

# APPENDIX B MOTORIZED TRAVEL

## 1 BACKGROUND

Olympia's programs, plans and policies specifically address the motorized travel system: auto and truck travel on Olympia's street system. This report specifies Olympia's (section 2) policy framework, (section 3) existing and likely future conditions, (section 4) policy options and evaluation, and (section 5) recommended policies – and highlights City programs and plan elements of the motorized travel system.

## 2 FRAMEWORK

### Benchmarks

Olympia's *transportation plan* element is integrated in the Comprehensive Plan with land use context, and is specifically designed for a shift away from dependence on auto travel with strategies intended for multi-modal balance, all within a consistent framework as defined in the Regional Transportation Plan (RTP). Olympia's motorized plans and programs are a reflection of the Comprehensive Plan, developed with policy and technical benchmarks by which it is guided.

#### Olympia Streets - Community Scale

Olympia's Comprehensive Plan broadly defines a multi-modal approach to evaluating alternatives to street widening, by first considering tradeoffs between improving vehicle capacity (e.g. road widening, new parallel roads, removal of on-street parking during peak hours) and improving other travel modes. Actions to reduce vehicle trips, such as adding bike lanes and sidewalks, improving transit services, and implementing travel demand management measures, should be considered to relieve traffic congestion in strategy areas and to ensure that transit, bicycle and pedestrian transportation remain attractive and viable alternatives during peak periods.

Streets with motor vehicle capacity deficiencies and various constraints that are not good candidates for adding motor vehicle travel lanes are referred to as *strategy areas*, and the Comp Plan encourages the review and update of concurrency ordinances as appropriate to implement multimodal strategies identified in the City's strategy areas.

The Comp Plan further notes that streets (roads) should not be widened beyond two through lanes in each direction with auxiliary turn lanes as appropriate. Roads with more than five lanes are perceived by the public as beyond the scale that is appropriate for this community.

#### Transportation Concurrency

Olympia's concurrency policy and program is a key benchmark. It includes defined thresholds to gauge the performance of motorized travel along city streets and state highways. In compliance with the Growth Management Act, the City of Olympia adopted its

**Transportation Concurrency Ordinance** (No. 5540) in 1995, and has annually reported its concurrency monitoring program. This program is how Olympia ascertains whether it can balance transportation infrastructure investments concurrent with growth. Olympia’s concurrency management system was developed utilizing TRPC’s regional traffic model to project the number of trips that is anticipated for (a) base-year (current), (b) base-year plus one (1-year growth) and (c) six-year forecast, each separately for four zones in Olympia. The six-year forecast data is used to evaluate street and intersection system deficiencies.



Olympia’s concurrency measure *focuses exclusively on motor vehicle performance* and contains two key features:

- Development is not allowed unless (or until) transportation improvements or strategies to provide for the impacts of the development are in place at the time of development or within six years of the time the project comes on line.
- Annual review of the concurrency management system is required along with the annual review and update of the *Capital Facilities Plan* (CFP) and transportation element of the Comp Plan.

This framework consists of two stages. The first stage includes reporting actual average afternoon (PM) peak-hour traffic growth for the previous year and comparing this traffic growth with the forecast for the same year. This stage also reports average peak-hour growth for a six-year planning horizon. The next stage involves detailed LOS analysis of the intersections. This stage also involves identifying the transportation facilities that need concurrency projects (impact mitigation).

When a new development proposal is received, the City uses the average hourly vehicle traffic volume that would occur during the highest two-hour period to determine how the City’s LOS will be affected. This measurement is used as a screening tool at all intersections and road segments to determine if there are any deficiencies.

### **Level of Service (Performance)**

As part of the concurrency ordinance and Comprehensive Plan policies, Olympia’s Motor Vehicle LOS (street segment & intersection) is consistent with the Regional Transportation Plan as follows:

- Downtown and High Density Residential Corridors – LOS “E” will be acceptable for the two hour period.
- Remainder of City and Urban Growth Area – LOS “D” for the two hour period will be acceptable; for some intersections LOS “F”

- On I-5 and SR 101 within Urban Growth Management Boundary – LOS “D” mitigated will be acceptable – consistent with RTP– where funding sources and list of facilities and programs have been developed that support alternative to drive-alone

### **Measurement Tools**

TRPC Regional Traffic Model is used to estimate traffic volume as input into the roadway segment LOS. The Highway capacity manual-based HCM (Signal2000) program is used for the analysis of signalized and unsignalized intersection LOS. The LOS standards identified in the Comprehensive Plan and summarized above are used as measurement thresholds, and supplemental signal warrant analyses are used in the determination of new traffic signal needs assessment, as defined in the Manual of Uniform Traffic Control Devices (MUTCD).

### Street Design Standards

The City’s Engineering Designs and Development Standards (EDDS) are consistent with Comprehensive Plan Policy as a manifestation of Complete Streets, and serves as an excellent guide for City to achieve its goals and vision for multi-modal transportation sustainability. Major additions to the City’s EDDS were completed in 2006 that focused on sustainable design standards for arterial, collector and local streets, emphasis on reducing lane widths, speed limits (reducing speed limits on streets from 40 and 45 mph to 35 mph ) and curb (intersection) radius for greater attention to transit, bike and pedestrian access and safety.

### Street Pavement Condition

Olympia’s Street Repair Program includes a target/benchmark where 100% of City’s street lane miles are in fair or good condition. In 2006, 82% of the City’s streets were in fair or good condition, a remarkable improvement to 1999 levels. In 1999, when the programming goals were first established, only 57% of Olympia’s street lane miles were in fair or good condition.

### Mode-Share Shift

Olympia’s Comprehensive Plan identifies a future target mode share of 60% Drive Alone. The Olympia Commute Trip Reduction Plan (citywide) is being prepared and will be presented to Council in January, 2009. The CTR law specifies that all jurisdictions now have a goal of a 10% reduction in the drive alone rate by 2011. For Olympia, the 2007 (last survey) drive alone rate is 74.4% so the citywide goal is a 67% drive alone rate. (Note: While not included in current plans, part of the City’s citywide CTR Plan should include further identification and evaluation of policies and programs that encourage elimination of trips (especially vehicle trips) by means of telecommunication services)

The City’s Downtown Parking and TDM Plan targets a 10% reduction in downtown drive-alone in Olympia by year 2011. The 2010 CTR targets are: drive alone (59%), rideshare (17%), bike (4%), walk (8%), telecommute (2%), and transit (10%).

