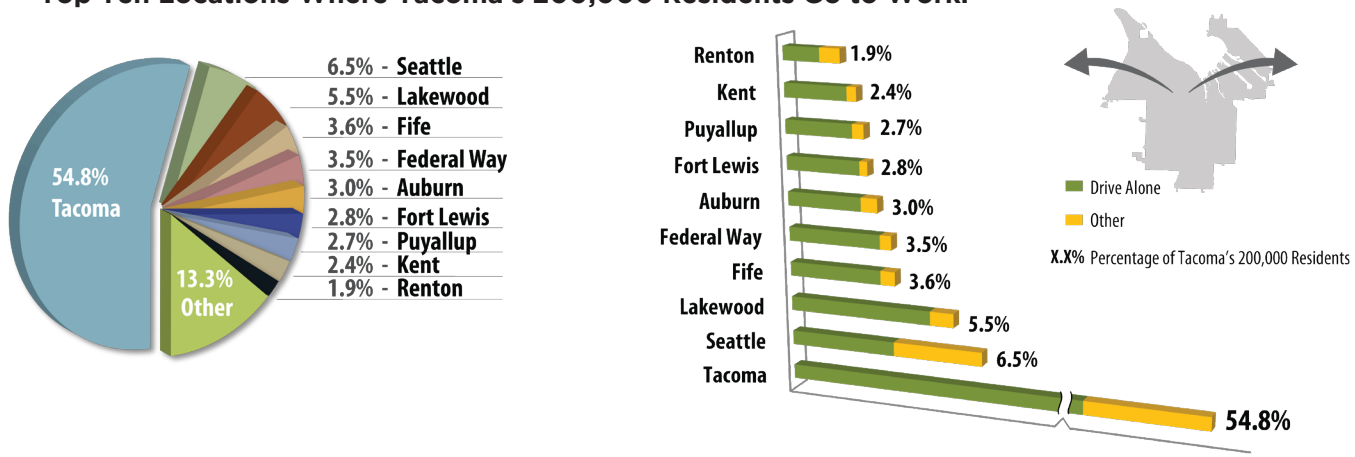
Given this strategic location, transportation conditions in the City are strongly influenced by forces beyond the City's control, including pass-through JBLM employees, freight vehicles from the Port, and travelers commuting between Pierce County communities and employment centers to the north.

The following charts show the commute flows of workers traveling into and out of Tacoma.

Top Ten Locations Where Tacoma's 300,000 Workers Travel From:



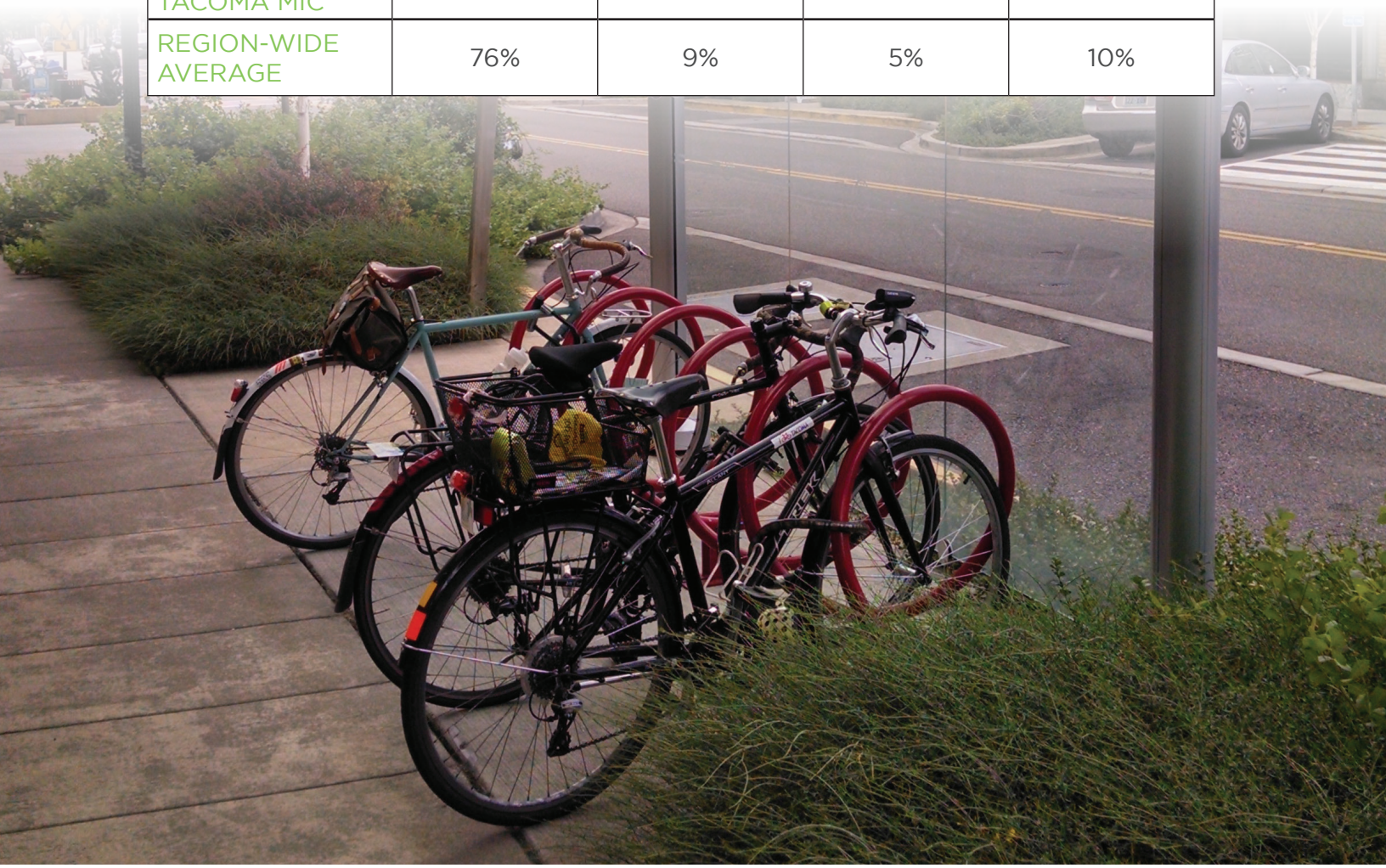
Top Ten Locations Where Tacoma's 200,000 Residents Go to Work:



MODE SPLIT

The PSRC reports on mode split within the regional growth centers (RGCs) and manufacturing/industrial centers (MICs). The following table compares mode split (based on work trips measured in 2010) measured in the Downtown and Mall area RGCs and the Port of Tacoma MIC with regional averages.

CENTER	SOV	HOV	WALK/ BICYCLE	TRANSIT
TACOMA DOWNTOWN RGC	72%	10%	7%	10%
TACOMA MALL RGC	83%	8%	4%	5%
REGION-WIDE RGC AVERAGE	59%	9%	10%	22%
PORT OF TACOMA MIC	87%	8%	1%	3%
REGION-WIDE AVERAGE	76%	9%	5%	10%



PEDESTRIAN

Tacoma residents enjoy a dense grid network and sidewalk coverage throughout much of the City.

While sidewalk coverage is fairly good, the City would like to see more travel accomplished through active modes like walking and bicycling. Access for people with disabilities is also an important aspect of the pedestrian system. As such, the City has placed substantial recent investments in the completion of a Mobility Master Plan (MoMaP), planning, design, and construction of walking and bicycling facilities like the Prairie Line Trail and Schuster Parkway, and construction of $4.0 million in pedestrian safety improvements Citywide in 2015 and 2016.

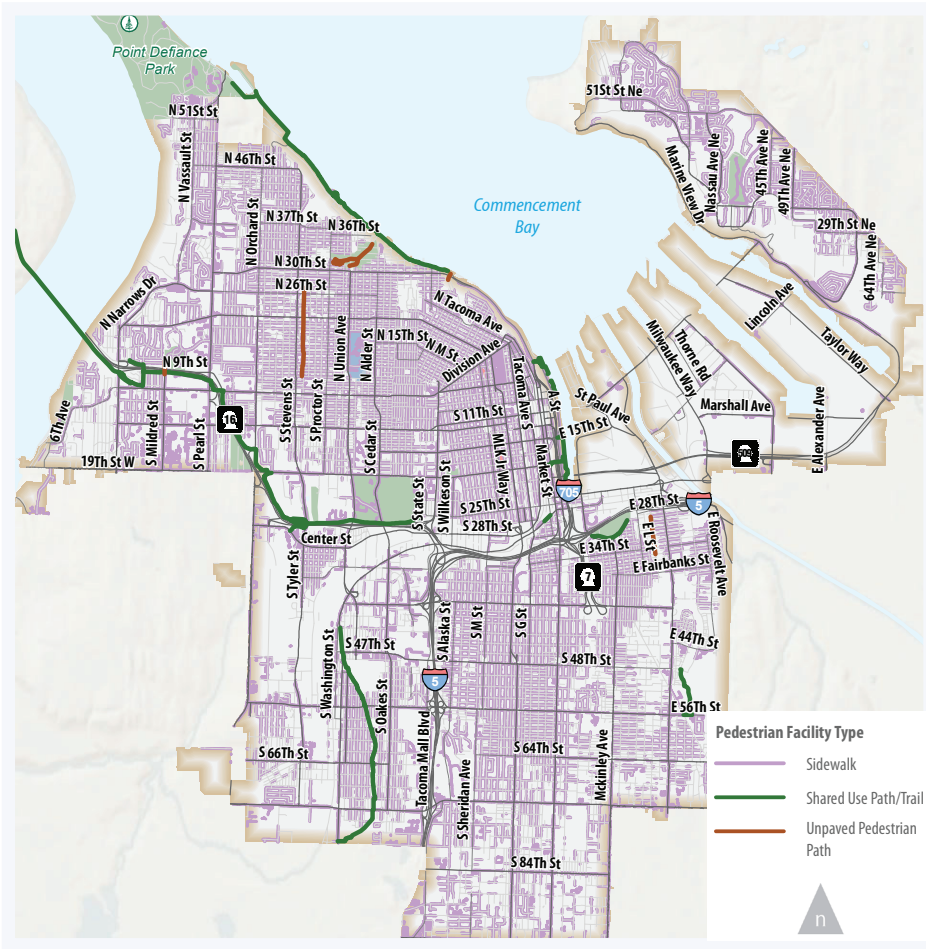
TRAILS

ACCESSIBILITY RAMPS

SIDEWALKS

HIGH-VISIBILITY CROSSWALKS

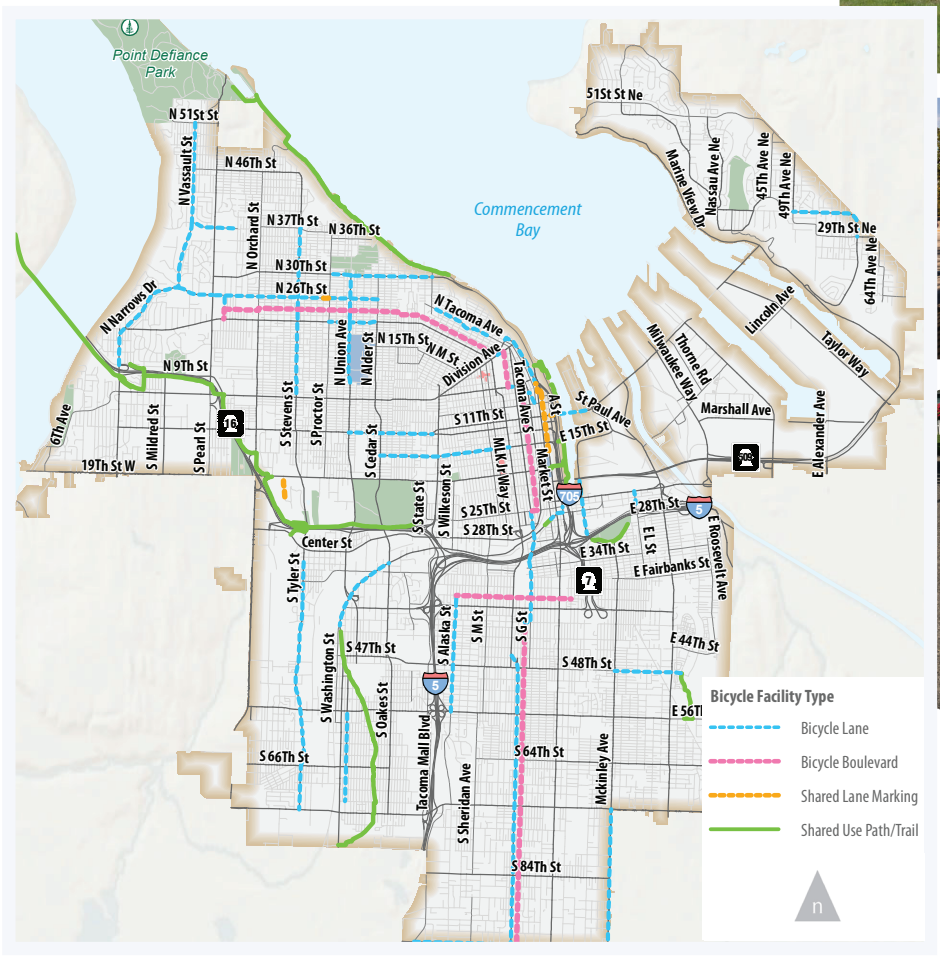
WALKING FACILITIES IN TACOMA



BICYCLE

In contrast to the City's mature pedestrian network, bicycle facilities in Tacoma are relatively new. The map shows the location of trails, bicycle lanes, bicycle boulevards, and shared lane markings within the City. The 2009 MoMaP, while planning for all active transportation modes, placed a significant emphasis on advancing the transportation network for bicycles. The MoMaP includes an annual look at how the City is progressing in building out its active transportation network. This work was likely a major factor in the League of American Bicyclists 2012 designation of Tacoma as a Bicycle Friendly Community at the Bronze Level.

BICYCLE FACILITIES IN TACOMA



TRANSIT

Pierce Transit and Sound Transit are the primary operators of transit service in Tacoma. Pierce Transit operates 42 bus routes in the City that collectively cover 391 route miles. Pierce Transit has an annual ridership of 13 million and many of these trips start or end in Tacoma.

PIERCE TRANSIT SERVICE CUTS

Since the recession in 2008, Pierce Transit has cut service by 31% and moved to a high ridership and efficiency service plan to move the most people with the limited resources available. Voters rejected two separate sales tax measures in 2011 and 2012 that would have maintained service. However, increased sales tax revenues due to the economic recovery, elimination of some planned improvements, and sale of surplus property have allowed Pierce Transit to maintain 2012 service levels and even restore some service in 2014.

Sound Transit operates six express bus routes in Tacoma, in addition to Sounder Commuter Rail and Link Light Rail services. Sounder trains connect between Lakewood and Seattle, offering several round trips per day, but generally favor a commute flow into Downtown Seattle. Sounder Trains have stops in South Tacoma and at the Tacoma Dome. Link Light Rail connects the 1.6-mile distance between Downtown Tacoma and the Tacoma Dome Station. Link Light Rail is currently a free service, although it is set to start charging in September 2016.

TRANSIT SERVICES IN TACOMA

FREIGHT

While freight and delivery vehicles are accommodated on streets throughout Tacoma, a major generator of freight volumes in Tacoma is the Port. The transportation conditions in the port area were evaluated extensively in the *2011 Tideflats Area Transportation Study* and the *2014 Port of Tacoma Land Use and Transportation Plan*. Key components of these plans are captured below. The complex nature of the Tideflats area results in a variety of transportation opportunities and constraints. Transportation challenges include bottlenecks with heavy congestion, interaction between rail and roads, and bridge conditions. Daily traffic volumes (from 2011) in the vicinity of the Port of Tacoma are shown below.

I-5 is a primary artery through the area, carrying over 180,000 daily vehicles. SR 509, which traverses the Tideflats, carries 30,000 vehicles per day. The Port is served by three main interchanges with I-5 at Port of Tacoma Road, 54th Avenue E, and Portland Avenue. Trucks rely on all three interchanges to access the shipping terminals within the Port.

AVERAGE DAILY TRAFFIC VOLUMES IN PORT AREA (2011)

A key regional connection is River Road E (SR 167). This principal arterial travels along the west side of the Puyallup River and connects I-5 with the SR 167 freeway in Puyallup. The "SR 167 gap" is currently among the top priorities for completing the State highway system.

The City has designated a network of "Heavy Haul Routes" which identifies those routes that carry the highest volumes of truck traffic and require roadway designs in line with this function.

- The Port of Tacoma handled 17.4 million tons of cargo in 2012, making it the 23rd largest port in the United States.
- The Port of Tacoma owns approximately half of the 5,000 acres in the Tideflats area.
- Port activities support 29,000 jobs and generate more than $3 billion in economic activity.
- This economic activity translates to more than $223 million in state and local taxes for education, police, fire services, and road improvements.

DESIGNATED HEAVY HAUL ROUTES AND TRUCK CORRIDORS

The State designates truck corridors based on the tonnage they accommodate.

- **T-1:** more than 10 million tons per year
- **T-2:** 4 million to 10 million tons per year
- **T-3:** 300,000 to 4 million tons per year
- **T-4:** 100,000 to 300,000 tons per year
- **T-5:** at least 20,000 tons in 60 days and less than 100,000 tons per year

AUTO

Tacoma has a mature and well-connected street network. Congestion is highest during the morning and evening peak periods and is most pronounced along important state routes (I-5, SR 16, SR 509) and city facilities that connect with these state routes.

Tacoma's current level of service (LOS) policy is based on automobile delay alone but seeks to provide priority treatment to transit and HOVs on arterial corridors and heavy trucks on Port area arterials by allowing for a lower LOS for vehicular traffic within the identified corridors.

This TMP reevaluates Tacoma's auto LOS policy given the variety of objectives (livability, fiscal sustainability, equity) that the City is looking to achieve.

ESTIMATED TRAFFIC FLOWS AND CONGESTION LEVELS IN TACOMA (2013)

City Street Functional Classification System

The City street network provides facilities for a wide variety of users. For vehicles, it is a network whose efficiency depends upon how well the streets move traffic through the system. The City classifies streets according to a hierarchy of function, from most intensive use to least intensive. Functional classification, as this is called, groups streets and highways into classes according to their role in the network. The functional classification of each roadway determines its roadway design and ultimate cross section for reconstruction.

Classification is important to the City because it helps ensure that the needed capacity will be available and that street improvements will balance the differing needs of vehicles and non-motorized travelers. The City defines the specific standards for streets in Tacoma. The figure on the following page shows the existing functional classification of the streets within Tacoma. There are five main classes of streets in Tacoma: Principal Arterials, Minor Arterials, Collector Arterials, Nonclassified Arterials, and Local Streets.

FUNCTIONAL CLASSIFICATION OF ROADWAYS IN TACOMA

Principal Arterials are streets that have a high percentage of long-distance vehicle trips.

Minor Arterials are streets that have a near balanced percentage of long-distance vehicle trips with local access usage.

Collector Arterials are streets that have a low percentage of long-distance vehicle trips.

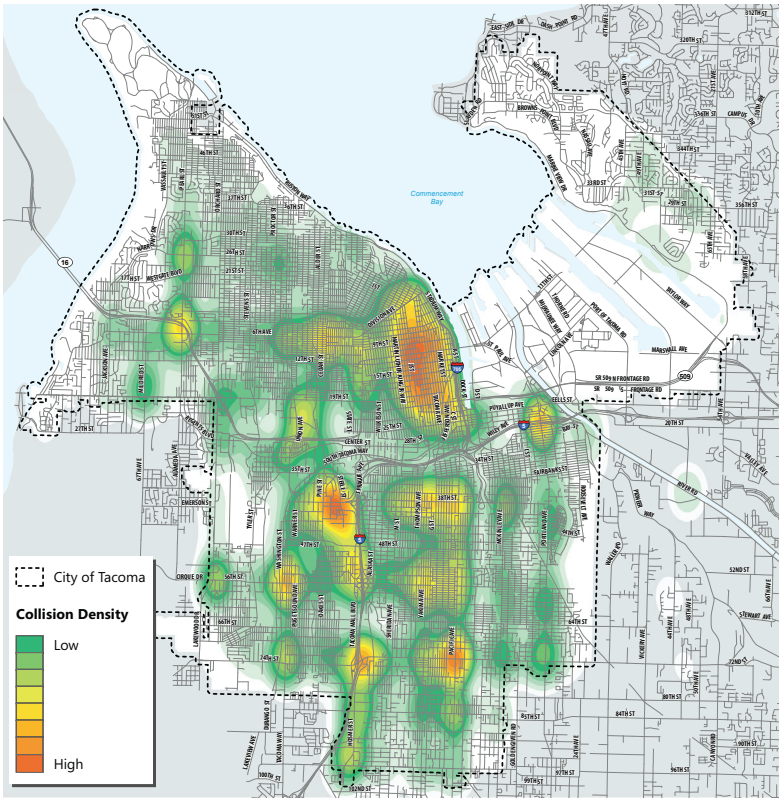
Nonclassified Arterials serve limited through traffic movement.

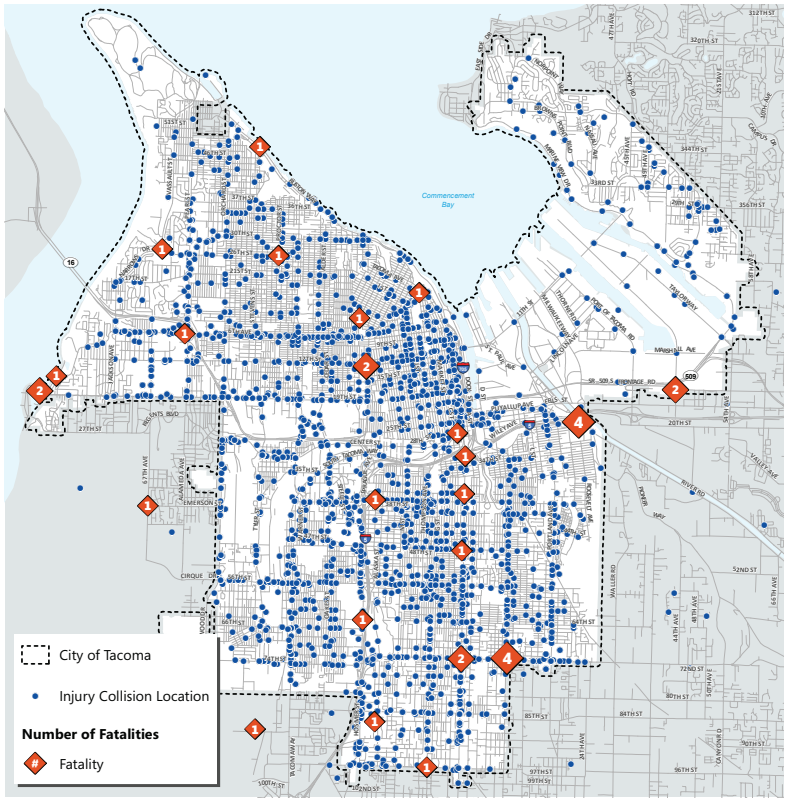
SAFETY

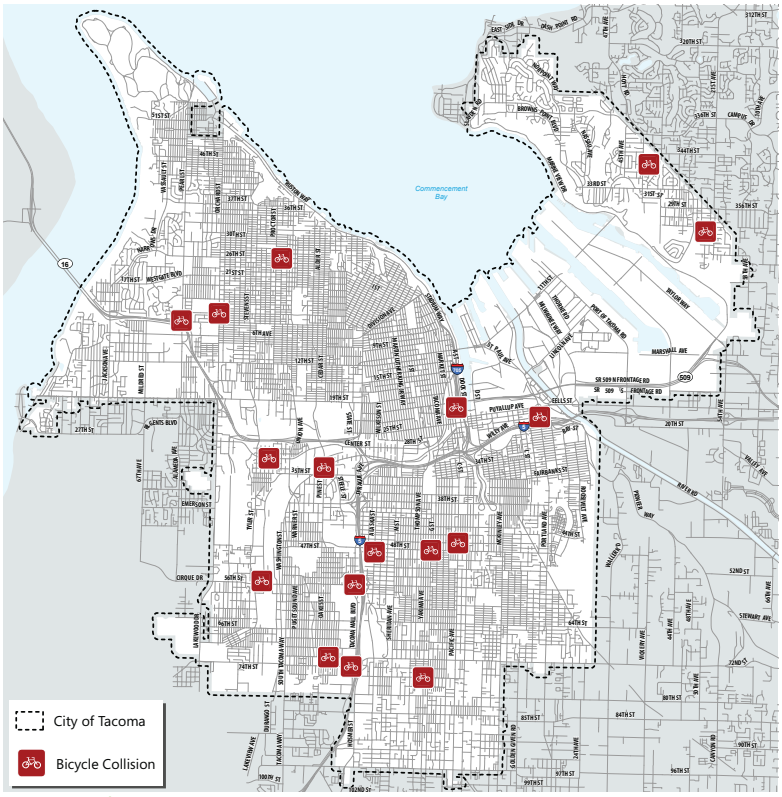
A key goal of this plan is to address locations where safety is a concern. The maps on page 50 show locations where collisions were reported between 2010 and 2014. The data highlight locations with high overall collision rates and collisions that resulted in injuries or fatalities, and those that include a bicyclist or pedestrian. Many locations with a high number of crashes are located on corridors with pedestrian, bicycle, and transit treatments recommended. These engineering treatments, along with education, enforcement, and evaluation of traffic safety can improve conditions in Tacoma.

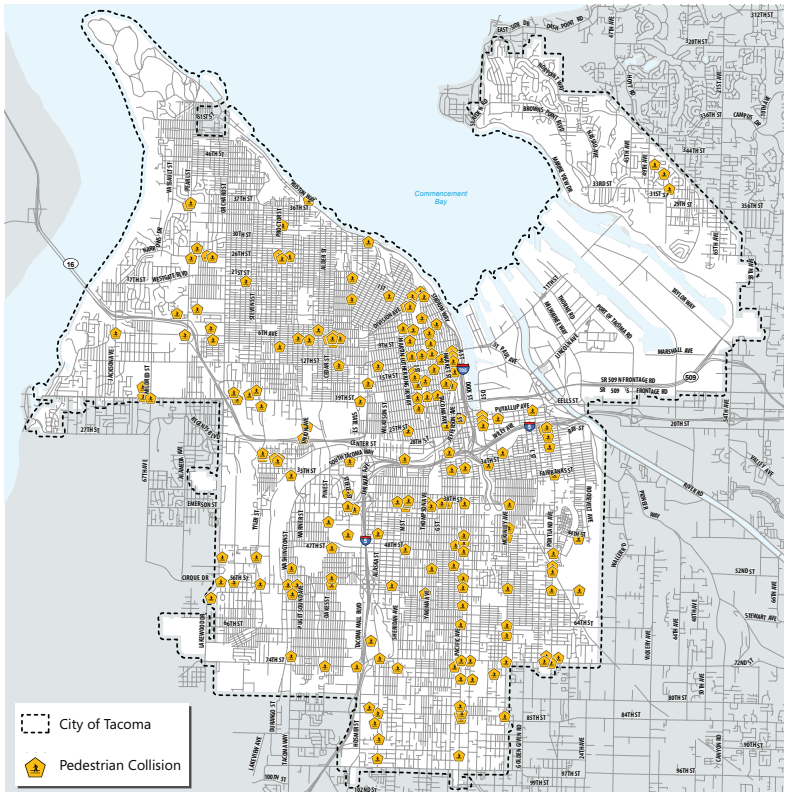
REPORTED COLLISIONS IN TACOMA (2010-2014)

For this figure, and all subsequent information related to collisions, the following disclaimer applies: "*Under 23 U.S. Code § 409, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.*"









Forecasts & Growth

The Growth Management Act (GMA) requires that this TMP supports the land uses envisioned in the Comprehensive Plan. Thus, an important component of this TMP's development was forecasting how growth in the City (including the MUCs, RGCs, and Port of Tacoma), as well as throughout the region, would influence demand on Tacoma's transportation network. A description of the travel demand modeling process is provided below, with more detail about land use assumptions and model documentation provided in **Appendix A.**

- **The Tool.** In 2014, the City of Tacoma updated its travel model based on the PSRC regional travel model. This model forecasts traffic volumes during the evening peak period (3-6pm) along many of Tacoma's key streets and intersections. This tool provides a reasonable foundation for estimated year 2014 traffic volumes, as well as for developing year 2040 forecasts, as the underlying land use assumptions have been updated to match the land use forecasts for the current Comprehensive Plan.

- **Estimate Land Use Growth in the City.** As a part of the Comprehensive Plan update, the City is planning for growth in housing units and employment through 2040. As described earlier, much of this growth is directed to the MUCs and at the Port of Tacoma. In total, the City plans for 127,000 new residents and 97,000 new jobs.

- **Capture Regional Growth Patterns.** Other communities throughout the region are going through this very same process, based on direction from PSRC. Since travel does not stop at a jurisdiction's borders, it is important to capture how regional growth could influence travel patterns on Tacoma's streets.

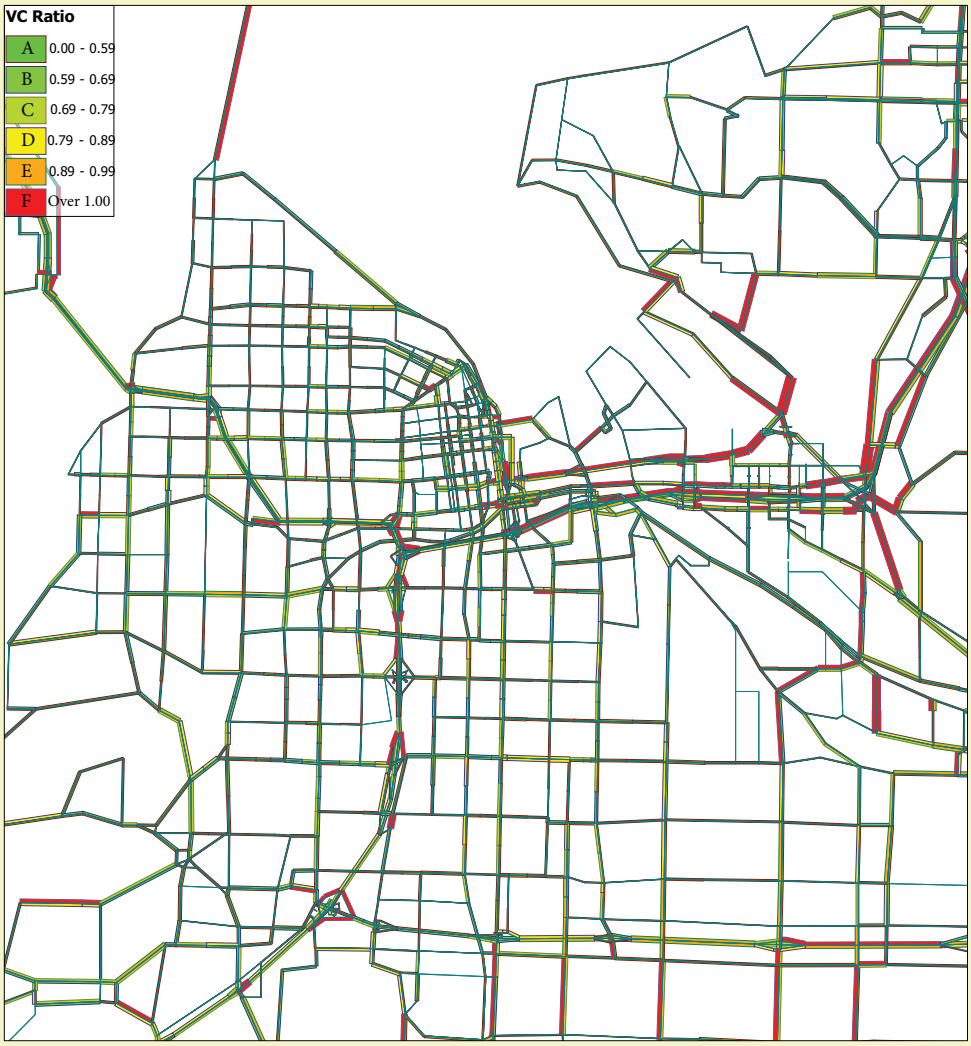
Screenshot of the Tacoma travel model network's roadway network capacity classes. Red links represent state highways and other colors are city arterials.

- **Translating Land Uses into Trips.** The next step is evaluating how the City and regional growth assumptions described in this plan translate into walking, biking, transit, and auto trips. The travel model represents the number of housing units and employees in spatial units called Traffic Analysis Zones (TAZs). TAZs can be as small as a few street blocks to as large as an entire neighborhood. They provide a simplified means to represent trip making rather than modeling individual parcels. The travel model estimates trips generated from each TAZ (both inside and outside of the City) using established relationships between different land use types with trip making. These trips are then assigned onto the roadway network to estimate how much traffic would be on each street during the evening commute hour.

Model Refinements. The final step is refining the forecasts based on reality checks that the travel model may not capture. In this case, forecasts were refined to reflect the more walkable, urban characteristic planned for Tacoma's downtown by recognizing that some short trips could be made by walking and biking rather than driving. Moreover, travel patterns were refined to reflect existing driver preferences.

The following figure shows the results of the Year 2040 travel modeling performed. As the modeling shows, several State facilities are expected to operate below the State's LOS standard of D for Highways of Statewide Significance and LOS E-Mitigated standard for Highways of Regional Significance. The growth in traffic on these facilities is driven by regional growth, as well as growth anticipated within the City. Specifically, the following State facilities may see impacted operations in the planning horizon:

- SR 16
- I-5
- SR 509
- SR 512
- I-705
- SR 7
- SR 167



In addition, some local streets are forecast to experience peak period congestion in year 2040. The City is moving to a performance standard based on system completeness rather than vehicular delay.

In general, the City's network has sufficient capacity to absorb the forecast growth. The most significant travel delays on the City's network are a result of backups on the regional network, rather than local-level capacity constraints; however, only a small portion of the City's system is expected to exceed capacity and will do so only for a small part of the day. The forecast operations would have met existing standards for concurrency. This Transportation Master Plan is the first step in moving Tacoma to a plan-based rather than arterial/intersection based concurrency system. This plan-based system is a tool to manage the pace of development while providing transportation improvements for all users including bicyclists, pedestrians, drivers, and transit riders, which may also help alleviate projected shortcomings on the State system.

PLANNING CONTEXT

CHAPTER 4

FUTURE VISION

"Tacoma is a **sustainable** community with many diverse residents, businesses, and visitors who have various transportation priorities. The City is **strategic** in how it plans its transportation system with an emphasis on carrying the people and goods that foster Tacoma's culture, character, and competitiveness. The transportation system offers **multimodal** travel options that provide safe **access** for all users and neighborhoods, encourage **healthy living**, and protect the **environment**."

This vision is supported by six key goals, which provide guidance for the priorities and recommendations embodied in this plan:

Being a Partner

Proactively **develop partnerships** to best serve all users of the regional transportation system.

Protecting Community

Protect natural, as well as neighborhood, assets to create and connect places where people can live, work, and play in a safe and healthy environment.

Providing Mobility for All

Prioritize the movement of people and goods via modes that have the least environmental impact and greatest contribution to livability in order to build a **balanced transportation network** that provides mobility options, accessibility, equity, and economic vitality for all.

Striving for Fiscal/ Environmental/ Social Sustainability

Design an **environmentally and fiscally sustainable transportation system** that serves its users through strategic planning efforts, funding, and projects.

Leveraging Programs/Strategies

Develop and implement **transportation demand management strategies** and programs that contribute to the overall effectiveness of the multimodal transportation system.

Linking to Land Use

Build a transportation network that **reinforces Tacoma's land use vision, the region's Vision 2040, and the Growth Management Act**.

Goals & Policies

Over the past 18 months, City staff and a citizen-volunteer Transportation Commission have embarked on a major undertaking to establish Tacoma's first ever TMP. The TMP's role is to help the Tacoma community consider its transportation systems, how well they're functioning and what needs, including funding, will be necessary over the next 25 years and beyond. To set the tone for this TMP, the Transportation Commission established the following future vision for Tacoma, which guides all aspects of this plan:

VISION

Tacoma is a **sustainable** community with many diverse residents, businesses, and visitors who have various transportation priorities. The City is **strategic** in how it plans its transportation system with an emphasis on carrying the people and goods that foster Tacoma's culture, character, and competitiveness. The transportation system offers **multimodal** travel options that provide safe **access** for all users and neighborhoods, encourage **healthy living**, and protect the **environment**.

The following goals and policies provide guidelines and direction to achieve the vision and for the continued development and improvement of citywide transportation facilities and services.

1. INTERGOVERNMENTAL COORDINATION AND CITIZEN PARTICIPATION

GOAL

Proactively develop partnerships to best serve all users of the regional transportation system.

POLICY INTENT

Transportation issues involve many stakeholders and do not respect jurisdictional or neighborhood boundaries. Tacoma's transportation planning and implementation processes strive to utilize best practices and tools to effectively coordinate on state, regional, and county-wide efforts, neighborhood needs, and stakeholder issues.

POLICIES

1.1 Intergovernmental Coordination
Ensure a well-planned regional transportation system that uses resources efficiently to serve all users through active coordination with federal, state, regional, local, tribal, and other interested agencies.

1.2 Citizen Participation
Include and encourage citizen participation in all transportation planning efforts through workshops, volunteer commissions, social media, and other outlets to accommodate the needs and desires of the public. Include specific outreach to traditionally underserved or vulnerable populations. Carry work done for subarea plans forward into more broad-reaching efforts.

1.3 Active Transportation Regional Coordination
Coordinate the planning, construction, and operation of facilities and shared-use paths for active travelers with other agencies where key corridors extend outside of Tacoma into neighboring jurisdictions, including but not limited to: extension of the Historic Water Flume Line Trail, Pipeline Trail, Tacoma Dome to Sumner Trail, and the Trail to Mountain Corridor.

1.4 Partner with Transit
Integrate land use and transportation planning, promote transit-oriented or transit-supportive development (TOD) and multimodal transit access, and ultimately improve the reliability, availability, and convenience of bus, streetcar, and light rail transit options for all users and modes through partnerships with public transit agencies, local and regional government, and other regional agencies to leverage resources.

1.5 Emergency Response
Maintain emergency vehicle access throughout Tacoma's transportation network by including emergency service providers in review of roadway planning and design efforts.

1.6 Enforcement
Enhance safety for all road users through increased traffic education and enforcement on city streets, trails, walkways, and bikeways with the involvement of the Tacoma Police Department.

2. COMMUNITY PRESERVATION

GOAL

Protect natural, as well as neighborhood, assets to create and connect places where people can live, work, and play in a safe and healthy environment.

POLICY INTENT

Transportation facilities and infrastructure inherently affect the natural environment and character of neighborhoods. As such, Tacoma recognizes the importance of evaluating transportation projects using objective criteria to reflect community standards (including environmental justice and health equity considerations) and align with project analysis for regional and federal grant funding. The environmental justice approach strives to avoid decisions that can have a disproportionate adverse effect on the environmental and human health of traditionally underserved neighborhoods and vulnerable populations compared to the population as a whole.

These populations may be based on status of religion, color, national origin or ancestry, political affiliation, sex, gender identity, sexual orientation, age, familial status, income, English proficiency, honorably discharged veteran or military status, or the presence of any sensory, mental or physical handicap, as laid out in Council Resolution 38950. The possible adverse effects of transportation projects may include, but are not limited to, disruptions in community cohesion, restricted access or mobility, safety concerns, higher exposures to hazardous materials, raised noise levels, and increased water and air pollution (Source: Puget Sound Regional Council's Transportation 2040 Plan, May 29, 2009).

Tacoma will endeavor to improve safety by following the Washington State Department of Transportation's (WSDOT) most current highway safety plan, applying traffic-calming measures, and implementing efforts in a comprehensive manner to safeguard against shifting traffic problems from one neighborhood to another. The policies below can help improve livability in residential settings by protecting neighborhoods from the potential negative effects of a well-connected street grid, encouraging the landscaping and beautification of transportation facilities, and improving health and safety for all.

POLICIES

2.1 Community Coordination
Assess the effect of potential transportation projects on gathering places or destinations such as schools, community centers, businesses, neighborhoods, and other community bodies by consulting with stakeholders and leaders that represent them. Mitigate these effects when possible.

2.2 Urban Design
Support the appearance and form of the City through consideration of aesthetics, beautification, and safety in designing and locating transportation facilities. The Generalized Land Use Element provides more detail on design standards.

2.3 Improve Safety
Strive to reduce traffic deaths and serious injuries in Tacoma to zero by 2030 as part of the State of Washington's traffic safety efforts using education, enforcement, engineering, emergency medical services, and leadership / policy. Emphasize providing safety along routes used to access schools, including pursuing grants to fund improvements.

2.4 Promote Health
Improve the health of Tacoma's residents and local ecology by implementing a transportation network that reduces auto mode share, increases the number of active travelers and transit riders of all ages and abilities, and improves safety in all neighborhoods. Work with the Tacoma-Pierce County Health Department and other agencies to promote active lifestyles through educational programs and safe and accessible routes for active travelers of all ages and abilities in all neighborhoods.

2.5 Traffic Calming Measures
Protect neighborhoods from the potential negative effects of a well-connected street grid, such as high volumes, high speeds, and pedestrian/vehicle conflicts using design approaches that still allow access for emergency response vehicles and public transit. These approaches may include medians, streetscapes, bulb-outs, traffic circles, traffic control devices, bicycle facilities, road diets, on-street parking, and other accepted measures.

2.6 Safer Routes to School
Support Safer Routes to School Programs in collaboration with Tacoma schools. Apply for Safe Routes to School grants through the Washington State Department of Transportation.

3. MULTIMODAL SYSTEM

GOAL

Prioritize the movement of people and goods via modes that have the least environmental impact and greatest contribution to livability in order to build a balanced transportation network that provides mobility options, accessibility, and economic vitality for all across all neighborhoods.

POLICY INTENT

The City's Bicycle and Pedestrian Technical Advisory Group undertook a significant effort in producing the award-winning Mobility Master Plan (MoMaP) in 2009. While the TMP will replace MoMaP upon adoption, MoMaP guided multimodal investments for several years and much of that effort shapes this plan. Additional materials from MoMaP that provide further detail on active transportation can be found in **Appendix C**.

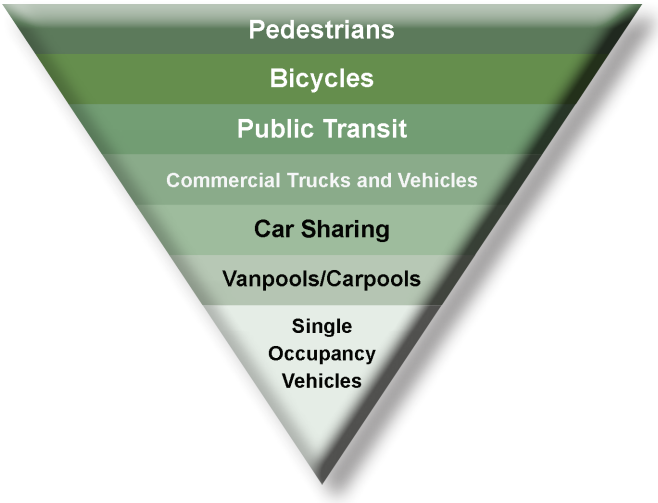
An efficient multimodal system accommodates the needs for the safe and efficient movement of people and goods. Effective transportation system management measures should be utilized to support safe and efficient travel for all users. This includes skateboards, roller skates and scooters. Tacoma recognizes that transportation needs and travel choices may change over time as new alternatives become available. Additionally, the City acknowledges that goods movement is critical to Tacoma's economic development and well-being.

By including environmental justice and health equity considerations in transportation planning, Tacoma considers how multimodal projects can be developed and sited to promote safety, support public transit, reduce motor vehicle use, minimize intermodal conflicts, enhance freight mobility, and accommodate the mobility needs of Tacoma residents and visitors, especially those from traditionally underserved neighborhoods or vulnerable populations.

POLICIES

3.1 Complete Streets / Layered Network
Develop and maintain a safe, accessible, and clean transportation network that accommodates all users, whether moving by an active mode, transit, truck, or car, while recognizing that not all streets provide the same quality of travel experience. Apply the Layered Network adopted as a part of the TMP in the planning and design for new construction, reconstruction, and major transportation improvement projects on all streets. The Layered Network and Complete Streets principles shall also be used to create over time a system of streets that meets user needs while recognizing the function and context of each street by evaluating potential transportation projects and amending or revising design manuals, regulations, standards, and programs as appropriate.

3.2 Green Hierarchy
Elevate active travelers and public transit riders in the planning and design of streets using the Green Transportation Hierarchy.



Source: Mobility Master Plan, 2009

3.3 Mode Split Target
Achieve the Climate Action Plan (CAP) goal of reducing GHGs from transportation sources by increasing the non-single occupant vehicle mode split by 2035, and continue gains thereafter. Mode split targets will be based on all trips in addition to commute trips, established for all modes, and set at lower single occupancy vehicle (SOV) levels for regional growth centers (RGCs) than the rest of the City. To the extent that data is available to track mode split in Tacoma's mixed use centers (MUCs), the MUC targets should also be set at higher non-SOV levels than citywide.

3.4 Level of Service Standards
The City will build the transportation system as defined in the TMP at a rate equal or ahead of the pace of development during the planning horizon and will also address existing deficiencies. This system completeness level of service standard is measured against the proportion of the transportation network that is constructed, and will be accompanied by performance measures that track the transportation system's progress toward meeting the policy goals set forth in this document.

3.5 Concurrency
Ensure that the transportation network adequately serves existing and projected land use growth allocations by performing periodic review and monitoring (every 2-4 years). If adequate service levels are not maintained, pursue improvements to the transportation systems, mitigations of impacts, or modifications to the land use assumptions, where appropriate.

3.6 Street System Design
Facilitate transit and active transportation connections by encouraging street system design in a rectangular grid pattern with smaller block sizes, frequent interconnections, and clear wayfinding; strongly discourage cul-de-sacs or dead end streets and only allow them in new locations if a short multi-use path will connect the dead end to another street.

3.7 Special Needs of Transportation Users
Recognize and accommodate the special transportation needs of the elderly, children, and persons with disabilities in all aspects of transportation planning, programming, and implementation. Satisfy the community's desire for a high level of accommodation for persons with disabilities using local, state, or federal design standards.

3.8 Equity in Transportation
Support the transportation needs of traditionally underserved neighborhoods and vulnerable populations, as listed under Goal 2, through investment in equitable modes of transportation and equal spending throughout the City, in addition to potential catch-up investment for areas in need as necessary.

3.9 Pedestrian Facilities
Make all streets in Tacoma safe for walking and traveling with assistive devices using context sensitive designs for sidewalks, crosswalks, trails, and other pedestrian walkways or facilities. Pedestrian priority areas, transit corridors, recreational trails, streets experiencing frequent collisions involving pedestrians or other pedestrian safety problems, and streets connecting pedestrian-oriented land uses shall receive high quality pedestrian facilities and amenities that meet standards set by the United States Access Board as funding is available. See the MoMaP Update in Appendix C for more detail.

3.10 Bicycle Facilities
Complete and maintain a safe bicycling system that connects all parts of Tacoma and accommodates all types of bicyclists. Achieve the highest level Bicycle Friendly Community status as designated by the League of American Bicyclists, or an equivalent designation. See the MoMaP Update in Appendix C for more detail.

SYSTEM COMPLETENESS

POLICY 3.4:

The City will build the transportation system, as defined in the most current project list in Appendix B of the TMP, at a rate equal or ahead of the pace of development during the planning horizon. This system completeness LOS standard is measured against the proportion of the transportation network that is constructed, and will be accompanied by performance measures that track the transportation system's progress toward meeting the policy goals set forth in this document.

HOW DOES IT WORK?

System completeness is measured against a 25 year list of projects, which will be developed based on the TMP modal networks. The 25 year list of projects can be updated periodically to respond to development patterns, financial resources, community health, safety, and equity goals, as well as a variety of transportation performance measures, which are summarized below:

Mode	Sample Performance Measures
PEDESTRIAN	• Percent of pedestrian network complete • Pedestrian-related crashes • Pedestrian crossing opportunities on key corridors
BICYCLE	• Percent of bicycle network complete • Quality of pavement and striping along bike routes • Bicycle-related crashes
TRANSIT	• Presence of amenities at highly-utilized transit stops • Transit route speed and reliability • Provision of transit-accommodating treatments along major routes • Transit service frequency and headways
AUTO/FREIGHT	• Crash rates along key corridors/intersections • Pavement quality along auto/freight priority routes • Vehicle speeds or vehicle delay along auto and freight priority corridors • Person or goods throughput along auto and freight priority corridors

WHAT ARE THE KEY ADVANTAGES OF THE SYSTEM COMPLETENESS METHOD?

- System completeness ties most cleanly to City's Layered Network and Green Transportation Hierarchy.
- The standard doesn't prescribe that a certain speed or intersection delay threshold be met, as these types of thresholds open the door for unintended consequences related to pedestrian and bicycle accommodation and pose unknown future costs for the City.
- System completeness allows for periodic updates to the project list, which can be developed more holistically based on the full spectrum of City priorities, including total cost, balancing modal needs, and addressing existing gaps in the transportation system.
- While system completeness is not explicitly tied to a simple metric like roadway speed or intersection performance, it can be very transparent to the public by showing an ultimate vision for Tacoma's transportation network, in terms of what will be built.
- Ease of tracking and implementation for City staff – the system could be structured to be as simple as a spreadsheet exercise (although planning-level evaluations could include more detailed data).

POLICIES CONTINUED

3.11 Trails
Improve access to trails for all areas of Tacoma and connections to neighboring jurisdictions for both transportation and recreational purposes by filling gaps in both the trail network and the pedestrian and bicycle networks. See the MoMaP Update in Appendix C for more detail on trails in Tacoma.

3.12 Transit Operational Efficiency
Support efficient transit operations through street and transit stop designs on transit priority streets that comply with standards and include transit-supportive elements for bus, streetcar, and light rail transit. See page 83 for potential transit-supportive elements.

3.13 Encourage Transit Ridership
Encourage transit ridership by implementing pedestrian improvements near transit stops, conducting outreach to employers, and working with public transit agencies to identify strategies to improve the frequency and ridership of transit service, including bus, streetcar, and light rail, between high density residential areas and employment centers. These strategies would include locating transit stops / stations to maximize convenience of transfers between modes and / or connecting to other routes.

3.14 Create Streetcar Network
Create a Tacoma Streetcar network that moves and connects people efficiently and effectively throughout the City focusing on connections to regional destinations, mixed use centers, and local and regional transit centers and routes.

3.15 Inter-Modal Conflict
Address infrastructure gaps, inadequate design, safety hazards, and at-grade railroad crossing conflicts to increase safety, capacity, and timeliness of both over-land and rail freight, especially on identified heavy haul corridors using appropriate programs, regulations, and design standards. Design active transportation facilities in manufacturing industrial centers in a manner that minimizes potential conflicts with trucks and trains to allow for the safe and efficient movement of both freight and people.

3.16 Moving Freight
Strengthen Tacoma as a primary hub for regional, Alaskan, military, and international goods movement and as a gateway to national and international markets by integrating the development and operation of air, trucking, rail, and maritime terminal facilities to enhance the freight transportation system and strengthen the City's economic base. Consider the needs for delivery and collection of goods at local businesses by truck.

3.17 Intelligent Transportation Systems
Boost the efficiency, improve the safety, and reduce the environmental impact of the multimodal transportation system by taking advantage of intelligent transportation systems (ITS) and other technological innovations. Incorporate ITS improvements into capital improvement projects and prioritize development of an ITS infrastructure plan.

3.18 Roadway Capacity
Support multimodal mobility by assessing roadway capacity on the basis of a facility's total people-carrying capacity and only increasing physical capacity when absolutely needed.

4. ENVIRONMENTAL, FISCAL STEWARDSHIP AND SOCIAL ACCOUNTABILITY

GOAL

Design an environmentally, socially, and fiscally sustainable transportation system that serves its users through strategic planning efforts, funding, and projects.

POLICY INTENT

The City of Tacoma recognizes that transportation has a major effect on climate change and that environmental and fiscal stewardship must be a central focus in establishing a transportation system that serves both today's users and future generations. The City adopted its CAP in 2008, which lays out strategies for addressing climate change.

Transportation contributes to more than 50% of Tacoma's GHG emissions. Policies that reduce car use and encourage transit, walking, and bicycling are key to reducing transportation-related environmental impacts and can be found throughout the Comprehensive Plan. In an effort to achieve the GHG reductions laid out in its CAP and in accordance with Washington State Law on electric vehicles (EVs), Tacoma encourages the use of a variety of transportation modes that have low or no emissions. These modes include Low Speed Electric Vehicles (LSVs), bicycles, skateboards, and other forms of active transportation.

Tacoma will emphasize investments for the preservation of existing transportation facilities equitably across all diverse neighborhoods by seeking funding from a variety of sources and pursuing new opportunities for system maintenance revenue. In addition, the City will continue to use cost saving strategies, efficiencies, and accountability as guidelines for the best use of the available funds. Intelligent Transportation Systems (ITS) are also important for environmental stewardship. Please see Policy 3.17.

POLICIES

4.1 Minimum Environmental Disruption
Minimize the disruption of natural and desirable community amenities of our environment by employing a collaborative, interdisciplinary approach that involves all stakeholders, particularly those traditionally being underserved, to develop a transportation facility that fits its physical setting and preserves scenic, historic, and environmental resources while maintaining safety and mobility.

4.2 Noise and Air Pollution
Encourage the reduction of noise and air pollution from various modes of transportation and ensure the City of Tacoma meets ambient air quality standards by promoting active modes of transportation and the use of alternative fuels for vehicles.

4.3 Stormwater Management
Employ structural and operational best management practices for stormwater management to ensure stormwater discharges from roadways do not cause impacts to receiving waters. Encourage the use of Low Impact Development techniques to minimize impervious surfaces and minimize stormwater runoff.

4.4 Congestion Management
Decrease the use of SOVs and the environmental degradation associated with their use by encouraging and improving the appeal, convenience, and time competitiveness of travel by active modes, public transit, assistive devices, and ridesharing.

4.5 Environmentally-Friendly Infrastructure
Promote the long term sustainability of transportation infrastructure by using the Greenroads® or equivalent rating system for planning, designing, construction, and maintenance, as adopted through Council Resolution 38945.

4.6 Electric Vehicles
Encourage and promote the use of EVs as they are developed in all automobile, truck, and commercial vehicle classes. Neighborhood Electric Vehicles and Medium Speed Electric Vehicles (MSV) may travel Tacoma's street network where appropriate and consistent with

State law. Encourage the use of such vehicles in a way that conditions are safe and don't impede traffic flow. Provide for a broad range of charging opportunities at public and private parking venues throughout the City, including minimum standards for new developments that provide parking facilities.

4.7 Emission-free Vehicles and Devices
Accommodate the use of transportation devices that have a minimal effect on the environment and do not emit GHGs such as skateboards and bicycles, electric personal assistive mobility devices, electric assist bicycles, Low Speed Electric Vehicles (LSV), and other innovations.

4.8 Reliable Funding
Jointly fund and finance transportation system improvements from public and private sources and pursue dedicated funding sources where possible.

4.9 System Maintenance and Rehabilitation
Keep system operating in safe condition by taking steps to secure funding from a variety of sources to maintain, rehabilitate, or replace sidewalks, crosswalks, trails, bicycle facilities, traffic signal systems, and roadways. Tacoma will work with its partners to understand maintenance and rehabilitation needs.

4.10 Fix It First
Prioritize system preservation and repair, and consider the long term maintenance costs of new capacity as part of the up-front cost of development.

5. TRANSPORTATION DEMAND MANAGEMENT (TDM)

GOAL

Develop and implement transportation demand management strategies and programs that contribute to the overall effectiveness of the multimodal transportation system.

POLICY INTENT

As required by Washington State law, Tacoma adopted a Commute Trip Reduction (CTR) Ordinance in 2008. The City's CTR Plan is an evolving document that is frequently updated and provides guidelines for the City and major employers affected by State law to implement effective strategies to achieve trip reduction goals. The CTR Ordinance establishes requirements for affected employers, including an appeals process, and procedures for the City for program administration, monitoring, enforcement and intergovernmental coordination.

The CTR Plan and Ordinance are designed to achieve the following objectives: improve air quality, reduce traffic congestion, and reduce the consumption of petroleum fuels. With the focus on employer-based programs that encourage the use of alternatives to driving alone for the commute trip, CTR represents a centerpiece of the overall strategy of TDM.

Between July 2008 and June 2012, Tacoma also participated in the Growth and Transportation Efficiency Center pilot that enabled the development of the City's first Transportation Management Association (TMA) called Downtown On The Go (DOTG). This innovative effort to target downtown trip reduction was created in partnership with Pierce Transit and the Tacoma-Pierce County Chamber of Commerce. Transportation Management Associations generally focus trip reduction efforts in areas with

high employment and residential densities. There are a number of Comprehensive Plan policies and strategies that are supportive of CTR and TDM, including policies contained in the previous Transportation Element, transportation-efficient land use policies contained in the Generalized Land Use Element, and traffic management strategies contained in the Neighborhood Element as well as neighborhood subarea plans. The following policies are intended to provide additional tools to ensure the successful implementation of the CTR Plan and Ordinance, and contribute to accomplishing Tacoma's strategic goals of healthy environment, sustainable economy, and livable community.

POLICIES

5.1 Comprehensive Planning and TDM
Incorporate transportation demand management in the planning for land use, transportation, housing, capital facilities, environmental protection, open space and recreation facilities, neighborhoods and communities, and other applicable disciplines of comprehensive planning. This will be accomplished by promoting TDM-related and supportive programs and implementation steps, such as those described in the Demand-Side Approaches section of the TMP.

5.2 Funding for TDM
Support transportation demand management by assigning higher funding priority to and actively pursuing funding opportunities for improvement projects and programs that are related, integrated, or supportive of TDM.

5.3 Collaboration on TDM
Coordinate TDM and CTR program efforts to best utilize and multiply resources, success stories, and innovative practices. Ensure that fair and consistent services are provided to CTR-affected employers across jurisdictions and CTR-affected employers with worksites located in more than one jurisdiction by working in conjunction with Pierce County, WSDOT, Pierce Transit, Sound Transit, transportation management associations, and other jurisdictions and organizations.

