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 for 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 the 0.2% sales tax.

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.

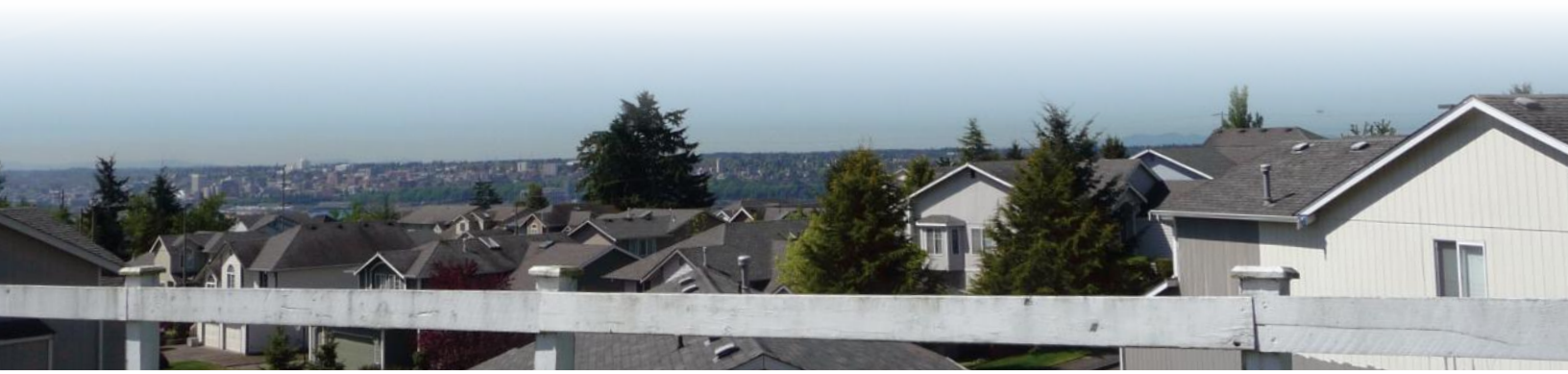
Performance Measurement & Project Prioritization

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 20-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 for all
- **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 Regional Travel Study: 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 Safer 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

VMT

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.

CTR / TMA 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. Thus, 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. For this purpose, "need" is defined as the total dollar value of the project list split up by the relevant geographical scale. 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 lists already split up the improvements by mode so the City need only 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.

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 recommends 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


TACOMA SCHOOL DISTRICT NO. 10

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 ride-sharing 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 below.

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 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 travel. Millenials 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 Millenials age, their preference for urban living will continue to be at higher levels than previous generations and their relative VMT will be less. A potential counter to this decrease is the fact that the Baby Boomer generation will remain active longer than previous generations and thus will have a higher demand for travel.

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

TECHNOLOGICAL

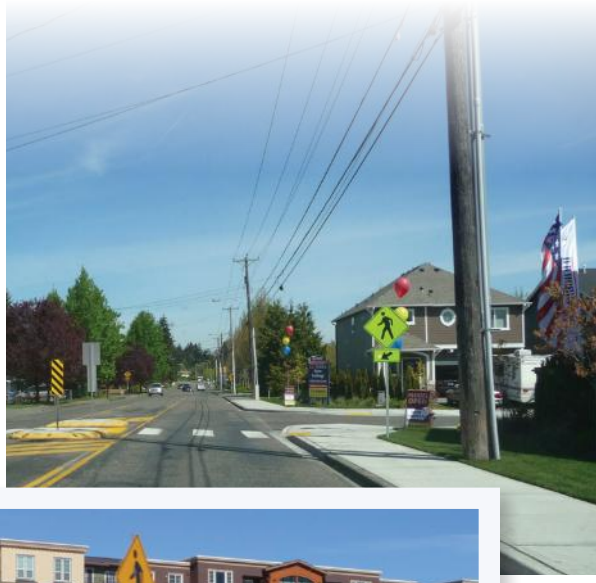
One of the largest factors that will impact travel patterns is the changing technology that shapes how we travel. Technology surrounding autonomous vehicles is already beginning to emerge in the market, such as braking assistance, lane guidance, and blind-spot recognition. When fully autonomous, this 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

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

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, in whatever form that is.



City of Tacoma

TRANSPORTATION MASTER PLAN

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
SOV	SINGLE OCCUPANCY VEHICLE

SOV	SINGLE OCCUPANCY VEHICLE
SRTS	SAFER ROUTES TO SCHOOL
TAZ	TRAFFIC ANALYSIS ZONE
TDM	TRAVEL 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, STREETS WITH HIGHER TRAFFIC SPEEDS AND VOLUMES, OR 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

PROTECTED BICYCLE FACILITY – PROTECTED FACILITIES ARE DESIGNATED LANES FOR BICYCLISTS, FULLY PROTECTED FROM MOTOR VEHICLE 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 SPEED OR VOLUMES, AND OTHER LOCATIONS WHERE BICYCLISTS MAY FEEL STRESS 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.

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

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