Olympia’s Growth and Transportation Efficiency Center (GTEC) program goals and targets are to expand CTR efforts beyond 7,400 affected employees to 20,000 downtown employees

Partnership of the City, State, Downtown Association, Intercity Transit, TRPC and County Health (STEPS) – for outreach, services and infrastructure to reach aggressive 10% reduction in drive-alone trips between 2008-2011.

The planned GTEC goals are aggressive and will take a multifaceted, focused approach, including a package of services, facilities and programs, in order to meet diverse needs of commuters. Existing City plans and policies support GTEC, although amendments to zoning code have been identified.

#### Vehicle Miles Traveled Per Capita

The RTP evaluated regional travel characteristics comparing current and future VMT estimates. Future VMT estimates were summarized for several different long-range plan scenarios based on differing land use/transportation relationships. VMT statistics were summarized, but neither the RTP nor the City’s Comprehensive Plan includes specific VMT benchmarks.

The City’s Climate Change Report identifies a possible benchmark and long-term goal to reduce GHG by 7 percent (below 1990 levels), by 2012; as recommended by the Mayors for Climate Protection Agreement. The report stated similar long-term goals consistent with statewide law enacted by the Legislature and policy directives advanced by the Governor.

The Governor’s Climate Challenge Executive (Order 02-07) is in partial response to Legislative action under ESSHB 2815, and seeks a variety of methods to reduce GHG. Through ESSHB 2815, the Legislature has directed WSDOT to reduce GHG by measure of VMT per capita, includes the following VMT per capita reduction benchmarks (compared to levels in 1990):

- 18% by 2020
- 30% by 2035
- 50% by 2050

### **3 EXISTING & LIKELY FUTURE CONDITIONS**

#### **Current System**

##### Mode-Share

In 2007 (last survey), Olympia’s drive-alone mode-share rate was 74.4%.

##### Performance

The 2007 Annual Concurrency report summarizes analyses indicating that all intersection and street segment projects identified in the 2006 Concurrency Report and one new street project merit inclusion in the CFP.

## Likely Future State

### Short-range: Concurrency

Olympia's Concurrency Report for 2007 notes the City is on track in maintaining concurrency for the next six (6) years. The Report summarizes actual traffic growth estimates based on issued permits in 2006, trip generation rates applied to permitted uses, for a summary of new trips generated. TRPC's regional traffic model is used to summarize new traffic generated by growth for the four concurrency zones, and roadway LOS is calculated. Concurrency LOS thresholds are applied and the analysis indicated LOS standards are met so long as six-year project list in CFP are funded and completed.

Olympia's Capital Facilities Plan (CFP) is illustrated in **Figure B-1**. Many of the pedestrian and bicycle facility improvements contained in the CFP are essentially "complete streets" projects: upgrading older streets and intersections with bike lane and sidewalk facilities to meet the City's multi-modal street design standards.

Other CFP projects are those street improvements which expand capacity to serve growth, which are funded in part by transportation impact fees. Based on further examination of draft 2009 CFP budgeting it appears that the local revenues needed to match the impact fees relies heavily on successful grant awards. Olympia has been successful in past grant applications. Future success is not guaranteed and in all likelihood the grant programming will become increasingly more competitive statewide.

### Long-range: Comprehensive Plan

Olympia's Comprehensive Plan references TRPC's regional traffic model data (P.M. Peak hour volume estimates) for use as a base-year (2006) and planning horizon year (2030) comparison. The forecasted traffic volumes for Olympia and the Olympia Growth area are based on the City's Comp plan Land Use Element, and are consistent with the 2025 RTP. Forecasted volumes reflect the adopted land use policies as outlined in the RTP that reflect the Olympia Transportation Plan.

### Long-range: Concurrency

Olympia has not identified impact-fee eligible projects and established its impact fee program based on a 20-year growth forecast.

## Desired Future State

### Comprehensive Plan Vision and Direction

Olympia's Comprehensive Plan includes specific goals to (a) reduce dependence on auto use, especially drive-alone during commute hours and (b) establish and measure level of service to support transportation and land use goals; and meet concurrency requirements.

As noted in the attachment memorandum *Multimodal Level of Service and Concurrency*, a combination of land density and mix, complimented by high levels of street connectivity and sidewalk system completion are key characteristics that yield significant reduction in auto trips (measured per capita).

Olympia’s Comprehensive Plan roughly addresses street connectivity through its street classification characteristics, which require intersection spacing by street class, and specifications for bicycle and pedestrian connections where street spacing requirements cannot be achieved. The intersection spacing requirements are longer for *Arterial* streets (500 ft. -700 ft.) and *Major Collector* streets (350 ft. -500 ft.) than *Neighborhood Collector* and *Local Access* streets (250 ft. -300 ft.).

Olympia’s Comprehensive Plan policies and Street Design Standards emphasize human-scale, multi-modal streets. Arterials are to be no larger than four travel lanes for through-movement, at maximum design speeds of 35 mph; complete with bicycle, pedestrian and transit access facilities.

The City’s transportation needs analysis is consistent with the RTP, which is based on a summary of current and future land uses as identified in Olympia’s Comprehensive Plan Land Use chapter (and other regional cities and Thurston County).

The City’s policy on streets street standards and options and Evaluation Guidelines pertaining to street functional classification effectively guide adjacent streets to best match intended land uses in the Comprehensive Plan.

The City’s policy on transit supports the coordination of transit with supportive infrastructure and land use decisions, thereby encouraging development in core areas and High Density Corridors.

Olympia’s Comprehensive Plan includes specific goals relating to motorized travel:

- T1** Reduce dependence on auto use, especially drive-alone during commute hours.
- T2** Establish and measure level of service to support transportation and land use goals; and meet concurrency requirements
- T3** Ensure safe and efficient movement of goods and people.
- T4** Preserve options for future high-capacity transportation.
- T5** Achieve efficient use of energy in transportation.
- T6** Coordinate transportation decisions regionally and locally.
- T7** Finance transportation facilities and programs that will meet regional and local transportation and land use goals.

Relevant policies are also included, with the intent to implement these goals:

- Consult with Intercity Transit to ensure street standards, land uses, and building placement support existing or planned services and facilities along identified routes (Ord. #6389, 01/24/06)
- T 1.22 Work with Intercity Transit in the design of shelters and placement of transit supportive facilities.
- T 1.23 Establish distinctive crosswalks in conjunction with new development at major street crossings in neighborhood centers, at transit stops, parks, and school sites (from LU 8.3c).