5.4 Innovation and Expansion of TDM
Maximize the effects of TDM by pursuing innovative measures of CTR beyond the statutory suggestions and endeavoring to expand the scope beyond the statutory requirements. Focus efforts on personal trips as well as commute trips with an emphasis on active transportation for short travel distances.

5.5 Monitoring and Evaluation of TDM
Achieve and exceed the statutory goals of CTR by continually monitoring and evaluating the effectiveness of employers' transportation demand management programs and Tacoma's TDM policies, and implementing changes when needed.

5.6 Leadership in TDM
The City of Tacoma, as an employer, should take the leadership role and set a positive example by maintaining strong TDM and CTR programs for its employees and educating other employers on its successes. Support DOTG or an equivalent TMA as the City's agent for implementing TDM strategies.

5.7 Commute or Trip Options
Reduce SOV trips by supporting programs and public-private partnerships that provide alternatives to driving a car alone through ridesharing, bikesharing, transit, bicycling, walking, or other options.

5.8 Education and Encouragement
Focus attention on the outcomes of travel choices and increase the public's use of the range of travel choices available by initiating and supporting public awareness campaigns. Partner with public transit agencies to collaborate on strategies that encourage ridership. Consider multimodal programs such as Safe Routes to School as well as neighborhood-based efforts.

6. LAND USE AND TRANSPORTATION

GOAL

Build a transportation network that reinforces Tacoma's land use vision, Vision 2040 and the GMA.

POLICY INTENT

Land use type, intensity, and distribution, as a result of developments, greatly influences travel choices and decisions on placement and investments of transportation facilities. Because land use and transportation are fundamentally linked, it is important that transportation facilities be designed to meet both community desires and federal, state, regional, and local standards for functionality, safety, service, and efficiency.

Accommodating a large percentage of future growth through TOD and transit-supportive amenities will help create a safer, more comfortable pedestrian environment, encourage alternative transportation, promote active living, and enhance the quality of life of residents. The transportation system should also be designed to balance livability objectives with industrial activities, which are an important economic engine within the City. The Generalized Land Use Element provides further detail on relevant policies and strategies.

POLICIES

6.1 Land Use Considerations
Ensure reasonable access for all modes to places of employment, schools, libraries, parks, transit centers, civic buildings, and other attractions in Tacoma through development, expansion, or improvement of transportation facilities that are coordinated with existing and projected land use patterns and types of development. Similarly, development patterns and designs should account for their effects on the transportation system.

6.2 Land Use Patterns
Encourage land use patterns and developments, especially in MUCs, that support non-SOV travel, access to multimodal options and intermodal connectivity, opportunities to live close to work, and short trips easily made by walking or bicycling for recreation and commuting.

6.3 20-Minute Neighborhoods
Prioritize infrastructure improvements within and between 20-minute neighborhoods based around Tacoma's centers for growth and along identified corridors that connect residential areas to schools, local retail, business, and community services so residents can safely access more of the services they need close to home by active modes, public transit, and using assistive devices.

6.4 Support Mixed-Use Centers
Serve and support the existing MUCs and aid Tacoma in attracting new investments by giving high priority to those transportation facilities that serve these centers. Increase the livability of the MUCs by providing transportation choices and integrating amenities that create a safe and inviting environment for walking, bicycling, and taking public transit. Transportation facilities should include context-sensitive design that considers the unique needs of each neighborhood, such as on-street parking and public spaces.

6.5 Industrial Access
Recognizing the importance of the Port and other industrial uses to Tacoma's economic well-being, provide infrastructure and access to commercial, manufacturing and industrial centers.

6.6 Support Economic Bases
Give high priority to those transportation facilities that provide the greatest opportunity to serve and support the existing economic bases and will aid the City in attracting new investments.

6.7 Street Rights-of-Way
Preserve right-of-way needs for future transportation, recreation, streetscape, essential city service or other City-approved purposes. The City should safeguard the general public interest by inventorying, evaluating, and acquiring right-of-way in advance.

6.8 Transit-Oriented Development
Promote TOD or transit-supportive development and provide incentives for development that includes specific TOD features.

Elements of TOD generally include:

- A compact mix of land uses, including mixed-use, residential, and commercial development;
- Moderate to high density housing;
- Affordable housing for all income groups;
- Pedestrian orientation/connectivity;
- Convenient access to transportation choices, including transit, bicycle, and pedestrian facilities;
- Reduced size of surface parking facilities or minimum parking requirements; and
- High quality design.

6.9 Development Incentives
Further TOD, walkability, and/or bicycle facilities through supportive amenities and on-street infrastructure by providing height and density bonuses, relaxing parking minimums, and other incentives to developments that support these ends.

6.10 Parking Management
Manage parking pricing to seek balance among competing uses, be financially self-supporting, help attract investment, and meet the needs of both private and public users in Tacoma's MUCs by expanding parking management and working with PTAG, businesses, employers, and other parking stakeholders to determine how to best maximize the use of the right-of-way. Consider parking management strategies in residential areas as well to address the needs of local residents. Employ strategies to minimize the amount of land dedicated to parking, increase the amount of shared parking, and encourage alternative modes of transportation.

6.11 Land Uses that Support Streetcar Network
Develop a streetcar network that serves dense population nodes, aiding the greatest number of people possible. It should focus on concentrations of people, jobs, and activity. This streetcar network should be reviewed regularly so it corresponds with new land use designations, codes, growth, and development.

In addition to the policies above, the City is committed to providing a transportation system that is prepared in the event of a disaster. The City has completed an Emergency Management Plan, which includes key policies related to coordination with outside entities to maintain and restore the transportation system in the event of an emergency, the role of the City's Emergency Control Center, and prioritizing the safety of roads, bridges, and railways.

The Layered Network

The goals and policies provide guidance for achieving Tacoma's vision of strategically providing a multimodal transportation system that is safe, sustainable, and promotes healthy living. To meet this high bar, the TMP was built using a 'layered network' framework, which focuses on how the City's transportation network can function, as a system, to meet the needs of all users. While the 'layered network' concept is a recommended practice of the Institute of Transportation Engineers, the development of Tacoma's layered network has been informed by an emphasis on providing safety for all modes of travel, as well as key City policies, including the Green Transportation Hierarchy, Complete Streets Policy, and the City's CAP.

"Layered networks recognize that while all traveler types need to be accommodated within a community, no single street can accommodate all transportation users at all times."

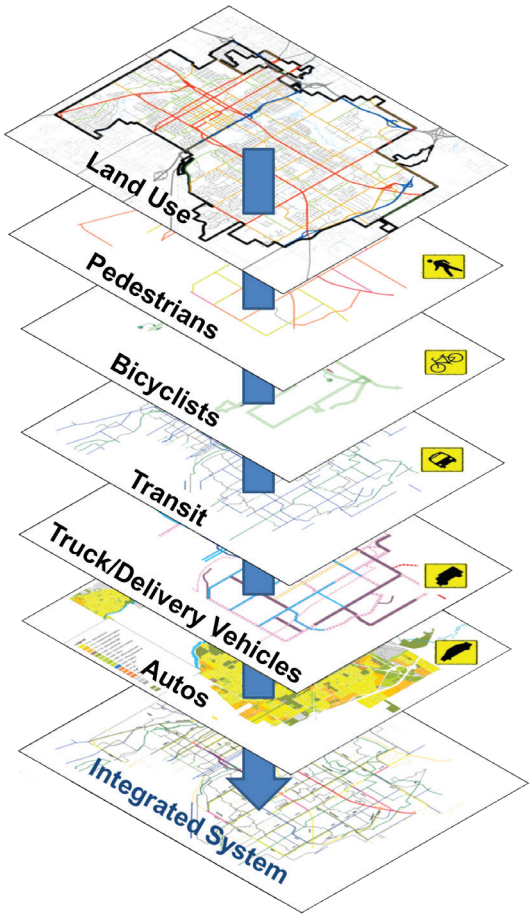
INTRODUCTION TO THE LAYERED NETWORK CONCEPT

It is often a challenge for a single roadway to meet the demands and expectations of all modes at any given time. This has certainly been the case in Tacoma, where the City streets have been expected to concurrently serve autos, trucks, pedestrians, bicycles, and buses. In response to this challenge, this TMP has been developed using the concept of a 'layered network'.

The layered network concept envisions streets as systems; each street type is designed to create a high quality experience for its intended users. A layered network approach allows for certain streets to cater to specific modes or user types, while discouraging incompatible uses. For example, a downtown street may be planned to provide a pleasant experience for shoppers on foot, recreational bicyclists, and people wishing to park on-street, while discouraging use by 'cut-through' traffic and large trucks.

The following sections of this chapter describe the individual modal networks that have been developed for walking, biking, transit, freight, and autos. Each of these individual networks recognize that not every street (or trail) can accommodate all modes at all times. Instead, the networks identify the facilities citywide that are most critical to accommodating each mode. This approach helps the City to focus its investments on transportation projects that provide the biggest bang for its buck, while simultaneously ensuring that all modes are accommodated.

At the end of this chapter, a section called "Roadway Typologies" discusses how streets might be designed when multiple modes are a priority.



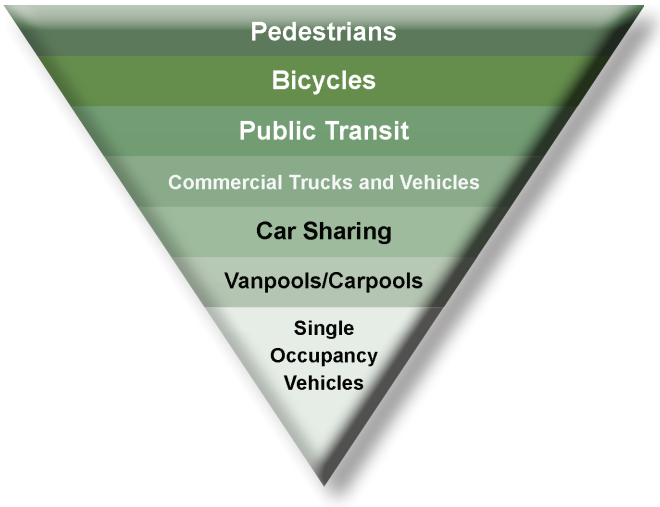
THE LAYERED NETWORK CONCEPT
Source: Institute of Transportation Engineers, 2011

GREEN TRANSPORTATION HIERARCHY

The 'Green Transportation Hierarchy' is a prioritization strategy that recognizes transportation modes with the least environmental impact and greatest contribution to livability. The Green Transportation Hierarchy was adopted in the City's last Transportation Element and remains important policy guidance in Tacoma today.

The Green Transportation Hierarchy promotes funding and development of facilities for modes that affordably enhance access for the majority of Tacoma residents, rather than using LOS standards focused on vehicle movement. The hierarchy gives precedence to pedestrians (including individuals using assistive devices for mobility and sensory disabilities), then to bicyclists and public transit. Commercial vehicles and trucks are also recognized as having priority over passenger vehicles.

GREEN TRANSPORTATION HIERARCHY



Source: Mobility Master Plan, 2009

COMPLETE STREETS POLICY

Complete Streets is a nationally recognized term referring to streets and sidewalks that are designed, operated, and maintained to enable safe and convenient access and travel for multiple users – pedestrians, bicyclists, transit riders, and people of all ages and abilities, as well as freight and motor vehicle drivers. Complete streets also focus on fostering a sense of place in the public realm and incorporating green features including trees, landscaping and, in some cases, low impact development stormwater features.

The City has had a Complete Streets policy in place since 2009. The policy states that the City will develop and maintain a safe, accessible, and clean transportation network that accommodates all users, whether moving by an active mode, transit, truck or car, while recognizing that not all streets provide the same quality of travel experience.

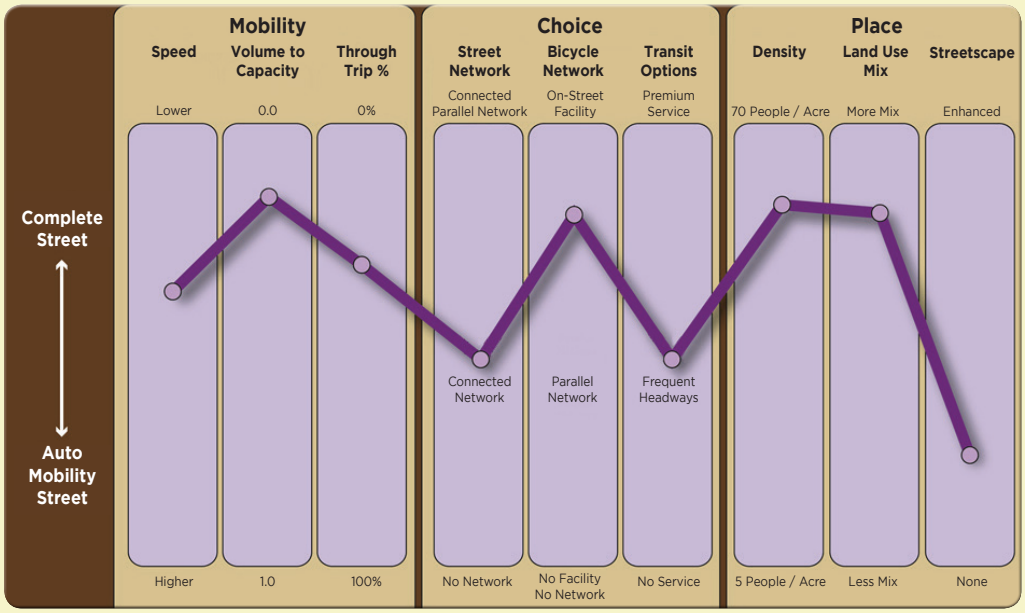
CLIMATE ACTION PLAN (CAP)

In 2008, Tacoma adopted a CAP, which establishes carbon reduction goals for the City and community and offers more than 40 new strategies to achieve those goals. Most relevant to this TMP, the CAP includes strategies to move people and goods more efficiently and to enhance compact livable neighborhoods. The CAP includes goals to increase the mode share by non-single occupant vehicles and to develop neighborhoods that are welcoming for walking and biking. These goals have been incorporated into the TMP.

COMPLETE STREETS TOOLBOX

Identifying Opportunities for Complete Streets Projects

Tacoma's Layered Network and the Green Transportation Hierarchy work together to establish the modal priorities on city streets at a general level, as described in the modal networks of this plan. The City also wishes to identify opportunities for complete streets projects by using accepted indicators whether the street is a busy arterial or a quiet neighborhood street. These mobility, choice, and place indicators, combined with an assessment process, can help Tacoma strategically invest in complete streets.



The mobility measures address the level of automobile activity on a street. Streets with lower speeds, additional capacity available, and fewer trips passing through without stopping make better candidates for complete streets projects. The choice indicators describe existing travel options on the street. A well-connected street grid provides more route options for people traveling by any mode. Existing bicycle and transit facilities encourage travel by multiple modes and make streets good candidates for complete street investments.

Place might be the most important aspect of creating complete streets because people will tend to collect in dense areas with a mix of land uses. Enhanced streetscape elements such as wide sidewalks, street trees, and benches can make the street itself a desirable place to be.

The initial assessment below lays out a simple screening process that can help the City narrow down the corridors it wishes to consider for complete streets projects before collecting the information for all of the indicators in this plan. These tools combined can help Tacoma strategically invest in complete streets that are safe and pleasant for everyone.

STEP 1
Initial Assessment
Complete Steps 1a, 1b, and 1c. If you answer "yes" to 1a, 1b and 1c, the street is a good candidate to become a complete street.

1A Safety
Could a Complete Street Significantly Improve Safety?

1B Built Environment Factors/ Comfort
Is the Network for Bicyclists, Pedestrians, & Transit Riders Absent or Unacceptable?

1C Existing and Forecasted Auto Volumes
Is the Roadway Operating Under Capacity?

Modal Networks

PEDESTRIAN PRIORITY NETWORK

Almost everyone is a pedestrian at some point during the day. Whether walking or using assistive devices to get from a car to a home, a transit stop, a business or park, the pedestrian portion of a trip contributes to a person's enjoyment, safety, and convenience.
The pedestrian system is the glue that holds other transportation networks together and provides critical linkages to public transit.
A fragmented or missing pedestrian system is a major obstacle to active living. A less active population contributes to obesity and other health related issues. The Tacoma TMP recognizes the importance of people walking and using assistive devices by placing them at the top of the modal hierarchy, meaning that if a modal conflict arises on a specific street, the needs of the pedestrian will be met before other modes.

Source: Department of Transport, Planning and Local Infrastructure, 2013

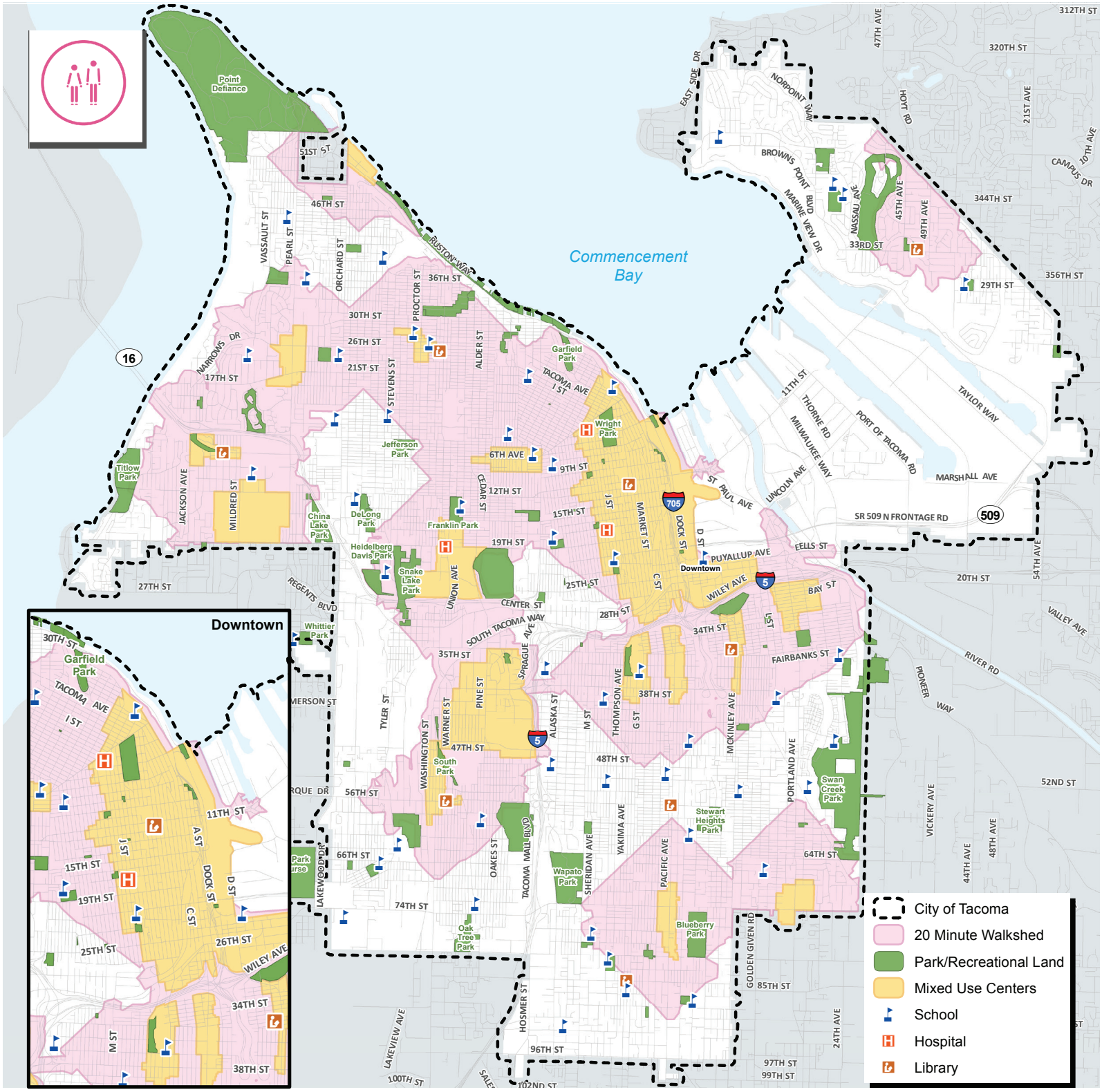
20-MINUTE NEIGHBORHOODS

The TMP applies the concept of 20-minute neighborhoods around designated growth centers. These neighborhoods are built on the idea that most walking trips in the US are less than one mile and while all streets in Tacoma will be used by pedestrians, these areas are likely to serve the greatest number of people.

As shown on the pedestrian priority network map, 20-minute neighborhoods cover much of Downtown Tacoma and the North End, while South Tacoma has fewer 20-minute neighborhoods that are more spread out and centered on Tacoma Mall and the Oakland-Madrona neighborhood. These are areas that already have, or are planned to realize more dense residential uses and a mix of nearby destinations that people can walk to. The Port area doesn't have a 20-minute neighborhood but it also has no homes.

Many key destinations – hospitals, schools, parks, and libraries are contained within the pedestrian priority areas. It will be a high priority for the City to provide an accessible, continuous, and comfortable network of pedestrian facilities within these priority areas so that people can reach their destinations on foot or using assistive devices without encountering difficult or potentially dangerous situations.

PEDESTRIAN PRIORITY NETWORK



PEDESTRIAN FACILITY TYPES

The Pedestrian Element recognizes that sidewalks and crossings should be improved to complete missing linkages between home, shopping, work, and transit, as well as create a complete neighborhood. All pedestrian facilities should be designed to meet standards set by the US Access Board to ensure access for all users. Trails are also recognized as an integral part of both the pedestrian and bicycle networks.

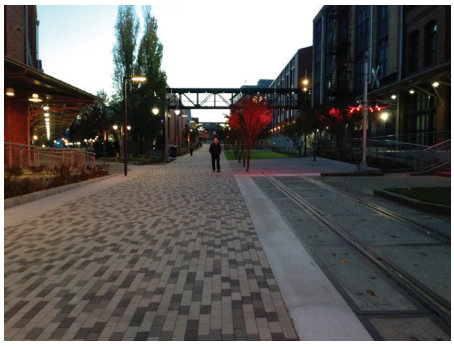
Sidewalks
Sidewalks are designated raised paths for pedestrians and non-motorized users to safely walk without the threat of vehicle traffic. Sidewalks are fundamental to a walking network in urban and suburban areas and must be a minimum of 5 feet wide to provide safe passage for users in wheelchairs. Sidewalks are typically concrete and separated from the roadway by a curb or gutter. Sometimes they also feature planted buffers with trees or places to sit and rest. At intersections, sidewalks must have curb ramps for wheelchairs, strollers, and other wheeled users to cross the roadway.

Source: Fehr & Peers

Roadway Crossings
Pedestrians crossing a street with multiple travel lanes, high volumes of traffic, and high speeds need a dedicated crossing with high visibility crosswalks and ideally a pedestrian walk signal with a countdown timer. These amenities create safe, predictable conditions for pedestrians and motorists. High visibility crosswalks may have a ladder pattern and encourage vehicles to stop and allow space for pedestrians to cross comfortably and in view of all other road users. Crosswalks should be present every 600 feet or more frequently, depending on the layout of the street grid and the presence of land uses that generate pedestrian activity.

Source: Alta Planning + Design

Shared Use Paths / Trails
Shared use paths and trails are separate rights-of-way for the shared use of pedestrians, skateboarders, bicyclists, and other non-motorized users. They can be in urban or more rural and park-like settings. These types of facilities are great for recreational use as well as transportation and appeal to users of all ages and abilities.

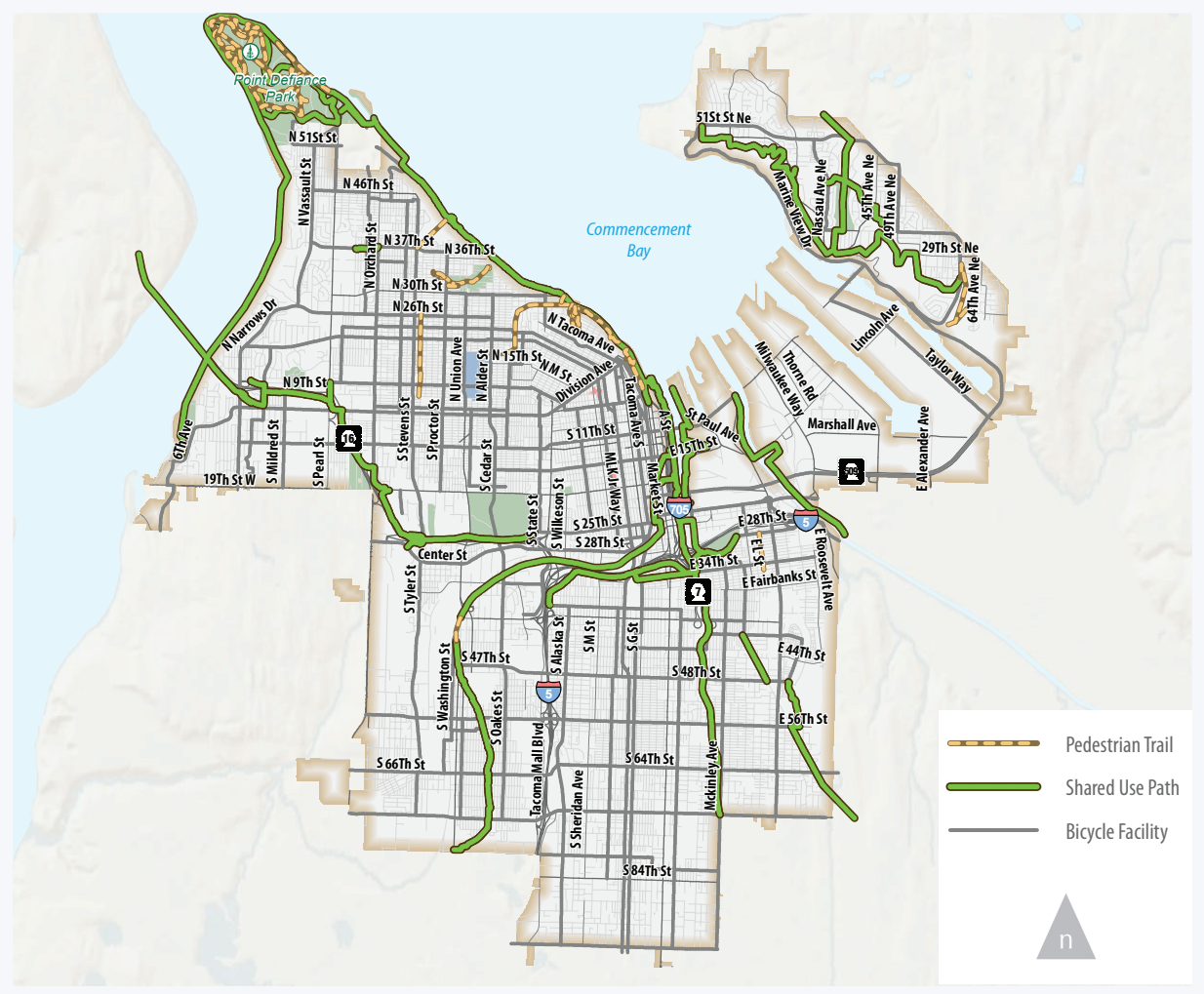


Source: Alta Planning + Design

Median Refuge Islands
If there is a particularly wide roadway, a median refuge island can shorten the crossing distance for pedestrians and allow slower moving pedestrians to safely cross the roadway in two segments. Median refuge islands also allow pedestrians to gauge safe crossing times by looking at one direction of traffic at a time. Median refuge islands are applicable at both signalized and unsignalized intersections, as well as midblock crossings.

Source: Alta Planning + Design

PEDESTRIAN TRAILS AND SHARED USE PATHS



Pedestrian Warning Beacons
At unsignalized crossings, either midblock or at an intersection, high pedestrian volumes, traffic volumes, or traffic speeds may warrant the implementation of a user activated flashing beacon. This treatment alerts motorists to slow and stop to allow pedestrians to cross safely. These beacons are used in conjunction with a pedestrian yield sign. Rectangular rapid flashing beacons (RRFBs) are current best practice.

Source: Fehr & Peers

Pedestrian Signals
Signals provide positive guidance to pedestrians regarding the permitted signal interval to cross a street and prohibit pedestrian crossings when conflicting traffic may impact pedestrian safety. Pedestrian countdown signals can help reduce pedestrian crossings near the end of the pedestrian phase. The use of WALK/DON'T WALK pedestrian signal indications at signal locations are important in many cases, including when vehicle signals are not visible to pedestrians, when signal phasing is complex (e.g., there is a dedicated left-turn signal for motorists), at established school zone crossings, when an exclusive pedestrian interval is provided, and for wide streets where pedestrian clearance information is considered helpful.

PEDESTRIAN TOOLBOX

One of the existing challenges in planning for walking and quality pedestrian facilities in Tacoma is a lack of information on existing conditions. The City's sidewalk data is out of date so city staff and decision makers cannot easily assess needs. An inventory of sidewalks, crosswalks, and paths is the first step toward guiding expenditures on walking.

The inventory should include:

- **Presence of facilities**
- **Condition of facilities, including description of navigability for persons with disabilities**
- **Type of facility – curbs, gutters, and sidewalks vs. paths; longitudinal stripe vs. advanced design crosswalks**
- **Additional amenities – streetlights, signage, flashing beacons, buffers from vehicle traffic**

Data collection efforts should first focus on Tacoma's mixed use centers and 20-minute neighborhoods because these are areas with high levels of pedestrian activity. Areas near schools, parks, libraries, hospitals, transit stops, other land uses that encourage pedestrians, and locations with a history of pedestrian collisions should also be prioritized.

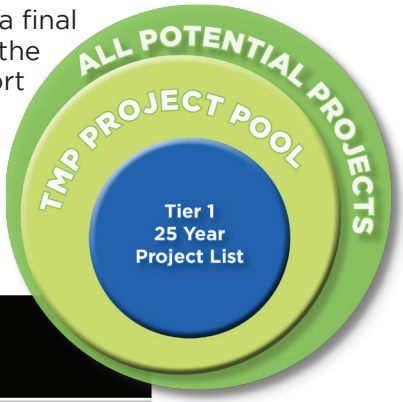
SYSTEM COMPLETENESS FRAMEWORK

The pedestrian policies and 20-minute neighborhood concept fall easily into the system completeness framework. A key metric will be the percentage of the pedestrian network that is complete and meets the acceptable level of facility quality or better.

It is recognized that not all 20-minute neighborhoods will immediately meet these infrastructure goals, but the system completeness framework establishes supportive policies and performance metrics to track performance and implementation over time.

The Tier 1 project list shown in Appendix B defines what can be constructed over the next 25 years for gauging system completeness. To gauge system completeness, a short-term level of service for pedestrian infrastructure was developed. This analysis is dependent on data availability and provides a basic snapshot of pedestrian infrastructure in 20-minute neighborhood focus areas and along higher classified roadways. The following tables provide some guidance.

The City's Pedestrian Safety Improvement Project laid groundwork for building out the pedestrian network through a broad reaching public process in 2014. The effort included identifying key pedestrian investments, establishing a prioritization process for these projects, and developing a final project list. These projects and the funding behind them will support the 20-minute neighborhood approach and improve safety for pedestrians. Appendix D provides further information.



RECOMMENDED APPROACH FOR ASSESSING QUALITY OF PEDESTRIAN FACILITIES

Sidewalks

Quality of Facility	Within 20-Minute Neighborhoods	Other Areas
High	Complete sidewalks with buffers on both sides of arterials and collectors	Complete sidewalks on both sides of arterials and collectors
Acceptable	Complete sidewalks without buffers both sides of arterials and collectors	Sidewalks present
Needs Improvement	Incomplete or no sidewalk	Incomplete or no sidewalk

Crosswalks

Quality of Facility	Within 20-Minute Neighborhoods	Other Areas
High	Crossing every 300 feet in pedestrian activity area or downtown that meets Tacoma's current best design practice	Existing marked crossings meet Tacoma's current best design practice
Acceptable	Crosswalks present every 600 feet	Crosswalks present
Needs Improvement	No crosswalks within 600 feet	No crossings present

BICYCLE PRIORITY NETWORK

Bicycling is the symbol of Tacoma's healthy community and active lifestyle. With growing public health concerns about obesity and air quality, increasing bicycle activity is one of the most effective ways to reduce health costs, preserve infrastructure, and improve air quality. The Bicycle Element builds on the network presented in Tacoma's MoMaP and seeks to build a continuous network of crosstown corridors in order to facilitate comfortable and safe bicycle travel for people of all ages and abilities. Some of the identified projects would require additional right-of-way to fully implement vision.

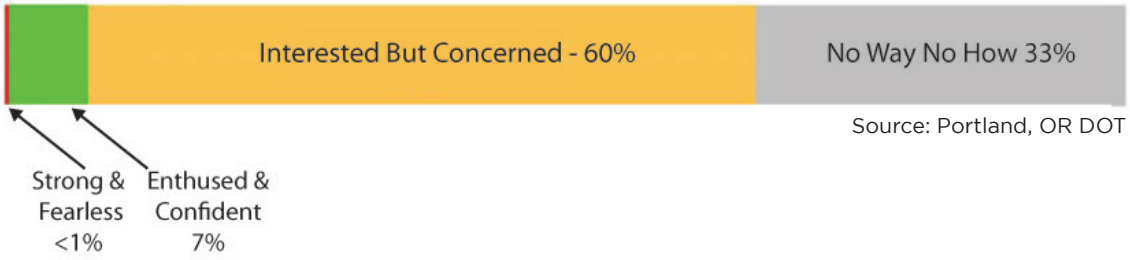
Developing a connected network of more comfortable bicycling facilities will make cycling more appealing to a greater segment of the population. Network construction is likely to be incremental in some locations; a new or existing bicycle lane may eventually evolve into a protected bicycle lane or protected bicycle facility to meet the long term vision set forth in this plan. Establishing a bicycle counting or detection program as well as tracking the bicycle mode split is important for measuring the success of the bicycle network.

MODAL NETWORK

The bicycle network is characterized by long, continuous routes with supportive traffic control elements that facilitate travel both north and south as well as east and west. The long term network laid out here recognizes that many different people bicycle for many different reasons. By providing a robust network with redundant or alternative routes in some areas, the City can plan for bicycle riders of all ages and abilities. For example, a confident bicycle commuter is likely to prefer a direct route that minimizes out of direction travel and may be willing to ride on facilities requiring more interaction with motor vehicles, whereas a parent bicycling with their child would prefer to travel along quieter residential streets, trails, or protected bicycle lanes that provide complete separation from motor vehicle traffic.

A dense network of bikeways is recommended in and around downtown, while network spacing is coarser west of downtown and north near Point Defiance. The network in South Tacoma is strategically constructed to take advantage of the existing I-5 over- and underpasses. Connections to Northeast Tacoma would be achieved through a proposed trail along the SR 509 corridor and provide access to destinations such as the Mary Rose Kobetich Library.

FOUR TYPES OF BICYCLISTS BY PROPORTION OF POPULATION



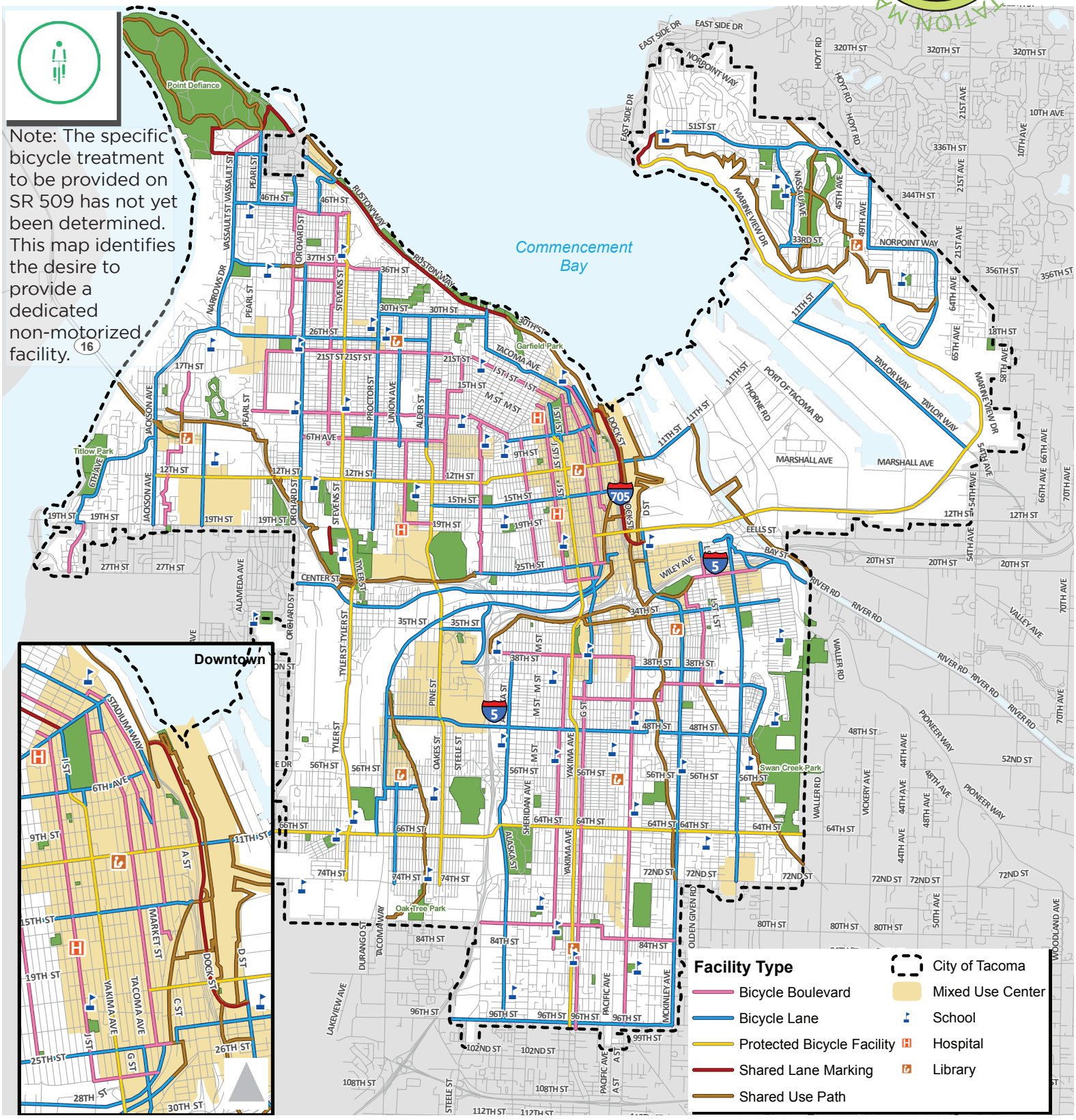
Source: Portland, OR DOT

The goal is to build infrastructure for the Interested, but Concerned group by making the bicycle network feel safe for everyone.

FUTURE VISION

BICYCLE PRIORITY NETWORK

Note: The specific bicycle treatment to be provided on SR 509 has not yet been determined. This map identifies the desire to provide a dedicated non-motorized facility. (16)



BICYCLE FACILITY TYPES

Bicycle Lanes

A bicycle lane is a designated lane for exclusive use by bicycles, flowing in the same direction as traffic. Generally, bicycle lanes are 5-6 feet wide and are indicated by pavement markings and signage. Bicycle lanes are typically placed on the right side of the road, between a travel lane and curb or other road edge. Bicycle lanes allow for more predictable behavior from motorists and bicyclists, visually remind motorists of the presence of bicyclists, and can increase roadway efficiency for more bicycle and motorist volumes.

Source: Fehr & Peers

Buffered Bicycle Lanes

Buffered bicycle lanes add a painted buffer of 18 inches to 3 feet wide to a typical bicycle lane to increase separation from motor vehicles. Buffered bicycle lanes are appropriate in areas where standard bicycle lanes are considered, on streets with higher traffic speeds and volumes, or on streets with additional width to accommodate a buffer. An added buffer to a bicycle lane provides a greater sense of safety for less confident bicyclists, gives clearance from the door zone of parked cars if the bicycle lane is adjacent to parking, and allows bicyclists room to pass each other.

Source: Alta Planning + Design

Bicycle Boulevards

Bicycle boulevards are low speed, low volume streets with traffic calming measures such as speed humps, roundabouts, chicanes, and stop signs to allow bicyclists to comfortably use the road in a low stress setting. Bicycle facilities are indicated on these streets by signs and pavement markings, including sharrows. These facilities are appropriate for users of all ages and abilities.

Source: Fehr & Peers

Protected Facilities

Protected facilities are designated lanes for bicyclists, fully protected from motor vehicles by a physical barrier such as bollards and pavement markings, parked cars, a raised curb, or a planted median. Protected facilities can be one-way or two-way flows, and can be at the street level, sidewalk level, or intermediate elevation. Protected facilities are appropriate in locations with high bicycle volumes, high motor vehicle speeds or volumes, and other locations where bicyclists may feel unsafe due to parked cars, multiple vehicle lanes, or high traffic speeds. Protected facilities encourage use from bicyclists of all ages and abilities as this type of facility has physical barriers from vehicles.

Source: Alta Planning + Design

SYSTEM COMPLETENESS FRAMEWORK

The bicycle priority network is complemented by supportive policies, including the system completeness framework. The key metric will be percentage of network complete but facility quality and improved safety should be tracked over time. System completeness will be measured against the 25 year project list identified in the Tier 1 project list shown in Appendix B.

To rate facility quality, the below table provides guidance. The most desirable outcome is provision of a facility that meets or exceeds the level of quality recommended by the TMP. An acceptable facility is met by providing some type of designated bicycle facility that improves the current facility but provides a lower quality experience than that recommended as part of this plan.

Using this approach, S 15th Street would provide acceptable facility quality at the time of writing this TMP as the existing facility is a bicycle lane and the recommended long term facility is a bicycle lane. Given limited available resources, bicycle improvements will be prioritized and constructed over time, which is consistent with current practices utilized in the MoMaP. The current MoMaP prioritization scheme will still be used to prioritize bicycle facility construction, which will be complemented by elevating projects as opportunities arise (e.g., a roadway repaving project on a corridor scheduled for bicycle improvements).

RECOMMENDED APPROACH FOR ASSESSING QUALITY OF BICYCLE FACILITIES

Quality of Facility	Within Bicycle Priority Network
High	Provides treatment recommended in the Bicycle Priority Network
Acceptable	Provides a lower-level facility than recommended in the Bicycle Priority Network
Needs Improvement	No Facility

Bicycle facilities – lowest-level to highest-level of treatment: shared; bicycle lanes; buffered or protected bicycle facility; separated trail.

TRANSIT PRIORITY NETWORK

Public transit is an important component of Tacoma's multimodal transportation network and can allow the City to move people efficiently while minimizing environmental impacts. While Tacoma itself does not operate transit service, it can support transit operated by Pierce Transit and Sound Transit through active management of the street system and right-of-way. These can include supportive policies, such as prioritizing transit service and access to it on certain streets, or infrastructure, such as transit signal priority, on-street parking management, and safer routes to transit for pedestrians and bicyclists. This section summarizes where Tacoma will prioritize transit, priority treatments that the City can use to support transit, and ways that the City can collaborate with transit providers.

In the longer term, the City may need to deploy strategies that go beyond managing the right-of-way. For example, the City may find that targeted investments in transit service or expanding transit infrastructure, (e.g., adding to the streetcar network), are of significant importance in maximizing transit's mode share. This vision sets a foundation on which those types of strategies can be launched in the future.

MODAL NETWORK AND TRANSIT PRIORITY TREATMENTS

Transit will be prioritized over other modes on certain streets, which is illustrated in the transit priority network map. This map highlights the streets where transit will be prioritized and indicates the level of transit service intensity that the City could support in the future. Access to these transit priority streets by walking or bicycling is also important because transit riders need to get to the stop. For this reason, the transit priority network has significant overlap with the pedestrian and bicycle priority networks. These levels of intensity are summarized in the accompanying table on page 82.

Transit Intensity Levels
Streets highlighted in dark blue are **High Capacity corridors** and would support the highest level of transit intensity. The transit technology used to operate this level of intensity could be either bus or rail, and appropriate modes include street running light rail, streetcar, bus rapid transit, and arterial rapid bus.

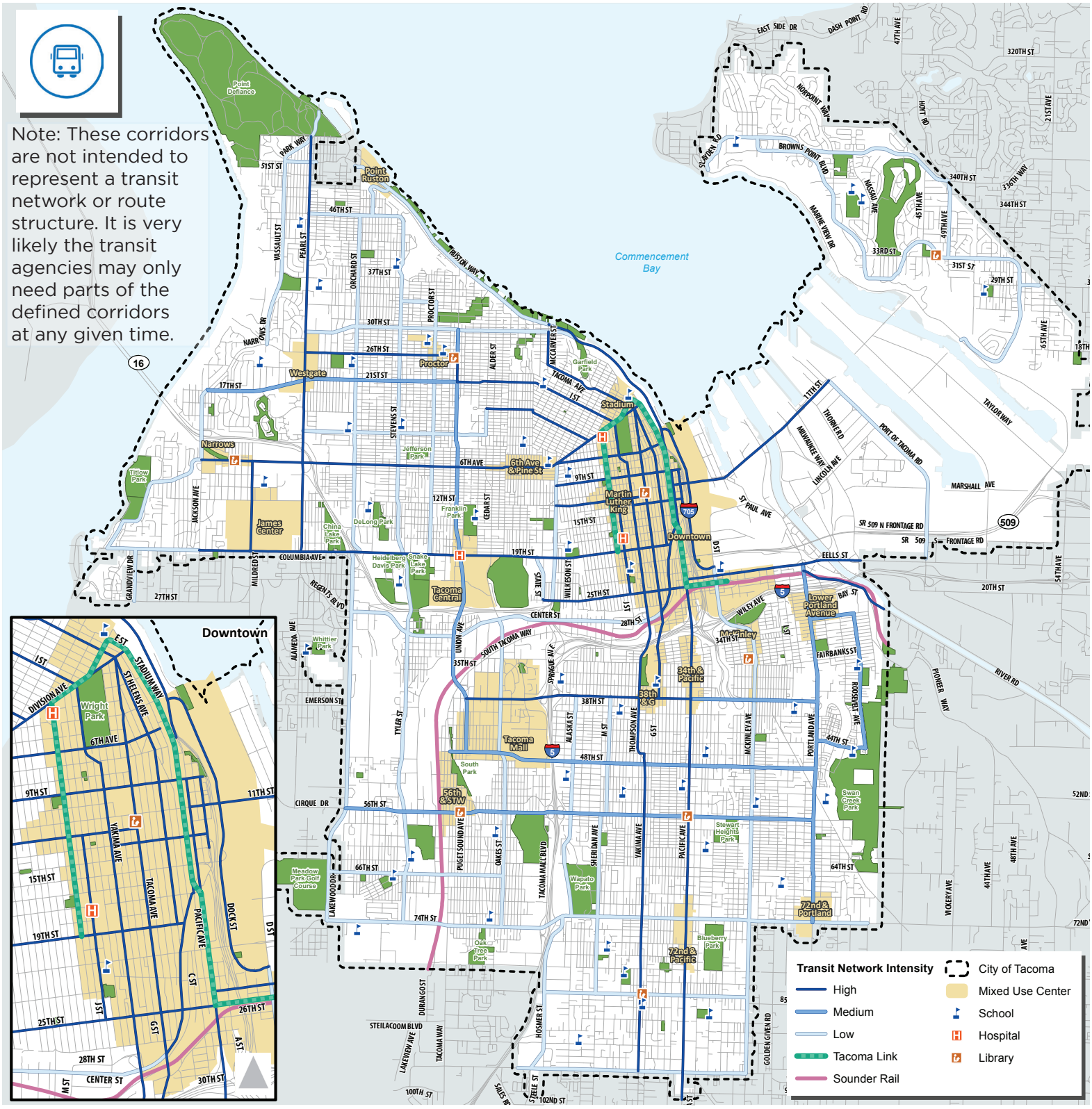
Streets highlighted in medium blue are **Urban corridors** and have slightly lower intensity than High Capacity corridors. Service could be provided by buses on this type of corridor, with the potential for very high quality service like bus rapid transit.

Light blue streets represent **Collector and Neighborhood corridors**, which have the lowest intensity. These corridors could be served by buses.

It is important to note that the level of intensity indicated on the map is the level that could be supported by the City, but Pierce Transit or Sound Transit will not necessarily operate that level of service on the corridor in the future. A high number of corridors were selected as transit priority streets so that infrastructure planning would not preclude transit with the understanding that service will not be justified on all of the corridors in the future. For example, there will likely not be demand for 10-minute service on all of the corridors highlighted in dark blue in the future, so only some will receive that level of service. This is where coordination with the two transit agencies will be crucial. Many of the transit-supportive actions in the higher intensities will take time to implement. It will be important that the transit agencies work with the City as plans are made to upgrade service in particular corridors.

TRANSIT PRIORITY NETWORK

Note: These corridors are not intended to represent a transit network or route structure. It is very likely the transit agencies may only need parts of the defined corridors at any given time.



TRANSIT INTENSITY LEVELS

	HIGH CAPACITY	URBAN	COLLECTOR AND NEIGHBORHOOD
MAP COLOR	DARK BLUE	MEDIUM BLUE	LIGHT BLUE
Peak Frequency	10 min or better	11 to 15 minutes	16 or more minutes
Off Peak Frequency	15 min or better	16 to 30 minutes	31-60 minutes
Appropriate Modes	Street Running Light Rail (e.g., Tacoma Link) Streetcar (e.g., Seattle South Lake Union) Bus Rapid Transit (e.g., Community Transit Swift or Eugene EmX) Arterial Rapid Bus (e.g., King County Metro RapidRide)	Bus Rapid Transit (e.g., Community Transit Swift or Eugene EmX) Arterial Rapid Bus (e.g., King County Metro RapidRide) Arterial Bus (e.g., Pierce Transit Route 1) Local Bus	Local Bus

TRANSIT-SUPPORTIVE CITY ACTIONS

CITY ACTIONS	HIGH CAPACITY	URBAN	COLLECTOR AND NEIGHBORHOOD
TRANSIT SIGNAL PRIORITY/TRAFFIC SIGNAL TIMING	Consistently throughout corridor	Considered if person throughput of intersection is enhanced	Only at intersection points with higher intensity modes
QUEUE JUMPS	Where transit in mixed traffic is delayed by more than 10% of free running speed	Selected intersections where transit is delayed by more than 20% of free running speed	Not considered
DEDICATED RIGHT-OF-WAY OR TRANSIT PRIORITY LANES	Considered throughout corridor if transit travel time advantage can be improved by more than 10%	Selected locations if transit travel time advantage can be improved by more than 20%	Not considered
ON-STREET PARKING MANAGEMENT	Transit has priority, on-street parking provided only if there is no conflict with transit	Transit has priority, on-street parking provided only if delay/transit conflict is minimal	Parking prohibited only at bus stops
SELECTIVE USE OF CURB EXTENSIONS	Only as a transit priority measure – in-lane stops for example.	Selected locations with transit delay a decision factor in placement	Transit delay a decision factor in placement but pedestrian crossing width primary decision factor
BICYCLE LANE PLACEMENT	Full separation of transit and bicycle facilities	Separation and delineation in conflict areas	Considered in high conflict areas
DEVELOPMENT SITE PLAN REVIEW	Yes – including off-site improvements	Yes – including off-site improvements	Yes, but only on-site and immediately adjacent right-of-way improvements
PROVISION OF CURBSIDE TRANSIT PASSENGER AMENITIES	City will prioritize provision	City will ensure amenities can be installed	Not provided – transit agency responsibility
PEDESTRIAN INFRASTRUCTURE	City will prioritize up to 1/4 mile from corridor based on Pedestrian Priority Network	City will prioritize up to 1/4 mile from corridor based on Pedestrian Priority Network	As per Pedestrian Priority Network
BICYCLE INFRASTRUCTURE	City will prioritize up to 1 mile from corridor based on Bicycle Priority Network	City will prioritize up to 1 mile from corridor based on Bicycle Priority Network	As per Bicycle Priority Network

Actions that the City will take to support transit are summarized in the accompanying table. The majority of the actions are measures to improve transit speed and reliability, such as queue jumps, dedicated right-of-way, and transit priority lanes. This may require a Street Occupancy Permit or other Agreement between City and Transit for exclusive use rights. Other actions make transit more attractive to use (provision of curbside transit passenger amenities) or make it easier to access (pedestrian infrastructure). When applied correctly, all of the actions have the potential to increase the quality of transit service, thereby improving its effectiveness and increasing ridership.

The level of action taken will depend on the level of intensity in a corridor, with support for high-capacity corridors being more robust than for lower intensity corridors. For example, one city action may be transit signal priority or changes to transit signal timing. On high-capacity corridors, transit signal priority/timing will be applied consistently throughout the corridor. On urban corridors, this action will be considered if person throughput at an intersection is enhanced, i.e., if prioritizing buses increases the overall number of people traveling through an intersection compared to doing nothing at all. Transit signal priority/timing will be applied on collector and neighborhood corridors only at intersection points with higher intensity modes.

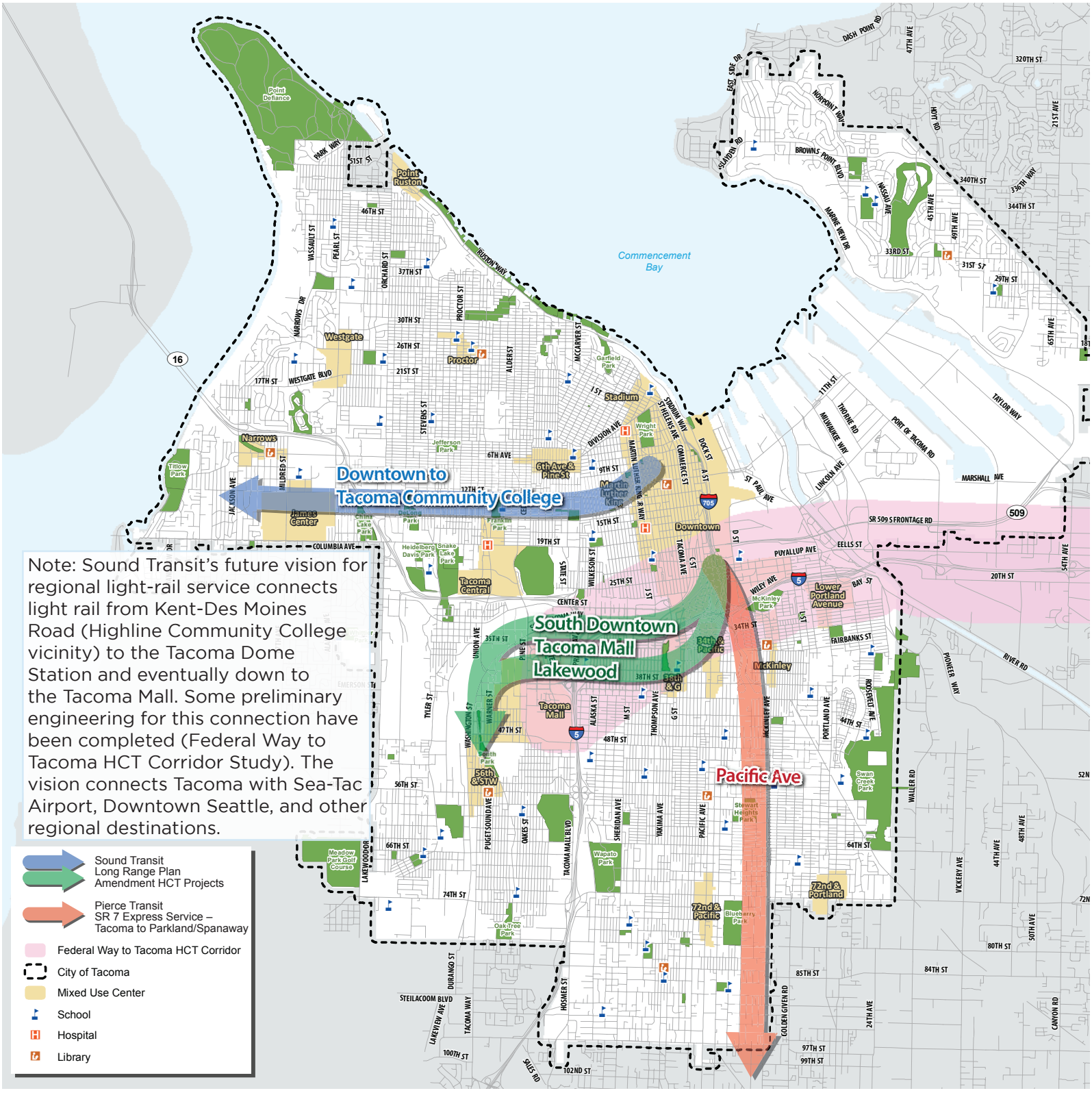
Some corridors in Tacoma accommodate more than one prioritized mode, such as transit and bicycle or transit and auto/freight. In corridors like this, compromises may be necessary to accommodate treatments for both modes rather than just one. For example, if transit and bicycle are both prioritized on the same street, it may not be possible to have both transit priority lanes and bicycle lanes on the street due to space limitations. The cross-sections described in the Roadway Typologies section later in this chapter provide examples of how situations like this may be handled.