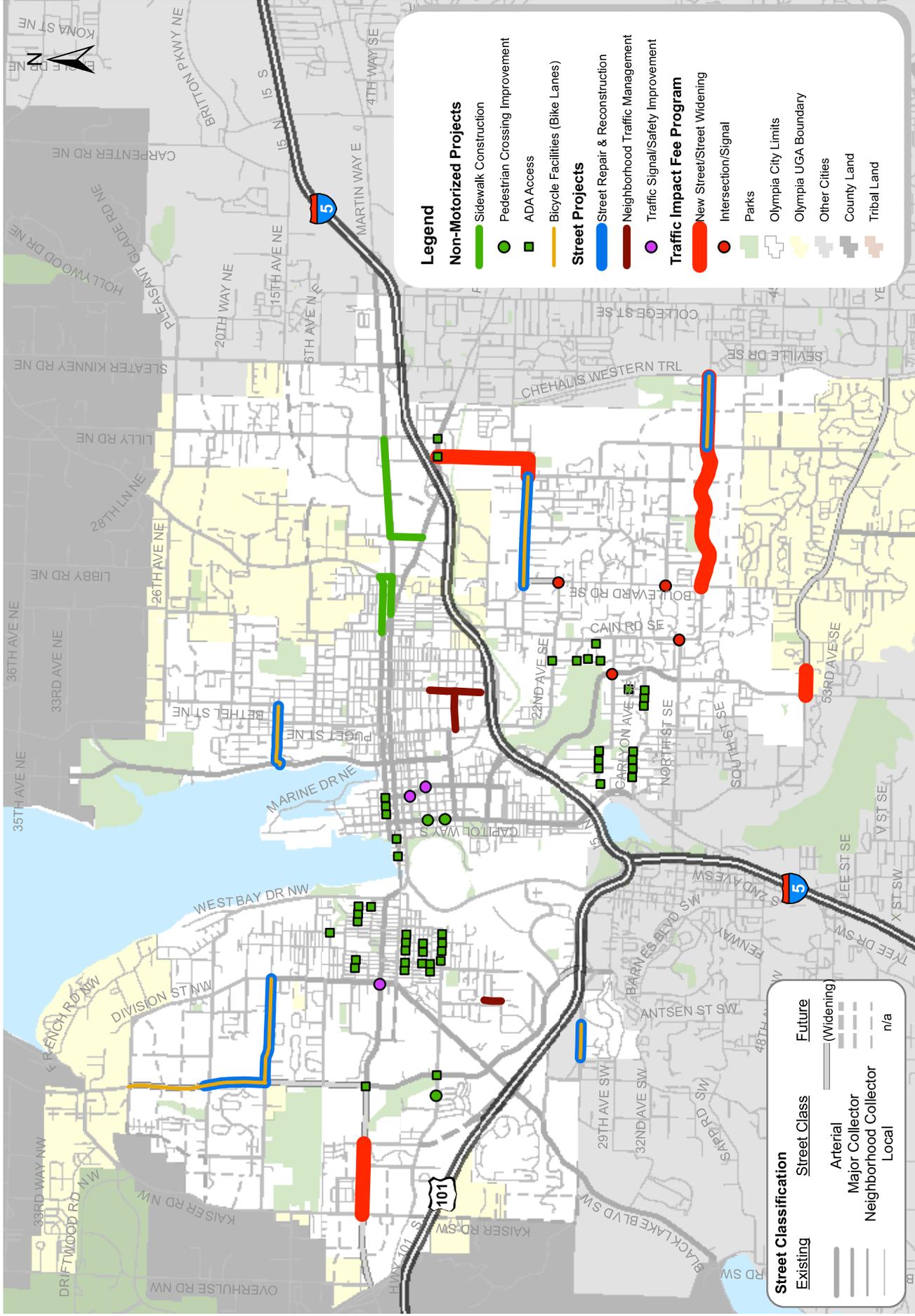
- T 1.24 Consider signal preemption devices for transit where needed to improve the reliability of transit service.
- T 1.25 specifies that an appropriate level of reliable and effective public transportation options, commensurate with the region’s evolving needs. It notes that the City is not the transit provider and that it should cooperate with Intercity Transit to implement transit LOS standards that are identified in the RTP. In Core Areas and High Density Residential Corridors, where roadway LOS allows more congestion, the goal is to maintain efficient transit schedules using the least-cost method possible.

#### Transportation Improvement Needs

The Comp Plan lists over 20 new street or street widening projects, and about 50 intersection (alignment, signalization, round-a-bout) improvement project; **planning-level cost estimates projected to be about \$160 million**. The street and intersection improvement projects also include important pedestrian and bicycle facilities.

Several projects have already been completed. Others are noted as either (a) development-driven and presumably funded by new development directly, or (b) funded in part or in whole by WSDOT or a neighboring city.

**Figure B-2** illustrates the general location of the Comp Plan Transportation Plan improvements. Several projects are included in Olympia’s current Capital Facilities Plan, as shown in **Figure B-1**.



Capital Facilities Plan Projects

Olympia Transportation Mobility Strategy

M:\108\08164 Olympia Transportation Mobility Strategy\GIS\MXD\CapFacilities.mxd

FIGURE



Figure B-2

# City of Olympia Comprehensive Plan Transportation 2025

-  Existing Arterial
-  Widening of Existing Arterial
-  Future Arterial
-  Existing Major Collector
-  Widening of Existing Major Collector
-  Future Major Collector
-  Existing Neighborhood Collector
-  Future Neighborhood Collector
-  Additional Right-of-Way for Widening Arterial or Major Collector
-  Potential High-Occupancy-Vehicle Treatments
-  Non-Motorized Improvements
-  Other Existing Streets
-  Add Turn Lane & Signal
-  Add Signal or Roundabout
-  Add Turn Lanes Only
-  Level of Service Exception Site \*
-  Roundabout
-  Level of Service F
-  High Density Residential Corridors/City Centers and Core Areas
-  Olympia City Limits
-  Urban Growth Area Boundary