POTENTIAL HIGH CAPACITY TRANSIT (HCT) CORRIDORS

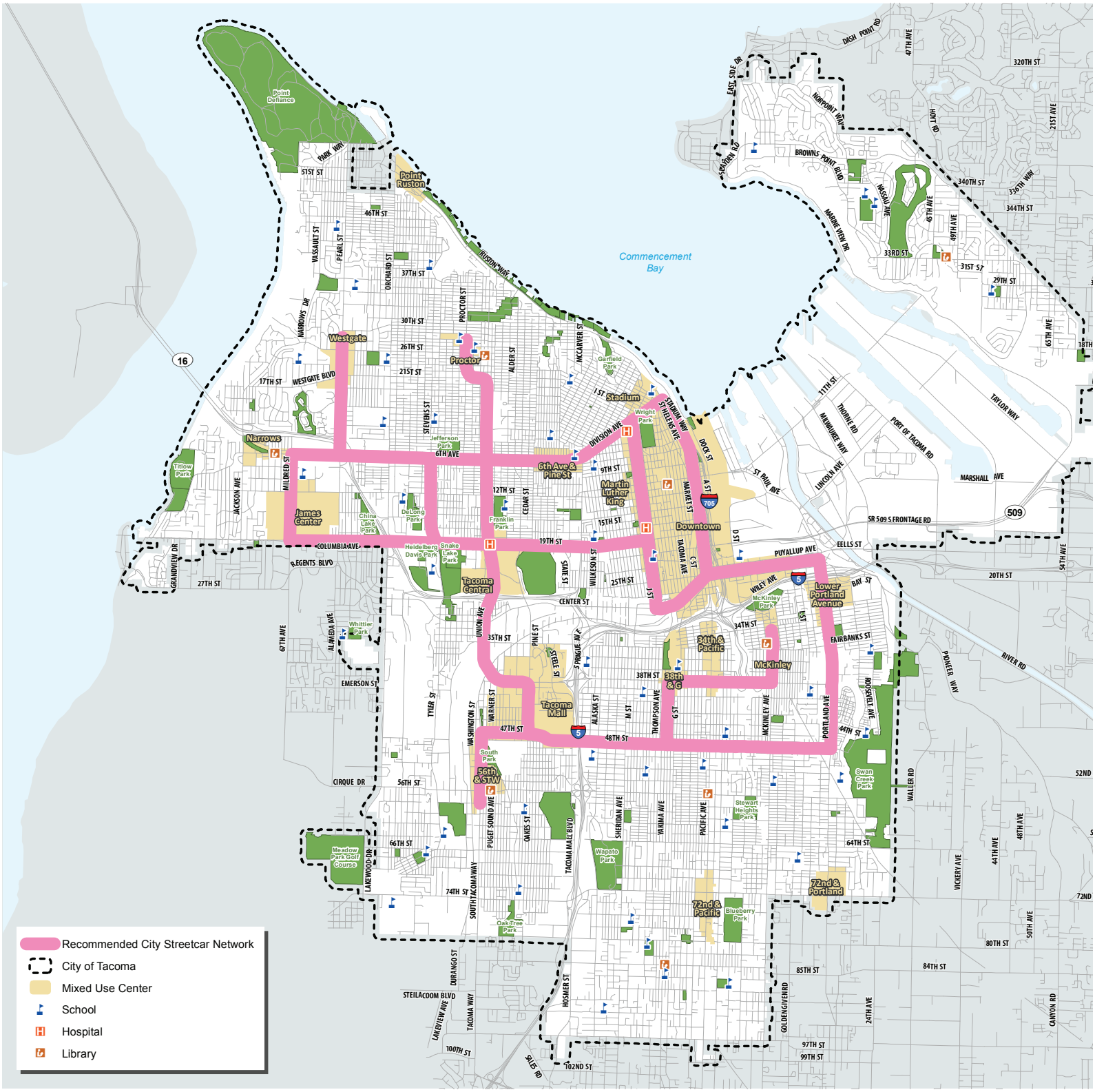
In addition to the street-level planning for transit in Tacoma, the City is also looking ahead to potential rail and high capacity transit investments. The Sound Transit Long Range Plan Update, under way in 2014 and 2015, identified several areas in Tacoma that could be connected well via light rail, streetcar, or bus rapid transit. Sound Transit has not committed to investing in these corridors at this time, but they are good candidates for high capacity transit and could be operated by Pierce Transit as well.

The City has also identified potential corridors for a future streetcar network. This network connects many of Tacoma's mixed use centers and key destinations. The corridors called out on the streetcar map coincide with corridors on the transit priority network so they may begin with incremental investments in transit service in the shorter term. In the long term and with an infusion of funding, the streetcar network would provide an efficient transit experience for many of Tacoma's residents, workers, and visitors.

POTENTIAL SOUND TRANSIT AND PIERCE TRANSIT HCT CORRIDORS



POTENTIAL CITY OF TACOMA STREETCAR CORRIDORS



PRIORITIZATION FRAMEWORK

Transit-supportive city actions will be prioritized and implemented over time, and all actions will be coordinated with service changes made by Pierce Transit and Sound Transit.

The first priority in implementing transit-supportive actions is to conduct an inventory of streets in Tacoma that currently have transit service. Conditions along corridors with peak period frequency of 15 minutes or greater should be compared to the transit-supportive actions described in this plan. Gaps along the corridors where the City has not taken action to support transit should be identified, and improvements to fill these gaps should be prioritized.

After identifying corridors where improvements are needed, the corridors will be prioritized so that investments can be directed where they will have the largest impact. The following criteria will be used to prioritize corridors:

1. **Ridership** - in general, improvements made to corridors with high ridership will have the greatest impact because they will benefit a large number of people.

2. **Service Intensity** – corridors with high service intensity will benefit from improvements more than corridors with low service intensity because a higher number of trips and vehicles will benefit, improving efficiency.

3. **Transit Speed and Reliability** – corridors with poor transit speeds and/or poor reliability should be prioritized when it comes to transit-supportive actions that can improve transit speed and reliability, such as transit signal priority. The priority for addressing these would first fall to high intensity corridors (meaning the transit service is already in place), where due to the impacts of the street system, transit speed and reliability is compromised beyond the standard established in the table on page 83.

After current gaps have been addressed, the second priority is to examine future funded system plans from Pierce Transit and Sound Transit to identify corridors that will receive enhanced transit service in the short-term. Transit-supportive actions taken by the City should be coordinated with service enhancements by Pierce Transit and Sound Transit to ensure that investments in service will be supported by City policies and infrastructure. As all three jurisdictions are required to maintain six year plans, it is suggested that this coordinated planning effort occur through the six year planning efforts of the three agencies. Thus each year as plans evolve, the City, Pierce Transit, and Sound Transit will maintain fully coordinated plans.

FIT WITHIN THE SYSTEM COMPLETENESS FRAMEWORK

The Tier 1 project list in Appendix B identifies transit investments that should occur over the next 25 years. These investments will be developed based on the transit priority network and transit-supportive actions described in this plan. The City's progress in providing a transit system will be measured based on its progress in making these transit investments relative to the City's growth over time.

FREIGHT PRIORITY NETWORK

In 2009, the Washington State Legislature amended the GMA to include a requirement for a Container Port Element in the GMA Comprehensive Plan for cities that contain a marine container port with annual operating revenues in excess of $60 million. The City of Tacoma falls into this category. The legislative intent is "... to ensure that local land use decisions are made in consideration of the long-term and widespread economic contribution of our international container ports and related industrial lands and transportation systems and to ensure that container ports continue to function effectively alongside vibrant city waterfronts." (RCW 36.70A.085).

Accordingly, the City of Tacoma, in collaboration with the Port of Tacoma, prepared a Container Port Element (adopted July 2014). The major components of that Plan are included in this Freight Element.

Consistent with state requirements, the Element provides policy guidance to achieve the following:

- Protection of core areas of container port and port-related industrial areas within the City;
- Efficient access to the core area through freight corridors within the City limits;
- Protection against potential land use conflicts along the edge of the core area; and
- Identification of key transportation corridor improvements.

PORT ACTIVITIES AND FACILITIES

The Port of Tacoma container port activities are concentrated in the Commencement Bay Tideflats area, located in Tacoma's central waterfront. This area has an established history of maritime industrial activity, dating back to the 1800s. In 1918, the Port of Tacoma was created and began development on 240 acres of Tideflats. Currently, the Port is home to a wide mix of industrial uses, including cargo terminals, manufacturers, warehouses, repair facilities, rail yards, and others. Some of the largest cargo terminals, especially the container terminals, are owned by the Port of Tacoma, but there are also numerous private facilities that transfer cargo to and from ships and barges. The Port also owns terminals handling bulk products, auto imports, breakbulk cargoes, and heavy-lift cargoes. With ownership of approximately 2,725 acres, the Port of Tacoma owns approximately half of the land area in the Commencement Bay Tideflats area operating and leasing significant piers, docks, wharves, cargo handling equipment, and related upland facilities.

THE PORT'S ECONOMIC CONTRIBUTION

In 2013, Tacoma's total seaport activity equaled 1.9 million twenty-foot equivalent units (TEUs), making it the 10th largest among North American ports by total TEUs. Tacoma's role in foreign exports is especially important; containerized trade accounts for over half of the total tonnage moving through the Port. The marine cargo terminal trade plays a vital role in the Tacoma and Pacific Northwest economy, contributing thousands of jobs and millions of dollars in revenues and state and local taxes to the region. A 2014 Port of Tacoma economic impact study provides specific data describing the magnitude of the economic impact of the Port on the local and regional economy. As described in this report, economic impacts associated with container port activity can be summarized in terms of employment, income, revenue, and taxes. Key findings described in this report are listed below.

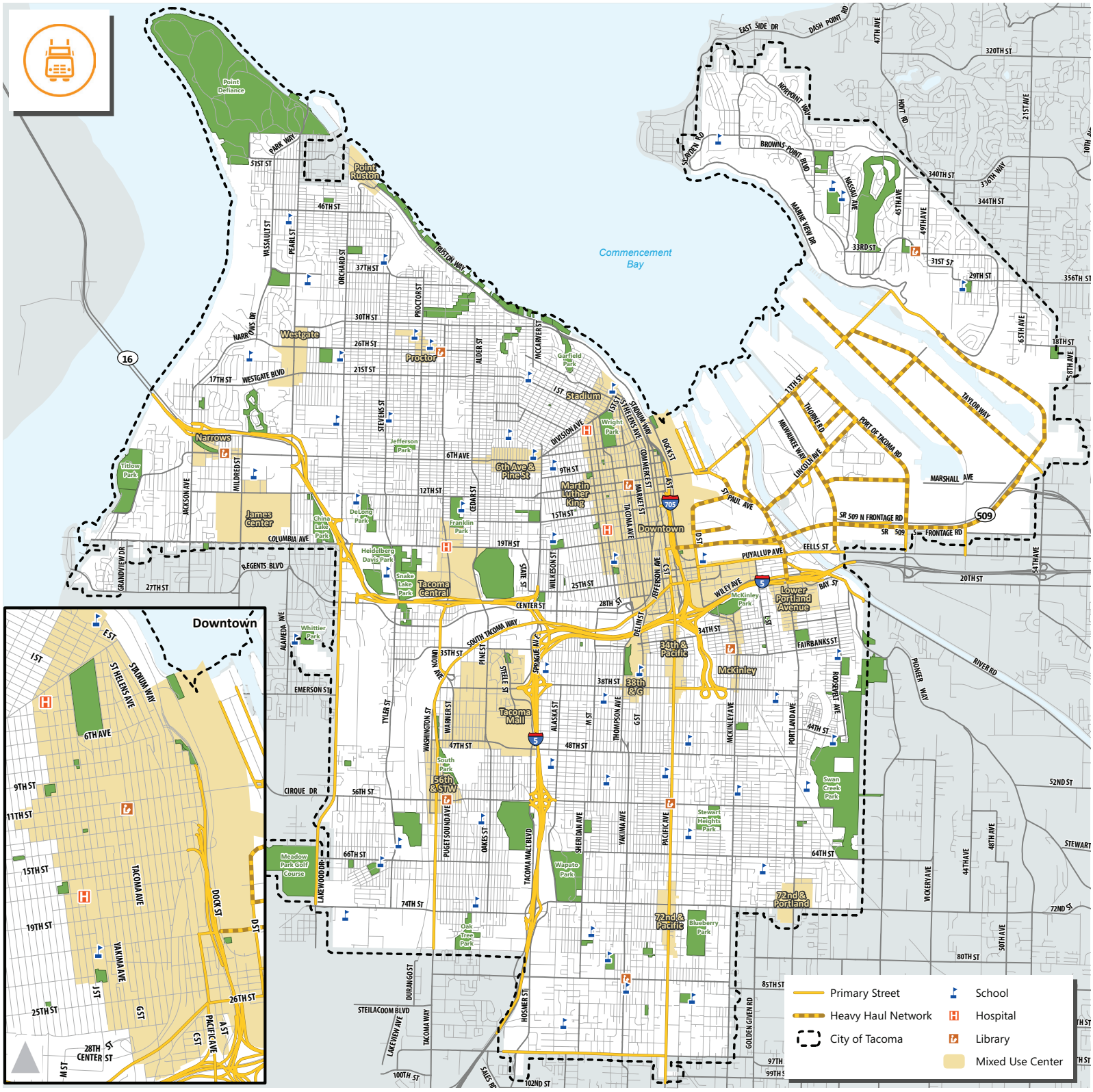
- Marine terminal activities at the Port of Tacoma generated approximately 10,000 jobs.
- When induced and indirect jobs were included, the total number of jobs generated by the Port's presence was estimated at 29,000. If farmers and manufacturers who ship products through the Port of Tacoma were considered, the Port's activities reach 267,000 jobs in Washington State.
- The marine terminal activities at the Port of Tacoma generated more than $3 billion in revenue.
- This economic activity translates to more than $223 million in state and local taxes for education, police, fire services, and road improvements.
- Cargo movement at the Port of Tacoma was estimated to generate nearly $1.5 billion in direct revenue. Of this total, an estimated $1.25 billion was generated by containerized cargo.
- Estimates of the annual state and local taxes generated by the Port of Tacoma totaled $107.5 million with approximately $82.4 million collected by the State, $11.5 million by the county, and $13.6 million by local government.

CORE VISION & PRINCIPLES

For the Core Area, the Element envisions a strong and vibrant container port and port-related industrial center in Tacoma's Commencement Bay, supported by appropriate levels of service for capital facilities and other infrastructure, and an efficient truck and rail transportation network. Key planning principles that guide the goals and policies for the Core Area include:

- Uses should be prioritized as follows: (1) cargo facilities and activities, (2) water-dependent port uses, (3) water-related port uses, and (4) other uses permitted in Port Maritime Industrial zoning;
- The Port of Tacoma should have the opportunity to work cooperatively with the City of Tacoma in setting LOS standards for utilities and transportation; and
- The Port of Tacoma should have the opportunity to work cooperatively with the City of Tacoma in ensuring that future developments pay for the costs of those capital improvements necessary for the proper functioning of the Core Area.

FREIGHT PRIORITY NETWORK



HEAVY HAUL NETWORK

The City of Tacoma has an established Heavy Haul Network to support commerce associated with the Port of Tacoma. This network establishes corridors within the City's transportation network where designing roadways to accommodate freight as a priority modal user will be essential. Design considerations include turn radii, paving and materials, lane widths, as well as maintenance schedules.

FIT WITHIN THE SYSTEM COMPLETENESS FRAMEWORK

The Tier 1 project list in Appendix B identifies investments along the Heavy Haul Network that should occur over the next 25 years. These investments will be developed based on the design considerations described in this plan. The City's progress in providing for freight will be measured based on its progress in making these investments relative to the City's growth over time.

AUTO PRIORITY NETWORK

This Element provides guidance for future right-of-way improvements, recognizes the limitations associated with street widening, and attempts to balance the access and mobility needs of all users including motorists, pedestrians, bicyclists, transit, and freight while responding to anticipated growth. The Auto Element also strives to balance safety, preservation, and maintenance of the roadway infrastructure, as well as environmental sustainability. The City's street network includes State Highways and streets ranging in size from local streets to principal arterials linking neighborhoods and business areas to each other and the region.

STATE HIGHWAYS AND HIGHWAYS OF STATEWIDE SIGNIFICANCE

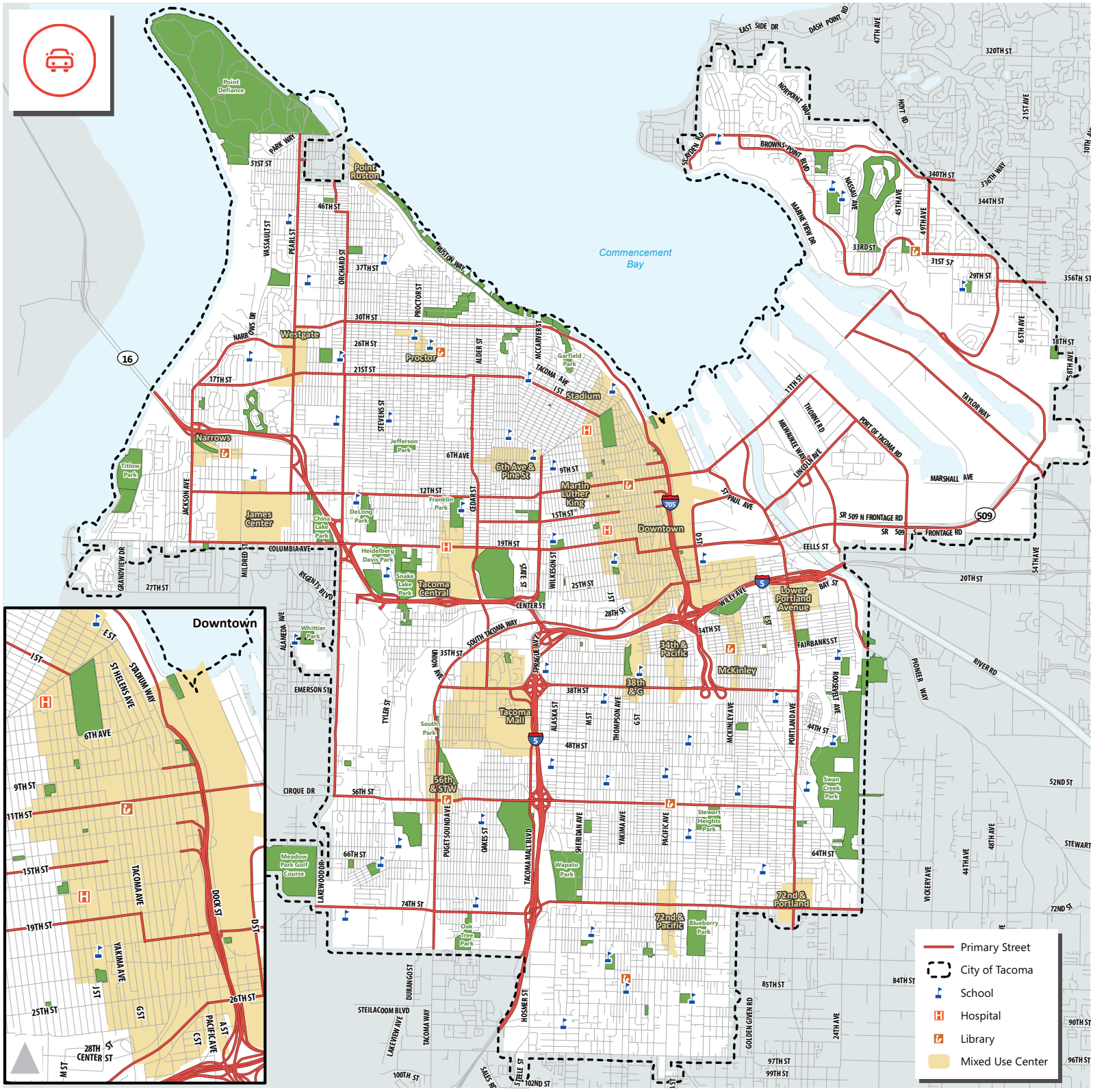
The City of Tacoma has been greatly impacted by State Highways, which are owned by the State and managed by WSDOT. These highways connect communities to one another throughout the Puget Sound Region. To serve traffic at higher speeds and meet mobility and safety goals, access to these streets is restricted and regulated in accordance with RCW 47.05. The State Highways that are within or adjacent to Tacoma are designated into two categories, depending on their role in the regional network: Highways of Statewide Significance (HSS) or Highways of Regional Significance (Non-HSS). In addition, the State identifies highways that are part of the Washington State Freight and Goods Transportation System (RCW 47.06A.020). HSS include interstate highways and other State routes needed to connect major communities in the State. The State uses the designation to allocate and direct funding. The HSS system was mandated by the 1998 legislature through enactment of House Bill 1487 and codified into RCW 47.06.140.

WSDOT is the owner of the major highways in the State, including I-5, which passes the Tacoma Mall and intersects major highways, such as SR 16, I-705, SR 7, SR 163, and SR 167 before going east into Fife; SR 509 in the Port area; SR 16 connecting Pierce and Kitsap counties; I-705 which serves as the connector between I-5, Downtown Tacoma, Tacoma's waterfront, North Tacoma, and the Tacoma Dome; and SR 167, commonly known as the Valley Freeway connecting I-5 in Tacoma with I-405 in Renton. SR 167 is not a complete freeway between Puyallup and Tacoma. This uncompleted freeway link has been identified as a critical missing link in the State's highway network. WSDOT, as the administrator for federal and state transportation funds, works with the City to improve the transportation system locally and regionally.

The Green Transportation Hierarchy recognizes that past transportation investments have focused on auto mobility. Moving forward, Tacoma will take a more balanced multimodal investment approach.

FUTURE VISION

AUTO PRIORITY NETWORK



KEY AUTOMOBILE CONCEPTS

Auto Priority Network
In developing this TMP, the City's roadway network was evaluated to determine the routes that are most critical to auto mobility. These routes are considered a part of the auto priority network, as summarized in the adjacent figure. Similar to the other modal priority networks, the City will prioritize treatments along the auto priority network that accommodate auto travel. The future auto priority network, in some cases, differs from the existing functional classification. This is due to the changing priority of that roadway/corridor.

Treatments include providing sufficient vehicle lanes and widths to accommodate reasonable vehicle throughput, as well as intersection improvements that contribute to corridor mobility and safety.

As shown in the Green Transportation Hierarchy, areas where autos take priority over other modes should be limited. While autos still make up the majority of trips in Tacoma, this is in part due to the fact that transportation planning has historically focused on accommodating auto trips over other modes. The City is actively working to encourage people to use other modes by shifting its investment priorities.

Regional Access to Downtown
The largest RGC being planned in Tacoma is the downtown area. While new roadway capacity in this area is, for the most part, not necessary to accommodate the planned growth, it will be important to preserve the existing access and capacity to and from downtown to help mitigate the growth of employment and new residences.

It is recognized that numerous multimodal improvements will be necessary to accommodate growth in the downtown area. This will have to be balanced with the desire to link Downtown Tacoma with the waterfront area.

Fit Within a System Completeness Framework
The City has historically measured LOS based on automobile delay alone. This TMP generally moves away from this approach by focusing on system completeness based on the projects included in the Tier 1 project list in Appendix B. However, the City should continue to measure and prioritize vehicle mobility along the auto/freight priority network, as described in the performance measurement section of the following chapter.

Access Management
Access management refers to the proactive management of vehicle access points to adjacent parcels through roadway and driveway design. Access management promotes safe and efficient use of the transportation network for all classes of roadways. The City of Tacoma utilizes several techniques to attempt to control access to roadways. These techniques include:

- **Signal Spacing:** Increasing the distance between traffic signals improves the flow of traffic on major arterials, reduces congestion and improves air quality for heavily traveled corridors. However, increased spacing results in limited opportunities for pedestrians to cross at a signalized location.
- **Driveway Spacing:** Fewer driveways, spaced farther apart, including combining access points for shared access, allow for more orderly merging of traffic and present fewer conflicts to all road users.
- **Separated Turning Lanes:** Dedicated lanes for left, right and U-turns, as well as roundabouts, keep through-traffic flowing and improve safety.

- **Roundabouts:** Roundabouts represent an opportunity to reduce conflict points in an intersection or reduce the severity of crashes.
- **Median Treatments:** Curbing and non-traversable raised medians are some of the most effective means to regulate roadway access and reduce crashes.

The access management techniques for a given roadway must be appropriate for the facility with respect to the roadway classification, traffic volumes, adjacent land uses, and traffic speeds.

Lighting

Street and intersection lighting is a highly effective tool for improving safety and personal security along roadways. Well designed and maintained lighting allows pedestrians to feel safe when walking in their neighborhoods and drivers can better see the street, as well as the surrounding sidewalks. The City's priority for street lighting is to illuminate higher classified streets and the intersections on those roadways. A few other general statements can be made regarding the potential safety benefit of roadway lighting:

- A disproportionately large number of crashes and fatalities occur in dark conditions, especially those involving pedestrians. Pedestrians are the most vulnerable population on roads at night, and in terms of crash reduction, appear to benefit the most from street lighting. Some studies estimate that pedestrians are between 3 and 6.75 times more vulnerable in the dark than daylight. Prioritizing lighting at crossing locations and providing a higher level of lighting during the busiest dark hours are cost-effective strategies.
- Lighted intersections and interchanges have fewer crashes than unlit intersections/interchanges.
- Crime Prevention Through Environmental Design (CPTED) is an important design component for all transportation facilities, but especially for pedestrians. Lighting is a critical element of CPTED that the City strives to provide in all needed locations. Elements of CPTED include designing streets to encourage pedestrian and bicycle traffic, providing natural surveillance, and performing necessary maintenance.

Traffic Calming

Tacoma has a Neighborhood Traffic Calming Program that helps ensure safe traffic conditions on Tacoma's neighborhood streets. The City responds to residents questions and concerns regarding speeding, traffic safety, traffic signs and signals, and similar issues.

The City also administers its neighborhood traffic circle program and the arterial and non-arterial traffic calming programs. Traffic speeds and volumes are a concern on neighborhood streets. Tacoma's Traffic Engineering Section will partner with neighborhoods to address these concerns and develop traffic calming projects that are both feasible and fundable.

Complete Streets
On November 17, 2009 the City Council adopted Resolution Number 37916: "A Resolution relating to the City's street design; endorsing the creation and ongoing development of Tacoma's Complete Streets Design Guidelines; and directing the City Manager to implement the Mixed-use Centers Complete Streets Design Guidelines and the Residential Complete Streets Design Guidelines." Since adoption, the Council's Complete Streets direction is being incorporated into multiple City policy initiatives, including this TMP.

FUTURE VISION

Courtesy: Downtown On The Go

Demand-Side Approaches

Much of this plan addresses building out Tacoma's future transportation network, the supply side, to serve the travel of residents, employees, and visitors accessing the City's various land uses. However, another very important piece of this relationship between land use and transportation is Transportation Demand Management (TDM), which addresses the demand side of travel.

WHAT IS TDM?

TDM is an umbrella term for strategies to increase the efficiency of the transportation network by giving people options in how they travel around the City. Severe congestion occurs when too many people attempt to travel at the same time using the same mode. This condition is most prevalent in the United States when too many people travel in SOVs. TDM focuses on providing people with choices to travel by other modes, at different times of day, or not at all if they have options available to them. TDM strategies support these travel options by providing resources, programs, tools, and partnerships that can help keep Tacoma moving and accommodate the City's planned growth.

COMMUTE TRIP REDUCTION (CTR) AND DOWNTOWN ON THE GO (DOTG)

As required by the CTR Efficiency Act of 2006 (RCW 70.94.521-551) and the associated Washington Administrative Code 468-63, the Tacoma City Council adopted the CTR Plan on July 10, 2007 (Resolution No. 37220) and adopted the CTR Ordinance into the Tacoma Municipal Code Chapter 13.15 on December 9, 2008 (Ordinance No. 27771).

The CTR Plan and Ordinance are designed to improve air quality, reduce traffic congestion, and reduce the consumption of petroleum fuels. With the focus on employer-based programs that encourage the use of alternatives to driving alone for the commute trip, CTR represents a centerpiece of the City's overall TDM strategy.

Tacoma created DOTG as its first ever Transportation Management Association (TMA). This innovative effort to target downtown trip reduction was created in partnership with Pierce Transit and the Tacoma-Pierce County Chamber of Commerce. Pierce Trips provides similar services for businesses, workers, and students as the TMA for Pierce County.

Source: Downtown On The Go

TMAs generally focus trip reduction efforts in areas with high employment and residential densities. Tacoma's RGCs and MUCs are appropriate areas to focus TDM efforts.

TDM STRATEGIES

In addition to building out the transportation network to support travel by all modes, there are methods for supporting each mode through transportation demand management. Many TDM strategies can be as simple as showing people the ease of walking or taking transit to work. Others involve targeted tools or programs that encourage travel options other than driving alone.

WALKING

The City, TMAs, and employers can encourage walking for both transportation and recreational purposes through outreach programs, such as the Walking Wednesdays effort that DOTG offers. Many employees who live within walking distance of their workplace may be used to driving to work but find commuting on foot enjoyable, either regularly or occasionally. Some TMAs hold annual walking contests in which commuters log their trips to work on foot and enter to win prizes.

Similarly, recreational tours or walking groups provide a healthy activity that can get people more comfortable with walking around Tacoma. Safe Routes to School (SRTS) is another excellent example of providing transportation choices for students by encouraging walking and improving safety. Simply introducing people to this option opens up new choices whether they are walking for work or fun.

Source: Downtown On The Go

BIKING

Tacoma has tools and programs in place currently that support bicycling as a viable travel option and there are other possibilities to explore. Bike Month draws numerous bicyclists onto the street to make riding a bicycle to work, or for other purposes, a visible and approachable option for anyone. DOTG supports the Bike Buddy program for people who are interested in trying bicycling around the City, and the Bike to a Business discounts program can encourage more people to travel by bicycle. Bicycle Trains, groups of bicyclists that meet up at pre-arranged "stops" to bicycle safely to work on a regular basis, are another example of programs that make bicycling an attractive option. Ciclovias, also known as open streets events, give residents and visitors the opportunity to experience city streets free of traffic and typically draw thousands of participants in locations all over the world. Downtown to Defiance (now in year 3) is an example of a Ciclovia in Tacoma. These outreach efforts in addition to education programs that teach safe habits for both motorists and bicyclists when operating near each other can encourage greater confidence and improve safety for all users. The MoMaP Update Appendix provides further information.

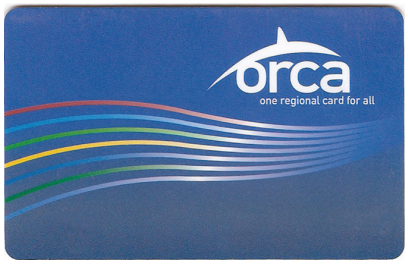
Source: www.prontocycleshare.com

Aside from outreach programs and capital projects that build out the bicycle transportation network, there are also supportive amenities that can boost bicycling. Public bicycle and secure parking areas, such as bike cages, are necessary for people to feel safe leaving their bicycles locked while not riding them. Tacoma has a free bicycle rack request service for locations in the public right-of-way.

Locker rooms, showers, and maintenance tools are additional amenities that make bicycling an easier choice. Some cities have bicycling centers, run either privately or through public-private partnerships, in central locations to give many people access to these amenities. Public bicycle share programs are another successful way that many cities boost travel by bicycle.

TRANSIT

Public transit is an easy and affordable option for many commuters and travelers around Tacoma today. The One Regional Card for All (ORCA) card program makes boarding transit vehicles and transferring to another extremely easy and gives employers a simple way to subsidize their employees' travel by transit. Advances in smart farecard technology are allowing integration of other transit providers, travel modes, and payment purposes as time goes on, making pay-as-you-go transportation options even easier.



Source: en.wikipedia.org/wiki/ORCA_card

Trip-planning platforms for transit and real time arrival information are another key to encouraging people to use public transit. Websites and applications such as Google Maps and One Bus Away can help Tacoma residents, workers, and visitors make to-the-minute decisions on how to get around on public transit. Some jurisdictions also offer guaranteed ride home programs in partnership with employers to ensure employees a way to get home in case they miss the last bus or another emergency occurs.

VANPOOL / CARPOOL

Perhaps the most readily available source of transportation capacity is the empty seats in vehicles on Tacoma's streets today. Matching people who live and work in similar locations or who otherwise have similar travel patterns can increase the efficiency of the City's transportation network while helping contribute to other policy goals as well. Pierce Transit operates regular vanpools for groups of varied sizes traveling short and long distances alike. Vanpools offer the flexibility and door-to-door service that many travelers enjoy, especially for the work commute.

Formal and informal carpooling is also on the rise, especially as more freeways receive HOV and managed lanes. Both DOTG and Pierce Trips connect people to ridesharing options through web services that match potential carpooling partners. Individual employers can route their employees through these existing carpool matching services or undertake their own efforts, as many large employers have begun to do using employee shuttles. Lastly, smartphone applications support ridematching for frequent commuters and occasional passengers alike.

Source: rideshareonline.com/

CARSHARING

Private companies and public programs supporting carsharing can reduce the burden of parking on Tacoma's streets. They can also contribute to lower vehicle miles traveled (VMT) by reducing dependence on privately-owned vehicles and making drivers pay for each time they use a shared vehicle. Zipcar currently operates at the University of Washington Tacoma, the University of Puget Sound, and Pacific Lutheran University. There are other examples of private, public-private partnership, and publicly run carsharing models around the country that Tacoma could adopt as an additional option to private car ownership.

Source: Iconathon

FLEXIBLE WORK ARRANGEMENTS

An extremely cheap and easy way to reduce demand on the transportation network, especially during peak times, is for employers to offer flexible work arrangements. Whether employees work from home one day a week, work a compressed work week, or simply shift their commute time away from the peak hour, removing some trips during the peak hour can reduce the demand placed on the transportation system and contribute to better employee work-life balance through flexibility.

PARKING MANAGEMENT

The management of parking resources is vital to the success of many businesses and retailers and it can help to reduce the need for additional parking capacity. TDM is one tool shown to be effective in the management of parking. The goal of Tacoma's parking system is to maximize the use of the right-of-way while encouraging behavior that is consistent with the priority user of each district or area. For example, the parking priority user in the downtown is customers, clients, and visitors. Tacoma currently manages the short term on-street parking supply utilizing various tools to influence the desired parking behaviors. Within the downtown core a combination of time restrictions and paid parking are utilized to influence demand at no greater than 85% occupancy or 1 stall in 6 is available for use, which helps drivers park near their destination and reduces circling behavior and congestion.

In areas immediately outside the downtown core (buffer zone) and other areas throughout the City (outlying zones), parking is almost entirely managed with time restrictions and enforcement patrol. Parking spaces throughout the system are managed on a first-come, first-served basis. The City allows certain uses by parking permits. Based on the City's projected household and employment growth and lack of new parking facilities, the need to manage more parking areas by deployment of new parking control technologies will be necessary.

There are various thoughts on free parking in dense commercial and residential centers. For the City of Tacoma and its downtown merchants and businesses, they decided in 2009 that free parking and inconsistent parking controls were detrimental to the success of the downtown core retailers. The implementation of pay stations and new enforcement tools created the desired 85% occupancy. The parking system is now monitored annually so that various adjustments to rates and supply can be made strategically.

The Parking Technical Advisory Group (PTAG), formerly the Parking Management Advisory Task Force, was established in October 2009 (Ordinance No. 27840) to work alongside City staff to analyze parking policies and address parking issues within the downtown metered parking area. The PTAG influence has since grown to areas outside of the metered district, including reviews of off-street parking pricing and residential parking zones. The group continues to be an invaluable asset to the City as it provides a varied and timely perspective as it reviews current parking policies and how they impact stakeholders. The group also makes periodic recommendations to the City Manager regarding policy and parking rate changes.

Due to the dynamic nature of a parking system and the possibility of detrimental "unintended consequences", changes are made within a public input environment. These sessions have been instrumental in helping to educate and to help reduce impacts. A similar process should be utilized for mode use changes resulting from the "arterial priorities" in this document. The arterial changes could have a significant detrimental impact on critical on-street parking spaces that support abutting commercial properties, retailers, and businesses.

HOW TDM FITS WITH SYSTEM PERFORMANCE

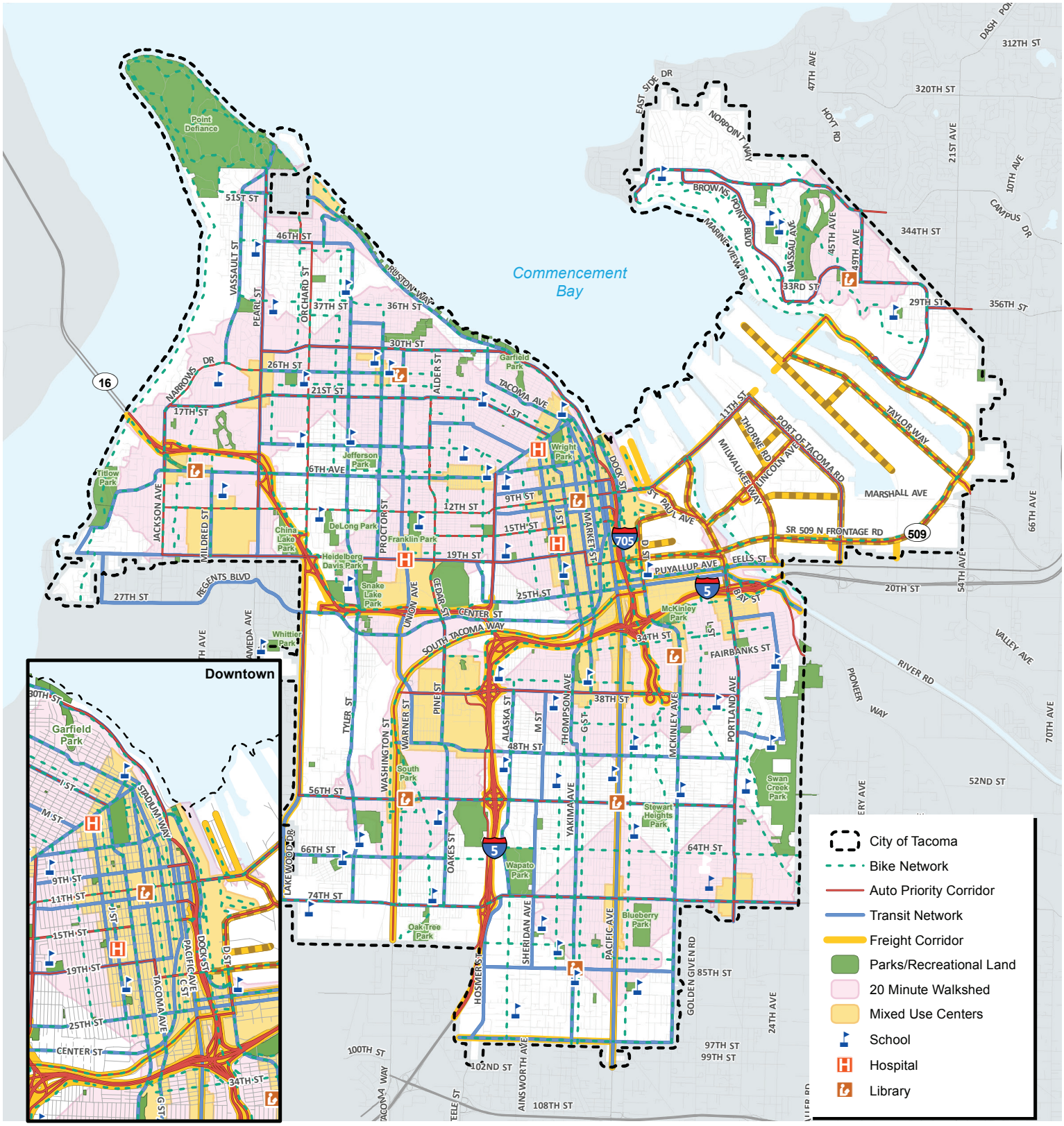
While TDM strategies are not a physical aspect of the transportation network to be built out over time, they still contribute to significant boosts in efficiency. As such, TDM is extremely valuable to monitor over time as a measure of overall transportation system performance. Participation in TMAs is a direct and easy way to track the exposure of residents and workers to their transportation options.

PARKING MANAGEMENT TOOLBOX

A parking demand management strategy can include some, but is not limited to, the following:

- **Once on-street parking supply utilization exceeds 85 percent on roadway segments during business hours, consider the appropriate tools necessary to ensure the priority users for the area remain the priority. If parking spillover is determined to be an issue on residential streets, deploy the City's residential parking zones (RPZs) program to prioritize curb space for neighborhood residents and their visitors while maximizing the use of the right-of-way with deployment of time stay controls.**
- **As centers develop, review Tacoma's parking codes to ensure they align with the desired urban setting. This may include adopting parking maximums rather than minimums for new developments and major remodels.**
- **Encourage more shared parking by developing public parking facilities that promote a "park once" concept. Additionally, future developments should embrace, where partnerships make sense, multi-use shared parking facilities where the tenant mix allows for the maximum use of the parking space.**
- **Eliminate subsidies for drive-alone employees.**
- **Continue to encourage Tacoma area employers to offer incentives for commute options including use of carpools/vanpools, fully paid transit passes, and parking cash out programs that encourage multi-occupant commuting through employees' monetary benefits rather than free parking.**

PRIORITY NETWORKS (ALL MODES)



Roadway Typologies

The previous section described the modal priority networks in Tacoma for walking, biking, taking transit, delivering freight, and traveling by car. Where the wheels really hit the road (so to speak) is in combining these layers together in the context of a citywide transportation network.

As the previous map shows, Tacoma's Layered Network assigns primary priority to more than one mode on some streets. Installing facilities for multiple modes may be simple on corridors with sufficient right-of-way width and available capacity, but many streets in Tacoma will require a delicate balance in order to support the prioritized modes.

The Green Transportation Hierarchy provides overall guidance on modal priorities city-wide. The City plans with this in mind and this hierarchy helps plan and prioritize transportation investments throughout the City. While the Green Transportation Hierarchy provides overall guidance on modal priorities citywide, the City must still have flexibility to plan and implement projects that are sensitive to the context of an individual corridor. The table below and cross-sections on the following page show example treatments that the City may consider for corridors with two primary modes.

STREETS AND CORRIDORS WITH 3 OR MORE MODAL CONFLICTS

ID	Street / Corridor	# of Modal Conflicts	Transportation Commission Recommendations				
			Transit	Pedestrian	Bicycle	Auto	Freight
1	Division / 6th Ave	3	Primary	Standard	Secondary		
2	N Narrows Dr / 26th						
	• Proctor to Pearl	3	Secondary	Standard	Primary		
	• Pearl to SR-16	3		Standard	Primary	Primary	
3	N 21st St	3	Primary	Standard		Primary	
4	S 12th St	3		Standard	Primary	Primary	
5	S 19th St	3	Primary	Standard		Primary	
6	SR-509 / Marine View Dr	3		Separated Trail		Primary	Primary
7	Center St	3	Primary	Standard	Primary		
8	S 56th	4	Primary	Standard	Secondary	Primary	
9	S 72nd	4	Primary	Standard	Secondary	Primary	
10	N Orchard St	3		Standard	Primary	Primary	
11	S Tacoma Way	3		Separated Trail		Primary	Primary
12	Yakima / Thompson	3	Primary	Standard	Primary		
13	E D St / McKinley Way	3	Primary	Standard	Primary		
14	E Portland Ave (South of I-5)	4	Primary	Standard	Primary	Primary	
15	N Pearl St						
	• S 12th St to N 46th St	3	Primary	Standard		Primary	
	• N 46th St to Pt Defiance	4	Primary	Standard	Primary	Primary	
16	Puyallup Ave						
	• Pacific Ave to E D St	3	Primary	Standard	Primary		
	• E D St to City Limits	3		Standard	Primary		Primary
17	Pacific Ave (South of I-5)	3	Primary	Standard			Primary

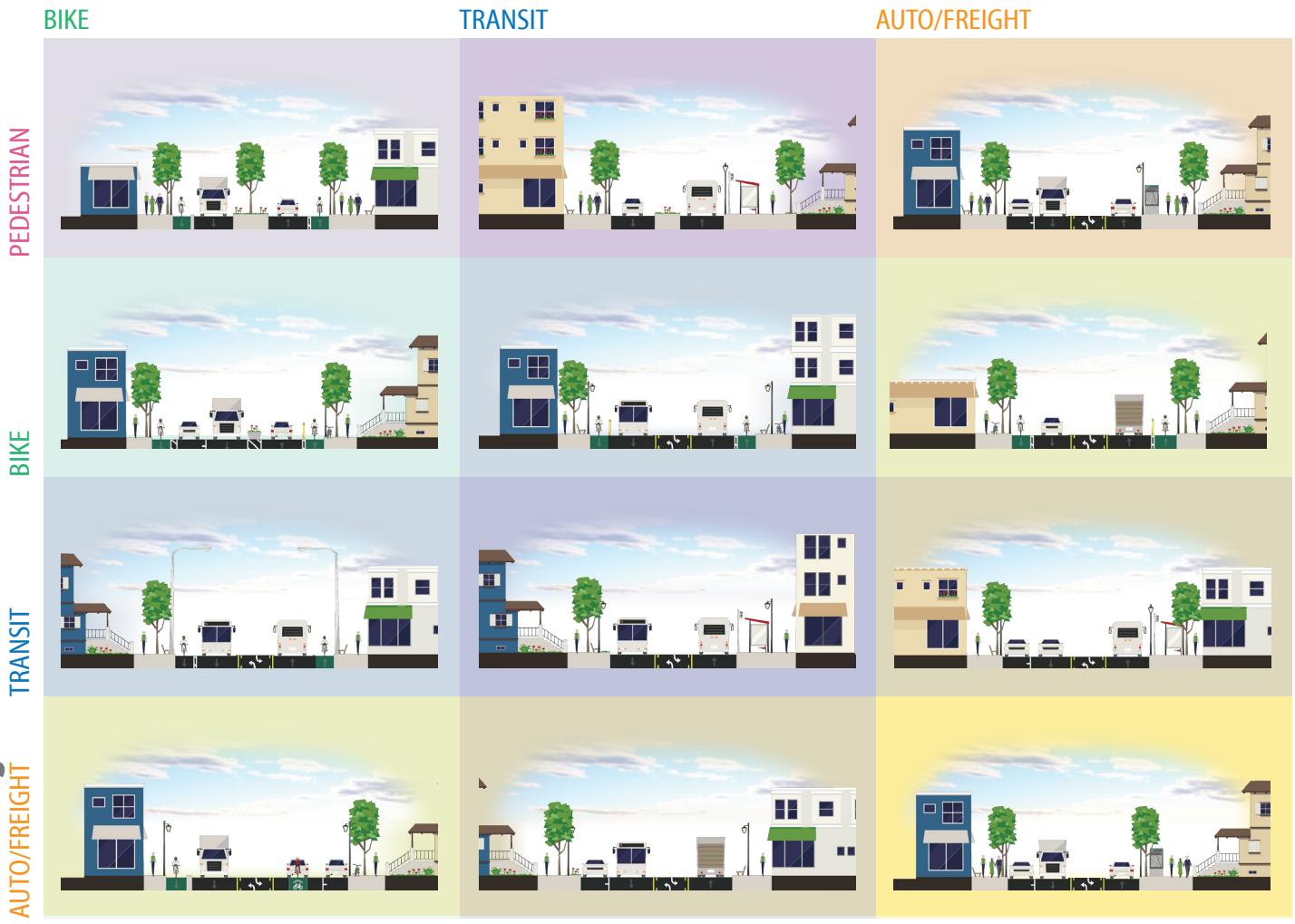
Basic pedestrian accommodations to be provided on every corridor for safety, accessibility, and access (sidewalks, crossings)

HOW THIS MATRIX IS USED

Each cell of the matrix represents a location in the layered network where two primary modes intersect. Recognizing that one mode must take precedence on each street, the mode shown in the row receives the highest priority treatment while the mode listed in the column receives a treatment that is also highly supportive.
For example, the intersection of the bicycle network (row) and auto/freight network (column) depicts a protected bicycle facility with a wide outer lane for freight vehicles. The cross-section also presents a potential treatment using a green painted bicycle lane separated from the vehicle lanes by a striped buffer.

In another example where the auto/freight networks (row) intersect with the bicycle network (column), autos and trucks receive higher priority treatment with parking and a center turn lane present. Bicycle facilities in the form of a protected bicycle facility or a green painted shared lane marking are provided.
The treatments shown do not represent a street design standard, but instead an overall philosophy to how modal accommodation and prioritization might occur.

IMPLEMENTING THE LAYERED NETWORK WHEN PRIORITY NETWORKS OVERLAP



FUTURE VISION

Project List

The end goal of this TMP is to create a project list that guides the City's transportation investment priorities over the next 25 years and beyond. The following table provides a high-level snapshot of the types of investment priorities that are envisioned. A detailed listing of projects and priorities is shown in **Appendix B**. It is important to note that this TMP is setting a long term vision for Tacoma that will likely take more than 25 years to realize.

The following chapter describes how this vision should be implemented over the next 25 years, including funding and prioritization approaches to ensure that transportation investments match the City's overall goals for the transportation system.

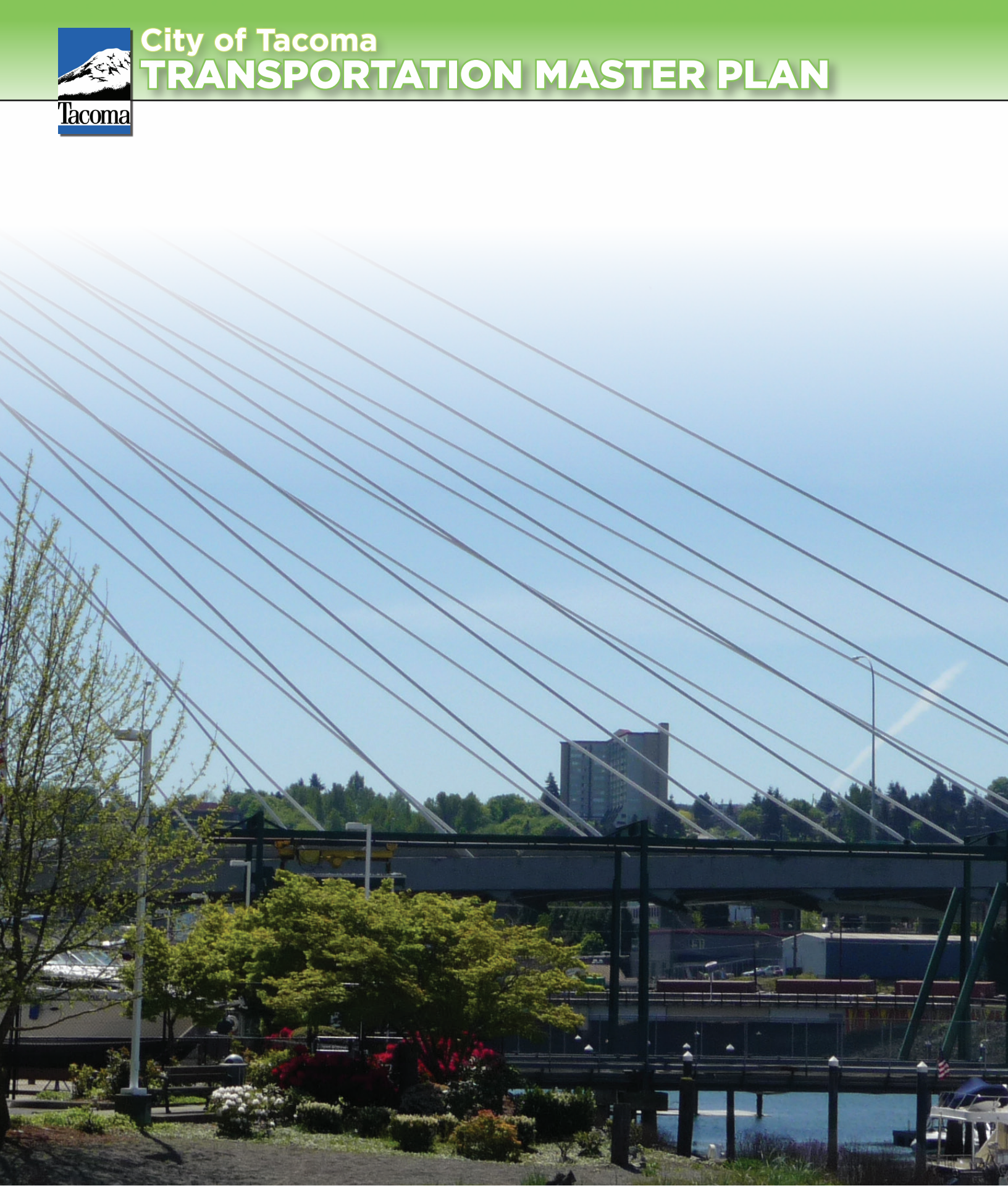
PROJECT LIST SUMMARY

TYPE	EXAMPLE PROJECTS
Modal Conflict Studies	Planning studies along: • Pacific Avenue • Portland Avenue • Puyallup Avenue • S Pine Street • S 38th Street • S 56th Street • S 72nd/74th Street • SR 509
Pedestrian/Bicycle/ Trail Projects	• Shared use bicycle and pedestrian trails • Grade separation and safety improvements for pedestrian and bicycle crossings, especially over rail tracks. See Sound Transit Tacoma Link Expansion for more information. • Pedestrian data collection • Sidewalk completion in 20-minute neighborhoods • Pedestrian access to transit projects • Bicycle lanes and protected facilities • Accessible pedestrian signals (APS) and bicycle signal enhancements
Transit Projects	• Partnership with Sound Transit on light rail extensions between downtown and the Tacoma Mall and Tacoma Community College and High Capacity Transit to Parkland • Speed and reliability improvements • Study and improvement to High Capacity Transit corridors

Auto Projects	• Improvement of existing corridors to become "complete streets" • Intersection modifications, including new signals and roundabouts • Added lanes to address capacity pinch points • New roadway segments to improve connectivity • Railroad grade separations • Intelligent Transportation Systems to move people and goods more efficiently without adding lanes • Major roadway rehabilitation
Tacoma Rail Projects	• Track replacement • Railroad grade separations • Rail yard reconfiguration and improvement • Intelligent Transportation Systems (ITS) improvements related to rail operations to reduce at-grade rail crossing blockage times and/or provide rerouting information.
Comprehensive Plan Neighborhood Action Strategies	Neighborhood-level improvements including: • Improvement of streets to include curb, gutter, and sidewalk • Street lighting, furniture, and public arts • Crosswalk treatments • Bicycle lanes • Pavement rehabilitation • ADA improvements

CHAPTER 5

IMPLEMENTATION



Financial

The transportation network laid out in this plan is an aspirational vision for getting around Tacoma in the future. This section summarizes funding strategies to help make Tacoma's TMP a reality. Potential funding for the TMP is presented in two parts:

- Existing revenue sources that the City is already applying to its transportation system (1-11 below).
- Potential additional funding options that the City could consider using in the future and are legal for use in Washington State as of 2015 (A-I starting on page 116).

EXISTING REVENUES FOR TRANSPORTATION CAPITAL PROJECTS

There are 11 types of funding that Tacoma currently uses for transportation capital projects. The table below lists each type and the average annual amount (in millions of dollars) that the City received during the years 2009-2012, and that Tacoma has projected it will receive in the years 2013-18.

ANNUAL AVERAGE AMOUNTS FROM EXISTING REVENUE SOURCES

	2009 - 2012		2013 - 2018	
Funding Source	**Annual Average ($ million)**	**Percent of Total**	**Annual Average ($ million)**	**Percent of Total**
1. Grants and Other Gov. Agencies	$ 25	48%	$ 39	55%
2. Private	8	16%	12	17%
3. Transportation Benefit District	0	0%	4	6%
4. Gas Tax	4	8%	3	4%
5. Public Utility	4	8%	2	3%
6. Debt	5	9%	2	3%
7. Real Estate Excise Tax	2	4%	1	1%
8. Street Vacation	3	5%	0	0%
9. Other Smaller Sources	1	1%	1	1%
10. Future Funding - Local Match	1	1%	4	6%
11. Future Funding - Other	0	0%	3	4%
Total All Sources	**53**	**100%**	**71**	**100%**

1. GRANTS AND OTHER GOVERNMENTAL AGENCIES

Grants are made by the U.S. Government, the State of Washington, and other governmental agencies to help cities and counties pay for a variety of transportation improvements. There are several different grant programs. Each grant program has its own focus on different aspects of transportation, and each has its own criteria for selecting which projects it will support with its grant funds. Grants are typically competitive: many cities and counties submit applications and compete for the grant awards, but not all applications are awarded a grant.

Tacoma has been successful in obtaining transportation grants, totaling around half of all existing transportation revenues. The 2013-18 forecasts show that grants are expected to fund almost 60% of needed revenues.

Overall, grant revenues are becoming more competitive, and the amount of money available for grants is declining. This is due to budget issues at both the Federal and State level, and decreases of gasoline purchases that reduce gas tax revenues, one of the main sources of grants for transportation. Furthermore, federal "earmarks" (a direct appropriation, rather than a competitive grant) used to be common, and now are virtually nonexistent.

Most grants require a share of the project cost to be paid by the City. The city's share of project costs would need to come from other city revenues, such as those described below.

2. PRIVATE FUNDING

Most of the private funding of Tacoma's transportation projects is provided through local improvement districts (LIDs). LIDs are available only for transportation improvements that cause an increase in the value of property adjacent to or near the transportation improvement. The revenue comes from special assessments on the properties in the district. This often requires a technical study to calculate the amount of the assessments.

3. TRANSPORTATION BENEFIT DISTRICT

Tacoma adopted a transportation benefit district in November 2012, and began collecting $20 license fees per vehicle beginning in June 2013. The total revenues from license fees vary from year to year. It is estimated that the City receives approximately $4 million per year from this revenue source.

4. GAS TAX

A portion of Tacoma's gas taxes is used for transportation capital maintenance, and a portion is used for operations and non-capital maintenance of the transportation network.

5. PUBLIC UTILITY

Many utility system lines are under street surfaces. When a transportation improvement project also provides the opportunity to improve or maintain utility lines, the public utilities can pay for a portion of the cost of the project.

6. DEBT

Debt funding in the form of bonds is available for transportation improvements when the City borrows money for the project, and then uses other sources of revenue to repay the debt. Tacoma's debt funding historically funded around 10 percent of transportation projects (primarily for street and bridge rehabilitation and pedestrian facilities), but the level of debt allocation is decreasing to around 3 percent.

7. REAL ESTATE EXCISE TAX (REET)

The City of Tacoma has adopted 0.25% real estate excise taxes (REET) authorized by state law. REET is collected each time a real estate transaction occurs in the City. The money is used for many types of infrastructure improvements, including transportation projects. The remainder is used for other types of capital improvements, such as parks and other public facilities.

8. STREET VACATION

When the City no longer needs an alley or street, the land is "vacated" and sold. The proceeds of the sales are used by the City for some transportation improvement projects.

9. OTHER SMALLER SOURCES

A small amount of funding, totaling less than 1% of all funding, is collected from four other sources:

- Public Utility Rates
- Interest Earnings
- Public Works Street Operations
- Port Heavy Haul Fees

10. FUTURE FUNDING – LOCAL MATCH

The City's 2013 – 2018 Capital Improvement Plan indicates that approximately 7% of funding will come from local matching money, presumably additional amounts from the sources listed previously.

11. FUTURE FUNDING - OTHER

The City's 2013–2018 Capital Improvement Plan indicates that approximately 4% of funding will come from other, as yet undesignated future funding in addition to amounts from the sources listed previously.

LEVERAGING RESOURCES TO FUND THE TMP

The City of Tacoma has several viable options for raising significant revenue for the City's TMP. City officials, staff, and the community must decide which of these revenue sources are the most palatable for funding the build out of the transportation system. The next section lays out options for funding additional projects to help realize Tacoma's multimodal vision.

POTENTIAL ADDITIONAL REVENUE OPTIONS FOR TRANSPORTATION CAPITAL PROJECTS

There are many new funding options that Tacoma could consider using for transportation capital projects in the future. The table below lists each type and, where available, the average annual amount (in millions of dollars) that Tacoma might receive in the future. These amounts are illustrative only; each source would require additional analysis to determine its applicability for Tacoma and the amount of revenues that could be generated. Tacoma needs to increase transportation funding. The options herein provide new sources of revenue which could help provide the funds needed.

ANNUAL AVERAGE AMOUNTS FROM POTENTIAL ADDITIONAL REVENUE SOURCES

Funding Source	Annual Average ($ million)
A. Impact Fees	NA
B. Bonds (total, not annual average)	$ 76
C. Business License Fee	$ 6
D. Commercial Parking Tax	NA
E. Non-motorized Mitigation Fee	NA
F. Property Tax Lid Lift	$ 2
G. Red Light/Speed Camera Fines	$ 2
H. Transportation Benefit District	$ 62
I. Utility Tax	$ 10

NA - Revenue estimates not available at this time. Revenues could be highly variable depending on key assumptions and analysis methods.

One potential future funding source that has particular promise in Tacoma is impact fees. Impact fees are allowed to be charged to development to help fund their fair share of specific transportation projects that provide service and benefits to the community. Many communities in Washington State, including the Cities of Fife and Puyallup in Pierce County, use impact fees to fund transportation improvements. The City should explore how the application of impact fees could work in Tacoma – including the projects it could fund and the rates that could be assessed. Performing an impact fee feasibility study is a recommended near term action of this TMP.

A. IMPACT FEES

Currently Tacoma uses the State Environmental Policy Act (SEPA) to identify development impacts on the transportation system. It receives some development mitigations primarily relating to property access and safety improvements. The City does not have a systematic means to obtain mitigation of development impacts on the overall transportation system.

As an alternative, the GMA authorizes impact fees for streets and roads. The fees must be based on, and used for, specific improvement projects in the TMP. The projects must be "system improvements" that provide service and benefits to the community, and not "project improvements" that provide service and benefits only to the individual development. Project improvements would remain under the purview of SEPA.

Impact fees are calculated by identifying the cost of the transportation projects that provide capacity for new development, adjusting for other sources of revenue that would pay for part of the

same projects, and then dividing the remaining cost by the number of trips that will be generated by future development (as estimated by the City's travel model or the Institute of Transportation Engineers manual). The result is the cost per trip. The amount of impact fee to be paid by each new development is calculated by multiplying the cost per trip times the number of vehicle trips that the new development will add to the transportation system. Impact fees are one-time payments from new development and redevelopment that increases the number of trips.

If Tacoma adopts impact fees for transportation, it could also enter into agreements with neighboring cities and Pierce County for reciprocal impact fees. Each party to the agreement would increase its impact fee to account for the impact of its new development on the streets in the other jurisdictions. The increased impact fee would be remitted to the other jurisdiction. The fees would be reciprocal because each jurisdiction would collect and remit impact fees for the impact on the other jurisdictions.

B. BONDS (BORROWED MONEY)

Tacoma can issue bonds to borrow money for a variety of purposes. The City already uses some debt to pay for approximately 9% of recent transportation improvements. The City could obtain additional funding for transportation by issuing more bonds (debt). The allocations of existing sources of revenue in the table on page 113 show that Tacoma intends to borrow an annual average of $2 million per year during 2013-2018. The City has the ability to borrow more than the allocations for 2013-2018.

The legal limit on city borrowing is an amount equal to 2.5% of the taxable value of the property in the City. Up to 1.5% can be issued by the City Council as councilmanic bonds. The entire 2.5%, less any debt already issued, can be borrowed if approved by 60% or more of the voters. Their approval would include authorization of an additional property tax to repay the bonds. As of December 31, 2013, Tacoma's debt limit (2.5% of taxable value) was $415 million. The City had borrowed $262 million, which is 63% of the limit. The City could borrow up to $153 million more. The estimate in the table on page 116 assumes that the City would borrow approximately 50% of the remaining amount. Cities try not to borrow the maximum because they need the ability to borrow in case of emergencies, and because cities that borrow the maximum receive lower bond ratings and pay higher rates of interest.

Borrowing money for transportation projects allows the costs to be repaid over the useful life of the improvement, but it increases the cost by the amount of interest paid on the debt.

C. BUSINESS LICENSE FEE

The cities of Renton and Redmond have used their authority to license businesses to impose a license fee per employee that is used to build transportation improvements that benefit businesses. Renton charges $55 per employee per year, and uses 80% of the license revenue for transportation. Redmond charges $83.25 per employee and uses 66% for transportation.

The estimate in the table on page 116 indicates how much revenue could be generated from a similar business license in Tacoma. Tacoma had 98,730 covered employees in 2013 according to the Puget Sound Regional Council. Since covered employment is 85-90% of total employment, we estimate Tacoma's total employment at 112,800. A business license fee of $50 per year per employee would raise $5,641,000 per year.

D. COMMERCIAL PARKING TAX

Cities may tax commercial parking businesses based on gross proceeds or number of stalls or tax the customer, similar to an admissions tax. Tax-exempt carpools, vehicles with disabled parking placards, and government vehicles are exempt from the tax. Expenditure of revenues must be consistent with adopted local and regional transportation/land use plans. Expenditures can be for roadways, bicycle and pedestrian facilities, and transit facilities, as well as for TDM functions and general transportation planning activities.

E. NON-MOTORIZED (PEDESTRIAN & BICYCLE) MITIGATION FEE

The impact fees authorized by the GMA can be used for "streets and roads", including sidewalks and bicycle lanes that are part of a capital improvement project for a street or road. However, the GMA impact fees cannot readily be charged for bicycle or pedestrian projects that are not part of a street or road project.

The cities of Seattle and Issaquah have developed SEPA-based mitigation programs for non-motorized transportation improvements. The cities have established environmental standards that must be met by new development. The programs provide several alternatives for development to meet the standards, including (1) payment of a fee per pedestrian/bicycle trip, similar to an impact fee, or (2) each applicant conducts a separate analysis of their impact on sidewalks and bicycle facilities and then identifies, designs, and constructs specific improvements to mitigate its impacts.

F. PROPERTY TAX LEVY LID LIFT

Cities can ask their voters to increase property taxes by increasing the tax rate (a "levy lid lift"). Voters in the City of Kirkland recently approved an increase of 20 cents per $1,000 of taxable value to be used for a specific list of transportation projects and programs. The estimate in the table on page 116 is based on a similar levy lid lift in Tacoma generating approximately $1.7 million per year.

G. RED LIGHT/SPEED CAMERA FINES

The City of Tacoma currently has a red light camera program, as well as automated school zone enforcement, and one of two cameras in the State that are used for automated speed enforcement outside of school zones. Funds left over from covering the City's administrative costs support traffic safety and enforcement around Tacoma, as specified in city ordinance. The City of Tacoma currently receives $2.2 million per year. That amount is used in the table on page 116 as a minimum annual amount that Tacoma could receive.

The City of Fife has a separate fund, the "Public Safety Fund" in which it deposits the fines it receives from the photo red light enforcement program. Expenditures from the public safety fund are used first for costs of the red light enforcement program, including the City's administrative costs. The City of Fife nets at least $1.2 million per year for transportation improvements.

When there are surplus monies in the public safety red light enforcement fund, the surplus may be expended for: (1) purchase and installation of school zone signs and beacons; (2) pedestrian overpass/underpass design and construction costs; (3) sidewalk design and construction costs; (4) streetlight acquisition, operation and maintenance; (5) signalized pedestrian crosswalks; (6) the purchase, design,

and construction of pedestrian trails that serve to redirect pedestrian traffic off of streets with high traffic volumes; and (7) the design and construction of similar pedestrian-safety oriented improvements.

H. TRANSPORTATION BENEFIT DISTRICT

Tacoma adopted a transportation benefit district in November 2012, and began collecting $20 license fees per vehicle beginning in June 2013.

The City could increase its revenue for the transportation benefit district by increasing the license fee, or charging a sales tax, or both. Either change must be submitted to the voters for approval at this time. The Washington State Legislature is considering allowing jurisdictions to collect a higher fee without voter approval but has not come to a decision at the time of writing of the TMP.

Current law allows a fee of up to $100 per vehicle. When Tacoma adopted the $20 per vehicle fee in 2012 it was estimated that the City would receive approximately $14 million per year. Therefore, if the vehicle license fee was increased to the maximum of $100 per vehicle, Tacoma would receive an additional $56 million per year for transportation.

Current law also allows a sales tax of 0.2% for the transportation benefit district. Tacoma's 2015-16 budget estimates the City will receive approximately $3 million per year from its 0.1% sales tax for criminal justice. On this basis, Tacoma could expect approximately $6 million per year from a 0.2% sales tax for the transportation benefit district.

The Municipal Research and Services Center's list of cities and counties in Washington that have created transportation benefit districts includes 33 jurisdictions that have adopted a vehicle license fee, and 13 jurisdictions that have approved a sales tax. A few cities have done both.

I. UTILITY TAX

In 2013, Tacoma proposed a 2% earnings tax on utilities, with the proceeds to be used for Tacoma's transportation. It was estimated that the tax would provide approximately $10 million per year for transportation, and would cost the average house $5 per month. Although the public did not provide enough voter support to pass this tax, the City could explore this possibility again in the future.

Performance Measurement & Project Prioritization

As described in the goals and policies section, the system completeness LOS standard enforces the build out of Tacoma's transportation system concurrent with development; however, prioritizing which projects to include in the City's 25-year project list will require a careful balance of many considerations, including:

- **Multimodal System:** safe and welcoming travel by all modes
- **Equity:** an equitable system both geographically and in its treatment of modes, with special attention given to areas historically underserved
- **Safety:** safe travel
- **Health/Environment:** physical health of users and environmental protection
- **System Preservation:** preserving existing transportation assets
- **Financial Stewardship:** effective leveraging and expenditure of funds
- **Congestion:** managing congestion on critical corridors

Evaluating projects according to their contributions to each of these seven city priorities should guide project prioritization and regular transportation system performance monitoring. Each city goal has specific measures that help quantify priorities and track progress over time. The City of Tacoma currently tracks some of these performance measures while others will require initial benchmarking and repeated data collection in the future. The table on the next page presents the components of Tacoma's biannual transportation report card. Some of these measures may fluctuate over time rather than changing steadily so the City will have to track overall trends as it collects more data points over multiple bienniums.

System completeness is a major policy shift for Tacoma. This new standard moves beyond prescribing that a certain speed or intersection delay threshold be met. Instead project evaluation and prioritization will be multimodal and guided by performance measures discussed in this section.

SYSTEM PERFORMANCE MEASURES

BIG PICTURE TOPICAL AREAS	PERFORMANCE MEASURES	MEASURES OF SUCCESS	DATA SOURCE	ACTIONS
Multimodal System	Mode split	Decrease in SOV mode share	PSRC: RGCs and MICs Work Trip Mode Shares	Monitor PSRC data every five years or as updates are available
			American Community Survey: Citywide Commute Mode Shares	Monitor ACS data every five years or more frequently if desired
			PSRC Household Travel Survey: All Trips	Monitor PSRC data every 7-8 years or as updates are available
	VMT	Decrease in VMT per capita	WSDOT Highway Performance Monitoring System (HPMS) or establish city survey	Monitor WSDOT data every two years
	CTR / TMA Participation	Growth in number of participants	WSDOT, Pierce Trips, Downtown: On the Go!, other TMAs	Monitor every two years
	Bicycle Friendly Community Status	Upgrade in status from League of American Bicyclists	League of American Bicyclists	Monitor every two years
Equity	Investment per community	Percent of need met within 1/4 mile of disadvantaged communities, such as those with low income or many zero-car households	City / Census data	Monitor every two years
		Percent of need met per Neighborhood Council District	City	Monitor every two years
	Investment per mode	Dollars spent per mode per year	City	Monitor every two years
		Percent of modal priority network built	City	Monitor every two years
		Miles of facilities built per year	City	Monitor every two years

Safe Travel for All People / Modes	Crash reduction	Total number, per capita, and per million VMT crashes	WSDOT	Monitor every two years
		Total number, per capita, and per million VMT injury / fatality crashes	WSDOT	Monitor every two years
		Total number, per capita, and per million VMT pedestrian / bicycle crashes	WSDOT	Monitor every two years
Health / Environment	Physical activity	Miles of added pedestrian and bicycle facilities within 1/4 mile of schools	City	Monitor every two years
		Percent of K-12 students who have a comprehensive Safe Routes to School program at their school.	Tacoma School District	Monitor every two years
		Number of housing units / jobs within 1/4 mile of transit stop or bicycle facility	City / Census Data	Monitor every two years
	Air quality	Decrease in VMT per capita	WSDOT Highway Performance Monitoring System (HPMS) or establish city survey	Monitor every two years
System preservation	Pavement quality	Pavement quality model	City	Monitor every two years
		Number and percentage of TacomaFIRST 311 pavement maintenance requests filled	City	Monitor every two years
		Miles / number of markings restriped	City	Monitor every two years
	Signals and streetlights	Number / percent of backlog of signal heads and streetlights replaced	City	Monitor every two years
Financial Stewardship	Maintenance funding	Percent of investments / dollars spent on maintenance projects	City	Monitor every two years
		Reduction in maintenance backlog	City	Monitor every two years
	Leveraging additional funds	Non-city dollars leveraged for project delivery	City	Monitor every two years
		Number of constructed projects that were on other Capital Facilities Plan lists	City	Monitor every two years
Congestion	Vehicle delay	Limited increase in congestion on key routes for vehicular mobility	City	Monitor every two years
	Move people and goods	Increase in number of people and / or volume of goods moving through arterials	City	Monitor every two years

MULTIMODAL SYSTEM

Tacoma's future transportation network will support options that provide safe and welcoming travel by all modes. The majority of trips in Tacoma today are made by SOVs, which take up a disproportionate amount of space on the roadway network and contribute to congestion. By building a transportation network that gives Tacoma residents, workers, and visitors choices of travel mode, the City can support access to housing, jobs, and activities while limiting the negative outcomes of vehicle congestion. Tracking progress toward a multimodal system involves three measures: mode split, VMT, and participation in TMAs.

MODE SPLIT

Mode split is a crucial measure of the availability and attractiveness of transportation options for residents of and travelers to Tacoma.

The City cannot directly control the way people travel, but investments in non-SOV modes of travel support a shift out of SOVs when done effectively.

Tacoma can track its mode split for commute trips citywide annually using Census Bureau data, and for trips to and from the Downtown and Tacoma Mall Regional Growth Centers (RGCs) and Port of Tacoma Manufacturing / Industrial Center (MIC) every 5 years (approximately) using PSRC data. Additionally, the PSRC Regional Travel Study provides data on trips for all purposes citywide, but it is updated less regularly.

Using this available data and targets established in the City's Climate Action Plan, Tacoma should aim for the following mode splits for its centers and citywide:

EXISTING AND RECOMMENDED COMMUTE TRIP MODE SPLITS

DOWNTOWN TACOMA RGC	SOV	HOV	WALK[1]	BICYCLE[1]	TRANSIT
2010 (PSRC)	72%	10%	7%		10%
2030	42%	22%	10%	5%	20%
TACOMA MALL RGC	**SOV**	**HOV**	**WALK[1]**	**BICYCLE[1]**	**TRANSIT**
2010 (PSRC)	83%	8%	4%		5%
2030	50%	23%	8%	4%	15%
PORT OF TACOMA MIC	**SOV**	**HOV**	**WALK[1]**	**BICYCLE[1]**	**TRANSIT**
2010 (PSRC)	87%	8%	1%		3%
2030	76%	16%	2%		6%
TACOMA CITYWIDE[2]	**SOV**	**HOV**	**WALK[1]**	**BICYCLE[1]**	**TRANSIT**
2012 (ACS)	76%	10%	5%		5%
2030	55%	23%	8%	4%	10%

1. Walk and Bicycle mode shares are combined in current year data

2. Existing citywide mode shares come from a different data source

Puget Sound Regional Travel Study from Puget Sound Regional Council (PSRC)
American Community Survey (ACS) from United States Census Bureau

VEHICLE MILES TRAVELED

VMT refers to the number of miles driven in a single vehicle and is a key measure of how much automobile travel is taking place on Tacoma's roadway network. Travel in general tends to support productive activities so the aim of this TMP is not to suppress travel itself, but rather to make travel more efficient by reducing VMT per capita. If every SOV trip in Tacoma instead carried two passengers or half of these drivers walked, rode a bicycle, or took public transit then the transportation network would support the same level of activity with half the per capita VMT.

VMT data is available at a coarse level using the WSDOT HPMS. For a more accurate picture of per capita VMT citywide, Tacoma would have to establish its own travel survey or seek out other data sources.

COMMUTE TRIP REDUCTION / TRANSPORTATION MANAGEMENT ASSOCIATION PARTICIPATION

Washington State mandates that employers with 100 or more workers take steps to reduce the number of employees driving alone and encourages other employers to do the same. Similarly, TMAs assist residents, workers, and visitors in understanding their transportation options to encourage travel by non-SOV modes.

Tacoma can track progress in CTR and TMA participation by coordinating with WSDOT, Pierce Trips, DOTG, or other relevant transportation management associations.

EQUITY

Providing a transportation system that is equitable both geographically and in its treatment of modes is a key goal as Tacoma implements the TMP. The City has not historically tracked levels of transportation investment by community and thus no data currently exists measuring the geographic equity of transportation investments. The City is making tracking of transportation investments by community a priority moving forward.

Some modes of transportation have also historically received less investment, resulting in travel choices and urban form that are oriented toward the automobile. Tracking community and modal equity will help Tacoma reach its overall equity goals by providing transportation options for all.

INVESTMENT PER COMMUNITY

There are two important ways that Tacoma can track transportation investments per community: helping traditionally underserved parts of the City catch up and balancing overall investment across the Neighborhood Council Districts over time. The project lists establish the overall need and can be built over time in a way that encourages greater geographic equity.

The City may wish to prioritize projects early on that support communities with low income or a high proportion of zero-car households as defined by Census block groups. As transportation investments progress, the City should track how overall needs are met by Neighborhood Council District. The City can track its progress on investment per community by summarizing projects completed every two years by Neighborhood Council District and for disadvantaged communities.

INVESTMENT PER MODE

Similar to the approach for investment per community, the City may wish to invest more resources in underdeveloped modes at the early stages of TMP implementation. The project list separates the improvements by mode so the City would only need to track project completion per mode for the biannual transportation report card.

SAFETY

Traffic collisions claimed 17 lives and injured 735 people in Tacoma between 2010 and 2014. Residents, workers, and visitors must be able to navigate around the City safely, and building a network that supports safe travel is one of the primary charges of this TMP. WSDOT tracks collisions and details about them, including severity and people involved.

CRASH REDUCTION

Tacoma should aim to reduce crash occurrences, severity, and effect on vulnerable users and therefore monitor collision trends for these characteristics. A severe crash is defined as one that results in a death or serious injury to an involved party. Vulnerable road users include pedestrians and bicyclists. The table below shows the total number of crashes, severe crashes, and crashes involving pedestrians or bicyclists. As stated in Policy 2.3, Tacoma aims to reduce traffic deaths to zero. The City should track the number of overall crashes, crashes per capita, and crashes per million VMT for each of the above crash groups in pursuit of this goal.

REPORTED CRASH HISTORY 2010-2014

Year	Total Vehicle-Only Crashes	Crashes With Pedestrians Involved	Crashes With Bicyclists Involved
2010	3,571	20	23
2011	2,866	64	18
2012	3,056	53	30
2013	3,006	76	33
2014	2,751	40	15
Total	**15,250**	**253**	**119**

HEALTH / ENVIRONMENT

A well designed transportation network supports the physical health of its users and a clean environment. The City of Tacoma's existing comprehensive plan, in compliance with the Washington State GMA, identifies health as a key goal of planned and coordinated growth. Tacoma adopted its CAP in 2008 to mitigate climate change and become a more attractive place to live. As the plan states, more than 50 percent of local GHGs come from transportation, making changes in this sector the City's greatest opportunity for change.

PHYSICAL ACTIVITY

The Center for Disease Control and Prevention recommends 150 minutes of moderate physical activity per week for adults. The transportation system can provide opportunities for this physical activity by making safe and comfortable walking and biking connections between homes, jobs, schools, commercial areas, transit, and other key destinations.

The City can track its progress toward encouraging physical activity by monitoring two metrics. Miles of added pedestrian and bicycle facilities within 1/4 mile of schools is an indicator of increased opportunities for children to walk or bicycle to school. For adults and children alike, the proportion of housing units and jobs that is within 1/4 mile of a transit stop or a bicycle facility can help track how many people can walk to transit or access a safe bicycle facility.

AIR QUALITY

Tacoma's Green Ribbon Climate Action Task Force recommended exceeding the Kyoto Protocol by establishing even greater GHG reduction targets as part of the CAP. From 2000 to 2012, Tacoma reduced its greenhouse gas emissions from transportation sources by 15 percent, a strong step toward meeting its goal of reducing emissions to 15 percent below 1990 levels.

The City should continue measuring its transportation-related GHG emissions as part of the CAP in pursuit of its next target: 40 percent below 1990 levels by 2020.

SYSTEM PRESERVATION

The condition of Tacoma's sidewalks, trails, and streets is indicative of the need for significant investments in repair, rehabilitation, and replacement. The City has elevated preserving existing transportation assets in its intent to be a steward of public funds. Tracking the condition and upkeep of the transportation system is key to meeting this goal.

PAVEMENT QUALITY

Because pavement degrades in a non-linear fashion, cracks, potholes, and pavement heaving only become more severe and expensive over time. Thus, addressing pavement issues early is far more cost effective for the City. The City is currently updating its pavement quality model to track and forecast repair, rehabilitation, and replacement needs. Keeping this model up to date and collecting current pavement quality data will help the City to better manage pavement conditions.

Another source of maintenance information is the City's TacomaFIRST 311 request system, which allows residents to report needs. Tracking the number and percentage of maintenance requests that the City responds to is an easy and useful measure of how well the City is addressing maintenance needs.

The final metric related to pavement is markings that direct and support users of the transportation system. Markings may include crosswalks, bicycle lanes and stencils, transit lane designations, vehicle lane lines, and other traffic guidance indicators. These markings fade over time and require touch-ups or full restriping periodically. The City should track miles of restriping, numbers of stencils or other markings replaced, and percent of backlog accomplished.

SIGNALS, STREETLIGHTS, SIGNS, AND OTHER EQUIPMENT

In addition to on-the-ground infrastructure, Tacoma also has significant transportation system investments in and above the ground. Traffic signals, streetlights, signs, and other equipment represent a large expense to the City and are integral in keeping people and goods moving. The City should track the number of repairs or replacements done each year as well as the percentage of the maintenance backlog for the signals, systems, and other equipment completed.

FINANCIAL STEWARDSHIP

The City acts as the steward of public funds and intends to spend these funds as effectively as possible to meet the goals of this TMP. Prioritizing how funds are allocated for transportation projects and leveraging non-city funds are the key measures of financial stewardship.

MAINTENANCE FUNDING

The System Preservation performance measures specify how maintenance funds should be spent. The total expenditure and percentage of city funds spent on maintenance projects are important overall metrics for how much the City is prioritizing maintenance and rehabilitation over building new capacity. The percentage of maintenance backlog completed each year and overall reduction in the total are also indicators of progress.

LEVERAGING NON-CITY FUNDS

Tacoma cannot afford to build out the transportation network envisioned in this TMP without funds from outside sources. The City has successfully competed for grant funding in recent years, including funding for such projects as Port of Tacoma Road from East 11th Street to Marshall Avenue, Historic Water Flume Line Trail Phase IV, Schuster Parkway Promenade, Top 4 Bikeways, and Tacoma Avenue Bridge. Tracking the total dollar amount of non-city funds leveraged for project delivery is another important indicator of financial stewardship.

CONGESTION

Vehicle congestion is a natural outcome of development, but it can stifle a city's economy and livability when not properly managed. While Tacoma cannot prevent congestion from occurring, it can attempt to limit the increase in congestion on key routes that are critical for vehicular mobility. The City can also focus on reducing demand for auto travel by building out the transportation network for all modes and using TDM strategies. It is the aim of this TMP to keep people and goods moving in Tacoma, whether they are traveling by active modes, or in vehicles.

VEHICLE DELAY

Vehicle delay is perhaps the most easily noticeable aspect of congestion. Whether a vehicle is carrying one person only, a vanpool, or a driver with goods to deliver, traffic congestion causes significant delays for that vehicle. Tacoma has traditionally measured vehicle delay by the proportion of roadway capacity being used at the street segment level. While there are many measures of vehicle delay available, this one is simple and the City has been tracking it for years, so it is the sensible choice of metrics. The City should project future congestion growth based on expected development and aim to be at or below that level.

MOVE PEOPLE AND GOODS

The purpose of having vehicles moving around the transportation network is to get people and goods where they need to go. While measuring vehicle delay is a useful proxy for moving people and goods, it is still an indirect measure of the transportation system's efficiency. Tacoma should aim to increase the number of people and volume of goods traveling through the City's arterials even if congestion does increase. This would indicate an increase in how efficiently people and goods are able to get around Tacoma.

Given the available seat capacity in vehicles on Tacoma's streets today, the SOV mode share is an important metric for tracking how efficiently people get around. The City should look to its walk, bicycle, transit, and HOV mode shares as the key determinant of efficient movement of people. WSDOT tracks the volume of goods movement on city streets in their Freight and Goods Transportation System data. The City can monitor these data to measure efficient movement of freight and goods.

The system performance measures described in this chapter are most valuable for evaluating the transportation system as a whole. They provide the City with guidance on the types of investments that support providing a safe and sustainable transportation system that is inclusive of all modal users. On an individual project level, the City may continue to evaluate localized transportation effects, including safety concerns, bike and pedestrian access, and increases in auto delays along key corridors.

CHAPTER 6

FUTURE CONDITIONS

Museum
of Glass
Entrance

2040 and Beyond

Driving in the U.S. began to decline three years before the Great Recession. After 50 years of steady growth, total national VMT leveled off in 2004 and declined 8 percent between 2004 and 2012. Understanding the factors that drove this decline and estimating their trends for the future are vital to Tacoma's TMP. The societal, environmental, and financial impacts associated with transportation infrastructure policies all relate directly to VMT. The City should explore the following questions to understand future travel trends:

- What are the travel patterns of Millennials (those born between 1982 and 2000), and will their behavior continue as they age?
- As the number of people per household declines, how will this change travel demand?
- What impacts will new technology such as autonomous vehicles and ridesharing applications have on the transportation environment?
- How will land use patterns change as cities continue to develop?

Three major trends with significant implications for Tacoma's future transportation system needs are described as follows:

ECONOMIC

Historical trends have clearly linked economic growth with growth in VMT. That began to change in the early 2000s as VMT began to decline even while national gross domestic product was still increasing before the Great Recession. Factors such as labor force participation and median household income, which showed strong growth historically, are still linked to changes in VMT.

Looking into the future, it is unlikely that the income growth seen over the past years can be sustained. Moreover, labor force participation has likely peaked, given the high levels of women in the workplace and the aging population.

Trend for VMT and need for auto-oriented infrastructure:
DECREASING

DEMOGRAPHIC

Predicting future travel trends requires understanding how future generations will tend to travel. Millennials have purchased vehicles and obtained licenses at a lower rate than previous generations. Millennials are attracted to communities with a full array of transportation mode choices, although some still prefer driving. Even as Millennials age, their preference for urban living will tend to continue to be at higher levels than previous generations and their relative VMT could be less. A potential counter to this decrease is the fact that the Baby Boomer generation will tend to remain active longer than previous generations and thus may have a higher demand for travel.

Trend for VMT and need for auto-oriented infrastructure:
DECREASING

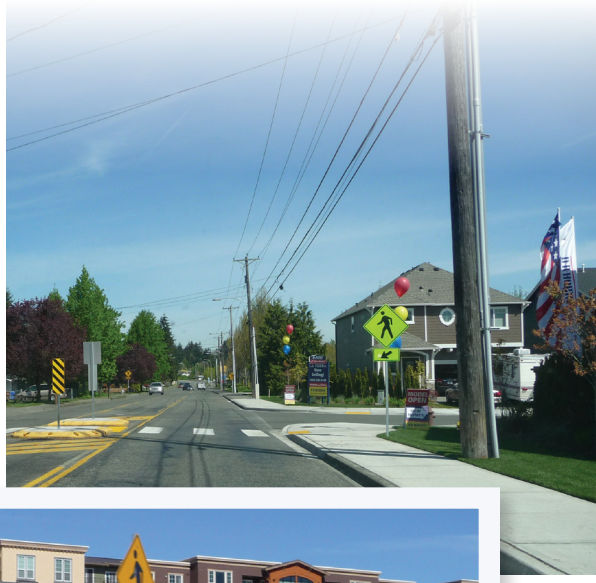
TECHNOLOGICAL

One of the largest factors that will impact travel patterns is the changing technology that shapes how we travel. Technology surrounding autonomous vehicles is already beginning to emerge in the market, such as braking assistance, lane guidance, and blind-spot recognition. When fully autonomous, this technology provides the ability to substantially increase capacity due to shorter following distances and a reduction in collisions. Additionally, the inclusion of previous non-driving populations such as the disabled and the elderly will increase the number of vehicles on the road. While fully autonomous vehicles are expected to be available by 2020, there will still be a 20 to 30 year time period until a majority of the vehicles on the road are fully autonomous. This is due to a number of factors, including how quickly vehicles are bought and sold[1], the affordability of the technology, and the ability for the legal and insurance systems to adapt to these changes.

? **Trend for VMT and need for auto-oriented infrastructure:**
UNCLEAR

WHAT DOES THIS MEAN FOR TACOMA?

In planning for the future, the City of Tacoma should understand the uncertainties surrounding travel forecasting and should provide a transportation system that can adapt to a variety of potential futures. Over time, the City should monitor shifts in demographics, where people are choosing to live and the availability of alternative forms of transportation to ensure that its infrastructure is accommodating changing needs.



[1] The average vehicle stays in the market for 11 years.

FUTURE CONDITIONS

City of Tacoma
TRANSPORTATION MASTER PLAN

© All Rights Reserved by aNNa.schramm

Tacoma TMP Glossary

ACRONYMS

ADA	Americans with Disabilities Act
CAP	Climate Action Plan
CTR	Commute Trip Reduction
DOTG	Downtown On The Go!
EV	Electric vehicle
GHG	Greenhouse gas
GMA	Growth Management Act
HOV	High Occupancy Vehicle
HPMS	Highway Performance Monitoring System
HSS	Highways of Statewide Significance
ITS	Intelligent Transportation Systems
LID	Local Improvement Districts
LOS	Level of Service
LSV	Low speed electric vehicle
MIC	Manufacturing / Industrial Center
MOMAP	Mobility Master Plan
MSV	Medium speed electric vehicle
MUC	Mixed Use Center
NON-HSS	Highways of Regional Significance
ORCA	One Regional Card for All
PSRC	Puget Sound Regional Council
REET	Real Estate Excise Taxes
RGC	Regional Growth Center
RPZ	Residential Parking Zones
SEPA	State Environmental Policy Act
SRTS	Safe Routes to School
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
TMA	Transportation Management Association
TOD	Transit-Oriented Development
VMT	Vehicle Miles Traveled

CONCEPTS

20-MINUTE NEIGHBORHOOD – an area which encompasses most of the daily needs of a resident and can easily be traversed on foot in 20 minutes.

ACTIVE MODES / ACTIVE TRANSPORTATION – typically non-motorized modes of travel which require physical activity, such as walking, bicycling, skateboarding, or using assistive devices.

BEST MANAGEMENT PRACTICES – techniques, measures, or structural controls used to manage the quantity and improve the quality of stormwater runoff.

BICYCLE BOULEVARD – Low speed, low volume streets with traffic calming measures such as speed humps, roundabouts, chicanes, and stop signs to allow bicyclists to comfortably use the road in a low stress setting. Bicycle priority is indicated on these streets by signs and pavement markings, including sharrows. These facilities are appropriate for users of all ages and abilities.

BICYCLE LANE – a designated lane for exclusive use by bicycles, flowing in the same direction as traffic. Generally, bicycle lanes are 5-6 feet wide and are indicated by pavement markings and signage. Bicycle lanes are typically placed on the right side of the road, between a travel lane and curb or other road edge. Bicycle lanes allow for more predictable behavior from motorists and bicyclists, visually remind motorists of the presence of bicyclists, and increase roadway efficiency for more bicycle and motorist volumes. Bicycle lanes are most appropriate on streets with less than 3,000 daily vehicles, and a posted speed limit of 25 mph or less.

BUFFERED BICYCLE LANE – Buffered bicycle lanes add a painted buffer of 18 inches to 3 feet wide to a typical bicycle lane to increase separation from motor vehicles. Buffered bicycle lanes are appropriate in areas where standard bicycle lanes are considered, on streets with higher traffic speeds and volumes, or on streets with additional width to accommodate a buffer. An added buffer to a bicycle lane provides bicyclists room to pass each other, gives clearance to the door zone of parked cars if the bicycle lane is adjacent to parking, and provides a greater sense of safety for less confident bicyclists.

COMMUTE TRIP REDUCTION / TRANSPORTATION DEMAND MANAGEMENT – a law adopted in Washington State in 1991 with the intent to improve air quality, reduce traffic congestion, and reduce the consumption of petroleum fuels through employer-based programs that encourage the use of alternatives to the single-occupant vehicle (SOV) for the commute trip. These strategies are also know as transportation demand management (TDM) more generally.

COMPLETE STREETS – streets that are equitably designed to enable safe and efficient use by all users regardless of mode of travel.

GREENROADS® – a sustainable transportation project rating system for new and upgraded road construction projects.

GREEN TRANSPORTATION HIERARCHY – a prioritization strategy that recognizes transportation modes that have the least environmental impact and greatest contribution to livability.

INTELLIGENT TRANSPORTATION SYSTEMS – advanced applications that aim to provide innovative services relating to different modes of transportation and traffic management. ITS enables various users to be better informed and make safer, more coordinated, and 'smarter' use of transportation networks.

LAYERED NETWORK – a transportation planning concept that uses priority networks for different modes to develop a system-wide multimodal network.

LOW IMPACT DEVELOPMENT – an approach to development that utilizes natural methods to manage stormwater as close to its source as possible.

PEDESTRIAN NETWORK – an interconnected pedestrian network that provides safe routes to neighborhoods, schools, transit, business districts recreational facilities, and other destinations.

PROTECTED BICYCLE FACILITY – Protected facilities are designated lanes for bicyclists, fully protected from motor vehicles by a physical barrier such as bollards and pavement markings, parked cars, a raised curb, or a planted median. Protected facilities can be one-way or two-way flows, and can be at the street level, sidewalk level, or intermediate elevation. Protected facilities are appropriate in locations with high bicycle volumes, high motor vehicle speeds or volumes, and other locations where bicyclists may feel unsafe from parked cars, multiple vehicle lanes, or high traffic speeds. Protected facilities encourage use from bicyclists of all ages and abilities as this type of facility has physical barriers from vehicles.

SHARED LANE MARKINGS – Shared lane markings (also known as "sharrows") are high-visibility pavement markings that help position bicyclists within a shared vehicle/bicycle travel lane. These markings are typically used on streets where dedicated bicycle lanes are desirable but are not possible due to physical or other constraints.

SHARED USE PATH / TRAIL – Shared Use Paths and Trails are separate rights-of-way for the shared use of pedestrians, skateboarders, bicyclists, and other non-motorized users. They can be in urban or more rural and park-like settings. These types of facilities are great for recreational use as well as transportation and appeal to users of all ages and abilities.

SUSTAINABLE TRANSPORTATION ANALYSIS & RATING SYSTEM (STARS) - The Sustainable Transportation Analysis & Rating System (STARS) is an integrated planning framework for transportation plans and projects. STARS helps planners, communities and decision-makers evaluate the impacts of transportation plans and projects, identify innovative strategies and improve decision-making.

TRANSPORTATION MANAGEMENT ASSOCIATION (TMA) – a partnership between public, private, and non-profit organizations with a focus of improving transportation within a designated region or area.

VISION 2040 – a regional strategy for accommodating the 5 million people expected to live in the Puget Sound Region by 2040.

Appendix A

Model Documentation

APPENDIX A: TRAVEL MODEL DOCUMENTATION

INTRODUCTION

Fehr & Peers has worked with the City of Tacoma to develop a new travel demand forecasting model to support a variety of transportation planning and engineering projects in the City. This model, which has a base year of 2014 and a future year of 2040, is well suited for the following types of tasks:

- Development review
- Traffic engineering
- Temporary closure/detour analysis
- Sub-area planning
- Environmental Impact Reports
- Long range planning
- Transportation LOS/concurrency assessments
- Transportation performance monitoring
- Mode split evaluations
- Transit planning

The Tacoma Travel Model (TTM) is based on the Puget Sound Regional Council's (PSRC) Regional Travel Demand Model, Version 1.00b. The PSRC has extensive model documentation and a User's Guide that have already been submitted to City staff. Rather than re-write the PSRC documentation, this memorandum summarizes the changes Fehr & Peers made to the PSRC model to develop the TTM. These changes include major updates to the following:

- Major expansion of traffic analysis zone (TAZ) detail in Tacoma and the UGA
- Added detail and refined the roadway network
- Updated transit network to include current Pierce Transit and Sound Transit routes and service levels

- Updated park-and-ride component of the model
- Included Tideflats truck trip generation component
- Updated demographic inputs from the 2010 Census and employment data from the Washington State Employment Security Department
- Revised trip generation rates based on the PSRC 2006 Household survey
- Updated assignment methods for traffic, transit, and park-and-ride lots
- Model validation results

The following sections describe the specific changes that were made to develop the TTM, why they are relevant for the model, and provide some details about key input and output files.

TAZ UPDATES

Traffic analysis zones (TAZ) organize land use development data into specific geographic areas. Ultimately all the land use that is within a TAZ polygon is represented as a point (centroid) in the travel model. The travel model then assigns trips to and from the TAZ centroid point when developing travel forecasts.

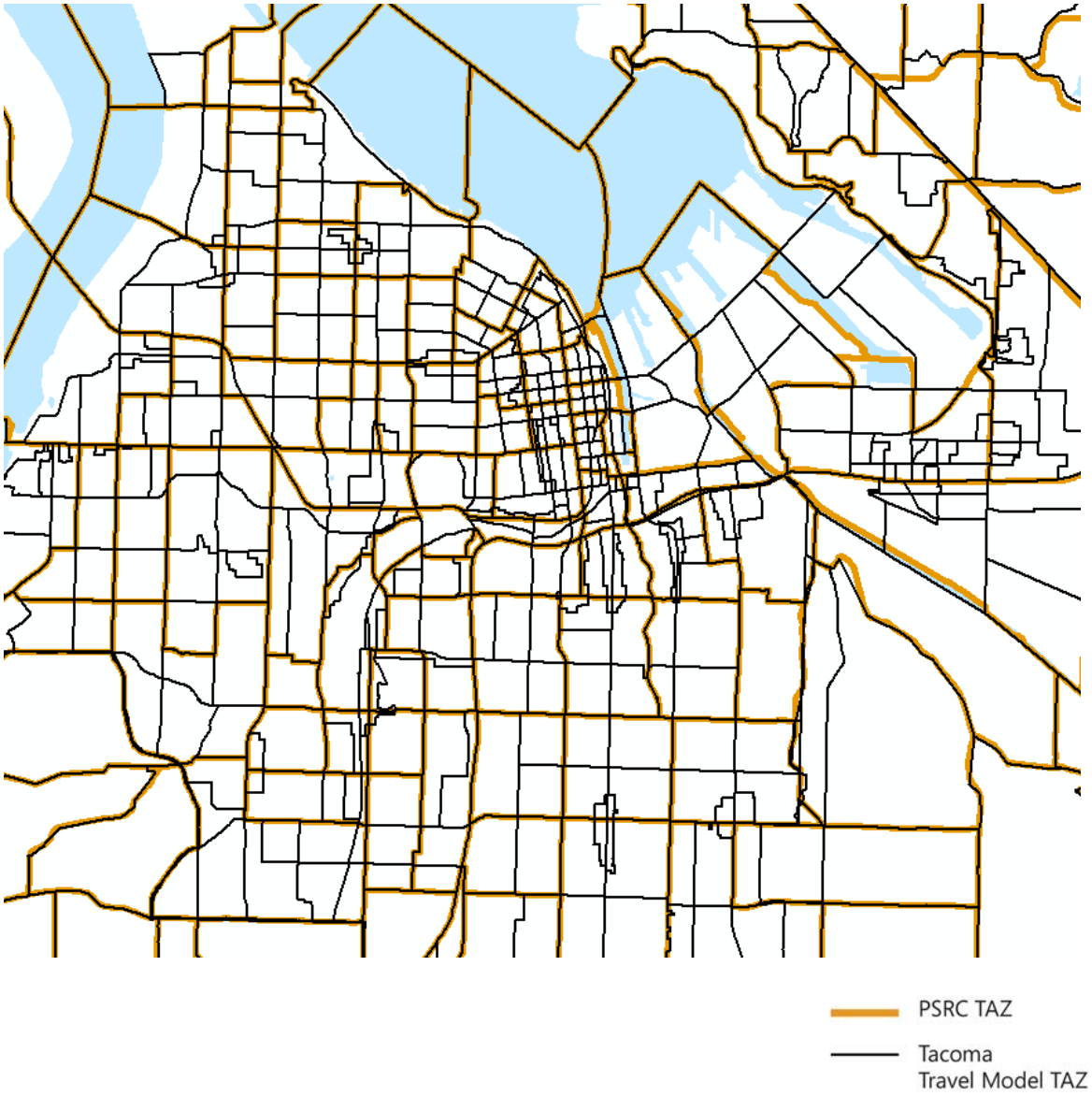
The original PSRC model has a relatively coarse TAZ structure since the model is regional in nature and is focused on generating travel forecasts across all of Snohomish, King, Pierce, and Kitsap Counties. To provide more refined travel forecasts in Tacoma, the PSRC zones were split as part of the TTM development. The finer TAZ structure allows for traffic forecasts to be generated on smaller roadways, improves the estimates of non-auto mode trips, and provides the ability to extract turning movement forecasts at key intersections. **Figure 1** shows the additional TAZ detail in the TTM compared to the original PSRC model. In total, Fehr & Peers added approximately 400 TAZs to Tacoma and the surrounding area, representing roughly a one-to-five split of the PSRC zones.

PSRC 4K MODEL

The PSRC is actively developing an update to the regional travel demand forecasting model that will eventually replace Version 1.00b. This new model is named 4K by PSRC because it has approximately 4,000 TAZs—which is a much higher level of detail compared to the current version of the model. While draft forms of the 4K model are available, it was not chosen as the basis of the TTM because many of the model elements are not net finalized and may not produce reliable travel forecasts.

To build in as much future flexibility as possible, the TTM was constructed with several elements of the 4K model, including the high TAZ detail in and around the City of Tacoma, the latest sociodemographic data from the US Census, and updated trip generation rates. Although the 4K model has higher TAZ detail, most of the procedures and modules in 4K are the same as the 1.00b version.

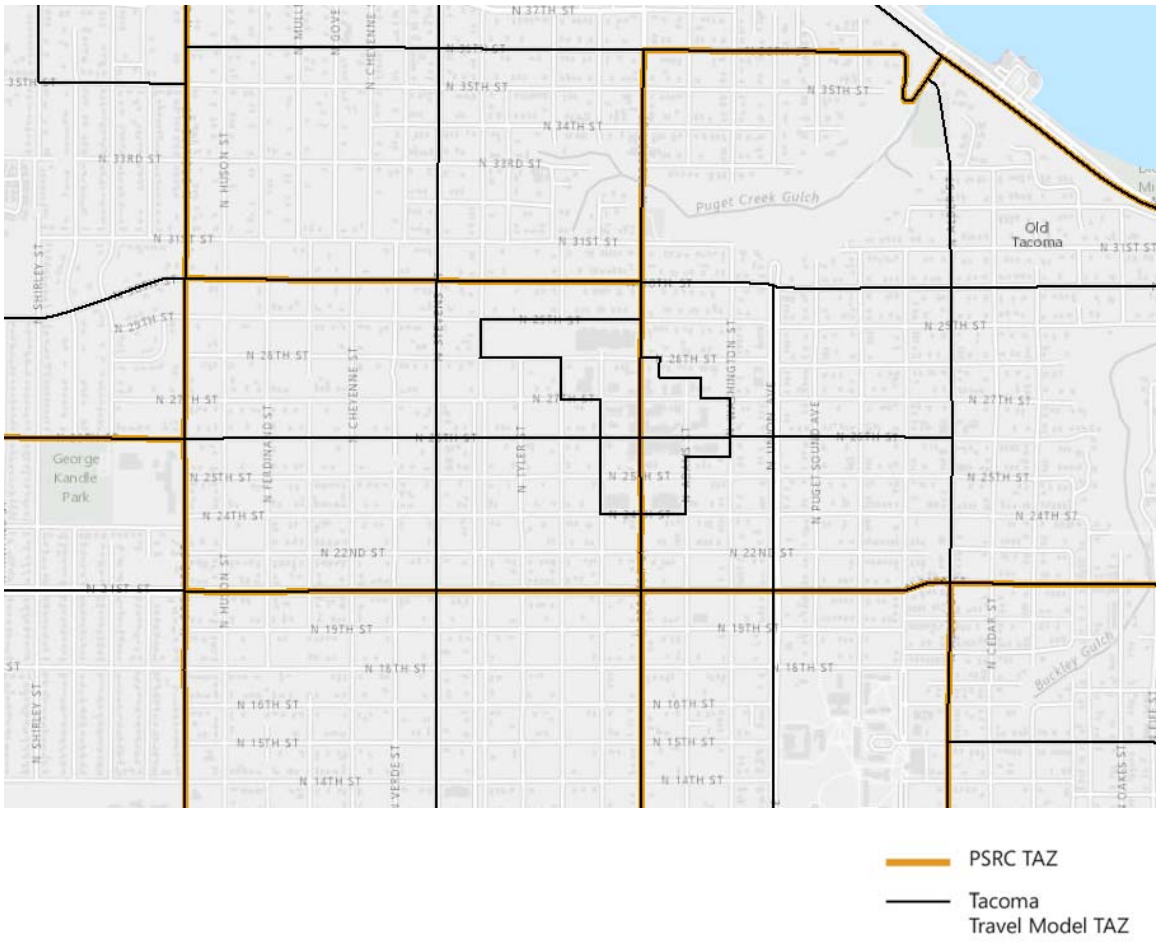
Figure 1 – PSRC TAZ Boundaries (orange) and Tacoma Travel Model TAZs (black)



The new TTM TAZ network in also consistent with PSRC's upcoming travel model platform, PSRC 4k. PSRC 4k has roughly 4,000 TAZs in the region, and includes much more detail in Tacoma. The TTM TAZs nest fully within the 4k TAZ structure so as PSRC releases future land use data in the 4k format, it will be simple to allocate the land use data into the TTM TAZ structure.

The TTM TAZs also follow the Mixed-Use Center boundaries so that growth in the centers can be isolated from the surrounding neighborhoods. **Figure 2** shows the TTM TAZ boundaries near the Proctor Mixed Use Center.

Figure 2 –Tacoma Travel Model TAZs Boundaries Around the Proctor Mixed-Use Center



Zone Numbering

For much of the region, the PSRC TAZ numbering was not changed when developing the TTM, however when splitting the TAZs in and around Tacoma, new TAZ numbers were assigned. To facilitate identification of TAZ numbers when editing the land use file or using GIS for data analysis, the following TAZ ranges cover the Tacoma area:

- Port/Tideflats Area: 668-671, 676-678, 680, 880-883, 910, 915, 939-949

- Tacoma: 22754-26503 (except for TAZs above 22000 listed elsewhere)
- University Park/Fircrest: 22994-22996, 22999, 23001, 23003, 23005, 23007-23013, 23049, 23051-23063, 23070, 23071, 23073, 23075
- Tacoma UGA north of SR 512: 23416, 23428, 23430, 23432, 23434-23436, 23487, 23490, 23492, 23493, 23496, 23499-23501, 23504, 23505, 23508, 23590
- Tacoma UGA south of SR 512: 789-791, 794-797, 803, 804, 23491

Land Use

The land use data used in the TTM includes housing and employment by sector. The housing data is derived from the US Census at the Block Group level. 2010 Census data were collected, supplemented with City of Tacoma building permit data to develop a 2012 base year housing estimate. The employment data is based on information provided by the PSRC and is based on year 2012 data. As noted in the PSRC model documentation, households are then allocated into income quartiles and employment into five categories: manufacturing; wholesale, transportation, communications, and utilities (WTCU); finance, insurance, real estate, and services (FIRES); government and education; and retail. The 2012 land use data for the City of Tacoma TAZs were modified to match the assumptions in the Land Use Element of the City of Tacoma Comprehensive Plan.

TRANSPORTATION NETWORKS

Highway networks

The highway network developed for the base year TTM was created by updating the base PSRC travel model highway network with additional detail in the Tacoma area. Much of the highway network modification was done to accommodate the additional TAZs in and around Tacoma. **Figure 3** highlights the additional network detail in the Tacoma area. A generalized summary of the modifications made to the TTM highway network is shown in **Table 1**.

Figure 3 – Comparison of PSRC (left) and Tacoma Travel Model (right) Highway Networks

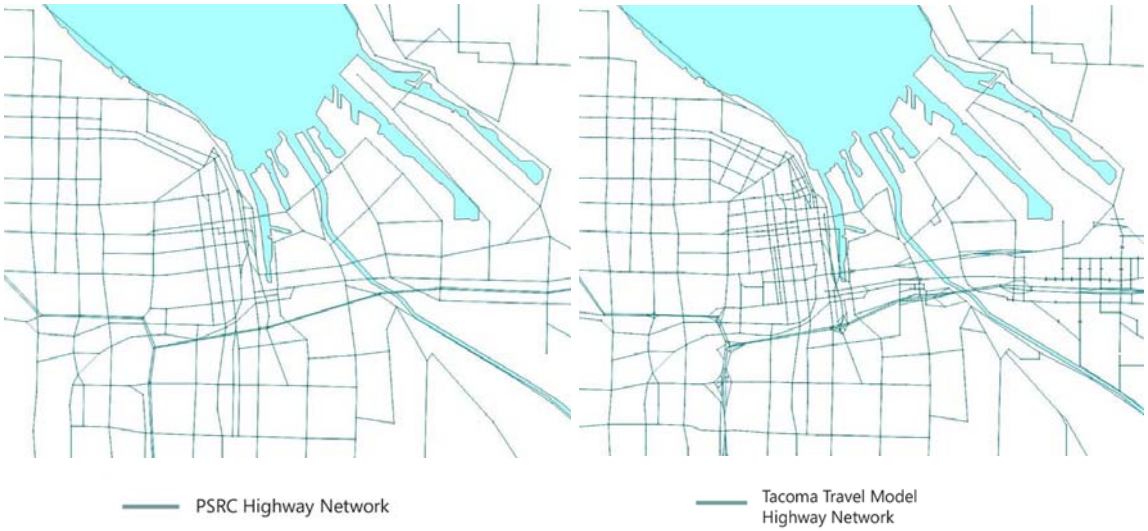


Table 1 – Tacoma Travel Model Network Modifications

Network Attributes	Modifications
Zone Connectors	The PSRC TAZs that were split into TTM TAZs required coding new TAZ connectors to the highway network. Any TAZ connectors that were connected to intersections were moved to mid-block. Driveway locations were identified with aerial photos and centroid connectors were located appropriately for the small mixed-use center TAZs. Walk access links were coded in downtown Tacoma and to park-and-ride lots.
Additional Arterials	Additional base year network detail was added to support the screenline validation effort and future year network assumptions.
Lanes	Modified lanes based on review of aerial photos and field visits. Major changes included coding of center turn lanes (adding 0.2 lanes per the common convention in the area- e.g., a three-lane road is coded as having 1.2 lanes in each direction).
Speed	Speed limits for arterials and collectors in Tacoma were set to match field conditions.
Capacity	Roadway capacities were set to consistent values across the Tacoma area (e.g., removing inconsistent coding from the PSRC model). See **Figures 4 and 5** for additional details.
Freeway Interchanges	Modified intersection geometries at SR 16 and I-5 interchanges to match actual ramp configurations.
Turn Prohibitions	Added turning restrictions at various locations near interchanges.
Tolls	Updated SR 16 toll to match current rates. Toll rates are in year 2000 dollars – SR 16 rate increased from $2.50 to $3.38 (which is a blended rate based on a mix of cash and GoodToGo pass usage). Toll rates are set in the following input files: AMTOLLS.WSF, MDTOLLS.WSF, PMTOLLS.WSF, EVTOLLS.WSF, NITOLLS.WSF

Figure 4 –PSRC Version 1.00b Capacities

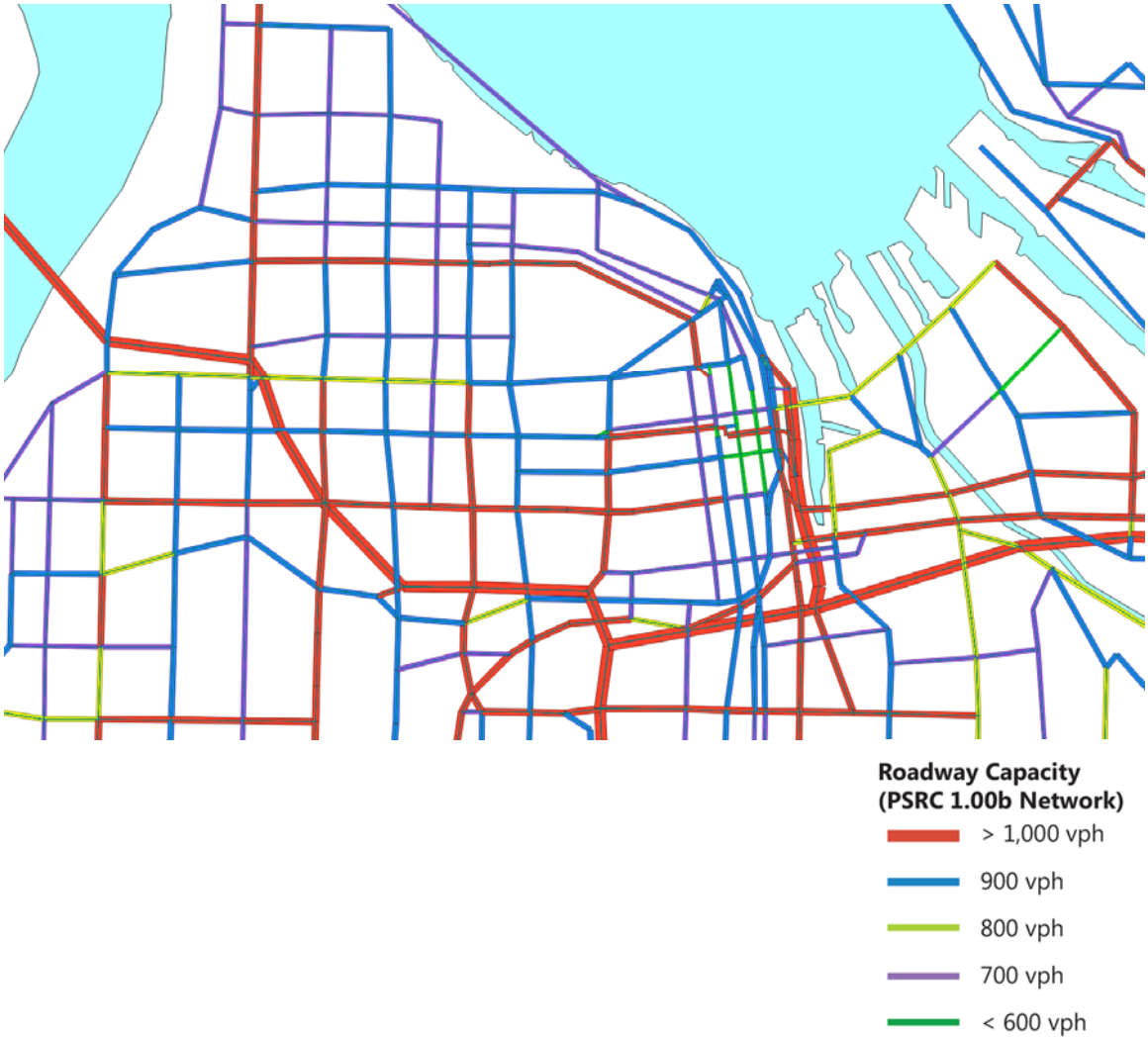
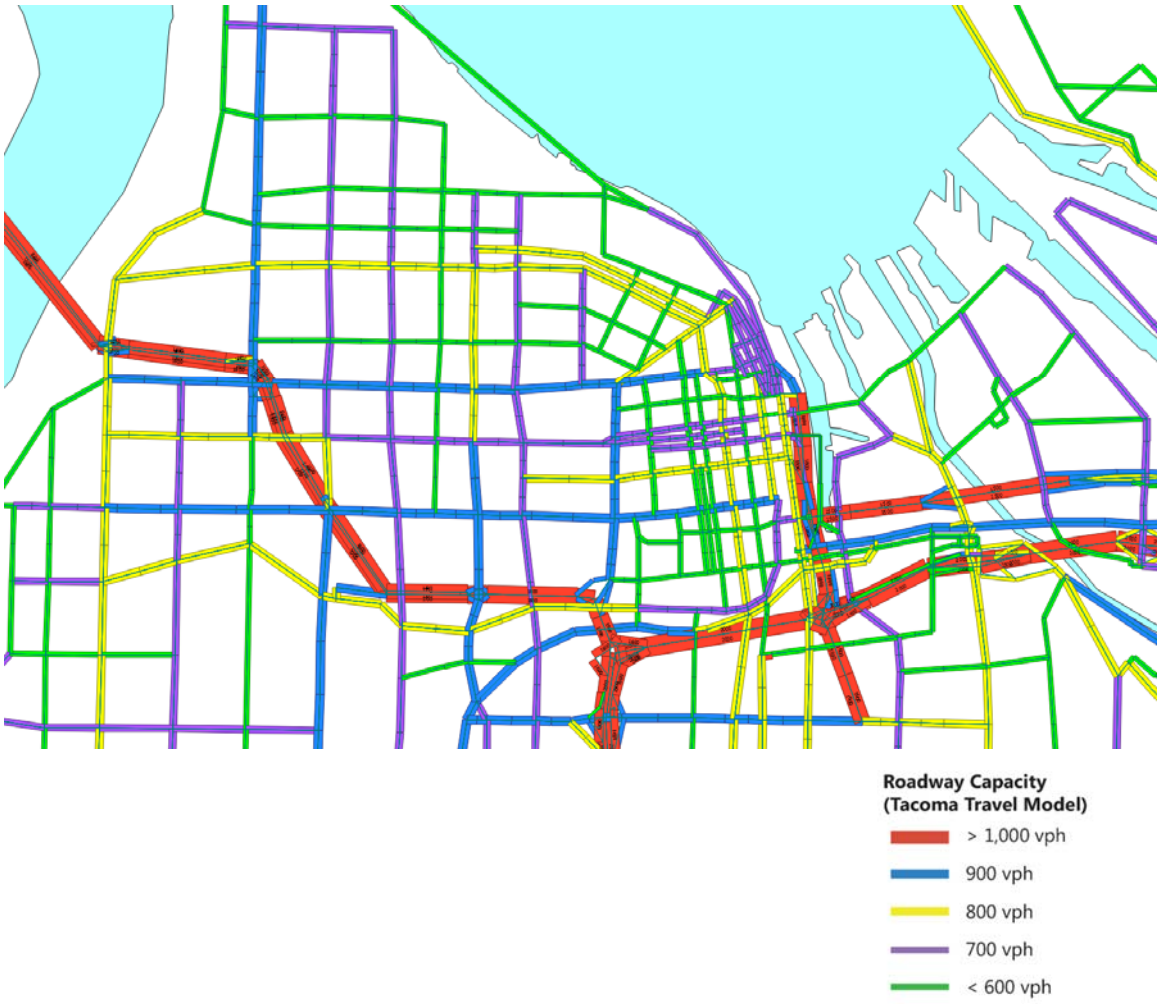


Figure 4 shows the roadway capacities in the original PSRC 1.00b network in the Tacoma area. The colors are as follows:

- Greater than 1,000 vehicles per hour (vph) – red
- 900 vph – blue
- 800 vph – yellow
- 700 vph – purple
- 600 or lower vph (green)

Note that many non-freeway roads in Tacoma (e.g., N 21st Street, S 12th Street) have very high capacities (over 1,000 vph). There are also roads like S Jackson Avenue that have inconsistent coding in the PSRC model (varying from less than 600 vph to more than 1,000 vph from block-to-block). **Figure 5** shows how Fehr & Peers updated the capacities in the Tacoma area to be more representative of field conditions and to correct PSRC coding errors.