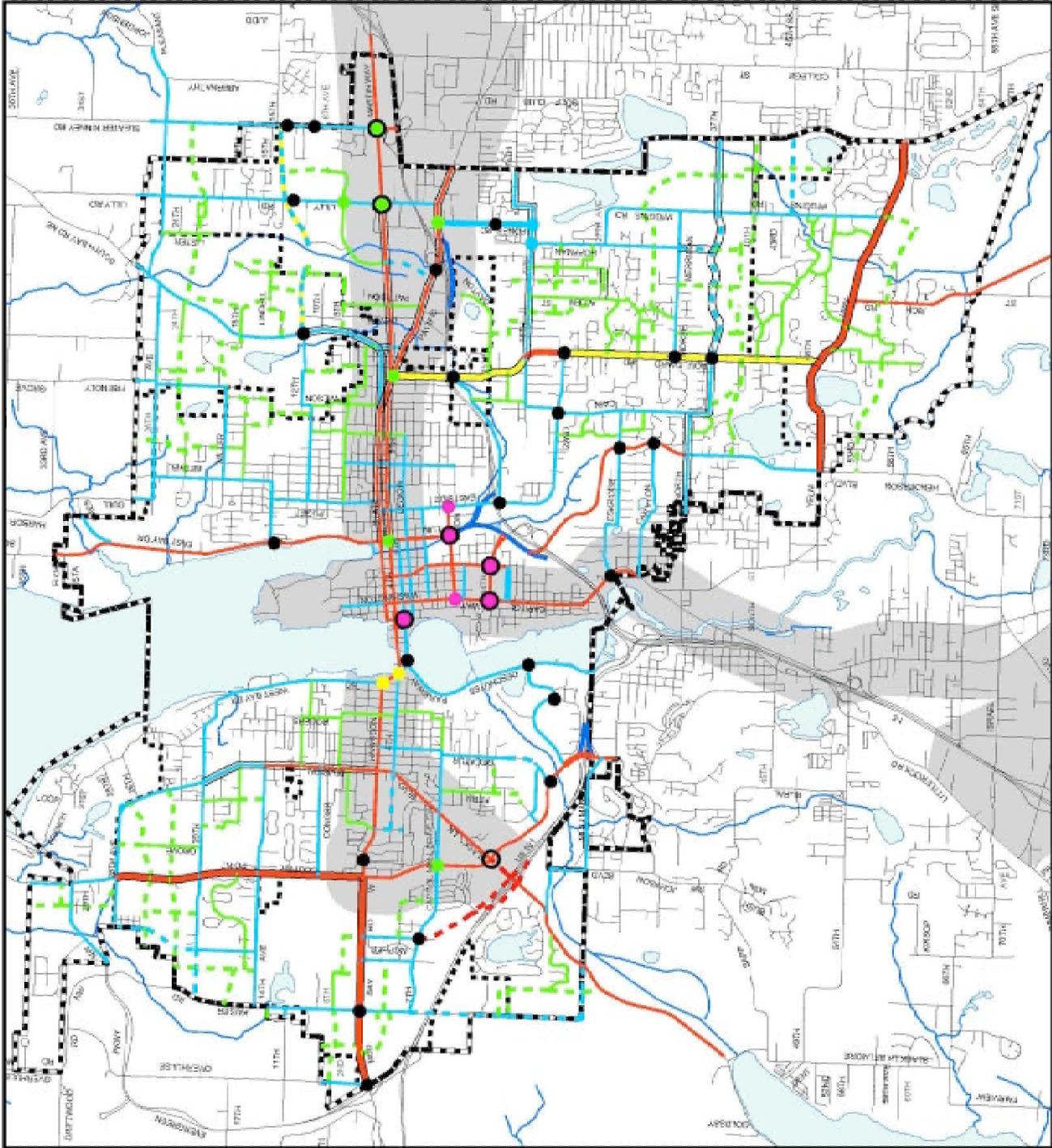
NOTE 1: The specific alignment of the streets shown will be determined based on more detailed analysis during development review, as city alignment studies.

NOTE 2: Any decision on whether to connect Decatur Street to Cedar Way, and open 16th Avenue as through vehicular connectors will not be made until the Westside Access and Traffic Circulation Study is complete.

\* Level of Service will be allowed to fall below adopted levels of service at these sites.



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## 4 POLICY OPTIONS AND EVALUATION

### **Enhanced Street Connectivity**

In the attachment memorandum *Street and Non-Motorized Connectivity*, contemporary research is noted where higher levels of street connectivity are found to yield (a) reduced auto travel per capita and (b) safer travel conditions (lower travel speeds which result in lower accident severity). These characteristics are most pronounced when higher levels of street connectivity and sidewalk system coverage compliments higher density and mixed land uses. The technical memorandum also describes common barriers to achieving connected street and non-motorized networks, and various methods in measuring connectivity quality.

### **Multi-Modal Level of Service**

See Attachment Memorandum: *Multimodal Level of Service and Concurrency* for the evaluation of options.

### **20-Year Transportation Impact Fee**

Olympia may want to consider refining its transportation impact fee (TIF) program. This section highlights why use of a 20-Year planning horizon is preferable to a six-year program:

- If an agency has developed a 20-year Transportation Element that is consistent with its Land Use Plan, the 20-year horizon identifies all growth related improvements that are needed to serve growth. These would not likely change until the Comprehensive Plan is modified based on new land use forecasts or transportation improvements are modified (for example the agency decides that a planned corridor can't be built as planned due to costs, environmental impacts, etc). The 20-year Transportation Plan would be incorporated into the Comprehensive Plan Capital Facilities Element, and would not need to be modified annually for the TIF to be valid.
- A 20-year horizon provides a consistent basis for identifying growth-related improvements and allocating costs to development, consistent with the overall Comprehensive Plan.
- Costs for the 20-year TIF can be updated using an annual cost escalation factor. If local construction costs increase at a faster rate, the TIF program can be recalculated relatively easily based on the 20-year Comprehensive Plan.
- A 6-year CFP-based TIF will need to be updated annually based on the specific projects included for funding during that time period. As projects are added (or deleted) from the 6-year CFP, the TIF will need to be recalculated. An agency may need to revise the Capital Facilities Element of its Comprehensive Plan to add 6-year TIF improvements if they were not included previously.
- The use of a 6-year project list may ignore the benefits of developing a new corridor or widening other corridors to serve some of the traffic being generated during the near term, thereby underestimating the actual impacts of growth and need for transportation improvements.

- TIF rates will change annually under a 6-year TIF program. If an expensive improvement project is added in a year, the TIF fees would increase (assuming the program uses the same level of growth/trip projection to allocate the TIF cost shares across). Similarly the rates could decrease if costs of more expensive projects are deleted from the TIF once they are completed. It is not as equitable to have similar developments pay significantly different TIFs from year to year – developers may wait until the fees are lower, even though their impacts have not changed.
- Using a 6-year CFP as the based for the TIF will likely result in completed projects and their costs coming out of the TIF calculation, even though future growth will benefit from the improvements similar to the prior developments when the improvement was included. GMA allows TIFs to include previously completed improvements to the extent that they serve future growth.
- The City of Ferndale has adopted a 6-year TIF program, but never kept it up to date - they are not accurately reflecting the impacts of new development as they would have if they used a longer range horizon year. This is especially true for roadways that have since been annexed, that were not in the 6-year TIF, but could have been (but weren't fully) addressed in their prior Comprehensive Plan.
- Fluctuations in the economy are unpredictable. Development may peak in certain years, and drop off significantly in others. If peak development occurs when the City's 6-year TIF supports relatively inexpensive projects, the City will likely undercharge development when compared to years in which the 6-year TIF list is more expensive. During lean years when development is slow and the 6-year TIF has relative expensive projects, the City will likely not receive sufficient TIF revenue as anticipated.

### **Street Typology – Emphasis on the Pedestrian Zone and Linkage to Transit**

Olympia's street functional classification policy and map largely compliments its recently developed and adopted street design standards, which have very well-defined multi-modal components. The combination of these policies and standards may and generally well-suited to provide the appropriate dimensions and best fit for transit , bike and pedestrian facilities to match most adjacent land use (current and planned) and the planned and emerging transit system in Olympia. A minor enhancement to these policies, in the form of a policy overlay, may be useful to better fit the future Primary Transit Network (see Appendix C) with appropriate pedestrian features.

Similar to the principles embodied within several corridor studies commissioned and completed by Staff in recent years, use of *street typologies* can be highly beneficial. Street typology helps define more unique street use and design features (e.g. intersections, sidewalks, bus stops) that support adjacent land uses have proven helpful to other cities. This is particularly true in areas where the street system and rights-of-way (ROW) have already been established (and often constrains the City's ability to ultimately fit all modal features), land is under re-development (or anticipated) with increased density, and the type and frequency of transit is planned and expected to increase.

Development of street typologies requires careful consideration of *land use context* (type, mix and density) and the trade-off decision-making necessary to accomplish the desired modal within limited and oftentimes highly constrained ROW. Primary and secondary modal prioritization within specific corridors is often required, while simultaneously examining system-wide impacts.

For example, Olympia's Comprehensive Plan embraces transit; yet its current street design standards and functional classification policy and map (while consistent) do not fully distinguish between arterial streets of a highly important transit function (Primary Transit Street) with similar streets with no transit service of any kind.

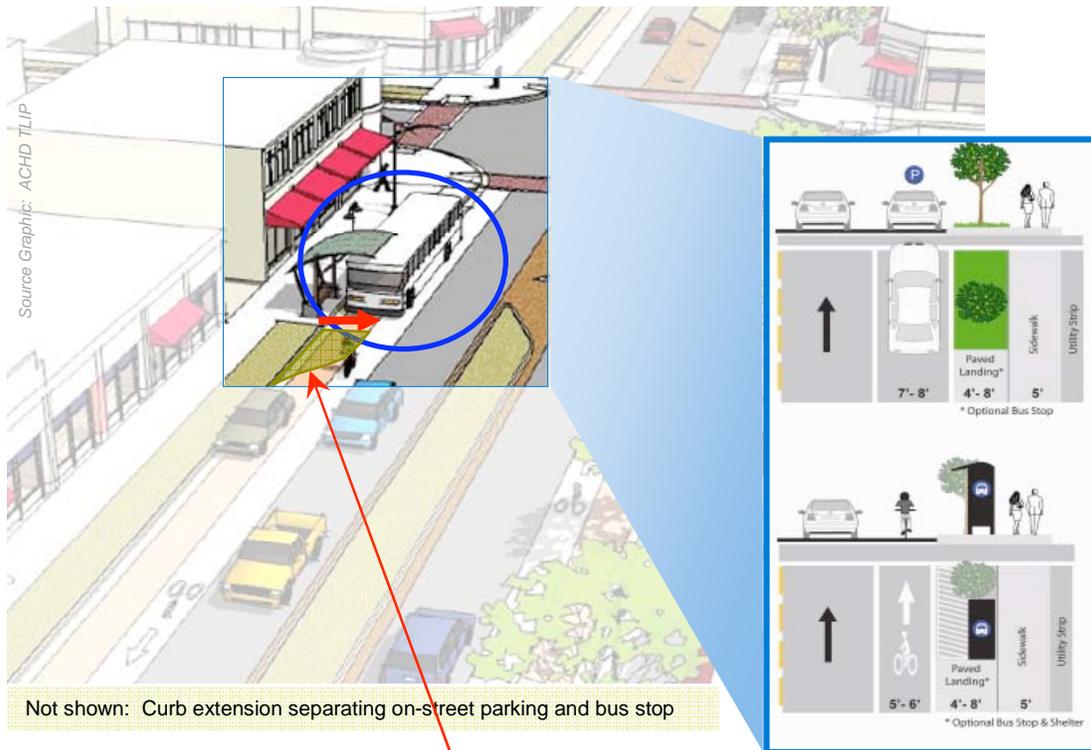
The type and width of buffering between the sidewalk and street along Olympia's arterial street types designate, with latitude, the space to build more pedestrian friendly streetscapes. Similar latitude is not readily definable along existing streets within constrained ROW.

The addition of a street typology overlay to Olympia's Street Functional Classification policy and design standards can assist the City through better planning for transit and pedestrian facilities along planned Primary Transit Streets. Typology overlays can also guide land and street network redevelopment where current public ROW is limited or constrained, by acknowledging primary and secondary modal emphasis and providing greater space for:

- **Pedestrian access**, particularly along major street corridors where additional pedestrian crossings are desired and planned.
- **Transit service and access to transit** along Primary Transit routes and within major transit station areas.

As example, Olympia's arterial and arterial boulevard street class and standard can be supplemented with a typology that is generally depicted in **Figure B-3**.