Figure 5 –TTM Capacities

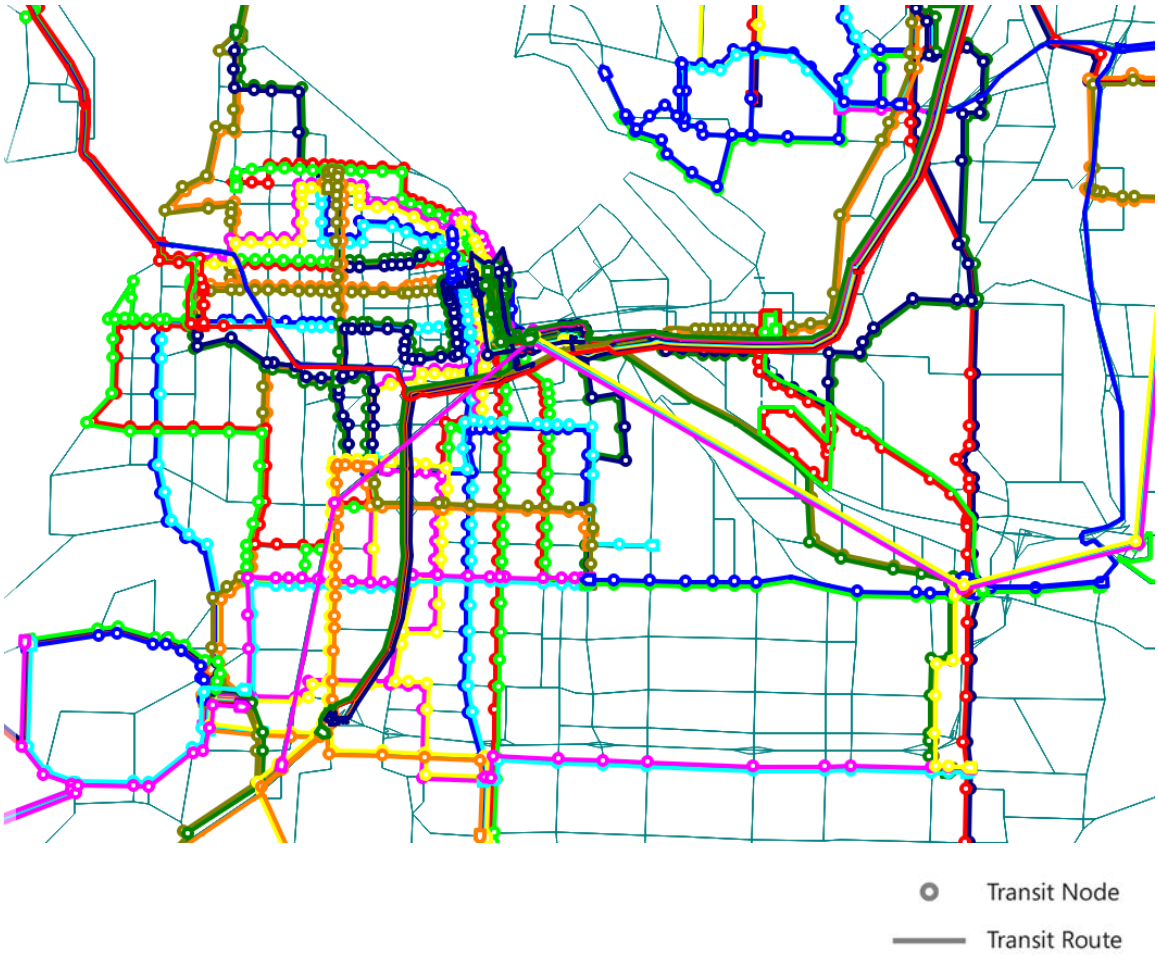


Transit Networks

The transit network and operations inputs for the TTM were updated to reflect 2014 service characteristics from Pierce Transit and Sound Transit. Transit itineraries (routes and headways) were modified for all Pierce Transit and Sound Transit routes in Pierce County. The modifications

were made for peak period and off peak service. **Figure 6** shows a screenshot of the transit coding in the TTM. Transit data, including the peak and off-peak transit routes and headways for all routes serving Tacoma, came from Pierce Transit in June 2014.

Figure 6 –Tacoma Travel Model Transit Network



The park and ride lots in Pierce County were updated to match current parking space capacity and transit connectivity. A list of the park and ride lots and their capacity is available on the web through WSDOT.

TIDEFLATS TRUCK TRIP GENERATION MODULE

Chapter 10 of the PSRC model documentation describes the Truck Model. The PSRC model has a truck trip generation rate for all land uses and a "special generator" for the Port of Tacoma (PSRC

TAZs 676, 678, 770). A major enhancement of the TTM is an expansion, validation, and refinement of the Port of Tacoma special generator to include additional TAZs in the Tideflats area. Below were the steps used to develop the expanded "Tideflats Special Generator" for truck trips:

1. The special generator input files from the PSRC model were updated to include more TAZs in the Tideflats area. The special generator files are as follows: SPLHVY.IN, SPLMED.IN, SPLLGT.IN. Figure 7 shows the difference between the PSRC special generator SPLHVY.IN input file and the same file for the TTM. Note that there are many more TAZs included in the TTM version of the file.

2. Update the truck counts in the special generator input files to match observed truck counts in the Port of Tacoma and Tideflats areas. The numbers shown in the rightmost column of the special generator file (Figure 7) are the number of daily heavy truck trips. These truck trips were based on heavy vehicle truck trip counts taken in 2010 as part of the Tideflats Area Transportation Study. The observed truck trips were distributed to the TAZs in the Tideflats area. Data for the special generator input files was prepared by Heffron Transportation. The truck count data are stored in a Synchro file that has been transmitted to the City of Tacoma.

3. Factor the truck counts to 2014 conditions. All the 2010 truck counts were factored up assuming a one percent annual increase in truck traffic between 2010 and 2014.

Figure 7 – PSRC Version 1.00b (Left) and Tacoma Travel Model (Right) Special Generator Input File for Heavy Trucks (SPLHVY.IN)

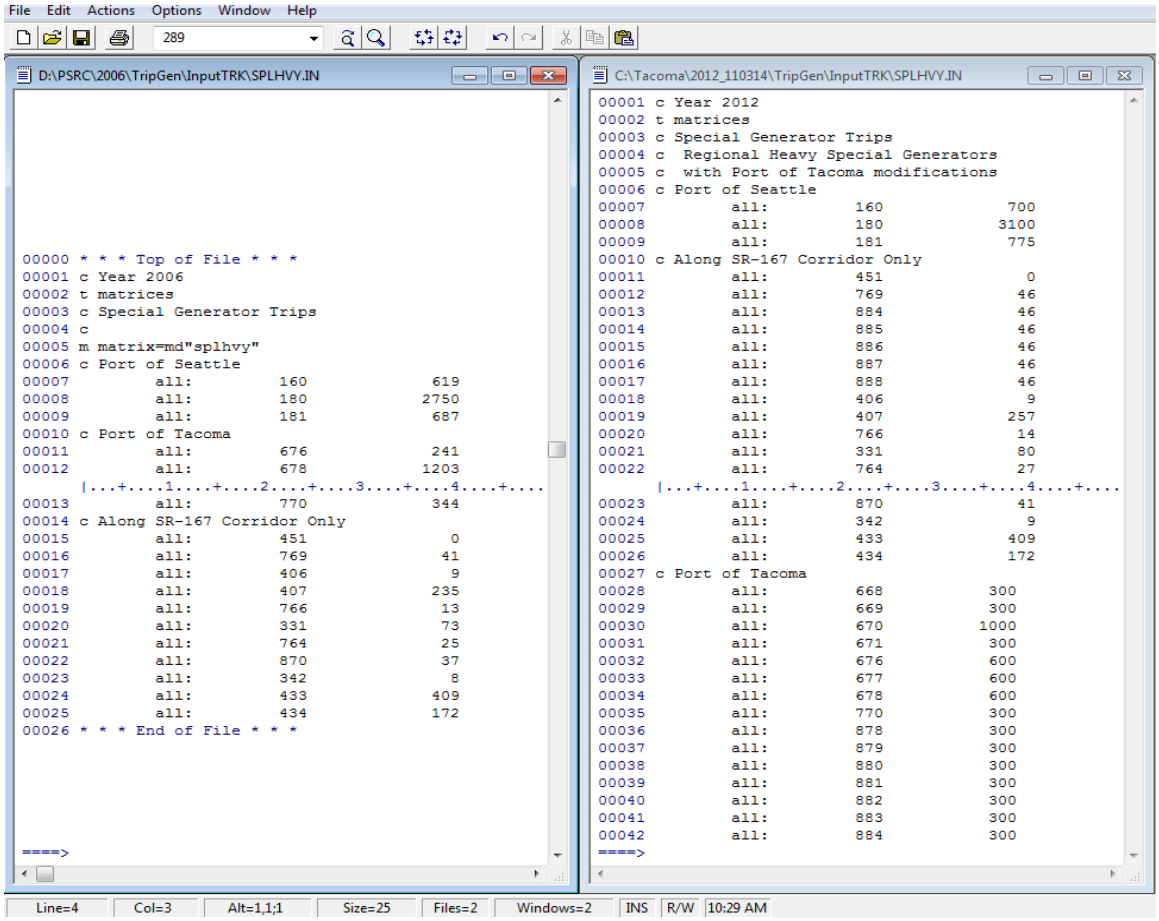


Figure 8 shows the truck assignment output of the base year TTM – note that most of the truck flows are on I-5 and SR 16, but there is a noticeable volume generated in the Tideflats area due to the Tideflats Special Generator.

Figure 8 –Tacoma Travel Model Truck (Medium and Heavy Vehicle) Assignment

UPDATED SOCIODEMOGRAPHIC AND TRIP GENERATION FILES

Sociodemographic Data

As described in Chapter 5 of the PSRC model documentation, a key element of the overall model structure is the sociodemographic characteristics of households. This data influences model components such as vehicle availability, mode choice, and trip generation. Version 1.00b of the PSRC model was based on sociodemographic data from the 2000 US Decennial Census. As part of the TTM development, the sociodemographic data were updated using the most recent 2010 Decennial Census data from the US Census Bureau. This data updates the proportions of the households in each of the 256 household cross-classification categories defined in the model.

Trip Generation Rates

In conjunction with the updated sociodemographic information, the PSRC updated the trip generation rates in the 4K model based on data in the 2006 household travel survey. While we have adopted these trip generation rates in the TTM, there is no current documentation on how the PSRC developed these rates. However, our independent analysis of the performance of the PSRC model does indicate that the 4K model trip generation results more closely match observed traffic and transit data. Due to the complex nature of the trip generation rate input file structure, a screenshot comparison of the PSRC Version 1.00b and TTM rates is not practical (since there are many land use categories and trip purposes); however, the new 4K rates are about 10 percent higher than the Version 1.00b rates. **Table 2** lists the trip generation rate input file names to facilitate a direct comparison between the prior and new PSRC rates.

Table 2 – Trip Generation Rate Input File Names

Trip Rate Category	PSRC Version 1.00b	Tacoma Travel Model
Residential Trip Rates	Xcrates.ma2	HH-triprates.in
Non-Residential Trip Rates	NRRATES.ma2	nonhh_triprates.in
Household Three-Way Classification File	XCHH.ma2	pumsxc_income-size-workers.in
Households with School Age Children	XCSC.ma2	pumsxc_income-k12students.in
Households with College Students	XCCO.ma2	pumsxc_income-collegestudents.in

Even with the updated trip generation rates, the early model validation results indicated that while regional roadways (I-5 and SR 16) had reasonable traffic levels, many city streets had too little traffic compared to observed counts. To improve the model performance, several additional modifications were made to the TTM macros:

1. **NEWVECS.MAC**: This macro initializes all the matrices in the trip generation emmebank. It was revised to create new matrix/vector files to accept the Tacoma-specific trip rate adjustments (see lines 81 and 115).
2. **DATRATIN.MAC**: This macro reads in all pertinent input files to run the trip generation model. The macro was revised to read in the Tacoma-specific trip rate adjustments (and store them in the empty matrices generated by the NEWVECS.MAC file). The production rate adjustment for Tacoma is: TACO_FLAG_TGP.IN and the attraction rate adjustment is TACO_FLAG_TGA.IN. See lines 63 through 68. The adjustments apply to all City of Tacoma TAZs and the factor is 1.3 for the TAZs north of SR 16/I-5 and 1.15 for the TAZs south of SR 16/I-5. These adjustment factors were developed through iterative runs of the TTM to improve the model validation statistics.
3. **Balance.mac:** This macro was revised to multiply the unbalanced productions and attractions with the expansion factors (TACO_FLAG_TGP.IN and TACO_FLAG_TGA.IN). See lines 26 through 43.

In working with other jurisdictions with the 4K trip generation rates (e.g., Bothell, Federal Way), these types of adjustments are common, suggesting that the 4K model still requires additional refinement before it is practical for widespread application.

TRAVEL ASSIGNMENT

Traffic Assignment

Fehr & Peers updated the volume delay functions (VDFs) to improve the performance of the traffic assignment portion of the TTM. While we have no documentation on the original background for updating the VDFs, they were developed in conjunction with WSDOT for Fehr & Peers' work on the I-405 Corridors project. The VDFs were specifically developed to reduce the PSRC model's tendency to "over-assign" traffic to the freeway corridors compared to adjacent arterial corridors with less congestion. In other words, the standard PSRC VDFs tend to make major regional roadways more "attractive" compared to typical city arterials and collectors. These

VDFs have been used on more than 20 model updates over the past 15 years due to their superior performance for forecasting local traffic patterns[1].

The VDFs were developed based on the current Highway Capacity Manual's recommendations for VDFs for large regional travel demand models. The new VDFs are based on functional class and speed. The VDFs used in the PSRC Version 1.00b and TTM are shown in **Table3**.

Transit Assignment

The transit assignment process has been modified from the approach used by PSRC in the regional travel model. The transit assignment methodology used in the TTM mirrors the methodology used in the Sound Transit Incremental Transit Ridership Model. Specifically, the TTM adopts Sound Transit's Boarding Penalty, Wait Time Factor. As noted in the Sound Transit documentation, this methodology better accounts for passenger bias in selecting both mode and station locations for boarding/alighting based on factors other than transit headways/speeds that are considered in the PSRC model framework. See the AMTRANHW.MAC file, line 18 for the specific change. To work with the updates in the transit assignment macro, the transit nodes in the network file have been flagged to identify the following, consistent with the Sound Transit methodology:

- Regular bus stops
- Transit centers (for bus boardings—including Tacoma Dome, Tacoma Community College, Lakewood, and Tacoma Commerce Street)
- Rail stations (e.g., Sounder and Tacoma Link)

The approach in the Sound Transit model has been approved by the FTA and provides greater flexibility in how different stations are represented in the model and more accurately reflects observed boarding and transfer patterns.

[1] Updating the VDFs in conjunction with increasing the trip generation rates is consistent with the PSRC model's tendency to over-assign freeway volumes with the standard VDFs. As more traffic is spread out from the freeways and major highways (what PSRC validates to), additional vehicle trips are necessary to reproduce traffic counts.

Table 3 –Volume Delay Functions

Speed (MPH)	PSRC Version 1.00b	Tacoma Travel Model
< 30	fd5 = (length*60/ul2)*(1+0.60* (HRFAC *volau/ (ul1*lanes))^5.8) +el1/((1-get(1)).max.0.01)	fd1 =(length*60/ul2)*(1 + 1.5*(HRFAC*(volau) / (lanes*ul1)) ^4)
30		fd2 =(length*60/ul2)*(1 + 1.2*(HRFAC*(volau) / (lanes*ul1)) ^5)
35		fd3 =(length*60/ul2)*(1 + 1*(HRFAC*(volau) / (lanes*ul1)) ^ 5)
40		fd4 =(length*60/ul2)*(1 + 0.7*(HRFAC*(volau) / (lanes*ul1)) ^5)
45		fd5 =(length*60/ul2)*(1 + 0.72*(HRFAC*(volau) / (lanes*ul1)) ^5)
50	fd3 = put((length*60/ul2)*(1+0.56*(HRFAC *volau/ (ul1*lanes))^6.0))+length*((0.5639+ put(get(1)/ length)*(0.6398+get(2)*(-0.0712+get(2)* (0.0004+0.00009*get(2))))))	fd6 =(length*60/ul2)*(1 + 0.74*(HRFAC*(volau) / (lanes*ul1)) ^5)
55		fd7 =(length*60/ul2)*(1 + 0.1*(HRFAC*(volau) / (lanes*ul1)) ^10)
60	fd1 = put((length*60/ul2)*(1+0.72*(HRFAC *volau/(ul1* lanes))^7.2))+ length*(0.max.(-.5639+put(get(1)/ length)*(0.6398+get(2)*(-0.0712+get(2)* (0.0004+0.00009*get(2))))))	fd8 =put((length*60/ul2)*(1 + 0.72*(HRFAC*(volau) / (lanes*ul1)) ^7.2))+length*(0.max.(-0.5639+put(get(1)/length)*(0.6398+get(2)*(-0.0712+get(2)*(0.0004+0.00009*get(2))))))
70		fd10 =(length*60/ul2)*(1 + .32*(HRFAC*(volau) / (lanes*ul1)) ^7)
Centroid	fd9 =(length*60/ul2)	fd9 =(length*60/ul2)*(1 + 1.5*(HRFAC*(volau) / (lanes*ul1)) ^4) or (length*60/ul2)

Notes:

- fd: Function Definition (part of EMME macro language)
- length: Link distance
- UL2: Speed in EMME model
- HRFAC: EMME Time Period Peak Hour Factor (AM=.375, PM=.35,MD=.184,EV=.354,NI=.255)
- Volau: EMME Total Vehicle Demand for Time Period
- Lanes: Number of Lanes
- UL1: EMME Capacity (vphpl)

Generally, the speed to function relation is usually used. During the validation effort some facilities had their VDFs modified to reflect congestion. The VDF for 60 miles per hour was created by WSDOT/TRAC to reflect reliability in freeway operations.

Park-and-Ride

The process to determine demand at park-and-ride lots was also modified. The PSRC model assumes that all park and ride lots have the same attractiveness and capacity (approximately 300 stalls). The TTM has an attractiveness factor that better reflects observed utilization by modifying the following files:

- PRFAC.311 – This input file was created for the TTM and creates a par-and-ride lot capacity factor that is based on dividing the total park-and-ride lot capacity by 250. This results in a capacity result ranging between 0 and 10 for all lots in the region.
- The PRSPLIT.MAC macro was updated to read and apply the PRFAC.311 input file when estimating usage. **Figure 9** compares the Version 1.00b PRSPLIT.MAC file to the TTM version of the file. The main difference is the deletion of line 33 of the Version 1.00b file (which set all the PRFAC values to 1). By including capacity in the park-and-ride assignment routine, we get much more realistic results. **Figure 10** shows a comparison of utilization of the Tacoma Dome park-and-ride lot when applying the Version 1.00b and the TTM methodologies. As shown, the TTM method produces superior results (134 entries in the AM peak period for the PSRC model compared to 2,212 entries for the TTM – the most recent WSDOT data from Fall 2013 indicates daily usage of about 2,270 stalls at peak utilization[2]).

[2] http://www.wsdot.wa.gov/NR/rdonlyres/7F57E292-9768-4E9E-AE8B-F95268966C21/0/PugetSoundParknRide_Fall2013.pdf

Figure 9 – PRSPLIT.MAC Comparison: Version 1.00b (top), TTM (bottom)

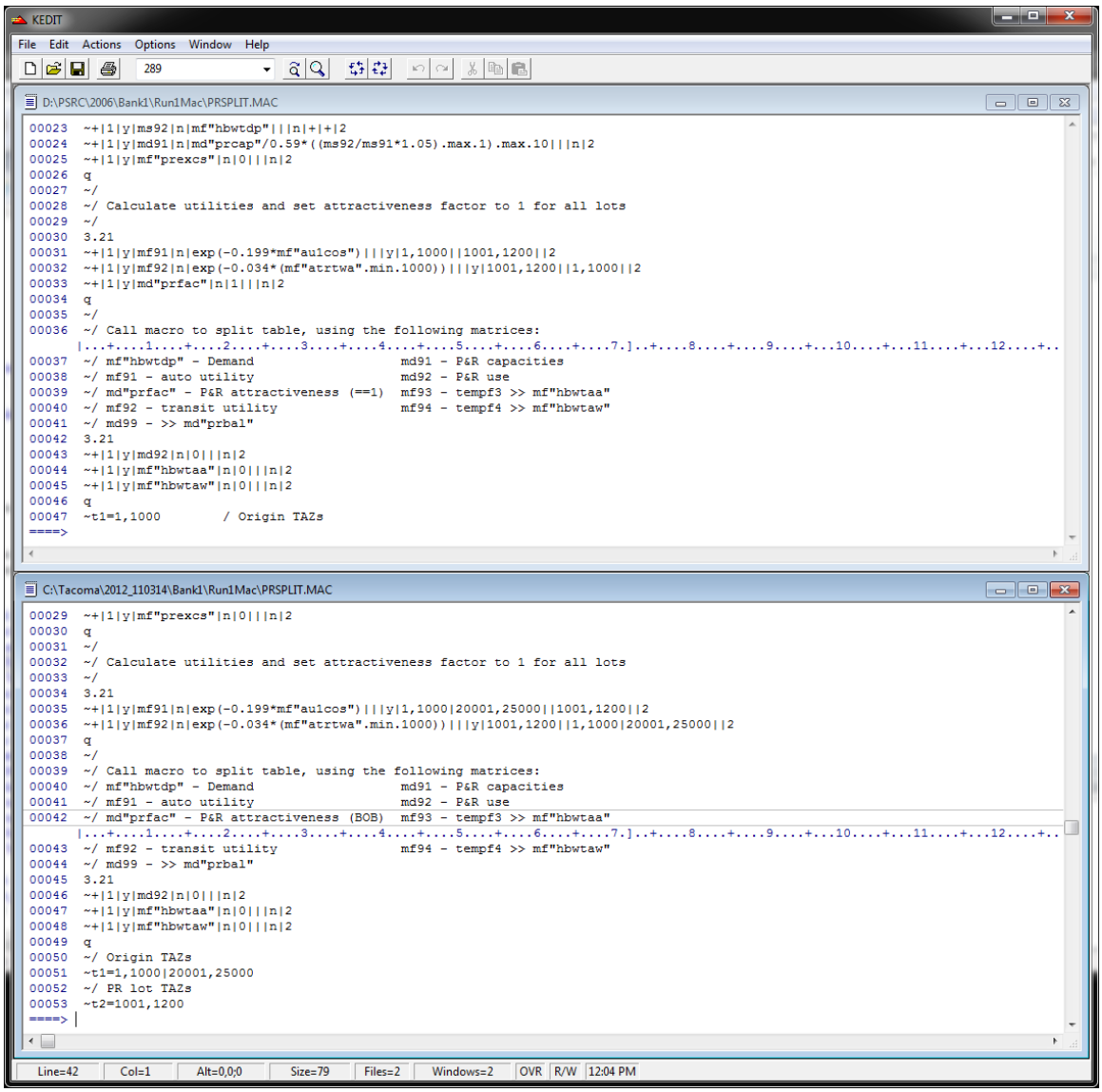
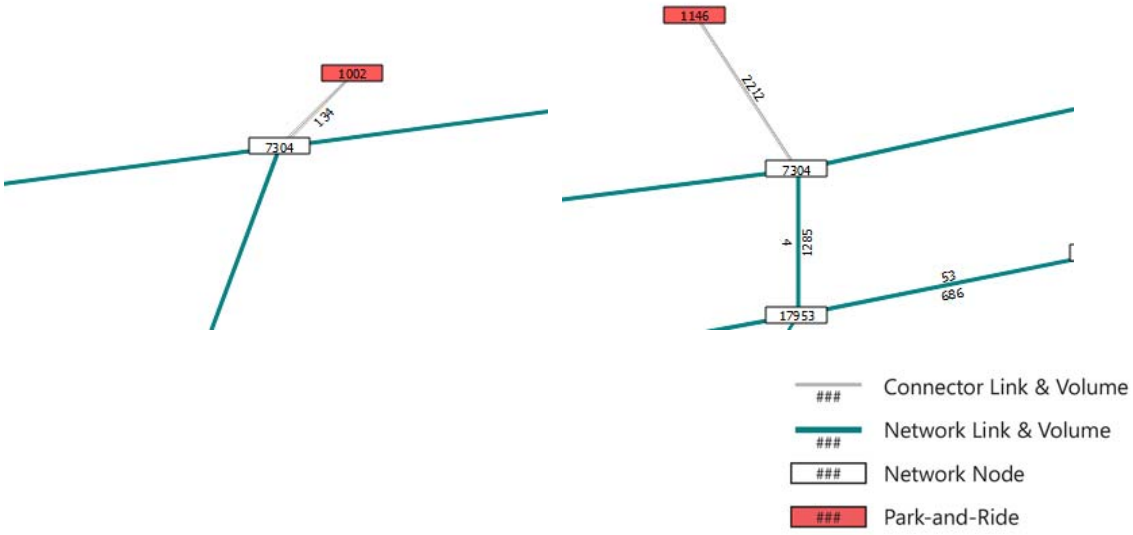


Figure 10 – Comparison of Tacoma Dome Park-and-Ride Lot Utilization: Version 1.00b (left), TTM (right)



MODEL VALIDATION

The validation effort for the base year TTM model runs was focused on PM peak hour travel demand at a collection of screenlines in and around Tacoma. The TTM does not explicitly generate PM peak hour volumes, so the PM peak three-hour volumes are factored to represent PM peak hour conditions. The factor used to scale the PM peak hour from the three-hour data is 0.38, which is based on a Tacoma-specific adjustment of Fehr & Peers' typical peak hour factor developed to estimate peak hour traffic volumes in the Central Puget Sound. A peer review of Fehr & Peers' version of the Seattle Travel Model, which is also based on the Version 1.00b platform, describes how a PM peak hour factor of 0.37 was developed by comparing PM peak hour to peak period counts throughout Seattle. Initial testing of the TTM indicated that this factor was too low and better validation results were obtained by using a 0.38 factor. The higher factor is reasonable for Tacoma given that Tacoma would be expected to experience less peak period spreading than Seattle.

The map shown in **Figure 11** shows the screenline locations. Further validation was performed for downtown and citywide mode splits. Truck volumes were checked against the observed data at

several key locations, shown in **Figure 12** although no specific model validation efforts were made for truck volumes.

Figure 11 –Tacoma Travel Model Screenline Locations

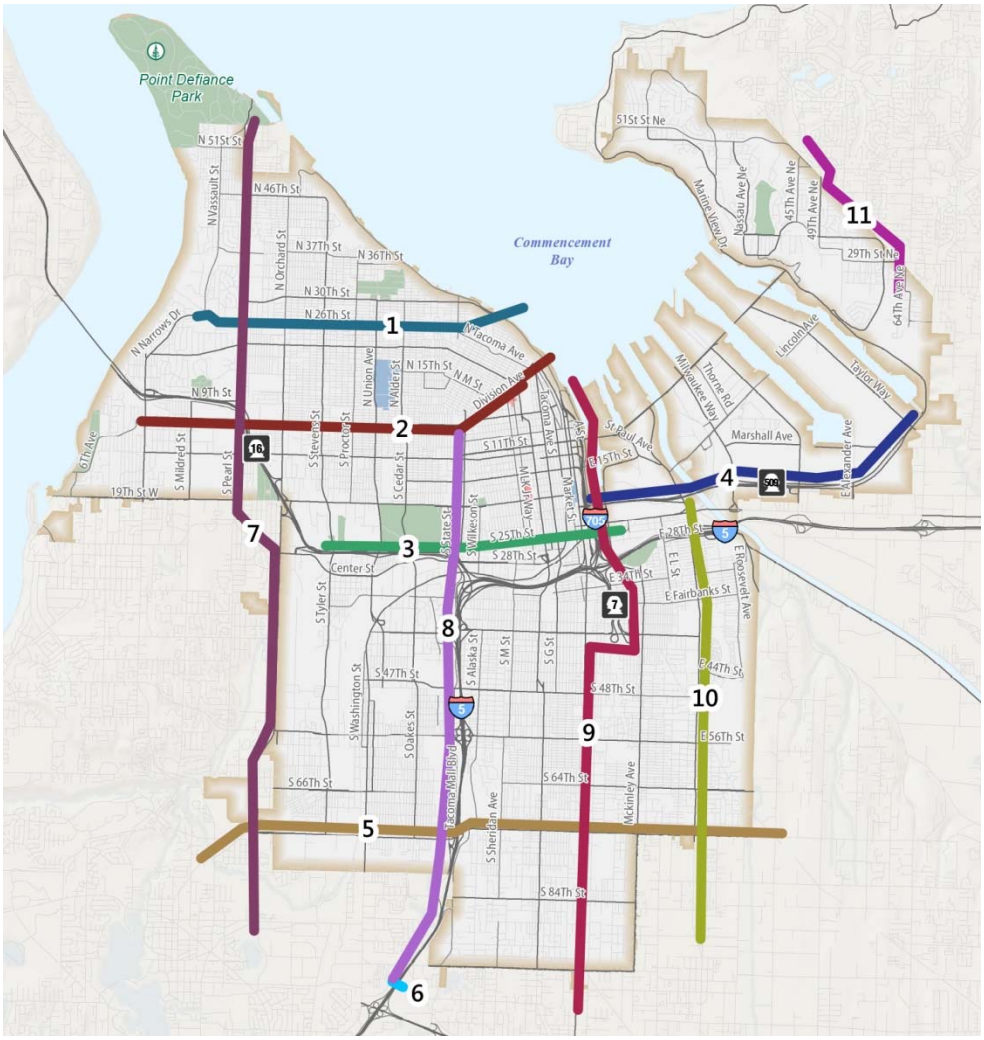
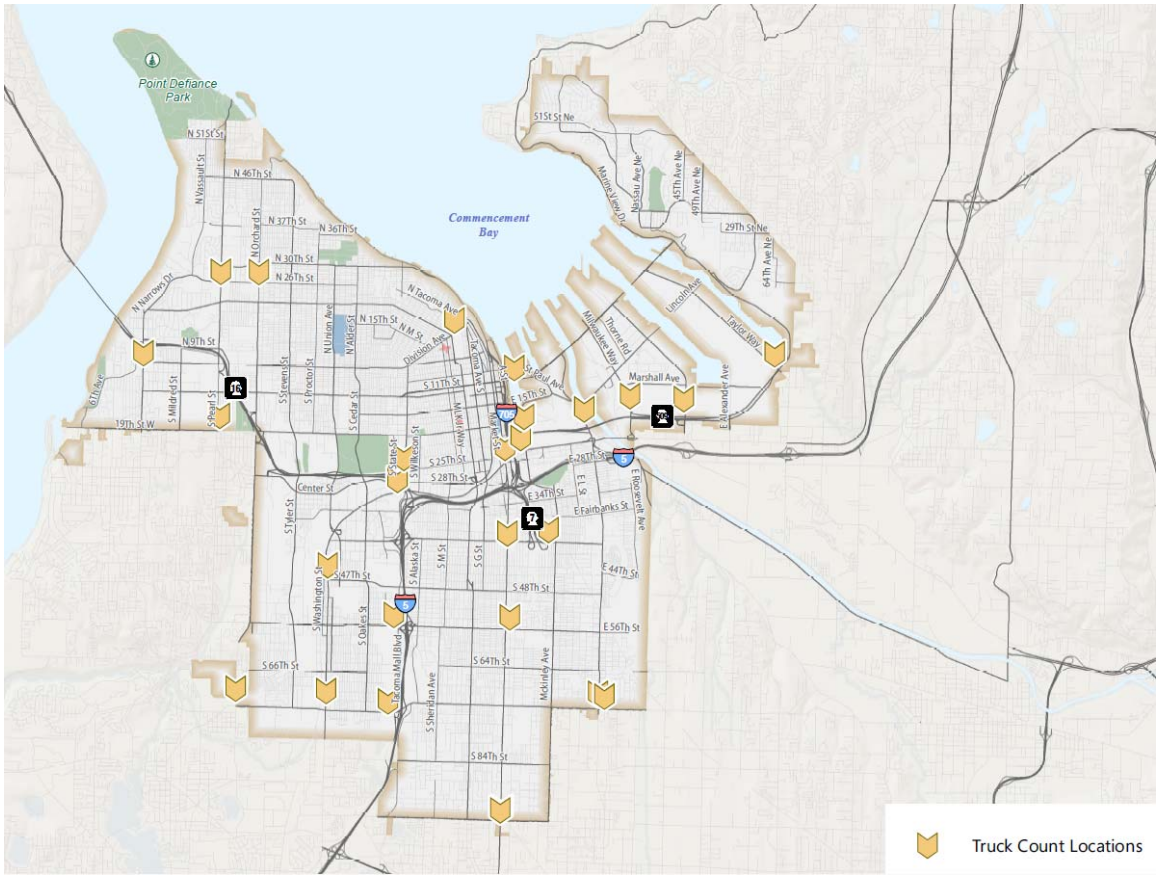


Figure 12 –Tacoma Travel Model Truck Count Locations



Count Validation

At the outset of the TTM development process, Fehr & Peers collected traffic counts at 54 locations around the city, located on the screenlines used to validate the prior version of the TTM. For the overall count validation, the model's estimated PM peak hour volumes are compared to the observed PM peak hour volumes. Fehr & Peers has developed a set of model validation criteria that well-performing models should meet. The criteria and the performance of the TTM are shown in **Table 5** below.

Table 5 – Count Location Model Validation

Performance Measure	Fehr & Peers Model Validation Guidelines	TTM Performance
Model/count ratio	+/- 10%	-8%
Percent of count locations within deviation limits	≥ 75%	75%
Percent root-mean-squared error	< 40%	32%
Adjusted r-squared	> 77%	75%
Correlation coefficient	> 0.88	0.86

The results in Table 3 indicate that the TTM is close to meeting the Fehr & Peers count location validation guidelines, with three of the five criteria met. The adjusted r-squared and correlation coefficient performance measures are not quite meeting the guidelines, reflecting the model's tendency to produce traffic forecasts that are lower than observed counts. The percent root-mean-squared error, which is typically one of the more difficult guidelines to meet, is well within the acceptable range, indicating that the model is generally clustered around the observed counts (albeit a bit low), as opposed to many high estimates canceling-out low estimates.

Screenline Validation

The count validation provides a snapshot of how well the TTM is performing overall, the screenline validation examines the model's performance at a more localized level. The results of the screenline validation are shown in **Table 6**.

The screenline performance indicates that the model is performing well across most of the city, again with the slight tendency to produce traffic estimates that are lower than observed counts.

Mode Split Validation

While the screenline results generally indicate that the TTM is generating a reasonable number of vehicle trips, the mode split validation is performed to ensure that non-auto mode trip generation is reasonable. For the mode split validation, the TTM's home-based work mode split is compared against comparable data from the US Census Bureau's American Community Survey. The results are summarized in **Table 7**.

Table 6 – Screenline Model Validation

Screenline	TTM PM Peak Hour Volume (Base Year)	PM Peak Hour Count (2012)	Model/Count Ratio
1: South of N 26th St	4,008	4,079	0.983
2: South of 6th Ave	5,693	5,814	0.979
3: South of S 25th St	4,664	5,232	0.891
4: North of SR 509	1,585	2,221	0.714
5: North of S 72nd/74th	20,231	19,204	1.054
6: North of SR 512	10,509	12,000	0.876
7: West of Pearl/Orchard	9,558	11,688	0.818
8: West of State/I-5	10,478	13,162	0.796
9: East of Pacific/I-705	9,148	8,495	1.077
10: East of Portland Ave	17,231	15,026	1.147
11: Federal Way City Limit	2,854	3,543	0.805
Screenline Total	95,959	100,464	0.955

Table 7 – City of Tacoma Mode Split

Mode	ACS 5 Year Data (2008-2012)	TTM Performance
SOV	83%	84%
HOV	10%	7%
Transit	4%	7%
Walk	3%	2%
Bike	1%	1%

As shown above, the TTM data are very similar to the ACS data, with the transit mode being slightly higher in the TTM and HOV being slightly lower. Overall, these results indicate that the mode choice component of the TTM is working well.

Table 8 presents the results of the HBW mode split in downtown Tacoma. Since the ACS is a household survey, there is no comparable data. However, the data in Table 6 meet our

expectations that transit would represent a larger share of commute trips to/from downtown Tacoma at the expense of SOVs.

Table 8 – Downtown Tacoma Mode Split

Mode	TTM Results
SOV	67%
HOV	10%
Transit	20%
Walk	2%
Bike	1%

2040 TRAVEL MODEL

A 2040 version of the travel model was built using data provided by VIA Architecture and the Planning Department. As the Transportation Master Plan has not yet identified a comprehensive list of citywide transportation improvement projects, only regional projects identified in the PSRC model and other plans were included in the roadway network. A version of the 2040 model with the citywide transportation improvements is actively under development. The list below summarizes several of the major regional projects near Tacoma assumed in the 2040 version of the TTM:

- I-5 HOV lanes to SR 16
- Canyon Road extension in Pierce County
- SR 167 extension to SR 509

Figures 13 and **14** summarize the change in population and employment expected between now and 2040.

Figure 13 –Tacoma Population Growth Assumed by 2040

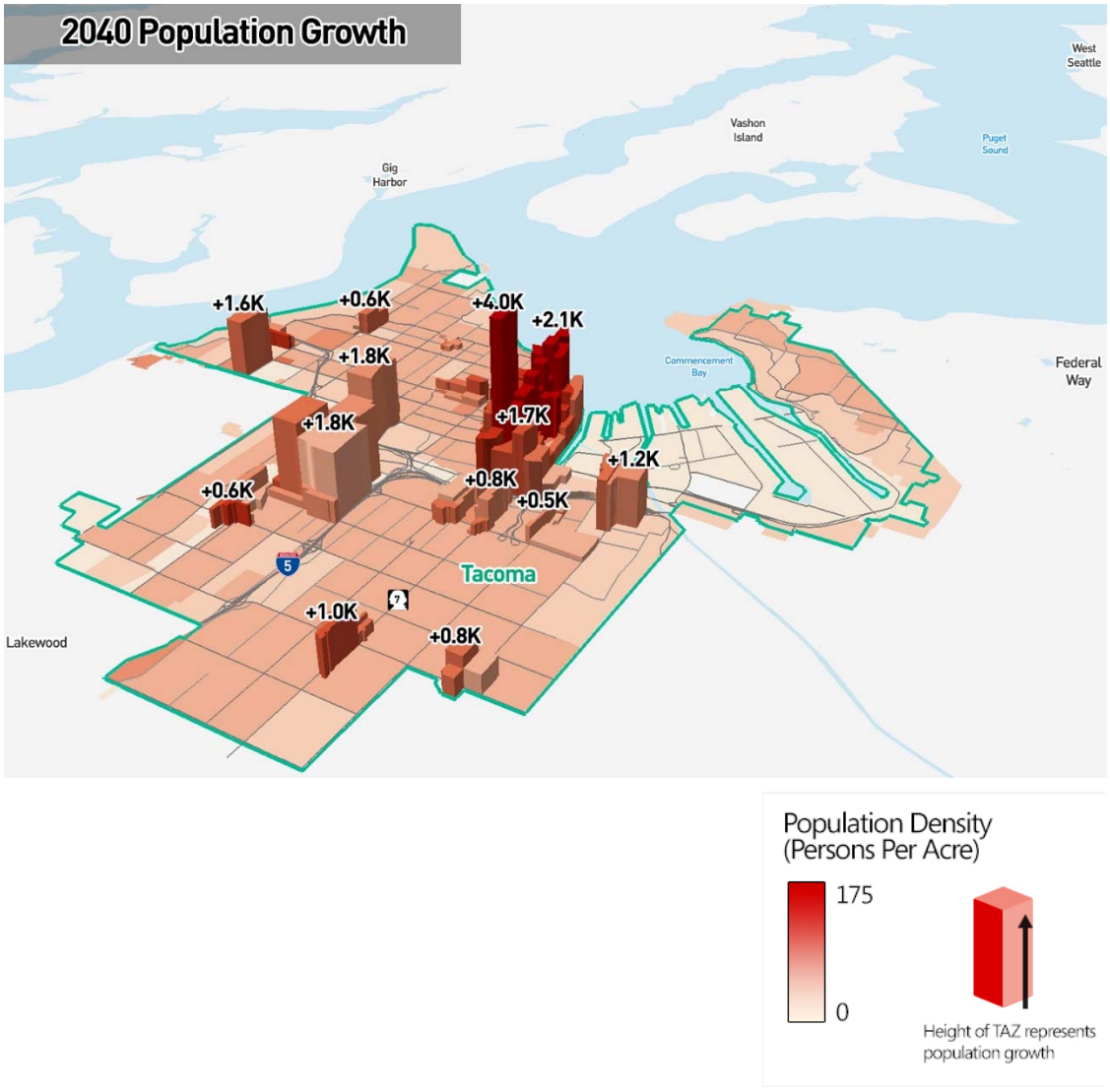


Figure 14 –Tacoma Employment Growth Assumed by 2040

Travel Modeling Summary

Forecasts & Growth

The Growth Management Act (GMA) requires that this TMP supports the land uses envisioned in the Comprehensive Plan. Thus, an important component of this TMP's development was forecasting how growth in the City (including the MUCs, RGCs, and Port of Tacoma), as well as throughout the region, would influence demand on Tacoma's transportation network. A description of the travel demand modeling process is provided below, with more detail about land use assumptions and model documentation provided in **Appendix A.**

- **The Tool.** In 2014, the City of Tacoma updated its travel model based on the PSRC regional travel model. This model forecasts traffic volumes during the evening peak period (3-6pm) along many of Tacoma's key streets and intersections. This tool provides a reasonable foundation for estimated year 2014 traffic volumes, as well as for developing year 2040 forecasts, as the underlying land use assumptions have been updated to match the land use forecasts for the current Comprehensive Plan.

- **Estimate Land Use Growth in the City.** As a part of the Comprehensive Plan update, the City is planning for growth in housing units and employment through 2040. As described earlier, much of this growth is directed to the MUCs and at the Port of Tacoma. In total, the City plans for 127,000 new residents and 97,000 new jobs.

- **Capture Regional Growth Patterns.** Other communities throughout the region are going through this very same process, based on direction from PSRC. Since travel does not stop at a jurisdiction's borders, it is important to capture how regional growth could influence travel patterns on Tacoma's streets.

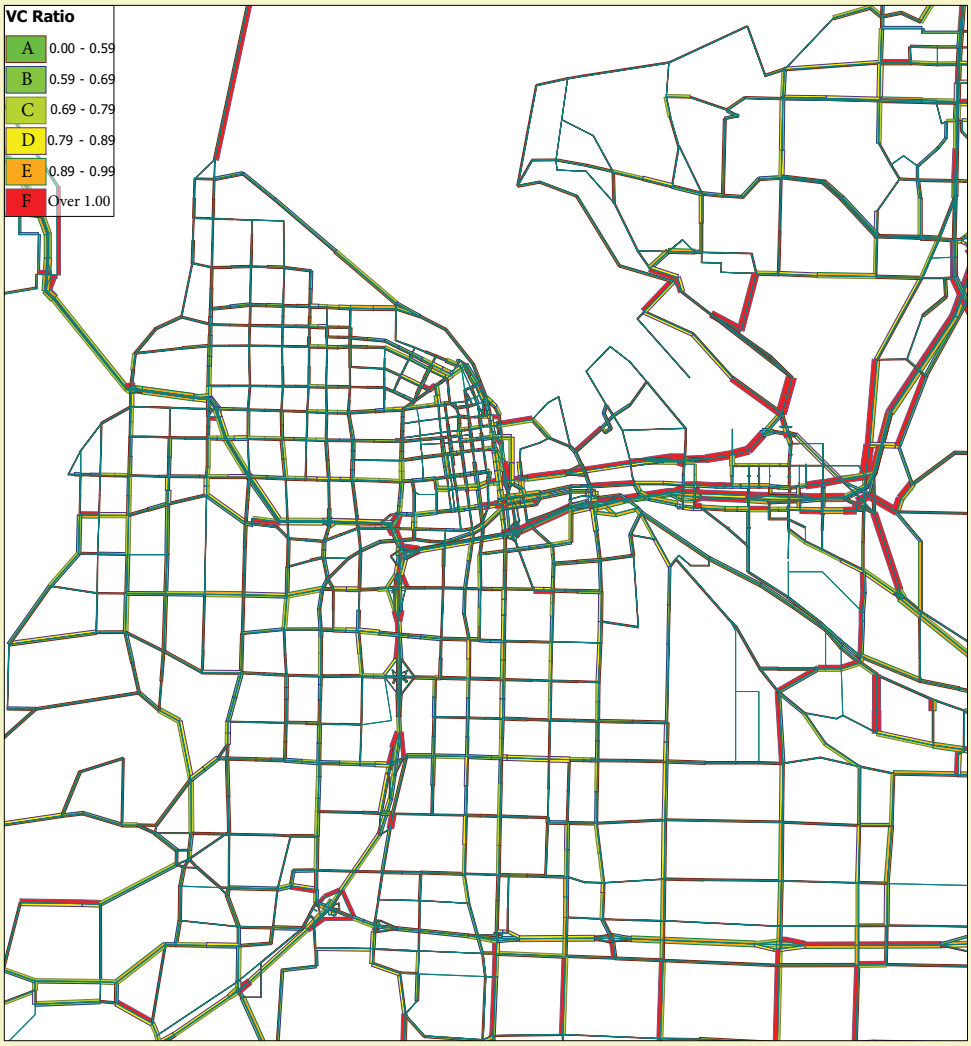
Screenshot of the Tacoma travel model network's roadway network capacity classes. Red links represent state highways and other colors are city arterials.

- **Translating Land Uses into Trips.** The next step is evaluating how the City and regional growth assumptions described in this plan translate into walking, biking, transit, and auto trips. The travel model represents the number of housing units and employees in spatial units called Traffic Analysis Zones (TAZs). TAZs can be as small as a few street blocks to as large as an entire neighborhood. They provide a simplified means to represent trip making rather than modeling individual parcels. The travel model estimates trips generated from each TAZ (both inside and outside of the City) using established relationships between different land use types with trip making. These trips are then assigned onto the roadway network to estimate how much traffic would be on each street during the evening commute hour.

Model Refinements. The final step is refining the forecasts based on reality checks that the travel model may not capture. In this case, forecasts were refined to reflect the more walkable, urban characteristic planned for Tacoma's downtown by recognizing that some short trips could be made by walking and biking rather than driving. Moreover, travel patterns were refined to reflect existing driver preferences.

The following figure shows the results of the Year 2040 travel modeling performed. As the modeling shows, several State facilities are expected to operate below the State's LOS standard of D for Highways of Statewide Significance and LOS E-Mitigated standard for Highways of Regional Significance. The growth in traffic on these facilities is driven by regional growth, as well as growth anticipated within the City. Specifically, the following State facilities may see impacted operations in the planning horizon:

- SR 16
- I-5
- SR 509
- SR 512
- I-705
- SR 7
- SR 167



In addition, some local streets are forecast to experience peak period congestion in year 2040. The City is moving to a performance standard based on system completeness rather than vehicular delay.

In general, the City's network has sufficient capacity to absorb the forecast growth. The most significant travel delays on the City's network are a result of backups on the regional network, rather than local-level capacity constraints; however, only a small portion of the City's system is expected to exceed capacity and will do so only for a small part of the day. The forecast operations would have met existing standards for concurrency. This Transportation Master Plan is the first step in moving Tacoma to a plan-based rather than arterial/intersection based concurrency system. This plan-based system is a tool to manage the pace of development while providing transportation improvements for all users including bicyclists, pedestrians, drivers, and transit riders, which may also help alleviate projected shortcomings on the State system.

Appendix B

Detailed Project List

APPENDIX B: TMP PROJECT LIST

This appendix includes the project list for Tacoma's Transportation Master Plan. The project list includes two parts:

- The Tier 1 projects, which represent the fiscally-constrained 25-Year Project list, as required to be identified in the Comprehensive Plan
- Other priority projects that fall outside of the fiscally-constrained 25-Year Project list.

The following memo describes how the TMP project list was developed, then explains how the Tier 1 projects were identified.

SOURCES OF PROJECTS

The TMP considered a wide variety of projects to address Tacoma's diverse transportation needs. Projects came in all shapes and sizes, including modal conflict studies, pedestrian/bicycle/trails projects, transit projects, auto projects, Tacoma Rail projects, and Comprehensive Plan Neighborhood Action Strategies.

The sources of projects considered in Tacoma's TMP include, but were not limited to:

- Adopted Plans:
    - 2014 Transportation Element
    - Six-Year Comprehensive Transportation Program
    - Mobility Master Plan
    - Container Port Element
    - Hilltop Subarea Plan and EIS
    - North Downtown Subarea Plan and EIS
    - Prairie Line Trail Corridor Plan
    - Schuster Corridor Multi-Use Trail
    - South Downtown Subarea Plan and EIS
    - PSRC Regional ITS Implementation
    - Pierce County Realize 2030 — Comprehensive Plan Update
    - Draft Pierce County Transportation Element
    - WSDOT ITS Strategic Plan
    - WSDOT STIP
    - Tideflats Area Transportation Study
    - Sound Transit Long-Range Transit Plan
    - Tacoma Neighborhood Planning Efforts

- Projects needed to complete the modal priority layers

The above sources resulted in more than 400 projects. While these projects represent the City's long-term transportation vision, not all of these projects can be funded over the next 25 years. As such, the Transportation Commission, in consultation with City staff and the Consultant team, prioritized the list to identify those projects that are most likely to be funded within the 25 year planning horizon of the Comprehensive Plan.

PROJECT PRIORITIZATION

A subcommittee of the Tacoma Transportation Commission created a project prioritization matrix that aligns with the TMP's policy priorities. All of the projects were evaluated based on the following criteria:

- Location (whether the project is on a TMP-identified priority network)
- Multimodal benefits
- Equity
- Safety
- Health & Environment
- Maintenance/system preservation benefits
- Cost to the City
- Congestion management
- Project horizon
- Primary mode served/rank on the modal hierarchy
- Whether or not the project is in a growth center

The project list was then re-ordered to put the projects that scored highest at top and lowest on that bottom. This approach provided a reasonable sense of overall City priorities. Some additional revisions were made to incorporate key priorities that were somehow missed during the initial process – for example, projects recently added to the six-year CIP, projects that were included in the state legislative package, and key freight priority projects. These final revisions did not meaningfully change the overall character of the project list.

DEVELOPMENT OF TIER 1 PROJECT LIST

To determine which projects fit within the Tier 1 25-year project list, the Consultant considered the following information:

1. Project prioritization – as provided by the Transportation Commission and City staff (described above)

2. City budget forecasts
3. Cost estimation – to understand how many projects could be funded
4. Final Tier 1 project list

City Budget Forecasts

The City's transportation expenditures vary from year to year based on discretionary contributions from the general fund, grants, and other sources. The revenue forecasts for the 25-year project list are based on the adopted 2015/16 budget using City funds only and are conservative compared to the 2013-18 estimates from the Transportation Master Plan. This approach follows recommendations from the Tacoma Office of Management and Budget (OMB). OMB estimates $13.3 million per year for transportation capital projects, which amounts to $333 million over the life of the comprehensive plan.

To allow flexibility for outside grants, new revenue sources, or additional discretionary contributions, the financial constraint for the 25 year project list was factored up by 20%. The financial constraint for the 25-year project is therefore estimated to be $399 million.

Cost Estimation

Planning-level cost estimates were completed for the highest-priority projects. Cost information came from several sources:

- Capital Improvement Projects list
- Mobility Master Plan
- University of North Carolina Highway Safety Research Center, "Costs for Pedestrian and Bicyclist Infrastructure Improvements" October 2013
- Consultant engineering staff
- Comparisons with projects in peer cities

For projects without detailed cost estimates available, unit costs based on length or quantity were applied. For each of these projects, cost estimates were provided in ranges, with high and low estimates to account for variation in actual costs on individual projects. For example, installing a bike lane could be as simple as striping and signage on a street with available width. Another street may require moving curbs, drainage, and other solid design elements. The cost estimates for bike lanes therefore range from $100,000 to over $500,000 per mile. Low and high cost estimates are provided for each project to account for this variability. It is very important to note that these cost estimates are high-level and subject to change.

In some cases, no cost item is shown. These are projects (primarily transit and freeway projects) that would be led and funded by other agencies, but are priorities for the City to support.

Final Tier 1 Project List

The final Tier 1 Project List (which is considered the City's financially constrained 25 year plan) results from these previous steps. The final Tier 1 list includes $398 million of projects that scored highly based on the prioritization criteria, as well as some additional City priority projects that were missed in the initial screening (those projects that are already funded in the Six-Year TIP and a limited number of high priority freight projects).

To identify how many projects fit within the $399 million fiscal constraint, the published project cost estimates (where available) were used, as well as the mid-point of the high and low cost estimates developed by the Consultant team.