**Figure B-3: Example Street Typology Overlay – Emphasizing Transit and Pedestrian Modes**



**Primary Transit Street Typology better defined with bus stop/pedestrian platform extended to inside edge of bike lane**

### Street Function Priority

<u>PRIMARY</u>	<u>Secondary</u>
Transit	Auto/Truck
Pedestrian	Bicycle

### TRPC - Smart Corridors

In late 2008 TRPC notified the region that it was embarking on a ‘Smart’ corridor implementation proposal (using federal Congestion Mitigation and Air Quality - CMAQ – funds<sup>1</sup>) for corridor traffic signal timing optimization to improve traffic and transit flow. Two corridors were originally identified in the Smart Corridor proposal:

- Martin Way/State Avenue/4<sup>th</sup> Avenue – Marvin Road to Olympia Transit Center
- Capitol Way – from State Avenue to Tumwater Boulevard

<sup>1</sup> Northern Thurston County is an air quality “maintenance area” for particulate matter – PM10, making it eligible for federal CMAQ Program funding.

The preliminary study will evaluate possible traffic operation and design solutions, with recommendations for project definition and implementation. Federal funding could be sufficient for actual project installation. Findings of the preliminary study may identify additional corridor capacity through application of signal coordination technology to more efficiently move vehicles (cars and buses).

The Smart Corridor concept will be important for the City and Intercity Transit (IT) to consider within each of its Primary Transit routes.

Neither the CFP nor Comprehensive Plan has identified costs for the City to implement Smart Corridor technology.

### **Possible Interim Concurrency / Level of Service Policy Refinement**

Local city transportation plans in the Portland metropolitan area include vehicular level of service (LOS) standards and policies that are required to be consistent with regional plans and policies. The Regional Transportation Plan (RTP) of the Portland metropolitan area was prepared based on Metro's 2040 Growth Concept, the region's vision and land plan for the future. The 2040 Growth Concept for several downtown and regional center areas encourage a mixture of uses and higher land use densities. Metro's RTP further establishes regional performance measures consistent with the 2040 Growth Concept, coupled with a variety of context-sensitive roadway design concepts. These performance measures are used in the same way as local city LOS standards ~ as a means to gauge and define a sufficient *regional* transportation system to serve planned land use.

As part of the RTP planning process the region has concluded that it's not only too expensive, but in many places undesirable to "build its way out of congestion," particularly if needed street and highway widening improvements have significant land use and environmental impacts. Policies and plans were tested and established for regional and town centers that applied less rigid performance measures in recognition of these constraints. The revised performance measures are coupled with supportive street design policies in the RTP targeting expanded bike, pedestrian and transit features along major arterials serving the regional and town center areas.

Many cities in the Portland region have adopted similar policies and vehicle performance consistent with the RTP and statewide Transportation Planning Rule (similar to GMA but lacking "concurrency" requirements). **Table B-1** summarizes the vehicle LOS standards from a number of local jurisdictions. Several jurisdictions have adopted multi-hour thresholds, measuring separate peak hour and second hour or off-peak hour thresholds. Also included in Table B-1 are the LOS standards for cities in Washington, including Bellevue and Redmond.

Fundamentally, the intent of a multi-hour LOS policy is to balance the needs for arterial traffic flow but placing significantly higher emphasis on a quality streetscape for livability in downtown and high-use activity centers. As example, LOS "F" may be deemed tolerable during the evening commuter peak hour in a downtown area, so long as

- (a) off-peak LOS conditions are “E” or “D” (more livable), and
- (b) there are system facilities or mitigating plans for good streetscape design and expansion of the pedestrian, bicycle and transit features in the immediate area.

Olympia’s current LOS thresholds are sufficient for the continued implementation of its concurrency program while other options are explored. By relaxing these thresholds (prior to other program modifications as recommended below) will likely result in a number of adverse conditions:

- the number and/or type of transportation impact fee eligible projects will decrease, lessening the overall impact fee program, and
- greater development approvals will generate high traffic volumes and congestion, without mitigation, which will adversely affect on-street transit operations (sooner, rather than later).

**Table B-1: Motor Vehicle Performance Measures**

Jurisdiction	Peak Period (one- or two-hour)	Level of Service (LOS)	Volume-to-Capacity (V/C)
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**Oregon**

<i>Lake Oswego</i>	1-Hour Period		E	.90 - .99
<i>Tigard</i>	1-Hour Period		E	.90 - .99
<i>Tualatin</i>	Town Center/2040	1 <sup>st</sup> Hr	F	
		2 <sup>nd</sup> Hr	E	
	Other	1 <sup>st</sup> Hr	E	
		2 <sup>nd</sup> Hr	E	
<i>Washington County</i>	(AM or PM peak period)			
	Main Streets2-Hour Period	1 <sup>st</sup> Hr	Target	E 0.99
			Acceptable	E 0.99
		2 <sup>nd</sup> Hr	Target	D 0.90
			Acceptable	E 0.99
	Urban Area2-Hour Period	1 <sup>st</sup> Hr	Target	D 0.90
			Acceptable	E 0.99
<i>METRO RTP - Town Center</i>	Mid-Day	Preferred		C
		Acceptable		E
	2-Hour AM or PM Peak Period	Preferred		E
		1 <sup>st</sup> Hr		E
		2 <sup>nd</sup> Hr		E
		Acceptable		F
		1 <sup>st</sup> Hr		E
		2 <sup>nd</sup> Hr		E

**Washington**

<i>Bellevue</i>	SEPA P.M. Peak Hour			E
	Concurrency P.M. Peak Hour	Regional Center		.95
		Mix Comm/Res		.90
		Residential		.80-.85
<i>Redmond</i>	P.M. Peak Hour	Downtown		E+
		Mixed Neighborhoods		D-
				D+
				.95
				.90
				.85

## 5 FINDINGS and RECOMMENDED POLICY

### Findings

The most notable findings in review of Olympia’s Comprehensive Plan, various modals plans, Capital Facility Plan, Concurrency Program and contemporary research relevant to motorized travel are listed here.

- Olympia desires a balanced, multi-modal system to meet its Comprehensive Plan and Vision. Olympia has recently revised its codes and standards for better, multi-modal system development.
- Olympia’s Comprehensive Plan identifies a future target mode share of 60% Drive Alone, helping it achieve its goals for a sustainable transportation system, with reduced reliance on the automobile for mobility needs, resulting in a reduction in greenhouse gas emissions (per capita). In addition to transportation-efficient land use, developing a *well connected* street and non-motorized system is key to achieving the Olympia’s Comprehensive Plan goals.
- Consistent City policies have also set maximum speeds (35 mph) and maximum vehicular lane counts (four, plus center lane) as “human scale” design limits. Integral to its growth management strategy these policies may indirectly encourage mode-share shift away from drive-alone travel. Rather than widening multi-lane arterials beyond the human scale, the City will (at least partially) accommodate the impact of growth by adding capacity through system management techniques like the “Smart Corridor” and completing its streets with critical bicycle and pedestrian facility upgrades to meet its multi-modal street design standards.
- The City has recently made significant progress towards improving the quality of its current street pavement, which required significant, local re-investment. Similar funding levels will be required to sustain the quality of the City’s existing street system.
- Olympia’s long-range transportation plan appears to identify the appropriate street and intersection improvements to serve the expected impact of its land use plan, as defined in the Comprehensive Plan. The Concurrency Program appears to be matching growth with infrastructure investment plans within the next six years. It is likely that the City’s general revenue program will be unable to maintain support of the Concurrency Program over the next 20-25 years, as it appears overly reliant on grant funds to match transportation impact fees for street capacity improvements. Significant long-range funding shortfall is expected for those projects that help create Complete Streets – in the form of bicycle lane and sidewalk improvements to meet City standards - see **Appendix D - Non-Motorized Travel**.
- An adjustment to the City’s Concurrency Program, one that considers multi-modal measures (not necessarily new LOS measurement techniques) will help fine-tune the

City's overall Concurrency program, consistent with its Comprehensive Plan vision, goals and policy.

## **Recommended Policies**

Olympia's transportation plans and policies have been very well prepared. Some refinement is needed for Olympia to achieve its goals and vision. This section includes specific recommendations for policy and program refinement<sup>2</sup> in the following five areas: street connectivity, concurrency program, street typology, smart corridors and funding.

### **1. Street Connectivity**

Local policies and statutes are required to help ensure street and non-motorized connectivity measures are implemented. This section summarizes five areas of policy refinements Olympia should pursue and adopt to implement improved local street networks. They include: *Complete Streets* policy, mapping required local street connections, local street and non-motorized network connectivity policies, revisions to development codes, and implementation of connectivity measurement tools for plan evaluation.

#### **A. Adopt Complete Streets Policy**

*Complete Streets* are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street. Creating *Complete Streets* means transportation agencies must change their orientation toward building primarily for cars. Instituting a *Complete Streets* policy ensures that transportation agencies routinely design and operate the entire right of way to enable safe access for all users. Places with *Complete Streets* policies are making sure that their streets and roads work for drivers, transit users, pedestrians, and bicyclists, as well as for older people, children, and people with disabilities.

Much of Olympia's current policies, standards and plans already reflect the very nature of Complete Streets. New statewide GMA legislation is expected over the next few years that may require a locally-adopted Complete Streets policy as an important evaluation criterion for statewide transportation grants.

If for no other reason than formality, Olympia should consider and adopt a *Complete Streets* policy in the general form of:

**Guiding Principle:** To design, operate and maintain City's streets to promote safe and convenient access and travel for all users; pedestrians, bicyclists, transit riders, and disabled users, as well as cars and trucks. This will be accomplished by -

1. Designing, operating and maintaining the transportation network to improve travel conditions for bicyclists, pedestrians, transit and freight, in a manner consistent with and supportive of the surrounding community;

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<sup>2</sup> Olympia's local development code was not reviewed prior to preparing this report. Some of these recommended policies or portions of them may already be embodied in the City's development code.

2. Providing where practical an array of facilities and amenities that are recognized as contributing to *Complete Streets*, including: street and sidewalk lighting; pedestrian and bicycle safety improvements; access improvements for freight; access improvements in accordance with the Americans with Disabilities Act; public transit facilities accommodation, including but not limited to pedestrian access improvement to transit stops and stations; street trees and landscaping; and street amenities; and
3. Implementing policies and procedures with the construction, reconstruction or other changes of transportation facilities on arterial streets to support the creation of *Complete Streets* including capital improvements, rechannelization projects and major maintenance, recognizing that all streets are different and in each case user needs must be balanced.

### **Map Required *Local Street* Connections**

Olympia maps new (future) arterial and collector street connections in the comprehensive Plan as a guide for new development to complete important street connections. For the same reason, mapping important *local* street connections in areas of future development helps ensure important connections are built between new development and the existing street and pathway networks. The purpose of the mapping is to identify contiguous areas of vacant and under-developed parcels (area size to be determined locally) of planned or zoned residential or mixed-use development, and prepare a conceptual local street plan that identifies the most important local street and exclusive non-motorized path connections that will improve local access and preserve the integrity of the street functional classification system and pedestrian and bicycle system plans. This local street plan map is then used in the development review and permitting process to ensure the construction of local street connections to adjacent areas that promote a logical, direct and connected local street system (see Technical Memorandum *Street and Non-Motorized Connectivity* for map example).

Olympia should develop the local street connection map or set of maps and adopt it as part of the Comprehensive Plan and relevant land development regulations. The maps should indicate potential connections and the general direction for the placement of the street and critical non-motorized connections. The policy should note that specific alignments and design will be determined at the development plan review stage. The criteria used to identify these connections are as follows:

- 330-foot grid for pedestrians and bicycles
- 500- or 530-foot grid for automobiles

### **Adopt Local Street Connectivity Policies**

Olympia should adopt the following local street connectivity policies:

- *Connectivity to the Street System and Neighborhood Activity Centers* - Applicants submitting preliminary development plans shall provide for local street connections toward existing or planned streets and neighborhood activity centers located within one-half-mile of the development.
- *Connectivity of New Developments to Adjoining Undeveloped Land* - Applicants submitting preliminary development plans shall provide for extension of local streets to adjoining undeveloped properties and eventual connection with the existing street system. Street alignments should be



### **Develop Connectivity Metric for Citywide Plan Evaluation, Development Site Plan Review and Evaluation, and Concurrency Program**

Olympia should consider the connectivity measurements summarized in the technical memorandum *Street and Non-Motorized Connectivity* and establish new measurement baselines. This effort will require a moderate level of GIS analysis to determine current baseline street and non-motorized system metrics for both small geographic areas (census block group) and larger concurrency zones. The analysis will help determine the most appropriate connectivity measure for use in Olympia’s planning, and desired connectivity thresholds by distinctive land use characteristics identified in the Land Use element of the Comprehensive Plan. The connectivity measure should then be used to supplement plan findings and prioritization schemes, and will serve to better monitor successful implementation of street and non-motorized path network improvements that meet established criteria. Measuring intersection density (percent four-way intersections) as the primary connectivity index is recommended, as it has been identified as a consistent transportation metric that reflects variation in both (a) mode-share and (b) traffic safety.