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
317	Pacific Ave/SR7 Corridor	This project will improve the visibility of traffic signal heads and improve phasing, timing and coordination between signals. It will also upgrade certain intersections to accesible countdown pedestrian signals and push buttons, improve crosswalks and upgrade signs.	Improved roadway and nonmotorized facilities	1	2	2	2	1	2	2	2	2	2	1	**19**	$ 995,166	$ 995,166	$ 995,166	$ 995,166	$ 995,166	$ 995,166
1	Pacific Avenue Multimodal Corridor Study	Mid-term safety improvements (37th Street to S City Limits), HCT corridor enhancements, access management strategies	Modal Conflict Studies	1	2	2	2	2	1	1	1	2	2	2	**18**	$ 250,000	$ 500,000	$ 375,000	$ 1,245,166	$ 1,370,166	$ 1,495,166
2	S 38th St Multimodal Corridor Study	Mid-term safety improvements, HCT corridor enhancements, access management strategies	Modal Conflict Studies	1	2	2	2	2	1	1	1	2	2	2	**18**	$ 250,000	$ 500,000	$ 375,000	$ 1,495,166	$ 1,745,166	$ 1,995,166
3	Portland Avenue Multimodal Corridor Project	Mid-term safety improvements, HCT corridor enhancements, access management strategies	Modal Conflict Studies	1	2	2	2	2	1	1	1	2	2	2	**18**	$ 250,000	$ 500,000	$ 375,000	$ 1,745,166	$ 2,120,166	$ 2,495,166
150	Puyallup Bridge F16A & F16B Replacement. F16D Replacement	This project replaces two of the six Puyallup River Bridge segments (westerly two segments) and a portion of the bridge segment just to the west with a new cable stayed bridge. F16D replacement is separate item in TIP of $10,820 thousand	New Capacity/Link	1	2	1	1	2	2	2	2	1	2	2	**18**	$ 2,052,505	$ 2,052,505	$ 2,052,505	$ 3,797,671	$ 4,172,671	$ 4,547,671
447	Prairie Line Trail Grade Separation	Separate phase to pre-exising project.	Bicycle/Pedestrian Projects	1	2	2	1	2	1	2	2	0	2	2	**17**	$ 18,000,000	$ 18,000,000	$ 18,000,000	$ 21,797,671	$ 22,172,671	$ 22,547,671
4	S 72nd/74th St Multimodal Corridor Study	Mid-term safety improvements, HCT corridor enhancements, access management strategies	Modal Conflict Studies	1	2	2	2	2	1	1	1	2	2	1	**17**	$ 250,000	$ 500,000	$ 375,000	$ 22,047,671	$ 22,547,671	$ 23,047,671
8	S 12th St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	2	2	1	1	1	1	2	**17**	$ 9,228,000	$ 10,612,200	$ 9,920,100	$ 31,275,671	$ 32,467,771	$ 33,659,871
9	S 19th St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	2	2	1	1	1	1	2	**17**	$ 6,419,000	$ 7,381,850	$ 6,900,425	$ 37,694,671	$ 39,368,196	$ 41,041,721
11	S 38th St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	2	2	1	1	1	1	2	**17**	$ 7,222,000	$ 8,305,300	$ 7,763,650	$ 44,916,671	$ 47,131,846	$ 49,347,021
23	E Portland Avenue Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	2	1	1	2	1	1	2	**17**	$ 5,216,000	$ 5,998,400	$ 5,607,200	$ 50,132,671	$ 52,739,046	$ 55,345,421
30	S 15th St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	2	2	1	1	1	1	2	**17**	$ 802,000	$ 922,300	$ 862,150	$ 50,934,671	$ 53,601,196	$ 56,267,721
38	Union Avenue / S Warner St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	2	2	1	1	1	1	2	**17**	$ 3,611,000	$ 4,152,650	$ 3,881,825	$ 54,545,671	$ 57,483,021	$ 60,420,371
5	20-minute Neighborhood Pedestrian Projects	Project to utilize the collected pedestrian data collection to prioritize and install pedestrian projects such as improved sidewalks, crossings, illumination, etc. within the 20-minute neighborhoods	Bicycle/Pedestrian Projects	1	1	2	2	2	1	1	1	1	2	2	**16**	$ 30,000,000	$ 40,000,000	$ 35,000,000	$ 84,545,671	$ 92,483,021	$ 100,420,371
6	6th & Tacoma Ave.	Feasibility of a roundabout	Neighborhood Action Strategy	1	1	2	2	2	1	1	2	2	0	2	**16**	$ 50,000	$ 100,000	$ 75,000	$ 84,595,671	$ 92,558,021	$ 100,520,371
7	Amtrak Station Pedestrian Bridge	Construct a grade-separated bridge to connect the new Amtrak station with the Soun dTransit garage and the new passenger platform and lot near the Tacoma Dome.	Transit	1	1	1	1	2	2	2	2	0	2	2	**16**	$ 3,000,000	$ 6,000,000	$ 4,500,000	$ 87,595,671	$ 97,058,021	$ 106,520,371
10	S 38th St - S Tacoma Way to I-5	The South 38th Street project is a 2" HMA overlay project from the east gutter line of South Tacoma Way to the concrete joint of the I-5 overpass. The work will include grinding the existing asphalt surface down 2 inches for the same area. We included in the preliminary estimate a lump sum number for an upgrade to the road illumination system, traffic signal system, and including upgrades or addition of Accessible Pushbutton Systems (APS). Per ADA regulations, upon performing an HMA overlay, we are required to install compliant curb ramps, compliant sidewalk transitions, and compliant concrete driveway approaches.	Improved roadway and nonmotorized facilities	1	1	2	2	2	2	1	1	0	2	2	**16**	$ 540,000	$ 540,000	$ 540,000	$ 88,135,671	$ 97,598,021	$ 107,060,371
12	S 38th St Improvement - Pacific Avenue and I-5	This project consists of a grind and overlay of the existing roadway, adding nonmotorized facilities, and streetscape improvements.	Improved roadway	1	1	2	2	2	2	1	1	0	2	2	**16**	$ 324,000	$ 324,000	$ 324,000	$ 88,459,671	$ 97,922,021	$ 107,384,371
13	S 56th St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	2	2	1	1	1	1	1	**16**	$ 7,222,000	$ 8,305,300	$ 7,763,650	$ 95,681,671	$ 105,685,671	$ 115,689,671
14	S 56th St Multimodal Corridor Study	Mid-term safety improvements, HCT corridor enhancements, access management strategies	Modal Conflict Studies	1	2	1	2	2	1	1	1	2	2	1	**16**	$ 250,000	$ 500,000	$ 375,000	$ 95,931,671	$ 106,060,671	$ 116,189,671
15	S Pine St Multimodal Corridor Study	Evaluation to provide a connection across SR16 between Scott Pierson Trail and the Historic Water Flume Trail	Modal Conflict Studies	1	2	2	1	2	1	1	1	2	2	1	**16**	$ 250,000	$ 400,000	$ 325,000	$ 96,181,671	$ 106,385,671	$ 116,589,671
16	Tacoma Mall Blvd - S 38th to 56th Sts	This estimate is for the corridor improvement project of Tacoma Mall Blvd, from the intersection of S56th to the intersection of S38th Street, and will include edge grinding and 2" overlay of the asphalt roadway, patching of unserviceable road sections, concrete ADA ramps, and concrete driveways, replacement of non-compliant sidewalks and approaches, replacement of traffic detection loops with video detection, installation of LED street lighting, installation of pedestrian APS buttons, replacement of older storm drain grates/structures, striping, and installation of a center median landscape island in select areas. This estimate does not include the installation of major utilities, significant ROW acquisition, changes to the current channelization or alignment, or significant signal replacement.	Improved roadway and nonmotorized facilities	1	1	2	2	2	2	1	1	0	2	2	**16**	$ 675,000	$ 675,000	$ 675,000	$ 96,856,671	$ 107,060,671	$ 117,264,671
21	Center St	Bike Lane between S Orchard St - S 25th St	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	1	2	2	2	**16**	$ 344,000	$ 1,846,179	$ 1,095,090	$ 97,200,671	$ 108,155,761	$ 119,110,850

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
24	MLK Mixed Use Center Complete Sts Improvement Project	This project will implement the "Complete Streets" concept in the area anchored by our two major healthcare facilities. Improvements will include bike lanes, sidewalks, street bulb outs, transit improvements, signalization improvements, channelization, stormwater improvements, utilities and more to transform several arterial streets into a multimodal network that improves efficiency for all modes of transportation. The project will improve connections to the LINK Light Rail transit center and to the Tacoma Dome Station, (Regional Transit Center).	Road diet	1	2	2	2	2	1	1	1	0	2	2	**16**	$ 3,553,752	$ 5,330,628	$ 4,442,190	$ 100,754,423	$ 112,597,951	$ 124,441,478
26	Portland Ave	Bike Lane between Puyallup Ave - S 72nd St	Bicycle/Pedestrian Projects	1	1	2	2	2	1	1	0	2	2	2	**16**	$ 352,000	$ 1,889,114	$ 1,120,557	$ 101,106,423	$ 113,718,508	$ 126,330,592
29	Puyallup Avenue Multimodal Corridor Project	Mid-term safety improvements, HCT corridor enhancements, access management strategies	Modal Conflict Studies	1	2	1	1	2	1	1	1	2	2	2	**16**	$ 250,000	$ 500,000	$ 375,000	$ 101,356,423	$ 114,093,508	$ 126,830,592
31	S 56th St - State to Pipeline Trail	Bike Lane between S State St - Pipeline Trail	Bicycle/Pedestrian Projects	1	1	2	2	2	1	1	0	2	2	2	**16**	$ 475,000	$ 2,549,230	$ 1,512,115	$ 101,831,423	$ 115,605,623	$ 129,379,822
32	S 74th/72nd St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	2	2	1	1	1	1	1	**16**	$ 6,820,000	$ 7,843,000	$ 7,331,500	$ 108,651,423	$ 122,937,123	$ 137,222,822
35	S Oakes St/S Pine St/S Cedar St	Protected bicycle facilities between 6th Ave- S 74th St	Bicycle/Pedestrian Projects	1	1	2	2	2	1	1	0	2	2	2	**16**	$ 5,900,000	$ 17,700,000	$ 11,800,000	$ 114,551,423	$ 134,737,123	$ 154,922,822
45	Cedar St / Pine St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	1	2	1	1	2	1	1	2	**16**	$ 3,611,000	$ 4,152,650	$ 3,881,825	$ 118,162,423	$ 138,618,948	$ 159,075,472
70	S 47th St/S 48th St/E C St/E 46th St/E E St	Bike Lane between S Tacoma Wy - McKinley Ave	Bicycle/Pedestrian Projects	1	1	2	2	2	1	1	0	2	2	2	**16**	$ 319,000	$ 1,712,009	$ 1,015,505	$ 118,481,423	$ 139,634,452	$ 160,787,481
77	Yakima Ave (south)	Protected bicycle facilities between S 97th St - 6th Ave	Bicycle/Pedestrian Projects	1	1	2	2	2	1	1	0	2	2	2	**16**	$ 6,190,000	$ 18,570,000	$ 12,380,000	$ 124,671,423	$ 152,014,452	$ 179,357,481
426	Tideflats Area Fiber Optic Infrastructure	Construct initial ITS Infrastructure needed for basic information sharing among stakeholders.	Arterial Street Improvements	1	2	0	0	2	2	2	2	2	1	2	**16**	$ 2,990,000	$ 2,990,000	$ 2,990,000	$ 127,661,423	$ 155,004,452	$ 182,347,481
17	Pedestrian Access to Schools, Parks and other places of interest	Project to identify and prioritize projects to improve pedestrian access to schools, parks and other places of interest.	Bicycle/Pedestrian Projects	0.5	1	2	2	2	1	2	0	1	2	2	**15.5**	$ 5,000,000	$ 10,000,000	$ 7,500,000	$ 132,661,423	$ 162,504,452	$ 192,347,481
18	Pedestrian Access to Transit Projects	Project to identify and prioritize projects to improve pedestrian access to high capacity transit stops and stations.	Bicycle/Pedestrian Projects	0.5	2	2	2	2	1	1	0	1	2	2	**15.5**	$ 500,000	$ 750,000	$ 625,000	$ 133,161,423	$ 163,129,452	$ 193,097,481
19	*S. 48th St. Overpass	Overpass or shared-use path project as part of any WSDOT new or reconstruction project	Bicycle/Pedestrian Projects	1	1	2	2	2	0	2	1	0	2	2	**15**	-	-		$ 133,161,423	$ 163,129,452	$ 193,097,481
20	Brewery District Roadway Improvement	This project will implement the "Complete Streets" concept in the area of south downtown known as the brewery district. Improvements will include bike lanes, sidewalks, street bulb outs, transit improvements, signalization improvements, channelization, stormwater improvements, utilities and more to transform several arterial streets into a multimodal network that improves efficiency for all modes of transportation. The project will improve connections to the LINK Light Rail transit center and to the Tacoma Dome Station, (Regional Transit Center).	Road diet	1	1	2	2	2	1	1	1	0	2	2	**15**	$ 2,221,095	$ 3,331,643	$ 2,776,369	$ 135,382,518	$ 165,905,821	$ 196,429,124
22	City-wide ITS System Architecture Plan	A planning effort to establish the overall system architecture the city will utilize for the ITS infrastructure in order to allow for additional federal and state coordination and funding opportunities	Study	1	2	2	0	2	1	1	2	1	1	2	**15**	$ 200,000	$ 300,000	$ 250,000	$ 135,582,518	$ 166,155,821	$ 196,729,124
25	Pine St and S Tacoma Way	Vertical separation of RXR and Roadway	RR separation	1	2	2	2	1	0	1	2	0	2	2	**15**	$ 15,000,000	$ 30,000,000	$ 22,500,000	$ 150,582,518	$ 188,655,821	$ 226,729,124
27	Prairie Line Trail	Shared-Use Path	Bicycle/Pedestrian Projects	1	1	2	2	2	1	2	0	0	2	2	**15**	$ 1,110,000	$ 7,731,372	$ 4,420,686	$ 151,692,518	$ 193,076,507	$ 234,460,496
28	Puyallup Ave	Bike Lane between Holgate - Pacific Ave	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	2	2	2	**15**	$ 10,000	$ 53,668	$ 31,834	$ 151,702,518	$ 193,108,341	$ 234,514,164
33	S C St 2100 Block	Complete gap of 304 feet of missing sidewalk	Bicycle/Pedestrian Projects	1	1	2	2	1	1	0	1	2	2	2	**15**	$ 106,400	$ 152,000	$ 129,200	$ 151,808,918	$ 193,237,541	$ 234,666,164
34	S C St 2500 Block	Complete gap of 1052 feet of missing sidewalk	Bicycle/Pedestrian Projects	1	1	2	2	1	1	0	1	2	2	2	**15**	$ 368,200	$ 526,000	$ 447,100	$ 152,177,118	$ 193,684,641	$ 235,192,164
36	SR509 Non-motorized Trail Feasibility Study	Feasibility study for a non-motorized trail along SR509 right-of-way to connect NE Tacoma neighborhoods to Downtown Tacoma	Modal Conflict Studies	1	2	0	1	2	1	1	1	2	2	2	**15**	$ 200,000	$ 300,000	$ 250,000	$ 152,377,118	$ 193,934,641	$ 235,492,164
37	Tacoma Mall Blvd HOV lanes	Between 38th Street and South City Limits	New Capacity/Link	1	2	2	2	2	0	1	2	0	1	2	**15**	$ 3,200,000	$ 4,800,000	$ 4,000,000	$ 155,577,118	$ 197,934,641	$ 240,292,164
39	WSDOT HOV program from SR16 to South City Limits*	Extends HOV lanes south in both directions between the SR 512 interchange and the SR 16 interchange. Reconstructs the 72nd Street and 84th Street interchanges to accommodate the widening and improve traffic movements on and off the interstate.	New Capacity/Link	1	2	2	2	2	0	2	2	0	1	1	**15**	-	-		$ 155,577,118	$ 197,934,641	$ 240,292,164

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
44	Browning St - Grandview to Pioneer	This project is a partnership with the Puyallup Tribe of Indians to reconstruct Browning Street from Grandview Avenue East to Pioneer Way. Improvements will include sidewalks, stormwater treatment, walls, curb and gutter, widening for a right turn lane on Browning at Pioneer, widening for a left turn lane on Pioneer at Browning, and signal infrastructure.	Improved roadway and nonmotorized facilities	1	1	2	1	1	2	2	2	0	2	1	**15**	$ -	$ -	$ -	$ 155,577,118	$ 197,934,641	$ 240,292,164
49	E 11th St/Taylor Way	Bike Lane between SR 509 - Marine View Dr	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	2	2	2	**15**	$ 276,000	$ 1,481,237	$ 878,618	$ 155,853,118	$ 198,813,259	$ 241,773,401
58	Holgate St	Bike Lane between S 25th St - S 24th St	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	2	2	2	**15**	$ 7,000	$ 37,568	$ 22,284	$ 155,860,118	$ 198,835,543	$ 241,810,968
59	I-5 Tacoma / Pierce County HOV Program*	HOV lanes from SR-16 to 54th Avenue Interchange	New Capacity/Link	1	2	1	2	2	1	1	2	0	1	2	**15**	-	-		$ 155,860,118	$ 198,835,543	$ 241,810,968
62	Martin Luther King Jr Way 2300 Block	Complete gap of 304 feet of missing sidewalk	Bicycle/Pedestrian Projects	1	1	2	2	1	1	0	1	2	2	2	**15**	$ 106,400	$ 152,000	$ 129,200	$ 155,966,518	$ 198,964,743	$ 241,962,968
67	Puyallup Avenue Multimodal Corridor Project (Portland to Pacific)	The Puyallup Avenue project scope includes Pacific Avenue to Portland Avenue. The new road will be designed to reduce pavement area, add facilities for active lifestyles (such as bike lanes), rain gardens, and other boulevard treatments.	Road diet	1	2	1	1	2	2	1	1	0	2	2	**15**	$ 2,295,000	$ 2,295,000	$ 2,295,000	$ 158,261,518	$ 201,259,743	$ 244,257,968
72	S 80th/82nd St/D St - Hosmer to D/McKinley Ave	Bicycle Boulevard between S Hosmer - D StMcKinley Ave	Bicycle/Pedestrian Projects	1	1	2	2	2	1	1	0	2	2	1	**15**	$ 1,060,000	$ 3,180,000	$ 2,120,000	$ 159,321,518	$ 203,379,743	$ 247,437,968
73	S Alaska St - S 72nd to S 96th St	Bike Lane between S 56th - 96th St S	Bicycle/Pedestrian Projects	1	1	2	2	2	1	1	0	2	2	1	**15**	$ 253,000	$ 1,357,800	$ 805,400	$ 159,574,518	$ 204,185,143	$ 248,795,769
74	S Orchard St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	2	2	1	2	1	1	1	1	1	**15**	$ 2,407,000	$ 2,768,050	$ 2,587,525	$ 161,981,518	$ 206,772,668	$ 251,563,819
91	J St (north)	Bicycle Boulevard between N 3rd St - S 27th St	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	2	2	2	**15**	$ 935,000	$ 2,805,000	$ 1,870,000	$ 162,916,518	$ 208,642,668	$ 254,368,819
101	S 25th St	Bicycle Boulevard between Fawcett Ave - S Hood St	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	2	2	2	**15**	$ 40,000	$ 120,000	$ 80,000	$ 162,956,518	$ 208,722,668	$ 254,488,819
102	S 25th St	Bike Lane between MLK Jr Way - Tacoma Ave S	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	2	2	2	**15**	$ 144,000	$ 772,819	$ 458,410	$ 163,100,518	$ 209,181,078	$ 255,261,638
104	S 37th St/Sprague Ave	Bike Lane between Water Ditch Trail - S Steele St	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	2	2	2	**15**	$ 79,000	$ 423,977	$ 251,489	$ 163,179,518	$ 209,432,567	$ 255,685,615
119	Yakima Ave (north)	Bike Lane between Wright Park - S 27th St	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	2	2	2	**15**	$ 8,000	$ 42,934	$ 25,467	$ 163,187,518	$ 209,458,034	$ 255,728,549
227	Point Defiance Gateway Phase II	This project will construct a new roundabout at Pearl Street and include intersection improvements at N 54th St, Pearl St, the park entry roads and State Hwy 163 (Ferry Crossing Landing Rd)	Roundabout	1	1	1	1	2	1	2	1	2	2	1	**15**	$ -	$ -	$ -	$ 163,187,518	$ 209,458,034	$ 255,728,549
421	Pedestrian Improvements in Hilltop & South Downtown	This project will include intersection improvements that may include ADA curb ramps, painted crosswalks, or signage or similar treatments that make intersections more visible, safer and pedestrian and bicycle friendly. This project also includes a safety and education component.	Bicycle/Pedestrian Projects	1	2	1	1	1	1	2	0	2	2	2	**15**	$ 3,617,000	$ 3,617,000	$ 3,617,000	$ 166,804,518	$ 213,075,034	$ 259,345,549
423	Pedestrian Improvements Phase II	This project will improve pedestrian crossing at intersections identified by the community through the 2014 public outreach workshops, surveys, and projects that were not completed as part of Phase 1.	Bicycle/Pedestrian Projects	1	2	2	2	1	1	0	0	2	2	2	**15**	$ 150,000	$ 150,000	$ 150,000	$ 166,954,518	$ 213,225,034	$ 259,495,549
443	Taylor Way Arterial Improvements	Reconstruct roadway to heavy haul standards.	Arterial Street Improvements	1	1	1	2	2	1	1	0	2	2	2	**15**	$ 11,000,000	$ 11,000,000	$ 11,000,000	$ 177,954,518	$ 224,225,034	$ 270,495,549
40	*S. 56th St. Overpass	Overpass or shared-use path project as part of any WSDOT new or reconstruction project	Bicycle/Pedestrian Projects	1	1	2	2	2	0	2	1	0	2	1	**14**	-	-		$ 177,954,518	$ 224,225,034	$ 270,495,549
41	*S. 72nd/74th St. Overpass	Overpass or shared-use path project as part of any WSDOT new or reconstruction project	Bicycle/Pedestrian Projects	1	1	2	2	2	0	2	1	0	2	1	**14**	-	-		$ 177,954,518	$ 224,225,034	$ 270,495,549
42	*SR 509 (East West Rd.)	Overpass or shared-use path project as part of any WSDOT new or reconstruction project	Bicycle/Pedestrian Projects	1	1	1	2	2	0	2	1	0	2	2	**14**	-	-		$ 177,954,518	$ 224,225,034	$ 270,495,549
43	48th St S & Tacoma Mall Blvd	As of 2014, this project will grind and asphalt overlay the intersection and the four approach legs. Additionally it will provide ADA compliant curb ramps to the existing sidewalks.	Rehabilitation	1	1	2	2	1	2	1	0	0	2	2	**14**	$ 137,601	$ 137,601	$ 137,601	$ 178,092,119	$ 224,362,635	$ 270,633,150
46	Connecting Stevens/Tyler Across Tacoma	This project will link existing bikeways north/south across the city and add pedestrian improvements at three busy intersections along the route. The proposed project includes the following two elements: Closing the gap on the Tyler/Stevens bikeway by adding on-street bike lanes between S. Wright and S. 6th (1.7 miles). Stevens/Tyler between N. 37th and N. 46th (0.6miles). S. 66th between Tyler and the Water Ditch Trail (0.8 miles) as well as adding pedestrian improvements along Stevens/Tyler at the three intersections of S. 19th, S. 12th and 6th Ave. including ADA curb ramps and crosswalk striping and analysis for additional amenities.	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	2	2	1	**14**	$ 30,000	$ 30,000	$ 30,000	$ 178,122,119	$ 224,392,635	$ 270,663,150
47	Delin St/S G St/S 36th St/Tacoma/S 38th St	Bike Lane between S 25th St - S Wright Av	Bicycle/Pedestrian Projects	1	1	2	1	1	1	1	0	2	2	2	**14**	$ 56,000	$ 300,541	$ 178,270	$ 178,178,119	$ 224,570,905	$ 270,963,691
48	Direct HOV access ramps to S 47th/S 48th St (transit center)	New Capacity/Link	New Capacity/Link	1	2	2	2	1	1	1	2	0	0	2	**14**	$ 19,200,000	$ 19,200,000	$ 19,200,000	$ 197,378,119	$ 243,770,905	$ 290,163,691
50	Fawcett Ave 1500 Block	Complete gap of 304 feet of missing sidewalk	Bicycle/Pedestrian Projects	1	1	1	2	1	1	0	1	2	2	2	**14**	$ 106,400	$ 152,000	$ 129,200	$ 197,484,519	$ 243,900,105	$ 290,315,691
51	HCT Corridor - 38th St	Possible BRT/Light Rail/Streetcar service to connect Tacoma Mall with the 34th/Pacific neighborhood and the Portland Avenue area	Transit	1	2	2	2	0	2	0	2	0	1	2	**14**	$ 3,600,000	$ 5,400,000	$ 4,500,000	$ 201,084,519	$ 248,400,105	$ 295,715,691
52	HCT Corridor - 48th St	Possible BRT or urban transit service improvements to connect Tacoma Mall with Portland Avenue area	Transit	1	2	2	2	0	2	0	2	0	1	2	**14**	$ 3,600,000	$ 5,400,000	$ 4,500,000	$ 204,684,519	$ 252,900,105	$ 301,115,691

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
53	HCT Corridor - Downtown Tacoma to Parkland	Corridor identified in the updated Sound Transit Long Range Plan. Corridor located along Pacific Avenue or Yakima Avenue	Transit	1	2	2	2	0	2	0	2	0	1	2	**14**	$ 6,000,000	$ 9,000,000	$ 7,500,000	$ 210,684,519	$ 260,400,105	$ 310,115,691
54	HCT Corridor - N M St/15th St	Possible BRT/Light Rail/Streetcar service to University Puget Sound to Downtown Tacoma	Transit	1	2	2	2	0	2	0	2	0	1	2	**14**	$ 3,000,000	$ 4,500,000	$ 3,750,000	$ 213,684,519	$ 264,150,105	$ 314,615,691
55	HCT Corridor - Port of Tacoma	Possible BRT/Light Rail/Streetcar service to connect Downtown Tacoma with the Port of Tacoma	Transit	1	2	2	2	0	2	0	2	0	1	2	**14**	$ 7,000,000	$ 10,500,000	$ 8,750,000	$ 220,684,519	$ 272,900,105	$ 325,115,691
56	HCT Corridor - Portland Avenue	Possible BRT or urban transit service improvements to connect South Downtown Tacoma, Puyallup Tribal Center, S 72nd Street, Portland Ave. Business District. Includes Salishan neighborhood connection	Transit	1	2	2	2	0	2	0	2	0	1	2	**14**	$ 5,500,000	$ 8,250,000	$ 6,875,000	$ 226,184,519	$ 279,775,105	$ 333,365,691
57	HCT Corridor - West End Crosstown	Possible BRT/Light Rail/Streetcar service to connect Tacoma's West End neighborhood with the Proctor Business District, University of Puget Sound, Central Tacoma Business District, Tacoma Mall, Pacific Ave. Business Districts, and Pacific Lutheran University	Transit	1	2	2	2	0	2	0	2	0	1	2	**14**	$ 10,000,000	$ 15,000,000	$ 12,500,000	$ 236,184,519	$ 292,275,105	$ 348,365,691
60	Light Rail Corridor - Downtown Tacoma to Tacoma Mall	Corridor identified in the updated Sound Transit Long Range Plan	Transit	1	2	2	2	0	2	0	2	0	1	2	**14**	-	-		$ 236,184,519	$ 292,275,105	$ 348,365,691
61	Market St	Bicycle Boulevard between S 7th St - S 11th St	Bicycle/Pedestrian Projects	1	1	1	2	1	1	1	0	2	2	2	**14**	$ 155,000	$ 465,000	$ 310,000	$ 236,339,519	$ 292,585,105	$ 348,830,691
63	Mildred/N. 51st (Pearl to Point Defiance Park)	Stripe bike lanes	Neighborhood Action Strategy	1	2	1	1	2	1	1	0	1	2	2	**14**	$ 75,000	$ 402,510	$ 238,755	$ 236,414,519	$ 292,823,860	$ 349,233,201
64	Pedestrian Data Collection	Project to collect, categorize and digitize all pedestrian facility data within the City limits	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	1	2	2	**14**	$ 100,000	$ 200,000	$ 150,000	$ 236,514,519	$ 292,973,860	$ 349,433,201
65	Proctor St	Bike Lane between N37th St - S 19th St	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	2	2	1	**14**	$ 267,000	$ 1,432,936	$ 849,968	$ 236,781,519	$ 293,823,828	$ 350,866,137
68	Puyallup River Levee Trail	Shared-Use Path From E. 11th St - City Boundary	Bicycle/Pedestrian Projects	1	1	1	2	2	1	2	0	0	2	2	**14**	$ 2,000,000	$ 6,000,000	$ 4,000,000	$ 238,781,519	$ 297,823,828	$ 356,866,137
69	S 21st St widening	From Market/Jefferson Avenue to MLK to support MLK Subarea Plan	New Capacity/Link	1	0	2	2	2	0	1	2	0	2	2	**14**	$ 1,500,000	$ 10,000,000	$ 5,750,000	$ 240,281,519	$ 303,573,828	$ 366,866,137
71	S 60th at Lawrence, Montgomery, and Alder St.	Install ADA ramps at each intersection.	Neighborhood Action Strategy	1	1	2	2	1	1	1	0	2	2	1	**14**	$ 9,720	$ 43,200	$ 26,460	$ 240,291,239	$ 303,600,288	$ 366,909,337
75	S Washington - S 60th to S 43rd	Bike Lane between S 60th – S 43rd (S Tacoma Way)	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	2	2	1	**14**	$ 118,000	$ 633,282	$ 375,641	$ 240,409,239	$ 303,975,929	$ 367,542,619
76	Schuster Parkway Trail	Shared-Use Path From S.7th - Ruston Way	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	2	**14**	$ 1,500,000	$ 4,500,000	$ 3,000,000	$ 241,909,239	$ 306,975,929	$ 372,042,619
79	64th St E - Portland Ave to Pacific Ave	As of 2014, this project consists of providing a fully improved 42' wide arterial street with "Complete Street" concepts . This will consist of a 10' common left turn lane, two 11' driving lanes, two 5' bike lanes, and two 7' combination sidewalks. Most, if not all, existing sidewalk will be replaced to ADA Standards. Streetlighting, storm drainage, and utility relocation will be provided, as necessary.	Improved roadway and nonmotorized facilities	1	1	1	1	2	2	1	2	0	2	1	**14**	$ 1,215,000	$ 1,215,000	$ 1,215,000	$ 243,124,239	$ 308,190,929	$ 373,257,619
88	E McKinley Ave	Bike Lane between 72nd - E D St	Bicycle/Pedestrian Projects	1	1	2	2	2	1	0	0	2	2	1	**14**	$ 310,000	$ 1,663,708	$ 986,854	$ 243,434,239	$ 309,177,783	$ 374,921,327
92	J St (south)	Bicycle Boulevard between S 37th St - S 84th St	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	2	2	1	**14**	$ 1,530,000	$ 4,590,000	$ 3,060,000	$ 244,964,239	$ 312,237,783	$ 379,511,327
93	N 11th St	Bicycle Boulevard between N Pearl St - N Steele St	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	2	2	1	**14**	$ 1,370,000	$ 4,110,000	$ 2,740,000	$ 246,334,239	$ 314,977,783	$ 383,621,327
99	S 11th St	Bike Lane between Dock St - E Portland Ave	Bicycle/Pedestrian Projects	1	1	1	2	1	1	1	0	2	2	2	**14**	$ 83,000	$ 445,444	$ 264,222	$ 246,417,239	$ 315,242,005	$ 384,066,772
103	S 37th St	Bicycle Boulevard between A St - S Hosmer St	Bicycle/Pedestrian Projects	1	1	2	2	1	1	1	0	2	2	1	**14**	$ 720,000	$ 2,160,000	$ 1,440,000	$ 247,137,239	$ 316,682,005	$ 386,226,772
105	S 56th and Washington St	Vertical separation of RXR and Roadway	RR separation	1	2	2	2	1	0	1	2	0	2	1	**14**	$ 15,000,000	$ 30,000,000	$ 22,500,000	$ 262,137,239	$ 339,182,005	$ 416,226,772
107	S 64th St/E 64th St	Protected bicycle facilities between S Alaska St - Waller Rd	Bicycle/Pedestrian Projects	1	1	2	1	2	1	1	0	2	2	1	**14**	$ 3,130,000	$ 9,390,000	$ 6,260,000	$ 265,267,239	$ 345,442,005	$ 425,616,772
109	S 74th St and S Tacoma Way	Vertical separation of RXR and Roadway	RR separation	1	2	2	2	1	0	1	2	0	2	1	**14**	$ 15,000,000	$ 30,000,000	$ 22,500,000	$ 280,267,239	$ 367,942,005	$ 455,616,772
110	S A St - 96th to 37th St	Bicycle Boulevard between E 96th St - E 37th St	Bicycle/Pedestrian Projects	1	1	2	2	2	1	0	0	2	2	1	**14**	$ 1,890,000	$ 5,670,000	$ 3,780,000	$ 282,157,239	$ 371,722,005	$ 461,286,772
111	S Tyler St - S Wright Ave to S 74th St	Protected bicycle facilities between S Wright Ave - S 74th St	Bicycle/Pedestrian Projects	1	1	2	1	2	1	1	0	2	2	1	**14**	$ 2,760,000	$ 8,280,000	$ 5,520,000	$ 284,917,239	$ 377,242,005	$ 469,566,772
137	Mckinley Ave 2400 Block	Complete gap of 181 feet of missing sidewalk	Bicycle/Pedestrian Projects	1	1	2	1	1	1	0	1	2	2	2	**14**	$ 63,350	$ 90,500	$ 76,925	$ 284,980,589	$ 377,318,930	$ 469,657,272
141	N 21st St	Bike Lane between Division Ave - 6th Ave	Bicycle/Pedestrian Projects	1	1	1	2	1	1	1	0	2	2	2	**14**	$ 32,000	$ 171,738	$ 101,869	$ 285,012,589	$ 377,420,799	$ 469,829,009
153	S 15th St	Bike Lane between Yakima Ave - I-705	Bicycle/Pedestrian Projects	1	1	1	2	1	1	1	0	2	2	2	**14**	$ 49,000	$ 262,973	$ 155,987	$ 285,061,589	$ 377,576,786	$ 470,091,982
322	Ruston Way Sidewalk	Sidewalk related improvements along Ruston Way for safety and compliance.	Bicycle/Pedestrian Projects	1	2	1	1	2	1	0	0	2	2	2	**14**	$ 360,000	$ 360,000	$ 360,000	$ 285,421,589	$ 377,936,786	$ 470,451,982
270	N 21st St Proctor to Pearl - Complete St	As of 2013, this project includes arterial street rehabilitation and utility infrastructure replacement. Street rehabilitation shall incorporate "Complete Street concepts", curb and gutters, bike lanes, street trees, pedestrian islands, sidewalks and curb ramps. Other utilities, such as storm sewers, sanitary sewers, signals, streetlighting will be removed and replaced as needed. Partial local match is shown for future grant applications. Project is programmed for grant submittal.	Improved roadway and nonmotorized facilities	1	1	1	1	2	1	2	1	1	2	1	**14**	$ 1,162,350	$ 1,162,350	$ 1,162,350	$ 286,583,939	$ 379,099,136	$ 471,614,332

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
418	Lincoln Business District Streetscape	This project will implement a Main Street design for the 6 blocks within the core of the Lincoln Business District for a total of $4 million. $600,000 potentially funded through a Byrne Federal Justice Grant for neighborhood revitalization. Staff has completed a streetscape plan in accordance with City Council priorities identified from the 2014 retreat. Final design and construction can begin when funds are secured.	Rehabilitation	1	1	2	2	0	2	2	1	2	0	1	**14**	$ 4,250,000	$ 4,250,000	$ 4,250,000	$ 290,833,939	$ 383,349,136	$ 475,864,332
78	*S. 84th St. Overpass	Overpass or shared-use path project as part of any WSDOT new or reconstruction project	Bicycle/Pedestrian Projects	0	1	2	2	2	0	2	1	0	2	1	**13**	-	-		$ 290,833,939	$ 383,349,136	$ 475,864,332
89	Enhanced Sounder service - South Tacoma to Downtown Seattle	Speed and reliability improvements, operating on a full-day schedule, and weekend operations	Transit	0	2	2	2	0	2	0	2	0	1	2	**13**	-	-		$ 290,833,939	$ 383,349,136	$ 475,864,332
334	SR 167 Completion*	Extension of SR 167 from current terminus to I-5 and SR-509	New Capacity/Link	1	0	1	2	2	0	2	2	0	1	2	**13**	$ -	$ -	$ -	$ 290,833,939	$ 383,349,136	$ 475,864,332
420	Prairie Line Trail Phase II	This project will construct the southern 1/3 mile of the Prairie Line Trail from the UW-Tacoma to South 26th St.	Bicycle/Pedestrian Projects	1	1	1	1	1	1	2	0	2	2	1	**13**	$ 5,000,000	$ 5,000,000	$ 5,000,000	$ 295,833,939	$ 388,349,136	$ 480,864,332
428	At-Grade Rail Crossing CCTV	Add cameras to key existing at-grade rail crossings.	Arterial Street Improvements	1	0	0	0	2	1	1	2	2	1	2	**12**	$ 250,000	$ 250,000	$ 250,000	$ 296,083,939	$ 388,599,136	$ 481,114,332
430	Pacific Highway Signal Coordination	Update signal coordination for signals on priority corridors	Arterial Street Improvements	1	0	0	0	2	1	1	2	2	1	2	**12**	$ 135,000	$ 135,000	$ 135,000	$ 296,218,939	$ 388,734,136	$ 481,249,332
429	Tideflats Area Emergency Signal Preemption	install signal preemption for existing signals on priority corridors.	Arterial Street Improvements	1	0	0	0	2	1	1	2	2	1	2	**12**	$ 150,000	$ 150,000	$ 150,000	$ 296,368,939	$ 388,884,136	$ 481,399,332
419	S. 66th and Star Center Bikeways	This project would design and construct bike lanes along South 66th Street connecting the STAR center between Tyler St bike lanes and the Water Flume Trail.	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	0	**11**	$ 180,000	$ 180,000	$ 180,000	$ 296,548,939	$ 389,064,136	$ 481,579,332
431	54th Avenue Signal Coordination	Update signal coordination for signals on 54th Avenue	Arterial Street Improvements	0	0	0	0	2	1	1	2	2	1	2	**11**	$ 75,000	$ 75,000	$ 75,000	$ 296,623,939	$ 389,139,136	$ 481,654,332
307	St Paul Avenue/ E 11th St intersection	Construct signal or roundabout	New signal or roundabout	1	1	1	0	2	1	1	1	0	0	2	**10**	$ 2,800,000	$ 2,800,000	$ 2,800,000	$ 299,423,939	$ 391,939,136	$ 484,454,332
311	Portland Avenue on and off ramps at SR 509	Add traffic signals and modify channelization	Intersection modification	1	1	1	0	1	2	1	1	0	0	2	**10**	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 300,423,939	$ 392,939,136	$ 485,454,332
422	2015-2016 Business District Allocation	This allocation of $150,000 (less 40% for construction design overhead) is for capital enhancement in designated Neighborhood Business Districts; prioritizing the South Tacoma and Lincoln Business District.	Arterial Street Improvements	1	0	2	0	0	2	0	0	2	0	1	**8**	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 301,423,939	$ 393,939,136	$ 486,454,332
337	St Paul Avenue/ Portland Avenue intersection	Construct signal	New Signal	1	1	1	0	0	2	1	1	0	0	2	**9**	$ 500,000	$ 500,000	$ 500,000	$ 301,923,939	$ 394,439,136	$ 486,954,332
338	Thorne Rd - Heavy Haul Improvements	Improved roadway	Improved roadway	1	0	1	0	1	2	1	1	0	0	2	**9**	$ 2,500,000	$ 2,500,000	$ 2,500,000	$ 304,423,939	$ 396,939,136	$ 489,454,332
417	East Tacoma PCB Clean-up, Phase 2	This project replaces catch basins, curb, gutter, and soils contaminated with PCBs from sealant used in an LID in 1975. Constructs new curb ramps.	Improved Roadway	0	0	2	0	0	1	0	0	2	0	0	**5**	$ 825,000	$ 825,000	$ 825,000	$ 305,248,939	$ 397,764,136	$ 490,279,332
368	East Tacoma PCB Clean-up, Phase 1	This project replaces catch basins, curb, gutters, and soil contaminated with PCBs from sealant used in an LID in 1975. Construct new curb ramps.	Improved Roadway												**0**	$ 1,065,000	$ 1,065,000	$ 1,065,000	$ 306,313,939	$ 398,829,136	$ 491,344,332
End of Tier 1 Project List																					
66	Puyallup Ave	Bike Lane between Pacific Ave - City Line	Bicycle/Pedestrian Projects	1	1	1	2	1	1	1	0	2	2	2	**14**	$ 171,000	$ 917,723				
108	S 72nd St between I-5 and Pacific Ave	This project consists of a grind and overlay of the existing roadway, adding nonmotorized facilities, and streetscape improvements.	Improved roadway and nonmotorized facilities	1	1	2	2	2	2	1	0	0	2	1	**14**	$ 324,000	$ 324,000				
142	N 23rd/N 24th/Yakima Ave	Bicycle Boulevard between Orchard Ave - Division Ave	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	2	**14**	$ 1,360,000	$ 4,080,000				
114	St Paul Ave 1200 Block	Complete gap of 1227 feet of missing sidewalk	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	1	2	2	2	**13**	$ 429,450	$ 613,500				
90	HCT Corridor - 56th St	Possible BRT or urban transit service improvements to connect South Tacoma with Portland Avenue area	Transit	1	2	2	2	0	2	0	2	0	1	1	**13**	$ 4,500,000	$ 6,750,000				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
94	N 1st St/Broadway	Bicycle Boulevard between N Tacoma Ave - Prairie Line Trail	Bicycle/Pedestrian Projects	0	1	1	2	1	1	1	0	2	2	2	**13**	$ 715,000	$ 2,145,000				
95	N 26th St	Bike Lane between N Stevens St - Pearl St	Bicycle/Pedestrian Projects	1	1	1	2	1	1	1	0	2	2	1	**13**	$ 93,000	$ 499,112				
120	S 15th, S 19th, Prospect, and Trafton St.	Provide street improvements to unimproved streets in this area.	Neighborhood Action Strategy	0.5	1	2	1	1	2	1	2	0	2	1	**13.5**	$ 750,000	$ 1,000,000				
113	SR-7 / S 38th St at-grade intersection conversion	Intersection modification. Evaluation the conversion of the current ramps into a signalized intersection	Intersection modification	1	1	1	1	1	2	1	2	0	2	1	**13**	$ 2,500,000	$ 2,500,000				
80	6th Ave	Bike Lane between S Walters Rd - S Jackson Ave	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	1	2	2	1	**13**	$ 111,000	$ 595,715				
81	6th Avenue Roundabout	Sprague and Division	Roundabout	1	1	2	2	2	0	1	1	0	2	1	**13**	$ 750,000	$ 1,250,000				
82	Court D/St Helens Ave	Bicycle Boulevard between S G St - S 7 St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	2	**13**	$ 235,000	$ 705,000				
83	D St	Bicycle Boulevard between Tacoma Dome - McKinley Park	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	2	**13**	$ 45,000	$ 135,000				
84	Dock St	Shared lane markings between S Schuster Pkwy - E D St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	2	**13**	$ 40,500	$ 77,760				
85	Dome District to Puyallup Connection - Part 1	Bike Lane between River Road/Pioneer - Dome District	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	0	2	2	**13**	$ 120,000	$ 644,016				
86	Dome District to Puyallup Connection - Part 2	Bike Lane between River Road/Pioneer - Dome District	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	0	2	2	**13**	$ 63,000	$ 338,108				
100	S 19th - Jefferson to Market	UWT Hillclimb – Design & build extension of UW Tacoma hill climb (S. 19th) from Jefferson to Market to include stairs, ADA ramps, decorative paving, landscaping, streetscape, art, and lighting.	Neighborhood Action Strategy	1	1	1	2	1	1	1	1	0	2	2	**13**	$ 500,000	$ 1,000,000				
96	N Stevens St - N 46th to 6th Ave	Protected bicycle facilities between N 46th St - 6th Ave	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	1	**13**	$ 2,390,000	$ 7,170,000				
97	Pearl St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	1	0	2	1	1	1	1	2	1	**13**	$ 4,814,000	$ 5,536,100				
98	Ruston Way	Shared lane markings between N 49th St - Schuster Parkway	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	1	**13**	$ 59,250	$ 113,760				
106	S 56th St/S Lawrence St/S 58th St	Bike Lane between S Washington St - Historic Water Ditch Trail	Bicycle/Pedestrian Projects	1	1	2	2	1	1	0	0	2	2	1	**13**	$ 37,000	$ 198,572				
112	SR 509	Protected bicycle facilities between Fawcett Ave - Marine View Drive	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	0	2	2	2	**13**	$ 4,140,000	$ 12,420,000				
115	Tacoma Mall/I-5 Direct Access	As of 2014, this project will construct a new overpass from southbound I-5 at South 38th Street to Tacoma Mall Blvd. The project will include the structure, roadway modifications, curb and gutter, new signal, streetlighting, storm sewer, landscaping and utility relocation work, and asphalt overlay between Steele St and S 48th St.	New Capacity/Link	1	1	2	2	1	1	1	2	0	0	2	**13**	$ 2,290,000	$ 2,290,000				
116	Thea Foss Esplanade - Phase 1	Shared-Use Path	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	0	2	2	2	**13**	$ 306,500	$ 306,500				
117	Tideflats Area ITS Strategic Plan Implementation	Study is ongoing	New Capacity/Link	1	0	1	0	2	2	2	1	1	1	2	**13**	$ 10,000,000	$ 20,000,000				
118	Pedestrian Crossing Improvement Project	This project will improve pedestrian crossings at intersections identified by the community through the 2014 public outreach workshops, surveys, and projects that were not completed as part of Phase 1.	Intersection modification	1	1	2	1	1	1	0	0	2	2	2	**13**	$ 2,840,000	$ 2,840,000				
121	33rd St NE/Browns Point Blvd from 49th Ave. NE to 45th Ave. NE	Curb and Gutter, Sidewalks, Streetlights, Storm Drainage, Asphalt Paving	Neighborhood Action Strategy	1	1	1	1	1	2	1	2	0	2	1	**13**	$ 1,500,000	$ 2,000,000				
123	6th Ave	Bike Lane between Ainsworth Ave – E Broadway	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	2	**13**	$ 87,000	$ 466,912				
127	Browns Point Blvd. from 38th Ave. NE to Norpoint Way NE (to the north-west)	Browns Point Blvd. Improvement Project Phase II – Roadway improvements between 38th Ave. NE and Norpoint way NE to include sidewalks.	Neighborhood Action Strategy	1	1	1	1	2	1	1	2	0	2	1	**13**	$ 3,348,000	$ 4,640,000				
135	Light Rail Corridor - Downtown Tacoma to Tacoma Community College	Corridor identified in the updated Sound Transit Long Range Plan. Would operate on either 6th Avenue corridor or S 19th Street Corridor with connection along Mildred Street	Transit	1	2	1	2	0	2	0	2	0	1	2	**13**	-	-				
138	McKinley Ave Stscape	This project will create an accessible and nonmotorized connection between the Dome District and McKinley Avenue Business District on McKinley Avenue. The project will include Complete Street elements such as continuous sidewalks, pedestrian crossings, landscaping, bike lanes, and possibly a retaining wall.	Bicycle/Pedestrian Projects	1	1	2	1	2	1	1	0	0	2	2	**13**	$ -	$ -				
143	N 30th St - Pearl to Orchard	Complete gap of 1850 feet between Pearl to Orchard and Union to McArver of missing sidewalk	Bicycle/Pedestrian Projects	1	1	1	2	1	1	0	1	2	2	1	**13**	$ 647,500	$ 925,000				
144	N Alder St - N 22nd to 6th Ave	Bike Lane between N 22nd St - 6th Ave	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	1	**13**	$ 279,000	$ 1,497,337				
145	N Orchard St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	1	0	2	1	1	1	1	2	1	**13**	$ 2,407,000	$ 2,768,050				
148	Orchard	Bike Lane between S 19th - N 26th	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	1	**13**	$ 272,000	$ 1,459,770				
151	Ruston Way Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	0	0	2	2	1	1	1	1	2	**13**	$ 401,000	$ 461,150				
155	S 25th St	Bike Lane between S Sheridan St - MLK Jr Wy	Bicycle/Pedestrian Projects	1	1	2	1	1	1	1	0	2	2	1	**13**	$ 17,000	$ 91,236				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
156	S 47th St	Bike Lane between S Washington St - Historic Water Ditch Trail	Bicycle/Pedestrian Projects	1	1	2	1	1	1	1	0	2	2	1	**13**	$ 6,000	$ 32,201				
157	S 66th St - Orchard to Tacoma Mall Blgd	Protected bicycle facilities between Orchard St - Tacoma Mall Blvd	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	1	**13**	$ 2,150,000	$ 6,450,000				
158	S 72nd St - Lakewood to Gilreath St	Bike Lane between Lakewood Dr - E Gilreath St	Bicycle/Pedestrian Projects	0	1	1	2	2	1	1	0	2	2	1	**13**	$ 534,000	$ 2,865,871				
161	S Adams St - S 66th to S 60th St	Bike Lane between S 66th St - S 60th St	Bicycle/Pedestrian Projects	1	1	2	2	1	1	0	0	2	2	1	**13**	$ 46,000	$ 246,873				
162	S Hosmer St - S 90th to S 92nd St	Complete gap of 570 feet between S 90th Street to S 92nd Street of missing sidewalk	Bicycle/Pedestrian Projects	0	1	2	2	1	1	0	1	2	2	1	**13**	$ 399,000	$ 570,000				
87	Downtown Tacoma HCT Investments	High Capacity Transit investments in MLK, Division Avenue, Yakima Avenue, Tacoma, Avenue, Market Street, Stadium Way, Pacific Avenue, 6th Avenue, 9th Street, 13th Street, 14th street, 19th Street, Puyallup Avenue, Dock Street, Stadium District and 25th Street	Transit	0	2	2	2	0	2	0	2	0	1	2	**13**	$ 21,610,000	$ 32,415,000				
164	S Puget Sound Ave 7200 Block	Complete gap of 449 feet of missing sidewalk	Bicycle/Pedestrian Projects	0	1	2	2	1	1	0	1	2	2	1	**13**	$ 314,300	$ 449,000				
165	S Puget Sound Ave (south)	Bike Lane between S 74th St - S 72nd St	Bicycle/Pedestrian Projects	1	1	2	2	1	1	0	0	2	2	1	**13**	$ 13,000	$ 69,768				
168	Sprague Avenue Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	1	0	2	2	1	1	1	1	1	**13**	$ 2,407,000	$ 2,768,050				
171	Tacoma Ave	Bike Lane between N 3rd St - S 2nd St	Bicycle/Pedestrian Projects	1	1	1	2	1	1	0	0	2	2	2	**13**	$ 36,000	$ 193,205				
173	Trail to the Mountain	Shared-Use Path	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	1	**13**	$ 2,500,000	$ 7,500,000				
174	Westgate Blvd / N 21st St / I St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	0	0	2	2	1	1	1	1	2	**13**	$ 3,611,000	$ 4,152,650				
176	Portland Avenue/25th and 26th Sts	Add traffic signals	New Signal	1	1	2	2	1	2	1	1	0	0	2	**13**	$ 500,000	$ 1,000,000				
235	S 27th St	Bicycle Boulevard between S Sheridan Ave - Jefferson Ave	Bicycle/Pedestrian Projects	1	1	2	1	1	1	0	0	2	2	2	**13**	$ -	$ -				
236	S 35th St	Bike Lane between S Pine St - S Sprague St	Bicycle/Pedestrian Projects	1	1	2	1	1	1	0	0	2	2	2	**13**	$ -	$ -				
241	Sheridan Ave	Bicycle Boulevard between 6th St - S 25th St	Bicycle/Pedestrian Projects	1	1	1	2	1	1	0	0	2	2	2	**13**	$ -	$ -				
122	51st St NE from Browns Point Blvd. to Harborview Dr.	Curb and Gutter, Sidewalks, Streetlights, Storm Drainage, Asphalt Paving	Neighborhood Action Strategy	1	1	1	1	1	2	1	2	0	2	0	**12**	$ 450,000	$ 600,000				
124	6th Ave	Shared lane markings between N Sprague St - N Jackson Ave	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	0	2	2	1	**12**	$ 89,000	$ 170,880				
125	6th Ave. from Sprague to Alder St.	Complete sidewalk network and provide crosswalks, lighting, landscaping and bulbous	Neighborhood Action Strategy	1	1	1	2	1	1	1	1	0	2	1	**12**	$ 6,235,200	$ 7,482,240				
126	Bayside Trails - Stadium Way	Pedestrian Trail	Bicycle/Pedestrian Projects	0	1	1	1	2	1	2	0	0	2	2	**12**	$ 2,000,000	$ 6,000,000				
128	Browns Point Blvd. from 45th Ave. NE to 42nd Ave. NE	Complete Curb and Gutter, Sidewalks, Asphalt Paving on the south side	Neighborhood Action Strategy	1	1	1	1	2	2	1	1	0	2	0	**12**	$ 300,000	$ 400,000				
129	Browns Point Blvd. from 51st St. NE/Northshore Pkwy. to Parkview Dr.	Curb and Gutter, Sidewalks, Streetlights, Storm Drainage, Asphalt Paving	Neighborhood Action Strategy	1	1	1	1	2	2	1	1	0	2	0	**12**	$ 750,000	$ 1,000,000				
130	Browns Point Blvd. from Parkview Dr. to Norpoint Way	Curb and Gutter, Sidewalks, Streetlights, Asphalt Paving on the west side	Neighborhood Action Strategy	1	1	1	1	2	2	1	1	0	2	0	**12**	$ 150,000	$ 200,000				
131	Buckley Gulch - Old Town/Ruston Way Connection	Pedestrian Trail	Bicycle/Pedestrian Projects	0	1	1	1	2	1	2	1	0	2	1	**12**	$ 600,000	$ 1,800,000				
132	Cheyenne St	Bicycle Boulevard between N 46th - 6th	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	2	2	0	**12**	$ 1,195,000	$ 3,585,000				
133	Division Ave	Shared lane markings between S Stadium Way - S Sprague Ave	Bicycle/Pedestrian Projects	0	1	1	1	1	1	1	0	2	2	2	**12**	$ 25,250	$ 48,480				
134	E 29th St	Bicycle Boulevard between E L St - E T St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 265,000	$ 795,000				
136	Market St - S 9th to S 17th St	Market Street from 9th Street to 17th Street street improvements to include vaulted sidewalk and sidewalk repair, street rehabilitation, landscaping, utility improvements, mid-block crossings, and street light upgrades.	Improved roadway and nonmotorized facilities	1	1	1	2	1	1	1	0	0	2	2	**12**	$ 675,000	$ 675,000				
139	McKinley Hill to Downtown Tacoma	Complete sidewalks	Neighborhood Action Strategy	1	1	1	1	1	1	1	1	0	2	2	**12**	$ 1,848,000	$ 2,640,000				
140	N 17th St/Westgate Blvd/N 21st St	Bike Lane between N Narrows Dr - N Proctor St	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	0	2	2	1	**12**	$ 224,000	$ 1,202,163				
146	Northshore Pkwy. from East City Limits to Nassau Ave.	Complete Curb and Gutter, Sidewalks, Asphalt Paving on the north side	Neighborhood Action Strategy	1	1	1	1	1	2	1	2	0	2	0	**12**	$ 1,500,000	$ 2,000,000				
147	Northshore Pkwy. from Norpoint Way NE to Ridge Dr.	Complete Curb and Gutter, Sidewalks, Asphalt Paving on the north side	Neighborhood Action Strategy	1	1	1	1	1	2	1	2	0	2	0	**12**	$ 525,000	$ 700,000				
149	Pearl St (S 19th to Point Defiance)	Complete sidewalk & bike lanes	Neighborhood Action Strategy	1	1	1	2	1	1	1	1	0	2	1	**12**	$ 11,980,200	$ 19,536,582				
152	S 11th St	Protected bicycle facilities between Ferry St- Pacific Ave	Bicycle/Pedestrian Projects	1	1	1	2	1	1	1	0	0	2	2	**12**	$ 1,240,000	$ 3,720,000				
154	S 23rd & Pacific Ave.	S. 23rd & Pacific Crossing – Design & build signalized crossing at S. 23rd & Pacific Ave., which includes decorative pavement	Neighborhood Action Strategy	1	1	1	2	1	0	1	1	0	2	2	**12**	$ 250,000	$ 375,000				
159	S 86th St	Complete gap of 320 feet between Yakima to Thompson of missing sidewalk	Bicycle/Pedestrian Projects	1	1	2	1	1	1	0	1	2	2	0	**12**	$ 224,000	$ 320,000				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
163	S Mildred St - S 12th to S 9th St	Bike Lane between S 19th St - S 9th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 104,000	$ 558,147				
166	Scott Pierson Trail	This project will provide the local match for unfunded or under funded trail connections in the City ROW along the SR16 Scott Pierson Trail.	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 6,000	$ 6,000				
167	South Tacoma Sound Transit Station	Complete sidewalks along S. 58th and S. 60th to connect to South Tacoma Way	Neighborhood Action Strategy	1	1	2	1	1	1	1	1	0	2	1	**12**	$ 105,000	$ 150,000				
169	St Helens and 6th Ave and Baker	St. Helens Gateway Renovation Project – Improve the intersection of St Helens, 6th Ave., and Baker St. to include a rain garden, art, landscaping, converting Baker to one-way, and pedestrian crosswalk treatments consistent with the Broadway LID.	Neighborhood Action Strategy	1	1	1	2	1	1	1	0	0	2	2	**12**	$ 250,000	$ 375,000				
170	Stevens/Tyler St	Protected bicycle facilities between 6th Ave - S Wright Ave	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 1,760,000	$ 5,280,000				
172	Tacoma Ave - 4th to S 25th	Design and rebuild Tacoma Ave between Division Ave and Center St	Improved roadway	1	1	2	1	2	1	1	1	0	0	2	**12**	$ 2,700,000	$ 3,600,000				
175	WSDOT ITS projects on SR509 and I-705*	Includes fiber interconnect, VMS and cameras. Currently is an unfunded portion of the WSDOT ITS Strategic Plan	New Capacity/Link	1	0	2	0	2	1	1	2	0	1	2	**12**	-	-				
177	*Sprague Overpass	Overpass or shared-use path project as part of any WSDOT new or reconstruction project	Bicycle/Pedestrian Projects	0	1	2	1	2	0	2	1	0	2	1	**12**	-	-				
178	29th St. NE from 53rd Ave. NE to Norpoint Way	Curb and Gutter, Sidewalks, Streetlights, Storm Drainage, Asphalt Paving	Neighborhood Action Strategy	0	1	1	1	1	2	1	2	0	2	1	**12**	$ 675,000	$ 900,000				
180	51st St NE/NE Northshore Pkwy	Bike Lane between NE Harbor View Dr - Hoyt Rd	Bicycle/Pedestrian Projects	1	1	1	1	2	1	0	0	2	2	1	**12**	$ 233,000	$ 1,250,464				
183	6th Avenue - Jackson to Walters - Complete St / arterial improvement	Improved roadway to arterial / complete street standards	Improved roadway	1	1	1	1	1	2	1	1	0	2	1	**12**	$ 4,083,000	$ 4,083,000				
189	E 34th St	Bike Lane between I-5 E Roosevelt Ave	Bicycle/Pedestrian Projects	1	1	1	2	1	1	0	0	2	2	1	**12**	$ 135,000	$ 724,518				
190	E 72nd St from Portland Ave to East City Limit	This project consists of a grind and overlay of the existing roadway, adding nonmotorized facilities, and streetscape improvements.	Improved roadway and nonmotorized facilities	1	1	2	2	1	1	1	0	0	2	1	**12**	$ 270,000	$ 270,000				
192	E I St/E Wright Ave/E K St/Pipeline Rd	Bicycle Boulevard between McKinley Park - Pipeline Road Trail	Bicycle/Pedestrian Projects	1	1	2	1	1	1	0	0	2	2	1	**12**	$ 570,000	$ 1,710,000				
195	Five Mile Dr/N 51st St	Shared lane markings between N Vassault St - N 54th St	Bicycle/Pedestrian Projects	1	1	1	0	1	1	2	0	2	2	1	**12**	$ 14,750	$ 28,320				
198	Jackson Ave (center)	Bike Lane between S 19th St - S 12th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 50,000	$ 268,340				
200	Jackson Ave (south)	Bike Lane between SR 16 - S 12th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 56,000	$ 300,541				
201	Jackson Avenue	Complete gap of 1760 feet between S 12th to S 19th of missing sidewalk	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	1	2	2	1	**12**	$ 616,000	$ 880,000				
202	Jackson Avenue/Narrows Drive Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	0	0	2	1	1	2	1	1	1	**12**	$ 1,605,000	$ 1,845,750				
203	McCarver St	Bike Lane between N Schuster Pkwy - S Tacoma Ave	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 39,000	$ 209,305				
206	N 23rd/N 24th/Yakima Ave	Bicycle Boulevard between Highland Ave - Orchard Ave	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 185,000	$ 555,000				
207	N 30th St Corridor Improvement Project	A signal integration and coordination project and other ITS applications	New Capacity/Link	1	2	0	0	2	1	1	1	1	2	1	**12**	$ 9,228,000	$ 10,612,200				
211	N 51st St/Gallagher Dr - segment 2	Bike Lane between N Vassault St - N Highland St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 31,000	$ 166,371				
213	N Baltimore St - N 49th to N 46th St	Bike Lane between N 49th St - N 46th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 29,000	$ 155,637				
214	N Fife St/N 15th St/N Pine St	Bicycle Boulevard between N Yakima Ave - S 12th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 715,000	$ 2,145,000				
216	N Pearl St/Ferry Landing	Bike Lane between N 46th St - Ferry Station	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 25,000	$ 134,170				
221	Norpoint Way NE	Bike Lane between Marine View Dr - NE 29th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ 125,000	$ 670,850				
224	Pacific Ave - S 72nd St to S City Limits	Boulevard Treatment	Improved roadway	1	1	1	2	2	1	1	0	0	2	1	**12**	$ -	$ 2,779,000				
225	Pearl St	Shared-Use Path From N 11th - N 9th (Scott Pierson)	Bicycle/Pedestrian Projects	1	1	1	2	1	1	2	0	0	2	1	**12**	$ -	$ 403,000				
229	R St and E 40th St	Bike Lane between E Portland Ave - E 48th St	Bicycle/Pedestrian Projects	1	1	2	1	1	1	0	0	2	2	1	**12**	$ 76,000	$ 407,877				
231	S 12th (Huson-Jackson) Stscape Improvements Extension recommended through Central NC Area with possible removal of planter strips	Streetscape improvements and construct bike lanes	Neighborhood Action Strategy	1	1	2	2	1	1	1	0	0	2	1	**12**	$ -	$ -				
232	S 12th St	Protected bicycle facilities between S Jackson Ave - Ferry St	Bicycle/Pedestrian Projects	1	1	1	2	2	1	1	0	0	2	1	**12**	$ -	$ -				
234	S 25th St	Bike Lane between S State St/Scott Pierson Trail - Sheridan Ave	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ -	$ -				
237	S 43rd St/E E St/E 40th St	Bicycle Boulevard between A St - Portland Ave	Bicycle/Pedestrian Projects	1	1	2	1	1	1	0	0	2	2	1	**12**	$ -	$ -				
238	S 60th from Oakes to Pine St.	Install sidewalk	Neighborhood Action Strategy	1	1	2	1	1	1	0	1	1	2	1	**12**	$ -	$ -				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
242	State St	Bicycle Boulevard between S 25th St - N Grant Ave	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	1	**12**	$ -	$ -	[redacted]			
244	Union Avenue - S 23rd St to S 35th St	This street rehabilitation project will include localized subgrade failure repairs, grinding of the old asphalt at the gutter and match lines, new asphalt overlay, adjusting manholes and vaults to grade, new pavement markings, and signal loop replacement.	Rehabilitation	1	1	1	2	1	2	1	1	0	1	1	**12**	$ -	$ -				
245	Washington St from S. 54th to S. 58th St.	Improve existing sidewalk and add separation between on-street parking	Neighborhood Action Strategy	0	1	2	2	1	1	1	0	1	2	1	**12**	$ -	$ -				
250	*D St. Overpass	Overpass or shared-use path project as part of any WSDOT new or reconstruction project	Bicycle/Pedestrian Projects	0	1	1	1	2	0	2	1	0	2	2	**12**	-	-				
264	Marine View Dr	Protected bicycle facilities between SR 509 - NE Slayden Rd	Bicycle/Pedestrian Projects	1	1	1	1	2	1	1	0	0	2	2	**12**	$ -	$ -				
274	N 36th & Alder Way	Design and construct a walkway on one side of North 36th St. and Alder Way to achieve improved pedestrian access to the waterfront.	Neighborhood Action Strategy	1	1	1	1	2	1	0	1	0	2	2	**12**	$ -	$ -				
300	S 56th St I -5 Intersection project	Add second SB on-ramp lane from the intersection of I-5 and 56th Street. Project has undergone traffic operations evaluation	New Capacity/Link	1	0	2	2	1	0	1	2	1	0	2	**12**	$ -	$ -				
308	Upper Park St/E 29th St/E L St	Bicycle Boulevard between E 26th St - McKinley Park	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	2	**12**	$ -	$ -				
246	E 38th St	Bike Lane between A St - Portland Ave	Bicycle/Pedestrian Projects	0.5	1	1	2	1	1	0	0	2	2	1	**11.5**	$ -	$ -				
179	33rd St NE - 38th Ave NE to Loma Ct	Bike Lane between 38th Ave NE - Loma Ct	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	1	2	2	0	**11**	$ 25,000	$ 134,170				
181	53rd Ave NE from 29th St. NE to 33rd St. NE	Curb and Gutter, Sidewalks, Streetlights, Storm Drainage, Asphalt Paving	Neighborhood Action Strategy	0	1	1	1	1	2	1	2	0	2	0	**11**	$ 360,000	$ 480,000				
182	64th Ave. NE between 26th St. NE and 28th St. NE; 65th Ave. NE between 19th St. NE and 24th St. NE; 19th St. NE between 65th Ave. NE and city limits east	Northwood Arterial Improvements – Provide sidewalks and curbing along main thoroughfares within city limits, 24th St. NE, 65th Ave. NE, and 19th St. NE	Neighborhood Action Strategy	0	1	1	1	2	1	1	2	0	2	0	**11**	$ 1,410,000	$ 1,880,000				
184	Browns Point Blvd from 33rd St. NE at the west near 43rd Ave. NE and 33rd St. NE at the east near Meeker Ave.	Browns Point Blvd. Improvement Project Phase III – Roadway improvements between 33rd St. NE at the west near 43rd Ave. NE and 33rd St. NE at the east near Meeker Ave. to include sidewalks and access to Alderwood Park & Kobetich Library	Neighborhood Action Strategy	1	1	1	1	2	1	1	1	0	2	0	**11**	$ 750,000	$ 1,000,000				
185	Browns Point Blvd. from 33rd St. NE to intersection with Norpoint Way near 21st Ave. NE	Complete sidewalks along at least one side of Browns Point Blvd from 33rd St. NE to intersection with Norpoint Way near 21st Ave. NE with priorities between Crescent Heights to Norpoint Way, Norpoint Way to 51st St. NE, Howard's Corner to McMurray Rd., and 51st St. NE to the north end of Norpoint Way NE.	Neighborhood Action Strategy	1	1	1	1	2	1	1	1	0	2	0	**11**	$ 4,620,000	$ 6,600,000				
186	Browns Pt Blvd Phase I Improvements - McMurray to Nassau	This project will improve Browns Pt Blvd with asphalt paving, adding bike lanes, completing sidewalks, guardrails, and ADA ramp improvements. This roadway is an oilmat street that needs permanent sections installed. Utility adjustment or replacement may be required depending on the scope of road project and age/condition of existing utilities.	Improved roadway and nonmotorized facilities	1	1	1	1	1	2	1	1	0	2	0	**11**	$ 700,000	$ 700,000				
187	Cedar St	Complete gap of 1260 ft of missing sidewalk between Pine and S 23rd Street	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	1	2	2	0	**11**	$ 441,000	$ 630,000				
188	Dome District Multimodal Improvements	Potential projects include conversion of S 25th Street between East D Street and G Street, improved at-grade crossings with active gates and quiet zones and potential grade-separated pedestrian bridge. The bridge is also under project 15 in the Transit Category	Study	1	1	1	1	1	1	1	1	0	1	2	**11**	$ 250,000	$ 400,000				
191	E D St / Puyallup Ave	Change signal phasing and add left turn pocket to SB approach	Intersection modification	1	2	1	0	0	1	1	2	1	0	2	**11**	$ -	$ -				
193	East Side Foss - Phase 1	Shared-Use Path From S 11th - Waterway Park	Bicycle/Pedestrian Projects	1	1	1	1	2	1	0	0	0	2	2	**11**	$ 3,100,000	$ 3,100,000				
194	East Side Foss - Phase 2	Shared-Use Path From Murray Morgan Bridge - E 3rd St	Bicycle/Pedestrian Projects	1	1	1	1	2	1	0	0	0	2	2	**11**	$ 936,000	$ 936,000				
196	Frances Avenue	Complete gap of 3350 feet between 51st St NE to Scenic Dr of missing sidewalk	Bicycle/Pedestrian Projects	0	1	1	1	2	1	0	1	2	2	0	**11**	$ 1,172,500	$ 1,675,000				
197	Garfield/Ruston Way Connection	Pedestrian Trail	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	1	0	2	1	**11**	$ 1,179,000	$ 1,179,000				
199	Jackson Ave (north)	Bike Lane between N 10th St - Scott Pierson Trail	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	0	**11**	$ 12,000	$ 64,402				
204	Mildred St - N 9th to S 12th Sts	Mildred Street from North 9th Street to South 12th Street includes street rehabilitation, sidewalk and bicycling improvements, and utility upgrades.	Road diet	1	1	1	1	2	1	1	0	0	2	1	**11**	$ 418,500	$ 418,500				
205	N 17th Stret - James to Bridgeview	Complete gap of 500 feet between James to Bridgeview of missing sidewalk	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	1	2	2	0	**11**	$ 175,000	$ 250,000				
208	N 37th St Connector Trail	This project will design and construct two connecting trail segments between Orchard Street and Shirley Street.	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	1	2	2	0	**11**	$ 315,428	$ 315,428				
209	N 46th St - Vassault - Orchard	Complete gap of 3840 feet between Vassault to Orchard of missing sidewalk	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	1	2	2	0	**11**	$ 1,344,000	$ 1,920,000				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
210	N 51st St/Gallagher Dr - segment 1	Bike Lane between Ruston Way - Grand Ave	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	0	**11**	$ 41,000	$ 220,039				
212	N Baltimore St - N 46th to N 26th St	Bicycle Boulevard between N 46th - N 26th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	0	**11**	$ 705,000	$ 2,115,000				
215	N Park Way	Bicycle Boulevard between N 51st St - N Pearl St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	0	**11**	$ 180,000	$ 540,000				
217	N Skyline Dr (north)	Bicycle Boulevard between N 17th/Westgate Blvd - N 11th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	0	**11**	$ 180,000	$ 540,000				
218	N Skyline Dr (south)	Bicycle Boulevard between Scott Pierson Trail - N 11th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	0	**11**	$ 40,000	$ 120,000				
219	N Union Ave - 6th Ave to N 8th St	Bike Lane between 6th Ave - N 8th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ 12,000	$ 64,402				
220	N Waterfront Dr to Yacht Club Rd	Bicycle Boulevard between Yacht Club Rd	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	2	2	0	**11**	$ 205,000	$ 615,000				
222	Northshore Pkwy. from Nassau to Norpoint Way	Northshore Pkwy. Improvements – Provide uphill (eastbound) passing lane, bike lanes, sidewalks on north side, landscaping between Nassau and Norpoint Way, and evaluate signal at 45th Ave. NE and/or 42nd Ave. NE	Neighborhood Action Strategy	1	1	1	1	1	1	1	2	0	2	0	**11**	$ 370,000	$ 1,107,336				
223	Orchard (N. 35th to N. 46th)	Streetscape improvements, widen roadway and construct bike lanes	Neighborhood Action Strategy	1	1	1	1	1	1	1	2	0	2	0	**11**	$ 2,184,000	$ 5,232,000				
226	Pipeline Road Trail - Phase 1	Shared-Use Path	Bicycle/Pedestrian Projects	1	1	2	1	2	1	1	0	0	2	0	**11**	$ 292,500	$ 292,500				
228	Point Defiance Trail (Metro Parks)	Shared-Use Path From Point Ruston - Vashon Ferry	Bicycle/Pedestrian Projects	1	1	1	1	2	1	2	0	0	2	0	**11**	$ -	$ 2,078,000				
230	Ruston Way Rehab	Reconstruction of Ruston Way from McCarver Street to North 49th Street to include repair of subgrade, replacement of curb and gutter as needed, sidewalk and seawall repairs, utility repairs and replacements as necessary, landscaping, and ADA improvements. Adjacent parking areas within City right-of-way may also be improved	Improved roadway and nonmotorized facilities	1	1	0	1	2	2	1	0	0	2	1	**11**	$ -	$ -				
233	S 19th St	Bike Lane between S Walters Rd - Westridge Ave W	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
239	S 74th St and S Tacoma Way - S Tacoma Way to West City Limits	Reconstruct to eliminate potholes	Improved roadway	1	0	2	2	2	2	1	1	0	0	0	**11**	$ -	$ -				
240	S Sheridan Avenue - S 56th to S 72nd St	Complete gap of 5250 feet between S 56th Street to S 72nd Street of missing sidewalk	Bicycle/Pedestrian Projects	0	1	2	1	1	1	0	1	2	2	0	**11**	$ -	$ -				
243	Subarea plan with UW-T to review closing 15th St exit from I-705	Subarea plan with UW-T to review closing 15th St exit from I-705	New Capacity/Link	1	0	2	0	1	1	1	0	1	2	2	**11**	$ -	$ -				
248	Portland Avenue/Puyallup Avenue intersection	Widen intersection with additional left turn/through lanes	Intersection modification	1	1	2	2	0	0	1	2	0	0	2	**11**	$ -	$ -				
249	*Cedar St. Underpass	Overpass or shared-use path project as part of any WSDOT new or reconstruction project	Bicycle/Pedestrian Projects	0	1	1	1	2	0	2	1	0	2	1	**11**	-	-				
252	49th Ave NE	Bike Lane between NE 45th Ave - NE 33rd St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
259	Garfield Gulch - Stadium Way	Pedestrian Trail	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	1	0	2	1	**11**	$ -	$ -				
260	Garfield Gulch Trail System	Pedestrian Trail	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	0	1	2	1	**11**	$ -	$ -				
266	N 14th - Orchard to Pearl	Stripe bike Lanes	Neighborhood Action Strategy	0	1	1	1	1	1	1	0	2	2	1	**11**	$ -	$ -				
268	N 21st St	Shared lane markings between N Alder St - Prospect St	Bicycle/Pedestrian Projects	0	1	1	1	1	1	1	0	2	2	1	**11**	$ -	$ -				
269	N 21st St	Shared lane markings between N Proctor St - N Alder St	Bicycle/Pedestrian Projects	0	1	1	1	1	1	1	0	2	2	1	**11**	$ -	$ -				
273	N 35th St	Bicycle Boulevard between N Baltimore St - N Cheyenne St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
275	N 37th St	Bicycle Boulevard between N Orchard St - N Proctor St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
279	N 7th St - Orchard to Pine St	Bicycle Boulevard between N Orchard St - N Pine St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
280	N Ferdinand St - Ruston Way to N 45th St	Bike Lane between Ruston Way - N 45th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
281	N Highland St (north)	Bicycle Boulevard between N 23rd St - N 21st St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
282	N Highland St (south)	Bicycle Boulevard between N 21st St - N 11th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
286	Norpoint Way from 29th St. NE to Marine View Dr.	Complete Curb and Gutter, Sidewalks, Streetlights	Neighborhood Action Strategy	1	1	1	1	1	1	1	1	0	2	1	**11**	$ -	$ -				
290	Orchard - 6th to S 16th	As of 2014, this major roadway construction project will include "Complete Street" concepts incorporating, curb and gutter, bike lanes, pedestrian islands, sidewalk, curb ramps, asphalt pavement, storm drainage, streetlighting, landscaping, and traffic control.	Improved roadway and nonmotorized facilities	1	1	2	1	1	1	1	0	0	2	1	**11**	$ -	$ -				
291	Pacific Ave - S 43rd St to S 56th St	Complete Street	Improved roadway	1	1	1	2	1	1	1	0	0	2	1	**11**	$ -	$ -				
293	Pipeline Trail Connection	Shared-Use Path	Bicycle/Pedestrian Projects	1	1	2	1	2	1	1	0	0	2	0	**11**	$ -	$ -				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
295	Portland Avenue - E 56th St to E 72nd St	This is an asphalt overlay project. This street rehabilitation project will include localized sub grade failure repairs, grinding of the old asphalt at the gutter and match lines, new asphalt overlay, adjusting manholes and vaults to grade, new pavement markings, and signal loop replacement.	Rehabilitation	1	2	2	0	1	2	1	1	0	0	1	**11**	$ -	$ -	[redacted]			
297	Ruston connection	Shared lane markings between N 51st St - Ferry Landing Road	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
298	S 18th St	Bicycle Boulevard between S Puget Sound Ave - S Pine St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
299	S 43rd St	Bicycle Boulevard between Park Ave - A St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
302	S 66th St/S 64th St Bridge	Protected bicycle facilities between Tacoma Mall Blvd - S Alaska St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
304	S 72nd St/Hosmer at I-5 ramp	This project will construct a new right turn lane on westbound S. 72nd St. to northbound I-5 ramp. The design was completed as part of traffic mitigation for WinCo. The City received a Highway Safety Improvement Program grant for $340,000 in 2012 to complete design, right-of-way acquisition, and construction. Construction is scheduled for late early 2015. No grant match is required.	Intersection modification	1	0	2	2	0	0	1	2	0	2	1	**11**	$ -	$ -				
305	S Oxford St/S 8th St/S Meyers St/S 15th St	Bicycle Boulevard between N Skyline Dr - S 19th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
306	S Puget Sound Ave (north)	Bicycle Boulevard between N 7th St - S 18th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
309	Walters Rd - S 19th to 6th Ave	Bike Lane between S 19th St - S 6th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	1	**11**	$ -	$ -				
318	McMurray Rd. from Marine View Dr. to Browns Point Blvd.	Install streetlights and sidewalk on at least one side	Neighborhood Action Strategy	0	1	1	1	1	1	1	1	0	2	2	**11**	$ -	$ -				
328	Pine St near Tacoma Mall	Improved roadway to arterial standards	Improved roadway	1	1	2	2	0	1	1	1	0	0	2	**11**	$ -	$ -				
247	S 19th - SR 16 to Jackson	Complete streetscape improvements and construct bike lanes	Neighborhood Action Strategy	0.5	1	1	2	1	1	1	0	0	2	1	**10.5**	$ -	$ -				
251	31st St Ne 4900 Block	Complete gap of 1067 feet of missing sidewalk	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	0	**10**	$ -	$ -				
253	64th Ave Ne 2600 Block	Complete gap of 491 feet of missing sidewalk	Bicycle/Pedestrian Projects	0	1	1	1	1	1	0	1	2	2	0	**10**	$ -	$ -				
254	6th Ave. from Jackson to Orchard	6th Ave. Traffic Calming – Install landscape medians on 6th Ave. between Jackson and Orchard	Bicycle/Pedestrian Projects	0	1	1	2	1	1	1	0	0	2	1	**10**	$ -	$ -				
255	Browns Point Blvd 2700 Block	Complete gap of 282 feet of missing sidewalk	Bicycle/Pedestrian Projects	0	1	1	1	1	1	0	1	2	2	0	**10**	$ -	$ -				
256	Browns Point Blvd 2800 Block	Complete gap of 207 feet of missing sidewalk	Bicycle/Pedestrian Projects	0	1	1	1	1	1	0	1	2	2	0	**10**	$ -	$ -				
257	Browns Point Blvd 700 Block	Complete gap of 1265 feet of missing sidewalk	Bicycle/Pedestrian Projects	0	1	1	1	1	1	0	1	2	2	0	**10**	$ -	$ -				
258	E 34th St. from E. M St. to McKinley Ave.	Curb and Gutter, Sidewalks, Streetlights, Storm Drainage	Neighborhood Action Strategy	0	1	1	1	1	2	0	1	0	2	1	**10**	$ -	$ -				
261	HCT Corridor - 26th St	Possible BRT/Light Rail/Streetcar connecting Westgate and Proctor neighborhoods	Transit	1	2	1	0	0	2	0	2	0	1	1	**10**	$ -	$ -				
262	HCT Corridor - Westside Corridor	Possible BRT/Light Rail/Streetcar service to connect Ruston through the West End Business District, Tacoma Community College, Fircrest, and University Place	Transit	1	2	1	0	0	2	0	2	0	1	1	**10**	$ -	$ -				
263	I-705 Assessment	Capacity assessment for future land use in Downtown Tacoma	New Capacity/Link	1	0	0	2	0	1	1	2	1	0	2	**10**	$ -	$ -				
265	Mildred (S. 19th to SR 16)	Streetscape improvements and construct bike lanes	Neighborhood Action Strategy	1	1	1	1	1	1	1	0	0	2	1	**10**	$ -	$ -				
267	N 17th St	Bicycle Boulevard between N Alder St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	0	**10**	$ -	$ -				
271	N 21st St/N I St/S I St	Shared lane markings between Prospect St - 6th Ave	Bicycle/Pedestrian Projects	0	1	1	1	1	1	1	0	2	2	0	**10**	$ -	$ -				
272	N 29th Crossing between White and Carr St.	Install pedestrian crossing/connection between Ursich Park and Old Town Park	Neighborhood Action Strategy	0	1	1	1	1	1	0	1	2	2	0	**10**	$ -	$ -				
276	N 45th (Vassault to Huson)	Stripe bike Lanes	Neighborhood Action Strategy	0	1	1	1	1	1	1	0	2	2	0	**10**	$ -	$ -				
277	N 45th St/N Verde St/N 45th St	Bicycle Boulevard between N Baltimore St - N Stevens St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	0	**10**	$ -	$ -				
278	N 46th St	Bike Lane between N Vassault St - N Baltimore St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	0	**10**	$ -	$ -				
283	Narrows Bike Corridor - Phase 1	This project will provide the local match to complete the planning, feasibility, and design for bike lanes on Jackson Ave from S. 19th Street to the Scott Pierson Trail at the SR16 interchange	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	1	2	0	**10**	$ -	$ -				
284	Nassau Ave NE	Bike Lane between Browns Pt Blvd - NE Northshore Pkwy	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	0	**10**	$ -	$ -				
285	Norpoint Way 3700 Block	Complete gap of 143 feet of missing sidewalk	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	0	**10**	$ -	$ -				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
287	33rd St NE - NE 49th Ave to Nassau Ave	As of 2014, this project will provide a full arterial roadway section, incorporating complete street concepts. Major roadway reconstruction to include curbs and gutter, sidewalks, asphalt paving, storm drainage, streetlighting, landscaping, bike lanes, pedestrian islands, and other traffic control amenities.	Improved roadway and nonmotorized facilities	1	1	1	1	1	1	1	1	0	2	0	**10**	$ -	$ -	[redacted]			
288	Norpoint Way from Browns Point Blvd to Agnes Rd	Curb and Gutter, Sidewalks, Streetlights, Asphalt Paving on the north side	Neighborhood Action Strategy	0	1	1	1	1	2	0	2	0	2	0	**10**	$ -	$ -				
289	Northshore Pkwy.	Dash Point State Park Access – Provide parking along Northshore Pkwy and a path between parking & trail system in Dash Point or provide access from east side of Norpoint Way north of Northshore Pkwy	Neighborhood Action Strategy	0	1	1	1	2	1	1	1	0	2	0	**10**	$ -	$ -				
292	Pedestrian overpass between Old Town Business District and Ruston Way	Grade separated pedestrian link over the rail lines	Neighborhood Action Strategy	0	1	1	1	2	0	1	1	0	2	1	**10**	$ -	$ -				
296	Railroad Crossings at E. 48th and E. 52nd	Improve roadway over railroad tracks	Neighborhood Action Strategy	0	1	1	0	1	2	1	2	0	2	0	**10**	$ -	$ -				
301	S 58th & Puget Sound Ave.	S. 58th & Puget Sound Intersection Traffic Calming – Install traffic calming devices and/or realign Puget Sound to provide better sight distance	Neighborhood Action Strategy	1	1	2	2	1	0	0	0	1	1	1	**10**	$ -	$ -				
303	S 68th St. between S Mullen and S Gove St	Install sidewalks on the north side	Neighborhood Action Strategy	0	1	2	1	1	1	0	1	1	2	0	**10**	$ -	$ -				
310	Westridge Ave W	Bicycle Boulevard between 27th St W - S 19th St	Bicycle/Pedestrian Projects	1	1	1	1	1	1	0	0	2	2	0	**10**	$ -	$ -				
316	E T St. from E. 32nd to E. 38th St.	Roadway Rehabilitation	Neighborhood Action Strategy	0	1	1	1	1	2	0	2	1	0	1	**10**	$ -	$ -				
319	N 30th St & Union Ave	Intersection control feasibility study. Costs include feasibility study and intersection control costs	New signal or roundabout	1	1	0	0	1	1	1	1	1	2	1	**10**	$ -	$ -				
325	NE Tacoma Trail Network - Ped Trail	Pedestrian Trail From Julia's Gulch - Norpoint Way	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	0	0	2	1	**10**	$ -	$ -				
329	Point Defiance Interim Connector	Shared-Use Path	Bicycle/Pedestrian Projects	1	1	1	1	1	1	1	0	0	2	1	**10**	$ -	$ -				
332	S 56th St and Cirque Drive Corridor Improvements	Construct curbs, gutters, sidewalk and bike lanes filling in the gaps where none exist. Streetlighting on both sides.	Improved roadway and nonmotorized facilities	1	1	1	1	1	1	1	0	0	2	1	**10**	$ -	$ -				
437	M4	Evaluate feasibility of Variable Message Signage at rebuilt Port of Tacoma Road interchange	Arterial Street Improvements	0	0	0	0	2	1	1	2	1	1	2	**10**	#N/A	#N/A				
439	L1	In the Tideflats	Arterial Street Improvements	1	0	0	0	2	1	1	2	0	1	2	**10**	#N/A	#N/A				
446	Non-Motorized Connection - Thompson Ave to G St	Construct permanent shared use path between G Street and Thompson, just north of South Wright Avenue and parallel to I-5	Bicycle/Pedestrian Projects	0	2	1	1	2	1	0	0	1	2	0	**10**	NP	NP				
339	Walters Road - S 19th to 6th Ave	This project will improve Walters Road from South 19th Street to 6th Ave. Work shall include widening and replacing the existing roadway section to include two 11' vehicle lanes, new curb and gutter, 7' sidewalks, and 5' bike lanes on both sides of the road. LED street lights will be installed. Cement concrete driveways will be constructed to be ADA compliant and adhere to City of Tacoma standards. Retaining walls will be constructed where needed. A new storm water system will be constructed in an enclosed system using storm piping and catch basins.	Improved roadway and nonmotorized facilities/Neighborhood Action Strategy	0.5	1	1	1	1	0	1	1	0	2	1	**9.5**	$ -	$ -				
312	45th St NE from Nassau Ave. NE to Norpoint Way	Install pedestrian protected crosswalk	Neighborhood Action Strategy	0	1	1	1	1	1	0	1	1	2	0	**9**	$ -	$ -				
313	54th Avenue NE	Complete gap of 610 feet between 27th Street NE to 29th Street NE of missing sidewalk	Bicycle/Pedestrian Projects	0	1	1	1	1	1	0	0	2	2	0	**9**	$ -	$ -				
314	6th Ave. (Huson to Jackson)	Streetscape improvements and construct bike lanes	Neighborhood Action Strategy	0	1	1	1	1	1	1	0	0	2	1	**9**	$ -	$ -				
315	Baltimore (N. 46th to Orchard)	Streetscape improvements and construct bike lanes	Neighborhood Action Strategy	1	1	1	1	1	1	1	0	0	2	0	**9**	$ -	$ -				
320	N 30th (Pearl to Huson)	Stripe bike lanes	Neighborhood Action Strategy	0	1	1	1	1	1	0	0	2	2	0	**9**	$ -	$ -				
323	N 45th St 4800 Block	Complete gap of 243 feet of missing sidewalk	Bicycle/Pedestrian Projects	0	1	1	1	1	1	0	0	2	2	0	**9**	$ -	$ -				
324	N 9th St - Grant to Ainsworth	Bicycle Boulevard between N Grant Ave - N Ainsworth Ave	Bicycle/Pedestrian Projects	0	1	1	1	1	1	0	0	2	2	0	**9**	$ -	$ -				
326	NE Tacoma Trail Network - SUP	Shared-Use Path	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	0	0	2	0	**9**	$ -	$ -				
327	Orchard (Huson to N. 46th)	Streetscape improvements and construct bike lanes	Neighborhood Action Strategy	0	1	1	1	1	1	1	1	0	2	0	**9**	$ -	$ -				
330	PresRidge Trail	Shared-Use Path	Bicycle/Pedestrian Projects	0	1	1	1	2	1	1	0	0	2	0	**9**	$ -	$ -				
331	S 19th St 8400 Block	Complete gap of 563 feet of missing sidewalk	Bicycle/Pedestrian Projects	0	1	1	1	1	1	0	0	2	2	0	**9**	$ -	$ -				
333	Slayden Rd NE	Shared lane markings between NE Marine View Dr - NE Harbor View Dr	Bicycle/Pedestrian Projects	1	1	1	0	1	1	0	0	2	2	0	**9**	$ -	$ -				
335	SR 509 and Slayden Rd.	Install traffic control devices on all legs of the intersection to improve access and intersection movements.	Neighborhood Action Strategy	1	1	0	0	0	2	1	2	0	2	0	**9**	$ -	$ -				
336	SR 509, Taylor Way, & 54th Ave Improvement	This project includes intersection improvements as identified by Blair Hylebos Terminal Redevelopment Plan (BHTRP), SSA/Puyallup Tribal Terminal, and Tideflats Area Transportation Study (TATS). Anticipated developer funding includes $4.8M.	Intersection modification	1	0	1	0	1	0	2	2	0	0	2	**9**	$ -	$ -				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
340	E 31st St Rehab Project	The project will improve East 31st Street with asphalt paving, adding sidewalks, ADA ramp improvements, landscaped beds, bulb-out traffic calming measures, and stormwater improvements. The project area includes Portland Ave to East R Street. Utility adjustment or replacement may be required depending on the scope of road project and age/condition of existing utilities. Utility improvements not included in budget shown below.	Improved roadway and nonmotorized facilities	0	1	1	1	1	1	1	0	0	2	1	**9**	$ -	$ -	[redacted]	[redacted]	[redacted]	[redacted]
341	E 32nd St Rehab Project	The project will improve East 32nd Street with asphalt paving, adding sidewalks, ADA ramp improvements, and stormwater improvements. The project area includes Portland Ave to the cul-da-sac street terminus. Utility adjustment or replacement may be required depending on the scope of road project and age/condition of existing utilities. Utility improvements not included in budget shown below.	Improved roadway and nonmotorized facilities	0	1	1	1	1	1	1	0	0	2	1	**9**	$ -	$ -				
342	E 54th St. from Pacific Ave. to Bell St.	Street improvements	Neighborhood Action Strategy	0	1	0	1	1	2	0	2	0	1	1	**9**	$ -	$ -				
343	E 56th St - McKinley to A St	Improved roadway to arterial standards	Improved roadway	1	1	2	0	1	1	1	1	0	0	1	**9**	$ -	$ -				
344	E N St. from Morton to E. 35th St.	Curb and Gutter, Sidewalks, Streetlights, Storm Drainage	Neighborhood Action Strategy	0	1	1	1	1	2	0	1	0	1	1	**9**	$ -	$ -				
345	Fairbanks St. from E. L St. to Grandview Ave.	Roadway Rehabilitation	Neighborhood Action Strategy	0	1	0	0	1	2	1	2	1	0	1	**9**	$ -	$ -				
348	N 23rd St. and Shirley St.	Install a roundabout or traffic calming devices near the intersection for pedestrians crossing to Kandle Park	Neighborhood Action Strategy	0	1	1	1	1	0	0	0	2	2	1	**9**	$ -	$ -				
351	Roosevelt Ave - Wright Ave to E 44th St	Improved roadway to arterial standards	Improved roadway	1	1	2	0	1	1	1	1	0	0	1	**9**	$ -	$ -				
352	S 66th & South Tacoma Way	S. 66th & South Tacoma Way Roundabout – Install a new roundabout for better cross traffic	Neighborhood Action Strategy	1	1	2	0	1	0	1	2	0	0	1	**9**	$ -	$ -				
353	S 66th St - Oakes to Puget Sound	Improved roadway to arterial standards	Improved roadway	1	1	2	0	1	1	1	1	0	0	1	**9**	$ -	$ -				
354	S 96th from Pacific to McKinley Ave.	Provide arterial improvement	Neighborhood Action Strategy	1	0	2	0	1	1	1	2	0	0	1	**9**	$ -	$ -				
355	South Tacoma Way - C to Pine St	This street rehabilitation project will include grinding of the old asphalt at the gutter and match lines, new asphalt overlay, and adjusting utilities.	Rehabilitation	1	0	1	0	1	2	1	0	0	1	2	**9**	$ -	$ -				
356	Thompson from S. 34th to S. 37th	Slow traffic on Thompson St.	Neighborhood Action Strategy	0	1	0	2	1	1	0	0	1	2	1	**9**	$ -	$ -				
370	Yakima from Center to S. 34th and Tacoma from Center to S. 34th	Lincoln Park Freeway Lid – Design & construct a landscaped lid over I-5 between Yakima/Thompson and Tacoma/G Streets to reconnect downtown with neighborhood.	Neighborhood Action Strategy	0	1	1	0	1	0	1	1	0	2	2	**9**	$ -	$ -				

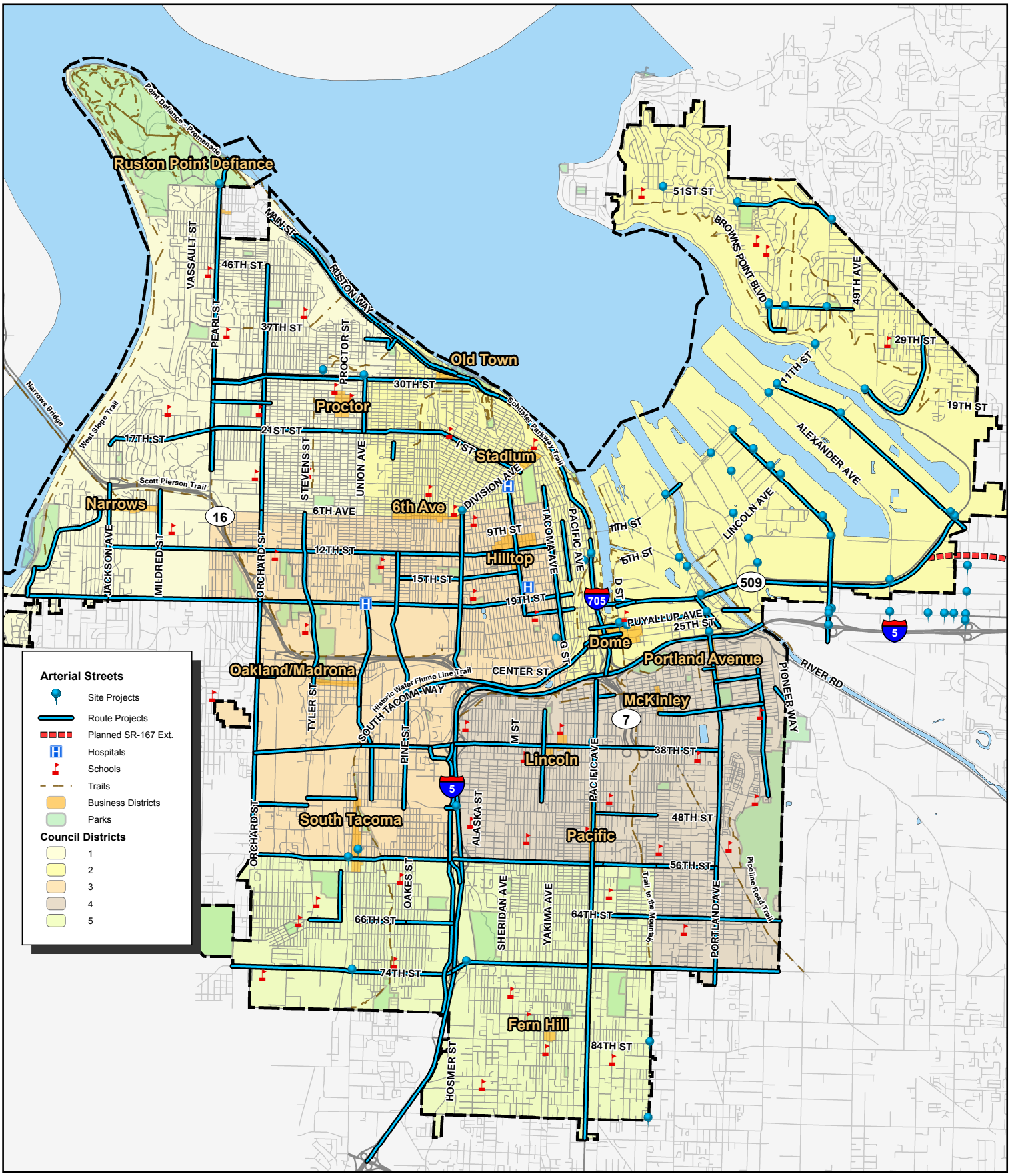
Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
444	SR 509 Slip Ramps at D	The project will construct a half diamond interchange at East D Street and SR-509. An interchange justification report (IJR) is required for approval of the added access to SR-509. The project includes public/private partnerships that are developing. Project has been put on hold since majority of funding is based on Puyallup Tribal Terminal project which is on hold.	New Capacity/Link	1	0	1	0	0	0	2	2	0	1	2	**9**	$ 18,450,000	$ 18,450,000	[redacted]	[redacted]	[redacted]	[redacted]
346	Marshall Ave/ Port of Tacoma Rd	Add traffic signal	New Signal	1	0	1	0	0	1	1	1	1	0	2	**8**	$ -	$ -				
347	Milwaukee Way / Marshall St	New signal	New Signal	1	0	1	0	0	1	1	1	1	0	2	**8**	$ -	$ -				
349	Norpoint Way from approx. 200' west of Nahane West to Nahane East	Complete Curb and Gutter and asphalt paving	Neighborhood Action Strategy	0	1	0	0	1	2	1	2	0	1	0	**8**	$ -	$ -				
350	Residential areas located just north of the intersections of E. 38th and Howe and E. 38th and K Sts	Install streetlights and pedestrian improvements, such as crosswalks	Neighborhood Action Strategy	0	1	1	1	1	1	0	1	0	2	0	**8**	$ -	$ -				
360	E Fairbanks St - E McKinley to Roosevelt Ave	Improved roadway to arterial standards	Improved roadway	0	1	1	0	2	1	1	1	0	0	1	**8**	$ -	$ -				
361	Jackson between S. 19th and SR 16	Jackson Ave. Traffic Calming – Install traffic calming devices on Jackson between S. 19th and SR 16	Neighborhood Action Strategy	1	1	0	0	1	0	1	0	1	2	1	**8**	$ -	$ -				
365	S 19th St - Jackson to Walters - Complete St / arterial improvement	Improved roadway to arterial / complete street standards	Improved roadway	1	1	1	1	1	1	1	0	0	0	1	**8**	$ -	$ -				
366	S 47th / 48th St	S Tacoma Way to Tyler	New Capacity/Link	0	0	2	2	0	0	1	2	0	0	1	**8**	$ -	$ -				
367	Schuster Parkway Bridge	This project will provide a modified concrete overlay for the bridge and replace the expansion joints.	Rehabilitation	1	0	1	0	1	2	1	0	0	1	1	**8**	$ -	$ -				
369	Union Avenue - N 21st St to N 30th St	Improved roadway to arterial standards	Improved roadway	1	1	0	0	1	1	1	1	0	1	1	**8**	$ -	$ -				
380	Norpoint Way - Marine View Dr to 29th St NE	Improved roadway to arterial standards	Improved roadway	1	1	0	0	1	1	1	1	0	0	2	**8**	$ -	$ -				
371	S 66th St - Tacoma Mall Blvd to Oakes St	Tacoma Mall Blvd to Oakes St	New Capacity/Link	0.5	0	2	0	1	0	1	2	0	0	1	**7.5**	$ -	$ -				
357	11th St Bridge Rehab	As of 2014, this project includes repair of structural deficiencies. A routine bridge inspection found many deficiencies. This project will investigate these deficiencies and provide solutions	Rehabilitation	1	1	0	0	0	2	1	0	0	0	2	**7**	$ -	$ -				
358	E 84th St and McKinley	New signal	New signal	1	1	2	0	0	1	1	1	0	0	0	**7**	$ -	$ -				
359	E 96th St and McKinley	New signal	New signal	1	1	2	0	0	1	1	1	0	0	0	**7**	$ -	$ -				
362	Manitou from Tyler to Gunnison	Manitou Rehabilitation – Repave Manitou between Tyler and Gunnison to eliminate ruts and cracks. Neighborhood does not want a slurry seal.	Neighborhood Action Strategy	0	0	1	0	1	2	0	2	1	0	0	**7**	$ -	$ -				
363	Overpass for SR-509 and E Alexander Ave Intersection	Intersection modification	Intersection modification	1	0	1	0	0	1	1	1	0	0	2	**7**	$ -	$ -				
364	Port of Tacoma Road / I-5 Interchange	One-way couplet of Port of Tacoma Road and 34th Avenue E. Truck-only lane from marshall Ave to the I-5 on-ramps. Final stage would be completed in 2020 assuming funding is available. Technically is in Fife. Reconstruct 34th Avenue and 12th Street to a 3-lane roadway. Include a SB truck lane on Port of Tacoma Road	New Capacity/Link	1	0	1	0	0	0	1	2	0	0	2	**7**	$ -	$ -				
372	34th St Bridge - Pacific Avenue to B St	This project will rehabilitate this existing bridge. The bridge was constructed in 1937 and many elements have deteriorated. This bridge is the smaller of the two 34th St. bridges.	Rehabilitation	1	1	1	0	0	2	1	0	0	0	1	**7**	$ -	$ -				
373	E 34th St - E Portland to Roosevelt	Improved roadway to arterial standards	Improved roadway	0	1	1	0	1	1	1	1	0	0	1	**7**	$ -	$ -				
374	E 48th St - Pacific to McKinley	Improved roadway to arterial standards	Improved roadway	0	1	1	0	1	1	1	1	0	0	1	**7**	$ -	$ -				
375	East-West St connection	S 38th Street at S Tacoma Way to 40th Street W at Orchard Street	New Capacity/Link	0	0	2	0	0	1	1	2	0	0	1	**7**	$ -	$ -				
376	N 26th St - Huson St to Pearl St	Improved roadway to arterial standards	Improved roadway	1	1	0	0	1	1	1	1	0	0	1	**7**	$ -	$ -				
377	N 30th; Proctor to Orchard/Pearl - Arterial improvement	Improved roadway to arterial standards	Improved roadway	1	1	0	0	1	1	1	1	0	0	1	**7**	$ -	$ -				
378	N 36th St - Ruston Way to Union Avenue	As of 2014, this project will install a cement concrete sidewalk and curb & gutter on the shoulder on the north side of North 26th Street, east side of Lawrence Street, and the west side of Alder Way, including a low 4"- 5" extruded concrete curb. The project will connect all driveways adjacent to the sidewalk with asphalt pavement.	Improved roadway and nonmotorized facilities	0	1	0	0	1	1	1	0	0	2	1	**7**	$ -	$ -				
379	Nalley Valley Area/ Union Ave. access	Improve/add access to industrial area	Neighborhood Action Strategy	0	1	2	0	0	0	1	2	0	0	1	**7**	$ -	$ -				
389	S Thompson - S 35th St to 46th St	Reconstruct to eliminate potholes	Improved roadway	0	0	1	0	1	2	1	1	0	0	1	**7**	$ -	$ -				
321	LID 8660 - Alley Paving	A majority of property owners have signed an advisory petition requesting permanent pavemnent with storm drainage. The alley is located between North 30th and North 31st Streets from Monroe to Mason Avenue (per Ordinance #28217 on 4/22/14).	Improved Roadway	0	0	0	0	0	2	2	0	2	0	0	**6**	$ 204,151	$ 204,151	[redacted]	[redacted]	[redacted]	[redacted]

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
381	Norpoint Way and 45th Avenue NE	New signal	New signal	1	1	0	0	0	1	1	1	1	0	0	**6**	$ -	$ -	[redacted]	[redacted]	[redacted]	[redacted]
382	Northshore Pkwy and 45th Avenue NE	New signal	New signal	1	1	0	0	0	1	1	1	1	0	0	**6**	$ -	$ -				
383	Northshore Pkwy and Browns Point Blvd	New signal	New signal	1	1	0	0	0	1	1	1	1	0	0	**6**	$ -	$ -				
384	Northshore Pkwy and Norpoint Way	New signal	New signal	1	1	0	0	0	1	1	1	1	0	0	**6**	$ -	$ -				
385	Roundabouts - 33rd St NE / 38th Ave NE	Roundabout	Roundabout	1	1	0	0	2	0	1	1	0	0	0	**6**	$ -	$ -				
386	Roundabouts - 33rd St NE / Browns Point Blvd NE	Roundabout	Roundabout	1	1	0	0	2	0	1	1	0	0	0	**6**	$ -	$ -				
387	Roundabouts - Nassau Ave / Browns Point	Roundabout	Roundabout	1	1	0	0	2	0	1	1	0	0	0	**6**	$ -	$ -				
388	S 31st St	S Orchard Street to S Mullen Street	Improved roadway	0	0	1	0	1	0	1	2	0	1	0	**6**	$ -	$ -				
390	Taylor Way Track Rehabilitation & Expansion Project	Replace old and worn rail paralleling Taylor Way with 115-pound rail, 30% new cross ties, and extend the tracks approximately 1,200 feet.	Railroad operations	0	0	0	0	0	1	1	2	0	0	2	**6**	$ -	$ -				
391	West Loop Track Upgrade Project	Replace existing 90-pound rail with 115-pound rail, 30% new cross ties, also encapsulates 370lf of track to function as a crossing.	Railroad operations	0	0	0	0	0	1	1	2	0	0	2	**6**	$ -	$ -				
392	Widen S Pearl St to 4-lane profile between S 12th St and S 19th St	Two travel lanes in each direction	New Capacity/Link	1	0	1	0	0	0	1	2	0	0	1	**6**	$ -	$ -				
401	South Tacoma Gateways	South Tacoma Gateways – Install streetscape improvements at all arterial entryways to the South Tacoma Neighborhood Council area	Neighborhood Action Strategy	0	1	2	0	0	0	1	0	1	0	1	**6**	$ -	$ -				
404	Culvert Erdahl Ditch	Replace retaining wall to increase capacity with reconfiguration of railroad tracks	Railroad operations	0	0	0	0	0	1	1	2	0	0	2	**6**	$ -	$ -				
393	Arrival & Departure Track Extension	Install additional railroad track capacity to improve operational flexibility	Railroad operations	0	0	0	0	0	0	1	2	0	0	2	**5**	$ -	$ -				
394	E M St. between Harrison and E. 34th St.	Asphalt Paving	Neighborhood Action Strategy	0	0	0	0	1	2	0	1	1	0	0	**5**	$ -	$ -				
395	Lincoln Avenue Wye Track	Installation of a wye track beneath the Lincoln Avenue Bridge to provide more direct access to the US Oil facility and improve operational flexibility.	Railroad operations	0	0	0	0	0	0	1	2	0	0	2	**5**	$ -	$ -				
396	Northshore Pkwy - Norpoint to 49th Ave NE	Improved roadway to arterial standards	Improved roadway	1	1	0	0	0	1	1	1	0	0	0	**5**	$ -	$ -				
397	Pierce County Terminal - Double Ending	New at-grade crossing on Alexander Ave east of PC Terminal	Railroad operations	0	0	0	0	0	0	1	2	0	0	2	**5**	$ -	$ -				
398	Rail Classification Yard – East End Access Reconfiguration	Reconfiguration of the east end of the classification yard to allow for multiple congruent train movements simultaneously.	Railroad operations	0	0	0	0	0	0	1	2	0	0	2	**5**	$ -	$ -				
399	Rail Classification Yard – West End Reconfiguration	Reconfiguration of the classification yard's west end to allow for multiple congruent train movements simultaneously. Would add a 3rd at-grade crossing on Milwaukee Way	Railroad operations	0	0	0	0	0	0	1	2	0	0	2	**5**	$ -	$ -				
400	S 54th St @ I-5 off-ramp (proposed)	Design and construct barrier for local access only traffic	Neighborhood Action Strategy	0	0	2	0	0	0	1	2	0	0	0	**5**	$ -	$ -				
402	Transfer Yard Connection to Lincoln	Constructs a new connection between the Port's Transfer Yard into existing Tacoma Rail infrastructure paralleling Lincoln Avenue to provide more efficient ingress/egress to U. S. Oil without crossing Port of Tacoma Road.	Railroad operations	0	0	0	0	0	0	1	2	0	0	2	**5**	$ -	$ -				
403	Washington United Terminal - Double Ending	New at-grade crossing across Port of Tacoma Rd	Railroad operations	0	0	0	0	0	0	1	2	0	0	2	**5**	$ -	$ -				
405	Nalley Valley Area/ S. 48th St. Extension	Improve access west to Orchard St.	Neighborhood Action Strategy	0	0	2	0	0	0	0	2	0	0	1	**5**	$ -	$ -				
407	S 48th / 49th St	Tyler to Orchard	New Capacity/Link	0	0	1	0	0	0	1	2	0	0	1	**5**	$ -	$ -				
409	Marine View Dr. from 1902 Marine View Dr. to Norpoint Way	Marine View Dr. Improvements – Extend two-way left turn lane to driveway of 1902 Marine View Dr., which includes widening roadway	Neighborhood Action Strategy	0	0	0	0	0	0	1	2	0	0	2	**5**	$ -	$ -				
406	North Intermodal Yard Lead Track Upgrade	Replace old and worn 112-pound rail and track switches with new 115-pound components on the North Intermodal Lead Track.	Railroad operations	0	0	0	0	0	1	1	0	0	0	2	**4**	$ -	$ -				
408	SR509 Track Rebuild Project	Project will replace approximately 4,200 feet of old and worn 85-pound rail and other components with new 115-pound rail and components.	Railroad operations	0	0	0	0	0	1	1	0	0	0	2	**4**	$ -	$ -				
410	N 51st & Vassault	Evaluate need for Caution Light or other mechanism at the intersection	Neighborhood Action Strategy	0	1	0	0	1	0	0	0	1	0	1	**4**	$ -	$ -				
412	N Alder - N 15th St to 19th St	Reconstruct to eliminate potholes	Improved roadway	1	0	0	0	1	0	0	1	0	0	1	**4**	$ -	$ -				
411	N 9th and N 11th St	Rehabilitate cobblestone streets	Neighborhood Action Strategy	0	0	0	0	0	1	0	2	0	0	0	**3**	$ -	$ -				
413	Onboard Positive Train Control (PTC) Equipment	Equipment installed on locomotives designed to communicate with wayside signals and back office computers intended as a failsafe to avoid train head/rear end collisions, over speed derailments, or incursions into unauthorized territory.	Railroad operations	0	0	0	0	1	1	1	0	0	0	0	**3**	$ -	$ -				
414	Division Ln. from approximately the 600 block to the 400 block	Install a landscape median allowing for angle parking	Neighborhood Action Strategy	0	0	0	0	0	0	0	0	1	0	2	**3**	$ -	$ -				
416	N Steele and M St.	Install historic style streetlights	Neighborhood Action Strategy	0	0	0	0	0	0	0	0	0	1	1	**2**	$ -	$ -				

Project ID	Name	Description	Project Type Category	On priority network?	Multimodal System (mode split map)	Equity (Title 6 map)	Safety Travel for All	Health & Environment	System Preservation	Fiscal Stewardship	Congestion Management	Horizon/ timeline	Hierarchy	Centers	Total	Low cost estimate	High cost estimate	Cost estimate used for fiscal constraint analysis	Low Sum	Midpoint Sum	High Sum
445	Downtown Quiet Zones	Provide infrastructure to support quiet zones at East D, East C and South C.	Arterial Intersection Modifications	0	0	0	0	0	0	0	0	0	0	2	**2**	NP	NP				
415	Impact Fee Feasibility Study	An overall study to evaluate the potential for impact fees in the City and their application to funding new projects based on planned development	Study	0	0	0	0	0	0	0	0	1	0	0	**1**	$ -	$ -				