Examples metrics might include:

- Percent completion of (a) local street, (b) pedestrian, and (c) bicycle networks meeting planning criteria (e.g., number of improvements, miles of improved local street network and non-motorized network), and
- Improvement in connectivity index (e.g., yes/no, percent change in index for the project’s area – could be a section or other sector).

Enhanced metrics for connectivity will help local plan and policy in a number of ways:

- registration and documentation of important/priority of exclusive, non-motorized connectors, which contribute to overall and improved connectivity,
- quantify the need for pedestrian crossings along major arterials, and in combination with measures of greater land use density and mix, establish quantification measures that demonstrate nexus to vehicle miles traveled per capita, helping address emerging greenhouse gas emissions policy, and
- supplement the City’s Concurrency Program for multi-modal measures (see below).

## **2. Concurrency Program Refinement – New Person-Trip Capacity**

To address GMA requirements, promote and encourage in-fill and transit-oriented developments, promote and encourage non-motorized and transit travel, help achieve mode-share targets and reduced emissions (per capita), Olympia should reconsider its Concurrency Program. Revisions should include non-motorized planning needs analyses which define and prioritized Concurrency “system” improvement needs (connectivity) rather than “project” needs. TRPC’s current Regional Travel Demand Model and household activity survey should be employed to help quantify mode-share and validate current auto and transit system demand and supply. With relative ease, current system data used in a multi-modal

concurrency program includes street volumes (peak hour(s) to be chosen) and capacity, peak hour transit ridership and capacity system, non-motorized “system” priorities (see Non-Motorized Travel report), and (d) person-trip credits for non-motorized facility improvements made by development matching “system” needs for those developments exceeding concurrency thresholds.

Olympia should evaluate and test Bellingham’s new concurrency program. It has several elements that are of significant potential for local adoption:

1. It’s based on person trips rather than auto trips, a policy emphasis more consistent with Olympia’s Comprehensive Plan.
2. Does not require travel demand model development, refinement and annual application; which can require extensive staffing and cost and is likely difficult to track.
3. Offers unique adjustments for transportation-efficient land use plan areas (e.g. density, mixed-use, transit-, bike- and pedestrian-friendly uses).
4. Encourages land development in areas where transit and non-motorized systems are more complete and have available capacity.
5. Provides additional person-trip capacity for developments that provide concurrency mitigation by direct funding or construction of priority pedestrian and bicycle facilities within specific concurrency service areas. These concurrency mitigation steps to directly fund non-motorized improvements are separate from the traffic impact fee program.

Bellingham’s new program is a good one to consider as a baseline for further refinement and testing, but is not suited for immediate application in Olympia. Olympia will need to conduct more detailed assessment of key concurrency program elements prior to policy adoption:

- Evaluate need for refinement to original designation and drawing of concurrency service area boundaries – determine whether current four service area boundaries are sufficient, or if further disaggregation is needed to best apply modal preference and mitigation requirements.
- Assess and refine (if needed) current vehicular LOS thresholds to determine appropriate capacity thresholds, considering prevailing land use plan objectives, per service area.
- Refine non-motorized plans to also include additional pedestrian crossing (arterial and collector street crossings) and neighborhood connector projects as potential concurrency mitigation measures, by service area.
- Integration of street and non-motorized system connectivity indices coupled with “percent complete” measures as critical thresholds for non-motorized person-trip credits, by service area.
- Consideration of Transit plan recommendations for Primary Transit Network (additional transit system capacity).
- Consideration of transportation demand management (TDM) and transit system projects (and their costs) suitable for concurrency mitigation (see Transit Master Plan and Modal Report), by service area.

- Consideration of long-term (20-year), land development potential in the form of person-trip generation), with comparison to concurrency person-trip capacity and potential mitigation measures and their costs.

The technical and policy evaluation of a revised concurrency program may take as many as 12-24 months.

Until the evaluation is complete, Olympia should not adjust its current LOS standards.

### **3. Street Typology**

The City should consider the addition of a street typology overlay to Olympia’s Street Functional Classification policy and design standards to better plan for transit and pedestrian facilities along planned Primary Transit Network (see Appendix C) routes. Typology overlays help emphasize primary (transit and pedestrian) and secondary (auto) modal priority by providing greater space for:

- **Pedestrian access**, particularly along major street corridors where additional pedestrian crossings are desired and planned.
- **Transit service and access to transit** along Primary Transit routes and within major transit station areas.

### **4. Smart Corridors**

Olympia should consider the outcome of the Smart Corridor study and coordinate with TRPC and IT in support of full federal funding for traffic signal coordination enhancements within the test corridors. The study findings and operational results will likely demonstrate the merit of extending the Smart Corridor concept elsewhere within the City and region.

### **5. Funding**

The City is maintaining its Concurrency Program, with targeted infrastructure expansion with vehicle capacity (streets and intersection projects) to meet the impact of foreseeable, short-term (6-year plan) growth planning. Other street improvements in the Comprehensive Plan may require an investment level that the City might not attain within the longer-term plan (20-25 years). This is especially true when the costs of the “complete street” projects to improve pedestrian (Sidewalk Program) and Bicycle Master Plan program needs are also considered.

**Summary: Priority and Timeline of Recommended Policies**

<b>Recommended Policy</b>	<b>Priority</b>	<b>Timeframe (years)</b>
Adopt Street and Non-Motorized Connectivity Policies <i>Complete Streets Policy</i> Map Required Local Street Connections Local Street Connectivity Policies Revise Development Code (if needed)	High	1
Develop Street and Non-Motorized Connectivity Metrics	High	1
Revise Transportation Impact Fee to 20-Year Plan Base	High	1-2
Evaluate and Adopt Multi-Modal Concurrency Program and Policy	High	1-3
Enhance Local Funding (pending outcome/performance of revised concurrency program)	Moderate	4-5
Adopt Street Typology Overlay	Moderate	4-5