City of Tacoma

Arterial Street Improvement Projects



City of Tacoma

Transportation Master Plan

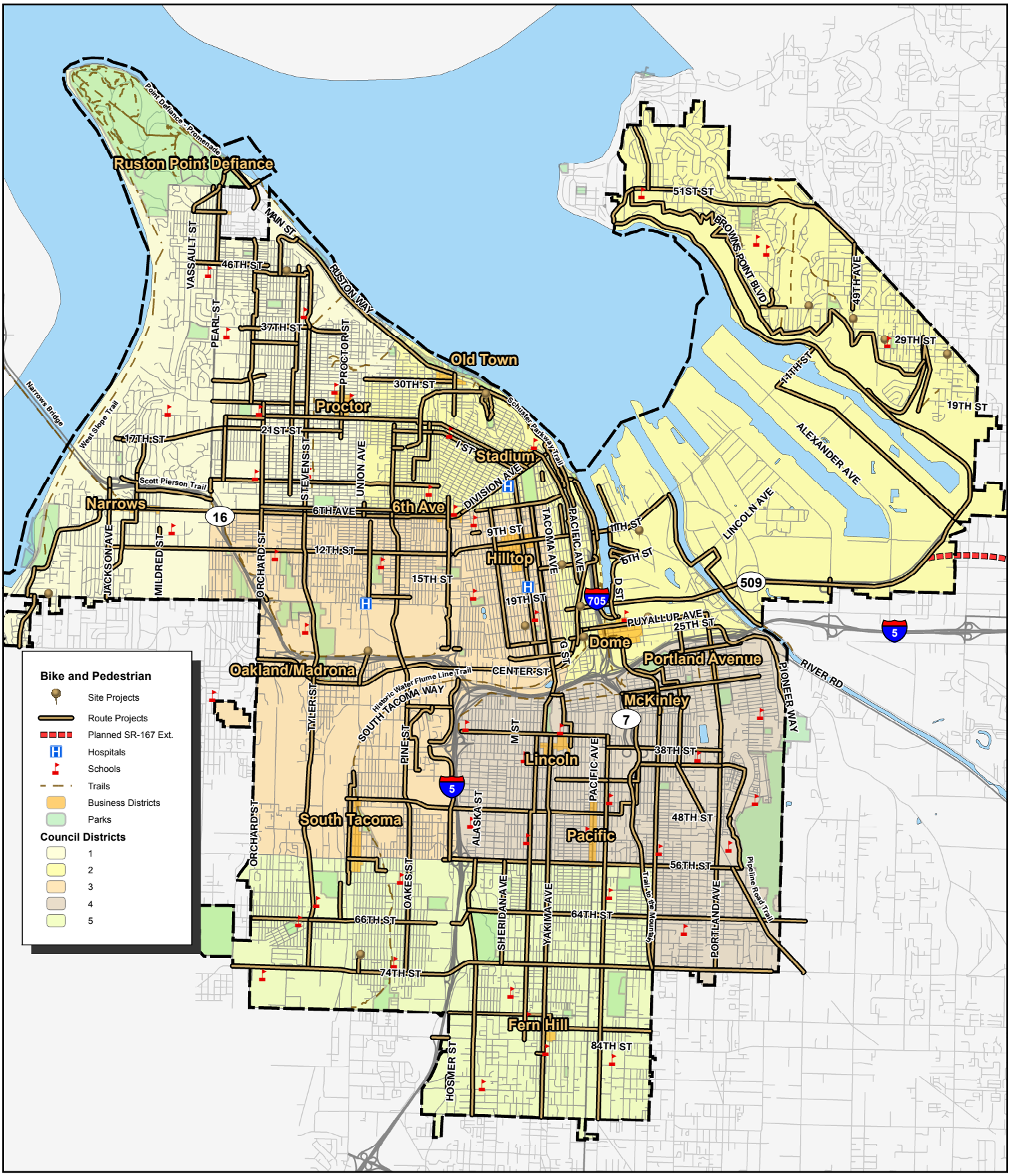
Author: City of Tacoma
Date: 10/2/2015

N

Tacoma

City of Tacoma

Bicycle & Pedestrian Projects



City of Tacoma

Transportation Master Plan

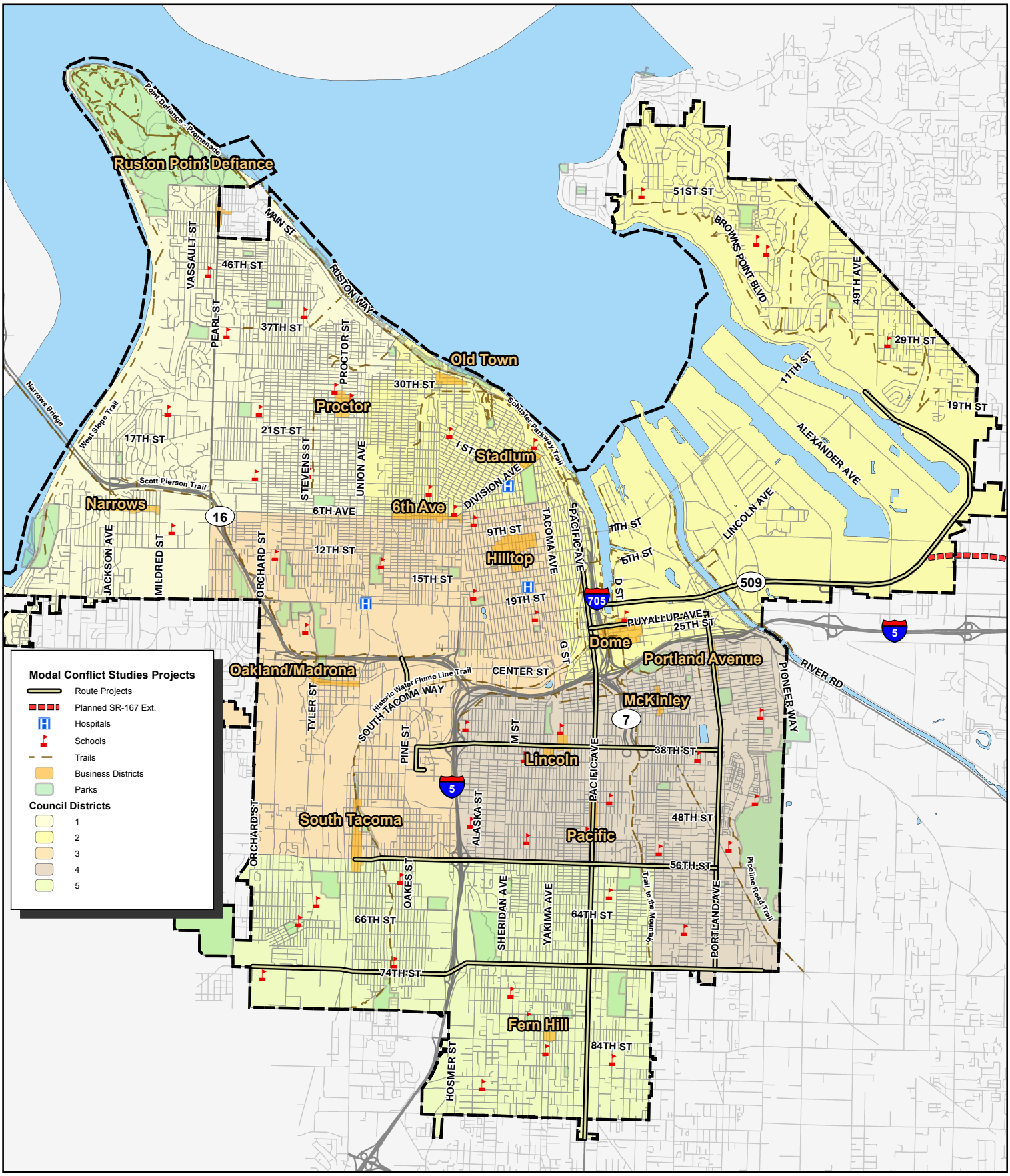
Author: City of Tacoma
Date: 10/2/2015

N

Tacoma

City of Tacoma

Modal Conflict Studies



City of Tacoma

Transportation Master Plan

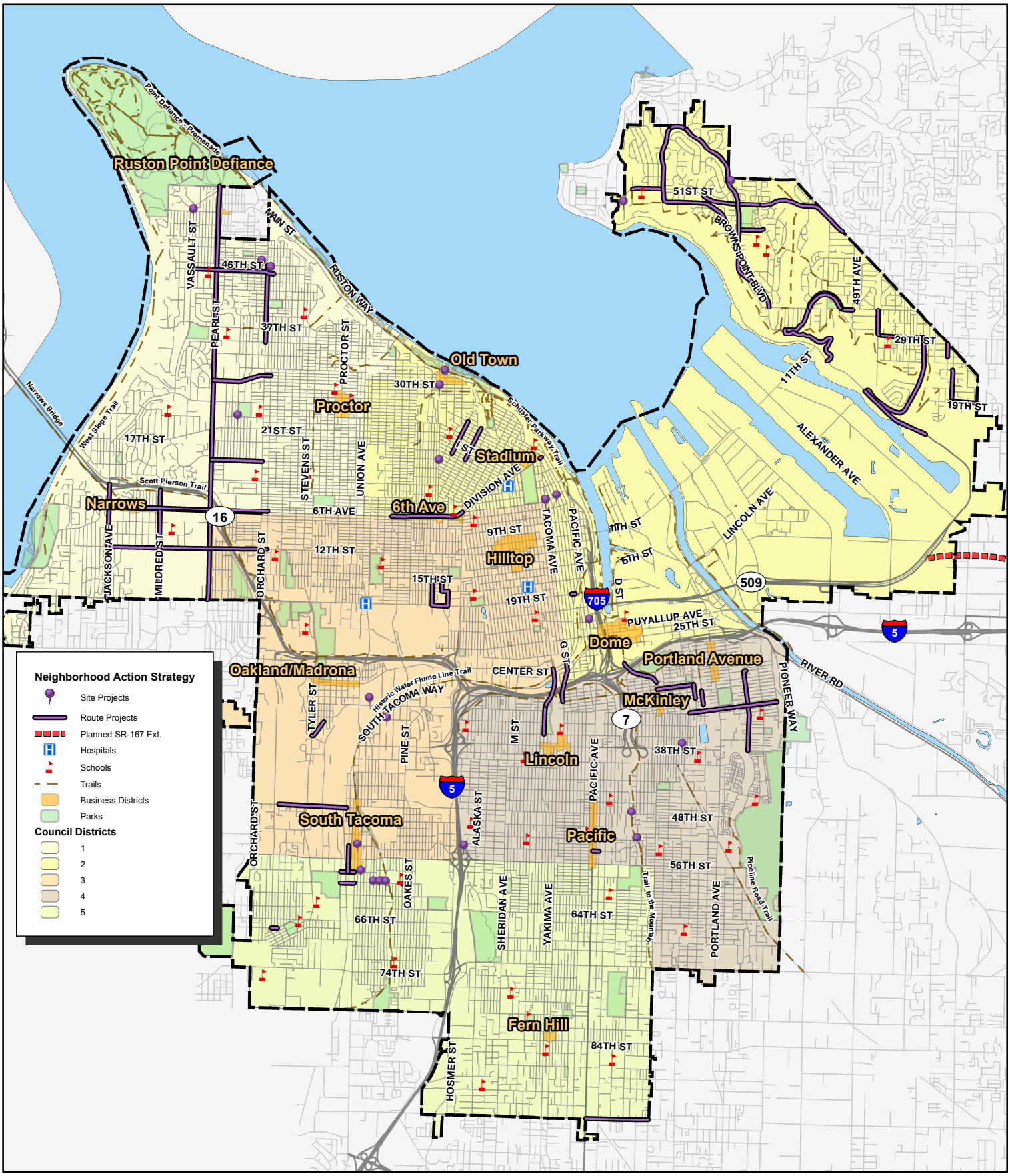
Author: City of Tacoma
Date: 10/2/2015

N

Tacoma

City of Tacoma

Neighborhood Action Strategy Projects



City of Tacoma

Transportation Master Plan

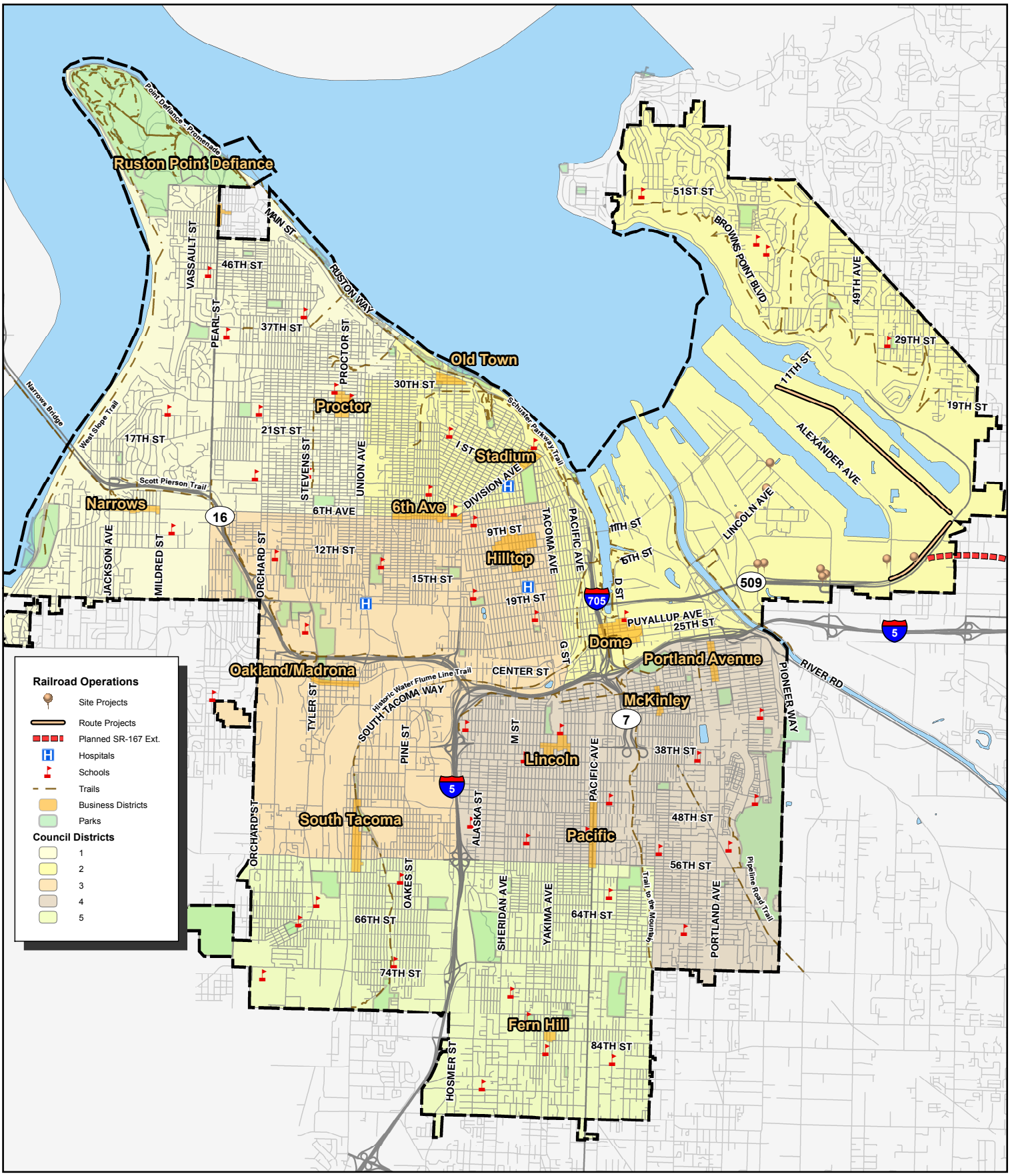
Author: City of Tacoma
Date: 10/2/2015

N

Tacoma

City of Tacoma

Railroad Operations



City of Tacoma

Transportation Master Plan

Author: City of Tacoma
Date: 10/2/2015

N

Tacoma

City of Tacoma

Transit Projects

City of Tacoma

Transportation Master Plan

Author: City of Tacoma
Date: 10/2/2015

N

Tacoma

Appendix C

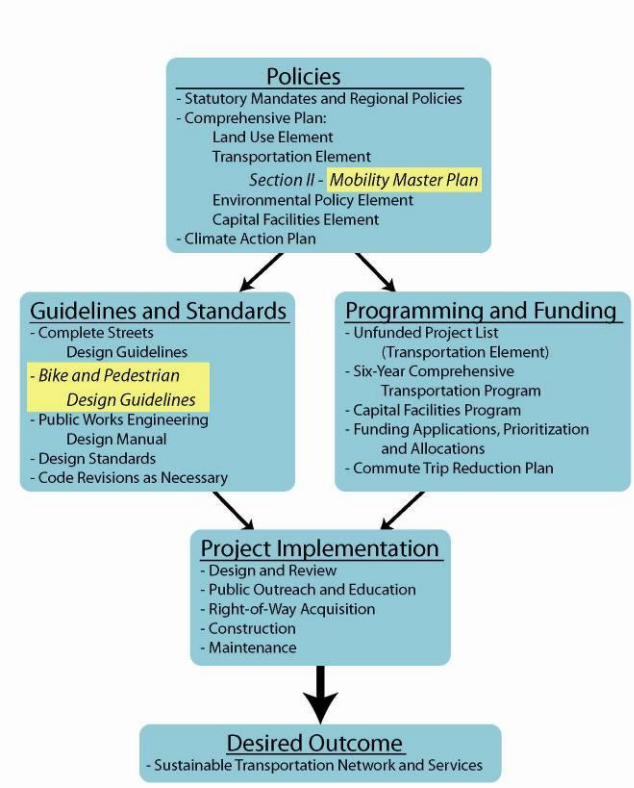
Mobility Master Plan Update

Appendix C – Mobility Master Plan Update

Policy Intent

The Mobility Master Plan Update provides a vision, policies, and implementation supplement to the City's Transportation Master Plan (TMP) for how the City of Tacoma can improve conditions for pedestrians and bicyclists citywide over the next twenty years. This section was updated from Tacoma's 2010 Mobility Master Plan and Transportation Element. It moves the City towards social, economic, and environmental sustainability and serves as a cornerstone for Tacoma's climate action diminution strategies. A sustainable active transportation network is vital for Tacoma to achieve a substantial reduction in carbon emissions, as well as to provide a healthier environment for its residents.

The Mobility Master Plan Update envisions an interconnected bicycle and pedestrian network that provides safe routes to neighborhoods, schools, transit, business districts and recreational facilities.



Mobility Master Plan Integration with City Policies

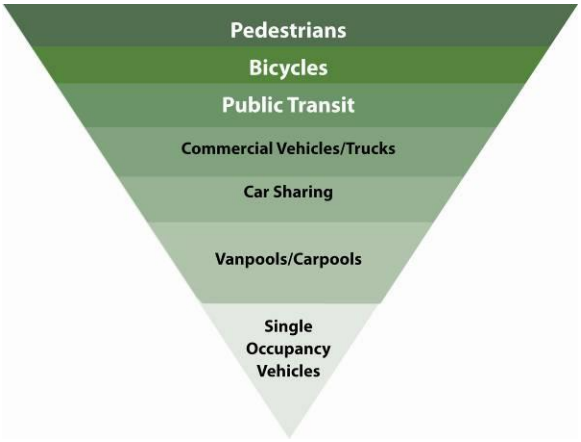
The implementation of a new set of mobility policies can improve Tacoma residents' health, enhance their quality of life, help protect the City's natural resources, and be a source of pride to the community. It also supports the City's "Bicycle Friendly Community" status, as recognized by the League of American Bicyclists.

The Mobility Master Plan Update is consistent with the City's Complete Streets policy and its associated design guidelines. The Mobility Master Plan Design Guidelines provide a comprehensive set of tools for implementing pedestrian and bicycle infrastructure design. Tacoma's streets vary significantly in width, speed, and usage and the Design Guidelines provide a wide array of options to make them more user-friendly.

Prioritizing Transportation Investment

As discussed in the TMP, the 'Green Transportation Hierarchy' is a recent movement that recognizes transportation modes that have the least environmental impact and greatest contribution to livability. Intended as a prioritization strategy, the Green Transportation Hierarchy promotes funding and development of facilities for modes that affordably enhance access for the majority of Tacoma residents, rather than using level of service standards focused on vehicle movement. While the hierarchy gives precedence to pedestrians, then to bicyclists and public transit, commercial vehicles and trucks are also recognized as having priority over passenger vehicles.

This hierarchy defines pedestrians as including individuals using assistive devices for mobility and sensory disabilities including walkers, wheelchairs, scooters, service animals, and canes. Throughout the Mobility Master Plan Update, the term "pedestrian" refers to a person moving from place to place, on foot and/or with the use of an assistive mobility device (when that person has a disability and/or medical condition). "Walking" or "to walk" are the terms used to describe this movement of a pedestrian.



The City of Tacoma's TMP draws on this model as a conceptual tool for elevating pedestrians, bicycles, and public transit in the planning and design of streets in a manner that is consistent with the City's Complete Streets policy and the City's Climate Action Plan. It gives recognition to the city's most vulnerable users of the streets: pedestrians and bicyclists of all ages and abilities.

Guiding Principles

The guiding principles were established by the Mobility Master Plan Steering Committee to serve as a statement of values and to convey the impact they want this Plan to have on Tacoma's future. The principles stand as a guide for policy, development, and implementation of this plan – answering the questions of what we do, why we do it, and how we do it.

- **Accessibility** - Incorporate the needs of people with disabilities into planning, design, construction, and maintenance of the transportation system.
- **Connectivity** - Prioritize projects that connect multi-use residential centers, transportation hubs, activity districts, and downtown.
- **People** - Prioritize movement of people as a measure of mobility over movement of cars.
- **Equity** - Establish geographic and modal equity across Tacoma.
- **Safety** – Prioritize safety and a low stress environment for pedestrians and bicyclists on all Tacoma streets
- **Sustainability** – Develop a comprehensive bicycle and pedestrian network as a critical step in realizing a sustainable and livable Tacoma.
- **Multimodal** - Make multiple travel modes safe and available to all users.

Vision and Policies

The Vision establishes the overarching concept that acts as a source for future inspiration in Tacoma's transportation planning. The policies help guide the city towards fulfilling the vision. The Vision and a new set of mobility policies support and bolster the active transportation policy intent of Tacoma's Transportation Master Plan. Tacoma's Transportation Master Plan is the document with comprehensive planning, implementation, and funding strategies that complements the policies in this section. The TMP and this Mobility Master Plan Update clarify how the policies, recommended networks, and implementation strategies were derived and how they can be advanced.

Vision

Tacoma is a world-class walking and biking community in which pedestrians and bicyclists are top priorities in transportation planning. Tacoma's transportation system is useable and welcoming to people of all abilities. Streets accommodate bicyclists in large numbers, sidewalks are user-friendly, and residents share the road safely and are fully mobile without an automobile.

Goals

- Achieve "Bicycle Friendly Community" silver status as designated by the League of American Bicyclists by 2018 by developing and enhancing the six Es: Engineering, Education, Evaluation, Enforcement, Encouragement, and Equity.
- Complete a safe and low stress bicycling system that connects all parts of the city (north to south/east to west) and accommodates all types of cyclists by 2025

- Complete an accessible network of pedestrian-supportive infrastructure, including sidewalks, curb ramps, accessible pedestrian signals, and shared-use paths, in high priority pedestrian areas

- Create a safer street environment that reduces intermodal crashes involving bicyclists, pedestrians, and motor vehicles by at least 10% from 2015 rates by 2020 and work to meet Washington State's Target Zero goal of eliminating fatal and serious injuries by 2030.

- Increase the active transportation mode split to the levels specified in the TMP by 2030 and continue gains thereafter in order to aid in the Climate Action Plan goal of reducing greenhouse gases emissions from transportation sources

- Increase transit use by enhancing pedestrian access and bicycle support facilities through the development of bikeways and walkways that serve transit hubs

- Implement a benchmarking and measurement system to gauge success for pedestrian and bicycle infrastructure improvements and usage

- Apply implementation and maintenance strategies that expand and sustain Tacoma's pedestrian and bicycle infrastructure

- Promote healthy lifestyles by offering improved opportunities for active living for people of all abilities through the development of robust pedestrian, bicycle, and transit networks, including bikeways, sidewalks, and linear parks.

Policies

Bicycling and walking are low-cost and effective means of transportation that are non-polluting, energy efficient, versatile, healthy, and fun. Combined with transit they add to the efficiency of the local transportation system. The Transportation Master Plan lays out strategies for system-wide expansions and improvements. The Plan specifies how building out the transportation network can help achieve the City's goals of becoming a better and more accessible walking, bicycling, and transit community and reduce greenhouse gas emissions. Tacoma is in an excellent position to capitalize on existing pedestrian- and bicycle-friendly attributes, to increase the number of residents and visitors who travel by foot, bicycle, and transit, and to increase the transportation options for people with disabilities. Tacoma can take advantage of the anticipated population growth in high-density centers, existing education programs, and high-quality multimodal connections to develop a world class system of bikeways and walkways.

A number of the 2010 Mobility Master Plan policies have been adopted into the TMP, including:

T-MMP-1 Implementation – TMP Policies 2.4 / 3.1

T-MMP-2 Livability – TMP Policy 6.3

T-MMP-3 Environmental Sustainability – TMP Policies 2.4 / 3.3 / 4.4

T-MMP-4 Transit Integration – TMP Policies 1.4 / 3.13

T-MMP-5 Connectivity and Access – TMP Policy 3.6

T-MMP-6 Maintenance – TMP Policy 3.1

T-MMP-7 Education and Encouragement – TMP Policy 5.8

T-MMP-8 Health and Safety – TMP Policies 2.3 / 2.4

T-MMP-9 Engineering – TMP Policies 3.9 / 3.10

T-MMP-10 Enforcement – TMP Policy 1.6

T-MMP-11 Evaluation – TMP Policy 3.4

The following table lists the criteria used to evaluate potential projects for the pedestrian and bicycle networks. These criteria, listed in the order of importance, were developed with input from public workshops as well as the Steering Committee.

Table 1. Infrastructure Project Evaluation Criteria

Criterion	Measurement
Enhances system connectivity/Closure of critical gap	To what degree does the project fill a missing gap in the bicycle and/or pedestrian system? How well does the project overcome a barrier in the current bicycle and pedestrian network?
Interface with other transportation modes (e.g., transit)	To what degree does the project connect to transit facilities?
Geographic distribution of City coverage	To what degree does the project offer potential benefits to the wider, regional community by offering opportunities for increased connectivity to surrounding communities, other regional walkways/bikeways, etc.?
Cost Effectiveness	How difficult will it be to implement the project? This criterion takes into account constraints like topography, existing development, presence or lack of available right-of-way, and environmental and political issues.
Suitability for bicycling and/or walking with improvements	Does the route have potential to be safe and/or low stress for bicycling and/or walking after improvements have been made?
Destinations served	Does the project provide connectivity to key destinations, including schools, parks, employment, commercial centers, and civic centers?
Improvement that serves an immediate safety need	Can the project potentially improve bicycling and walking at locations with perceived or documented safety issues? This criterion takes into account available crash data as well as feedback from the Steering Committee and Tacoma residents.
Integration into the existing local and regional bikeway/walkway system	How many user generators does the project connect to within reasonable walking or bicycling distance, such as schools, parks, Downtown, colleges and universities, etc.?
Projected reduction in vehicle trips and vehicle miles traveled	To what degree will the project likely generate transportation or recreational usage based on population, corridor aesthetics, etc.? Does the project serve transportation needs, reducing the need for drive-alone trips, and promoting bicycling as a viable alternative to driving?

Bike Commuters from UW-Tacoma
Summer 2008

Mobility Master Plan Public Workshop at South Park
September 2009

Demonstration Projects

In addition to the proposed bicycle and pedestrian improvements, the City should start with a few demonstration projects to get momentum going. These projects will also serve to develop enthusiasm and interest from Tacoma residents, and to draw attention to the City's support for active transportation options. Demonstration projects include:

- Install **wayfinding signage** throughout the City indicating to pedestrians and bicyclists their direction of travel, location of destinations, and the walking or riding time/distance to those destinations. Wayfinding signs increase users' comfort and accessibility of the bicycle system and also visually cue motorists that they are driving along a bicycle route and should use caution.
- Hold a **Sunday Parkways** event at other locations throughout the city to encourage community members and families to become familiar with bicycling in Tacoma.
- Safe Routes programs provide education and encouragement programming and infrastructural improvements so people can more safely and conveniently access destinations via walking, bicycling and transit.
- Expand the Safe Routes to School program to work with interested schools of all levels citywide.
- Establish a **Safe Routes to Employment** program with a focus on larger employment centers and downtown.
- Establish a Safe Routes to Parks program with a focus on Regional, Signature, and Community Parks as defined by Metro Parks Tacoma.
- Establish Safe Routes to Transit programs for improved access to Sound Transit, Pierce Transit, and Amtrak facilities.
- Use **Arterial retrofits**, also known as road diets, to implement bike facilities on key streets,
- Implement **Downtown Improvements,** including bicycle facilities connecting destinations around downtown as well as coming from areas outside of downtown.

Tandem Recumbent Cyclists in front of the University of Puget Sound

Bikeway Recommendations

Tacoma's bikeway implementation projects would primarily occur through roadway re-striping, which may require lane narrowing, parking reduction, or removal of a center turn lane. Depending on funding or other constraints, bike facility project implementation could occur in multiple phases. When there is an elimination of parking the City will work with the Commission on Disabilities to determine how best to mitigate the loss for people with disabilities.

The Bicycle Priority Network map in the TMP outlines the improved bicycling network.

It is important to note that bicycles are permitted on all public roads in the State of Washington, except where prohibited, such as on interstates in urban areas like Tacoma. As such, Tacoma's entire street network is effectively the community's bicycle network, regardless of whether or not a bikeway stripe, stencil, or sign is present on a given street. The designation of certain roads as bike routes is not intended to imply that these are the only roadways intended for bicycle use, or that bicyclists should not be riding on other streets. Rather, the designation of a network of on-street bikeways recognizes that certain roadways are preferred bicycle routes for most users, for reasons such as directness or access to significant destinations, and allows Tacoma to then focus resources on building and maintaining this primary network.

Pedestrian Recommendations

The Transportation Master Plan adopts the 20-Minute Neighborhood approach to pedestrian recommendations due to its focus on making existing activity zones conducive to walking.

The 20-Minute Neighborhood approach identifies areas that are good candidates for walking based on three of the Ds of built environment that influence travel: density, distance, and destinations. Each of these factors has its own components, which are measured as follows:

Density

- Population density by housing units per acre

Distance

- Intersection density
- Topography
- Distance to transit

Destinations

- Major employers
- Schools
- Parks
- Libraries
- Grocery stores

20-Minute Neighborhoods

Within the 20-Minute Neighborhoods, the TMP recommends that the City adopt the yellow standard as its accommodation goal for pedestrian facilities. The standards also break out the Pedestrian Priority Areas, as identified by the 20-Minute Neighborhood Analysis, from other areas of Tacoma.

Table 1. Pedestrian Accommodation Goals - Sidewalks

Quality of Facility	Within 20-Minute Neighborhoods	Other Areas
High	Complete sidewalks with buffers on both sides of arterials and collectors	Complete sidewalks on both sides of arterials and collectors
Acceptable	Complete sidewalks without buffers both sides of arterials and collectors	Sidewalks present
Needs Improvement	Incomplete or no sidewalk	Incomplete or no sidewalk

For the sidewalk accommodation goal, buffering between sidewalks and travel lanes can be accomplished through landscaping, amenity zones, parking, or any other measure beyond a curb that separates pedestrians from moving vehicles. The group also felt that while sidewalks may be recommended on local streets to address specific safety concerns, they need not be required for all local streets.

Intersection Recommendations

The City of Tacoma will use the Pedestrian Crossing Improvement Project (completed 2014) for identifying intersection projects. The Pedestrian Crossings Improvement Project provides for the identification, evaluation, and construction of pedestrian crosswalks, and associated facilities, at intersections citywide. While the primary motivation for the project is the installation of marked crosswalks, other improvements will be installed to enhance the marked crossings.

Crosswalks should be present every other block or 600 feet, whichever is lesser, in Pedestrian Priority Areas to meet the yellow standard, which the TMP recommends for the pedestrian accommodation goal. Crosswalks should be present in other areas of the city in order to meet the yellow standard.

Table 2. Pedestrian Accommodation Goal – Crosswalks

Quality of Facility	Within 20-Minute Neighborhoods	Other Areas
High	Crossing every 300 feet in pedestrian activity area or downtown that meets Tacoma's current best design practice	Existing marked crossings meet Tacoma's current best design practice
Acceptable	Crosswalks present every 600 feet	Crosswalks present
Needs Improvement	No crosswalks within 600 feet	No crossings present

Sub-Area Plan Recommendations

There are certain areas of the city that pose the greatest challenges to pedestrian and bicycle movement where more intensive analysis is warranted. The following areas recently (Fall 2014) had sub-area plans completed:

- South Downtown
- North Downtown
- Hilltop

Key pedestrian and bicycle recommendations from those sub-area plans include:

- South Downtown
    - Designate South Jefferson Avenue between 21st and 25th; 25th Street between I-705 and Fawcett Avenue; East C Street; and South C Street as primary pedestrian streets
    - As appropriate, carry out planning, design, and construction of proposed open space projects including the Prairie Line Trail, Foss Waterway Esplanade, Central and Waterway parks on the Foss, bridge to the south end of the Foss, UWT central open space and stairs, Hillside shared-use street, Hillside-to-Brewery District pedestrian corridor, and others
    - Implement Complete Streets reconfigurations of Puyallup Avenue, Jefferson Avenue, and South C Street, in that order of priority.
- North Downtown

  - A goal of maintaining and enhancing the existing development fabric and capitalizing on local and regional transit resources within the Subarea while supporting walkability, a variety of transportation modes, and future infrastructure improvements
  - Complete the Stadium to Schuster pedestrian connection
  - Establish a citywide policy that prioritizes projects to improve active transportation access to Link stations
  - Implement the Schuster Parkway Promenade multimodal corridor project, including key connections to and along the waterfront
  - Implement the City's proposed pedestrian corridor projects in North Downtown as identified in the Mobility Master Plan
- Hilltop
  - A goal of creating a village that promotes walking, biking, and transit as a means of transportation in addition to vehicular.
  - Expand pedestrian networks within Hilltop and with the rest of the city. Top priority locations include South 19th Street, South 11th Street, and South 6th Avenue.
  - Implement Tacoma's Complete Streets typologies in Hilltop

The following areas are recommended for sub-area plans to determine best active transportation routes and access:

- Tacoma Mall (*in progress August 2014-December 2016*)
- NE Tacoma
- TCC – and its associated transit hub
- Tideflats (Port)

Implementation Strategies

Implementation strategies and their related action items support the goals and policies of the Transportation Master Plan. The strategies and actions shown in the following table are organized according to the six goals in the TMP.

Goal	Strategy	Action	
1. Intergovernmental Coordination and Citizen Participation	1.1 Collaborate with neighboring jurisdictions on active transportation projects	1.1.1	Collaborate with state, regional and federal partners to reform system performance measures and mobility standards in order to reflect the movement of persons rather than vehicles and to favor transportation modes that have the least environmental impact and greatest contribution to livability.
		1.1.2	Work cooperatively with adjoining jurisdictions on bicycle and pedestrian connections and trail projects to ensure regional links for commuters and recreational users in and outside of Tacoma.
	1.2 Strengthen Active Transportation project and program delivery processes	1.2.1	Commence a TMP Implementation Committee to provide oversight and direction for the implementation of the Plan.
		1.2.2	Develop a pilot program for temporary implementation of bicycle facilities. Experiment and test improvements of a bicycle facility in order to determine traffic operation pros and cons and/or modal trade-offs associated with the incorporation of the bicycle facility prior to final design and implementation.
		1.2.3	Provide training of city staff, including DOT and Police Department. Training can include best practice facility design, safety countermeasures, maintenance/new materials capabilities, and bicycle detection and count technology. Include training that pertains to active transportation-related research and studies such as, economic, safety, perception surveys, etc.
	1.3 Work cooperatively with adjoining jurisdictions and transit agencies to coordinate active transportation planning and implementation activities.	1.3.1	Coordinate with Sound Transit and Pierce Transit to expand pedestrian, bicycle, and transit mobility through the integration of active transportation facilities with the transit and streetcar systems.
		1.3.2	Support a frequent and convenient bus, rail, and streetcar network to magnify the impact of planning for movement as pedestrians and bicyclists.
		1.3.3	Consider incorporating bikeways in transit projects that include exclusive transit use of a right-of-way, such as bus mall, bus rapid transit or streetcar.
		1.3.4	Provide safe and accessible routes and intersections to transit for pedestrians of all abilities.
		1.3.5	Provide safe end-of-trip facilities (bike parking, bike lockers, etc) at all streetcar stations and transit facilities served by four or more routes.
	1.4 Enhance safety for all road users through increased traffic enforcement on city streets, walkways, and bikeways.	1.4.1	Enforce traffic laws consistently for all users through collaboration with the Tacoma Police Department.
		1.4.2	Collaborate with law enforcement and the courts system on the development of a traffic skills education course aimed to reduce aggressive and/or negligent behavior among drivers, bicyclists and pedestrians by providing the option of taking a traffic skills education course in lieu of fines for traffic violations.
		1.4.3	Develop and promote efficient mechanisms for reporting behaviors and conditions that endanger cyclists and pedestrians to law enforcement.

2. Community / Environment	2.1 Implement the Transportation Master Plan's recommendations for developing an active transportation network that reduces auto travel, increases the number of pedestrians, bicyclists, and transit riders of all ages and abilities, and improves the health of our people and local ecology	2.1.1	Complete the connected network of sidewalks, trails, bike lanes, bike boulevards, shared lane markings, and protected bike lanes throughout the city that serves all bicycle user groups. Phase development of the network.
	2.2 Promote active lifestyles by working with Pierce County Health Department (TPCHD) to provide education programs and safe and accessible routes for bicyclists and pedestrians of all ages and abilities.	2.2.1	Collaborate with the Tacoma-Pierce County Health Department on active living and active transportation projects that address and seek to reduce health-related issues such as obesity.
	2.3 Apply high-quality engineering and design to physical infrastructure.	2.3.1	Install traffic calming facilities where necessary for improved safety and active transportation travel.
		2.3.2	Use current best engineering practices for minimizing and mitigating conflicts between bicycles, pedestrians, and motor vehicles.
		2.3.3	Reduce barriers and hazards to active transportation users by ensuring safe and sufficient crossings of major roadways and by providing routes that minimize steep slopes.
3. Multimodal System	3.1 Ensure active transportation facilities are clean, safe, and, accessible, and promote active use.	3.1.1	Increase pedestrian trips and bicycle ridership with a system that provides facility types and designs that are low stress for pedestrians and bicyclists of all ages and abilities. Inexperienced are most likely to use high quality bike boulevards, shared use trails, and cycle tracks.
		3.1.2	Prioritize pedestrian and bicyclist safety during construction and maintenance activities, and ensure that the City's accessibility guidelines are followed.
		3.1.3	Create safe and accessible active transportation facilities through regular inspection and maintenance.
		3.1.4	Develop an on-going city-wide maintenance strategy for active transportation facilities.
		3.1.5	When prioritizing projects or evaluating new future projects the following guidance should be used: 1. Projects that provide the greatest connectivity to the greatest number of people or neighborhoods 2. Projects that provide connections to transit 3. Projects that provide safe routes to school 4. Projects that connect major employers or employment areas to residential areas in order to increase commute trips by bike or walking 5. Projects that connect residential areas to local retailing, business, and community services so residents can access daily goods and services by walking or biking 6. Projects that complete the trail system and access key recreational and transportation destinations including adjacent communities 7. Projects that are easily implemented and improve connectivity, expand coverage, and maximize motor vehicle separation

		3.1.6	Increase the number of multimodal trips that include traveling as a pedestrian or bicyclist for at least one trip segment by improving and simplifying connections and transfers.
	3.2 Establish benchmarks measurements and monitor the effectiveness of the Transportation Master Plan on a biannual basis.	3.2.1	Monitor the implementation progress of the Transportation Master Plan.
		3.2.2	Track citywide trends in bicycle usage through the use of Census data, biannual user surveys, annual bicycle counts, and PierceTrips.com.
		3.2.3	Monitor bicycle collision data with the goal of reducing bicycle-related collisions.
		3.2.4	Produce a regular report card tracking bicycling and walking trends in Tacoma including percent of the system that has been completed, funds invested, identification of ongoing problems, public feelings of safety, status of reaching Health and Safety goals, and educational outreach efforts.
		3.2.5	Track citywide implementation of improved and increased walkway and bikeway facilities, ADA accessible features, and amenities with supervision of the Implementation Committee.
	3.3 Apply high-quality engineering and design to pedestrian physical infrastructure.	3.3.1	Design all pedestrian facilities to meet or exceed the latest federal, state, and local standards so that there is universal access for all users of the system.
		3.3.2	Install signal prioritization for active transportation users in appropriate locations.
		3.3.3	Ensure that all new facilities are ADA-compliant to provide access for pedestrians of all abilities.
	3.4 Apply high-quality engineering and design to bicycle physical infrastructure.	3.4.1	Design all bicycle facilities to meet or exceed the latest federal, state, and local standards so that there is universal access for all users of the system.
		3.4.2	Install signal prioritization for active transportation users in appropriate locations.
		3.4.3	Install bicycle detection mechanisms at signalized intersections.
		3.4.4	Install separated bicycle facilities where bike lane striping does not provide appropriate riding conditions.
		3.4.5	Prioritize the completion of proposed shared-use paths that maximize access to key recreational and transportation destinations in order to encourage recreational and commute trips.
4. Environmental and Fiscal Stewardship	4.1 Establish Vehicle Miles Traveled Goal	4.1.1	Work with the City's Commute Trip Reduction Coordinator, Puget Sound Clean Air Agency, Puget Sound Regional Council, or other relevant agencies to set biannual per-capita vehicle-miles-traveled goals that will encourage residents to drive less.
	4.2 Pursue a dedicated source of funding to implement the expansion and enhancement of walkways and bikeways in Tacoma. Supplement dedicated funds with other funding sources.	4.2.1	Prioritize funding and construction of active transportation facilities in recognition of the livability, environmental, and health benefits these forms of mobility provide.
		4.2.2	Pursue state, regional, and federal grant funding for shared-use paths and other active transportation facilities.
		4.2.3	Work with the Implementation Committee, advocates, and elected officials to identify and pursue multiple strategies to increase funding for green transportation.
		4.2.4	Dedicate a percentage of the City's overall transportation budget to active transportation projects.
		4.2.5	Leverage investments made in road improvement projects by installing improved bicycle and pedestrian projects simultaneously regardless of the priority previously placed upon the bike or pedestrian facilities.
		4.2.6	Pursue establishment of a new dedicated source of funding for active transportation improvements, such as a portion of an additional locally determined vehicle tab tax, impact fees, street utility tax, and levy lid lift.

	4.3 Encourage and improve the appeal of modes of transportation with negligible carbon emissions, such as walking, biking, and use of assistive devices, thereby reducing the miles traveled by single occupancy vehicles.	4.3.1	Support Tacoma's Climate Action Plan by developing a comprehensive pedestrian and bicycle network. Assist in realizing the goal of reducing Tacoma's greenhouse gas emission levels to 40 percent below 1990 levels by 2020, and 80 percent below 1990 levels by 2050.
5. Transportation Demand Management	5.1 Increase the public's awareness and usage of the bicycle and pedestrian network in Tacoma through targeted education and encouragement programs	5.1.1	Educate the general public on bicycle and walking safety issues and encourage active transportation with programs that target pedestrians, bicyclists and motorists.
		5.1.2	Educate the general public about linking trips (trip-chaining) to reduce the number of trips taken per day.
		5.1.3	Encourage active transportation through City-sponsored events and expanded Bike Month activities.
		5.1.4	Educate school children on safe pedestrian and bicycle behavior.
		5.1.5	Educate the general public on bicycle and pedestrian laws and regulations via the City's website and other education programs.
		5.1.6	Educate drivers (transit drivers, delivery drivers, etc.) on bicyclist rights and safe motoring behavior around bicyclists. Provide appropriate materials to pedestrians, motorists, and cyclists convicted of specified violations.
		5.1.7	Establish Safe Routes to School Programs in collaboration with Tacoma schools. Apply for Safe Routes to Schools grants through the Washington Department of Transportation.
		5.1.8	Educate bicyclists and pedestrians on proper and safe behavior for biking and walking via the City's website and other education programs.
		5.1.9	Improve the general public's awareness of the transportation needs and requirements of people with a variety of mobility and sensory disabilities via the City's website and other education programs.
	5.2 Provide and encourage amenities that support active transportation.	5.2.1	Give incentives for bicycle storage, locker rooms, and shower facilities for all major office building construction and remodeling projects in the downtown core.
		5.2.2	Install wayfinding signage in proximity to active transportation facilities and destinations.
		5.2.3	Install bike racks, accessible parking and other support infrastructure at destinations citywide, including transit stations, retail area, parks, public facilities, and other high-traffic areas
6. Land Use and Transportation	6.1 Prioritize infrastructure improvements that connect residential areas to local retailing, business, and community services, so residents can access more of the services they need close to home by walking, biking, and use of assistive devices	6.1.1	Coordinate with local business associations, Tacoma-Pierce County Chamber of Commerce, neighborhood groups and other active associations to encourage and support local retail and services for residents.
		6.1.2	Encourage and support the development of "20-minute neighborhoods" where goods and services can be obtained within short distances via active transportation modes, thereby reducing the need for automobile trips.
		6.1.3	Identify opportunities to encourage and support the development and re-development of businesses and urban spaces in Tacoma into bicycle- and pedestrian-accessible commercial nodes.
		6.1.4	Ensure that bicycle and pedestrian facilities connect residential areas to goods and services that are often needed on a daily basis.

	6.2 Plan new development and redevelopment in ways that create street connectivity and access for active transportation users	6.2.1	Provide height bonuses and other incentives to developments that promote walkability and that provide amenities such as weather protection, seating, and improve pedestrian connectivity.
		6.2.2	Support changing parking policies to prioritize on-street parking only where needed to support local business while recognizing the need to provide accessible parking.
		6.2.3	Conduct regular reviews of the Municipal Code sections that pertain to the rules of the road and to new development to identify changes that would facilitate better bicycling and walking conditions.
		6.2.4	Enhance mobility in existing cul-de-sac development with shared-use paths for through access for pedestrians and bicyclists to adjacent street corridors.

Appendix D

City Pedestrian Safety Improvement Project

Pedestrian Crossing Improvements Project - Summary

Overview

The Pedestrian Crossing Improvements Project provided for the identification, evaluation, and construction of pedestrian crosswalks, and associated facilities, at intersections citywide. While the primary motivation for the project was the installation of marked crosswalks, other improvements were identified to enhance the marked crossings.

The first phase of the project included approximately $2.5 million on planning, designing, and constructing pedestrian crossing improvements throughout the City: $300,000 allotted to each council district and $1 million to the Downtown area (as defined by zoning). This project also investigated opportunities to extend the effectiveness of other programs, such as the Hazardous Sidewalk Replacement program, City Safety grants, and the implementation of the City's American with Disabilities Act Transition Plan. An additional $1.5 million was allocated for the 2015-2016 biennium to continue the work begun in 2014.

This project included a robust public outreach effort to identify potential improvement locations, and received over 650 responses from the public pertaining to over 300 locations throughout the City. These locations were evaluated using a prioritization framework developed by Tacoma staff and the public. Engineers later developed preliminary cost estimates that were used in packaging the locations for construction.

Data Collection

The project team collected input from a variety of sources regarding the potential locations for pedestrian crossing improvements and the criteria to be used in prioritizing these locations. Crossing improvement locations were identified through a rigorous public input process and current City documents, including the 2009 Mobility Master Plan. In-person meetings and an online survey were tools used to collect data, in addition to letters and emails received from Neighborhood Council representatives, Parent Teacher Associations, local businesses, nonprofit organizations, as well as the general public.

Evaluation

The public process identified the following criteria that were used to evaluate potential projects:

- Pedestrian and vehicle counts
- Proximity to schools
- Vehicle/pedestrian collision history
- Proximity to parks
- Proximity to hospitals
- Proximity to bus stops
- The number of times a location was identified through this project's outreach process, regardless of other characteristics

- Proximity to major employers and commercial centers
- Proximity to bicycle/trail systems
- Proximity to libraries
- Proximity to senior centers/senior housing

These criteria were weighted based on responses by people completing the online survey and people attending the public meetings. The evaluation criteria were then used to identify top ranking locations for pedestrian improvements.

Engineering and Construction

The project team worked sequentially through the top ranked projects in each Council District and the Downtown Area using the following evaluation process:

- In-House Review: the project team worked with key City staff to review existing transportation documents on identified crossing improvement locations, aerial imagery, and comments received to determine the appropriate treatment for top ranked locations.

- Field Review: City staff and the project team visited crossing improvement locations to evaluate site specific elements that would impact project implementation and cost. This included reviewing existing curb ramp construction and field review of utilities, such as lighting and traffic signals, including vehicle detection.

Relation to the Transportation Master Plan

The Transportation Master Plan places a priority on pedestrian mobility, and assumes that all streets will accommodate pedestrians to some degree. Because local connections and crosswalks are integral components of pedestrian safety and mobility, it is critical that the City develop a process for systematically addressing the need for this type of improvement. While the TMP includes a recommendation for conducting an inventory of sidewalk infrastructure, and then subsequently identifying necessary improvements to the sidewalk network, this process will not necessarily satisfy all of the pedestrian improvements which will be needed to support the transportation system envisioned in the TMP.

The Pedestrian Crossing Improvements Project identified extensive needs throughout the City, and created a process for prioritizing those needs. While the City has made significant strides toward addressing the needs identified during this process, there are many needs which are still unmet, and many more which were not identified during the public outreach process for this project. The City should build on the work done as part of the Pedestrian Crossing Improvement Project by developing a process for updating the list of pedestrian crossing projects, and by updating the prioritization process to ensure it satisfies the community's identified priorities and the goals and policies within the TMP.

Appendix E

Centers of Local Importance

City of Tacoma Transportation Master Plan
Appendix E
Centers of Local Importance

Background

The Countywide Planning Policies for Pierce County (CPPs) establish that Regional and countywide transportation and economic development funds should be prioritized for centers and transportation and infrastructure servicing centers in Pierce County that have been designated regionally; it is also appropriate for countywide and local funding to be directed to centers and transportation and infrastructure servicing centers designated exclusively at the countywide level **or identified locally by a jurisdiction**" (CPP UGA-50)(emphasis added). The CPPs define Centers of Local Importance (CoLI) as being "designated for the purpose of identifying local centers and activity nodes that are consistent with VISION 2040's Multi-county Planning Policies. Such areas promote compact, pedestrian-oriented development with a mix of uses, proximity to diverse services, and a variety of appropriate housing options, or be in an established industrial area" (UGA-51). A CoLI may be located in either an urban or rural area, and shall include activities that provide a focal point or sense of place for a community and its surrounding area (CPP UGA-51). More specifically, a CoLI is characterized by a concentration of land uses or activities that provide a sense of place or gathering place for the community and neighborhood residents. A CoLI should include one or more the following characteristics: Civic services, Commercial areas, Recreational areas Industrial areas, Cultural facilities/activities, Historic buildings or sites, and Residential areas (CPP UGA-52). Additionally, the size of a CoLI and the mix and density of uses are to be locally determined to meet community goals (CPP-UGA 53), each jurisdiction shall define the role that the CoLI plays in supporting planned growth (CPP-UGAS 54), and a variety of appropriate transportation options and pedestrian-friendly design should be available or planned within a CoLI (CPP-UGA 55).

As to implementation, a CoLI shall be locally adopted; approval by the PCRC or other regional organization shall not be required. A jurisdiction shall document how an area meets the Design Features of a CoLI in its comprehensive plan. The documentation should include examples, plans, or other information that supports the designation of a CoLI. An area adopted as a CoLI shall be definitively delineated on a map within a jurisdiction's comprehensive plan. A CoLI shall have appropriate land use designations, zoning regulations, and infrastructure plans for existing and planned development. A comprehensive plan that utilizes an alternative label to refer to a CoLI shall be accompanied with adopted findings of fact that recognizes the area as a CoLI per the Pierce County CPPs (CPP-UGA 56).

Finally, a jurisdiction shall provide the PCRC notice of its intention to locally adopt a CoLI or recognize formally adopted CoLIs that meet the criteria. The notice shall be provided to the PCRC 60 days (minimum) prior to the expected dated of adoption and shall provide information that identifies the location of the proposed CoLI and documents how the location meets the CoLI policies (CPP UGA-57). A locally adopted CoLI shall be recognized in Appendix B of the CPPs. Jurisdictions shall forward a map of locally adopted CoLIs together with the comprehensive plan citations to the PCRC for inclusion into Appendix B. The adopted CoLIs shall be attached to the CPP publications as Appendix B for ease of reference. Appendix B shall not be considered a component of the CPPs and, accordingly, an update to Appendix B shall not constitute an amendment to the CPPs requiring ratification by Pierce County jurisdictions (CPP UGA-58).

City of Tacoma Centers of Local Importance

The City of Tacoma's Centers of Local Importance reinforce and give priority to designated centers, employment areas, transit station areas, and corridors that are a focal point for growth and development within the City. These planning geographies identified in the attached map are described in detail in the Urban Form Chapter and Transportation Master Plan of the Comprehensive Plan. In addition, the Design and Development Chapter provides policies related to site design, interaction of public and private spaces, and creative place-making. The Future Land Use Map in the Urban Form Chapter identifies the planned land uses within these areas and the 2014 Pierce County Buildable Lands Report documents the development capacity within the defined CoLI. The CoLI are comprised of the following priority areas and focal points for growth and development within the City:

CENTERS

Centers are compact, walkable and pedestrian-oriented urban places. They are connected by public transit and active transportation networks. They anchor complete neighborhoods with retail stores and businesses (grocery stores, restaurants, markets, shops, etc.) civic amenities (libraries, schools, community centers, places of worship, etc.), housing options, health clinics, daycare centers, employment centers, plazas and parks and other public gathering places.

Centers will be the primary areas for growth and change in Tacoma over the next 25 years. Focusing new growth in centers helps achieve goals of having more Tacomans live in complete neighborhoods, use public transit and active transportation – walking, biking and rolling – to commute to work and complete errands, and it will help mitigate and prepare for the effects of climate change. Clustering destinations and housing within compact, walkable centers makes access by transit, walking, wheelchair, and bicycle more practical and reduces the amount of driving needed to access services, reducing the impact on roadways, reducing congestion, and facilitating freight movement.

Centers range in scale from the Tacoma's Downtown to small neighborhood storefront service nodes, providing local access to services and allowing Tacomans across the City to live a healthy, active lifestyle. Neighborhood business districts and the commercial services they provide are the foundation of many centers, but centers, particularly larger centers, will also become a focus for public services, gathering places, and housing growth. In and around all centers, there will be change as areas urbanize and new services, shops and housing are developed.

Four types of centers are designated that vary in size, scale, service area, role, and density of residents and businesses. As shown in Figure 2.2 Centers, the four types of centers are:

- Downtown Regional Growth Center
- Tacoma Mall Regional Growth Center
- Crossroads Center

- Neighborhood Center

TRANSIT STATION AREAS

Transit stations provide access to high-capacity and high-frequency transit, which currently consist of light rail and commuter rail but in the future may also include bus rapid transit. These policies encourage housing and employment growth in transit station areas to maximize the ability of people to benefit from the regional connections they provide and to increase transit access to employment. The policies support a range of transit station area types, with differing priorities for growth, depending on the station type and context. Priority is given to growth in station areas located in centers since they provide more people with opportunities to be close to both transit and to commercial and public services. These stations have the highest potential for mixed use development. Center stations benefit from the concentration of local services and businesses as well as connections to other transit routes typically found on corridors. Currently, all of the City's Transit Station Areas are located within designated centers.

CORRIDORS

Corridors, like centers, are areas where Tacoma will grow and change over the next 25 years. They are busy, active streets with redevelopment potential. They are close to neighborhoods and are places with transit, stores, housing and employers. They need to be planned, designed and improved to be places that benefit and become successful additions to surrounding neighborhoods. The largest places of focused activity and density along these corridors are designated as centers. Corridors are not intended to be long commercial strips or a single land use pattern, but to achieve a range of land use types and densities that vary along the corridor. These corridors provide multimodal transportation facilities that support the City's Mixed-Use Centers. There are five types of designated corridors:

- Avenue
- Mainstreet
- Transit Priority
- Urban Residential
- Freight Corridor

The designated corridors integrate the City's high frequency and high intensity transportation facility plans with land use and design. These are generally areas with a greater potential for transit-oriented development. Ruston Way is included due to its importance as a shoreline recreation area with a mix of commercial water-enjoyment activities and Hosmer is included as a significant inter-jurisdictional connection.

EMPLOYMENT AREAS

Tacoma's location between Portland and Seattle provides it access to many modes of transportation, natural resources, economical power sources, and a deep, sheltered harbor, all of which have

contributed to Tacoma's development as a successful industrial, commercial and trading center. The modern city has its beginnings in the mid-nineteenth century, when it was designated as Northern Pacific Railroad's western terminus for its transcontinental railroad in 1873.

Tacoma continues its tradition as a West Coast hub for trade, with the Port of Tacoma among the most important in the nation and the Pacific Rim. Regional shopping centers such as the Tacoma Mall have emerged to provide goods and services for the city and the region, while the emphasis in downtown has changed to professional offices, international finance, government, education, and cultural facilities. The city's employment geographies typically cluster within the designated centers and along the identified corridors. These employment areas include:

Downtown Tacoma

Downtown Tacoma has emerged as the economic engine for the City of Tacoma, Pierce County and the South Sound region. This cluster of economic activity with nearly 45,000 jobs includes financial services, health services, and professional services.

Manufacturing and Industrial Areas

Manufacturing/Industrial areas are in the low, flat areas along the Port/Tideflats and the Nalley Valley. The manufacturing and distribution sectors concentrate here. Manufacturing/industrial centers are intended to be well-served by major transportation facilities including rail, interstate and transit systems. Many of the industrial uses are land intensive in nature. To preserve land at these centers, large retail, residential or nonrelated office uses are discouraged. The City's designated MICs are identified on the COLI map.

Commercial Districts

Commercial development involves a wide variety of uses and can range in scale from small neighborhood convenience shops to regional shopping centers. Commercial areas are the activity centers of the community. Commercial districts should be safe, well designed, appropriately scaled, and integrated into the fabric of the community. Infill development and intensification of existing commercial areas will aid their continued economic viability.

Convenience corners are small commercial nodes distributed throughout Tacoma's neighborhoods, often along historic streetcar routes. These nodes are generally developed at a neighborhood scale, up to 3 stories in height, but more typically 1-2 stories, and serviced by on-street parking and small off-street lots. Convenience corners provide access to daily services, including religious services and small businesses, in close proximity to residential neighborhoods, as well as gathering places for community interaction and mingling, and focal points of neighborhood identity. Due to their small size, convenience corners are more widely dispersed throughout the City. Convenience Corners are not typically zoned for significant growth, but rather to retain and enhance the existing services.

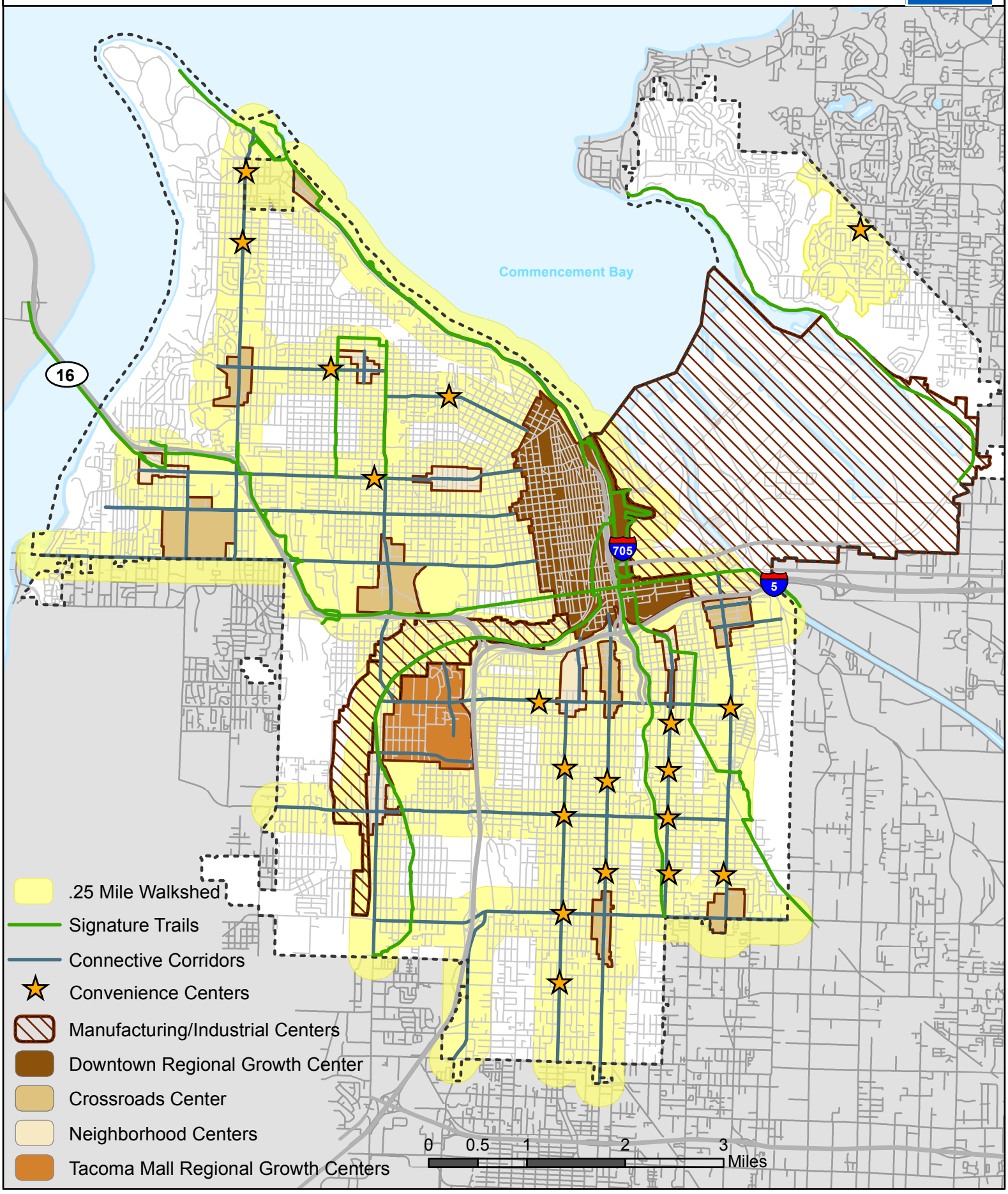
City of Tacoma Transportation Master Plan
Appendix E
Centers of Local Importance

Neighborhood Commercial districts are characterized primarily by small-scale neighborhood businesses with some residential and institutional uses. Uses within these areas have low to moderate traffic generation, shorter operating hours, smaller buildings and sites, and less signage than general commercial or mixed-use areas. There is a greater emphasis on small businesses and development that is compatible with nearby, lower intensity residential areas. Building heights typically range from 1 to 3 stories. Neighborhood Business Districts typically exhibit a higher concentration of commercial uses than a convenience corner and service a broader area.

General Commercial districts encompass medium to high intensity commercial uses which serves a large community base with a broad range of larger scale uses. These areas also allow for a wide variety of residential development, community facilities, institutional uses, and some limited production and storage uses. These areas are generally located along major transportation corridors, often with reasonably direct access to a highway. This designation is characterized by larger-scale buildings, longer operating hours, and moderate to high traffic generation.

These planning geographies are supported through land use designation, zoning, incentives, and design policy. The Transportation Master Plan was developed to implement the population and employment allocations assigned to the City through multi-county and county-wide planning policies and the City's designated CoLI are a focal point for accommodating more than 80% of the City's growth allocations.

Centers Of Local Importance



Tacoma

City of Tacoma | 747 Market Street | Suite 552 | Tacoma, WA 98402 | (253) 591-5756

FEHR PEERS

Safeco Plaza | 1001 - 4th Ave | Suite 4120 | Seattle, WA 98154 | (206) 576-4220