

- T-18.7: Support reconstruction of the I-5/SR 512 interchange to improve access to the Lakewood Industrial Park.
- T-18.8 Support new access improvements to American Lake Gardens that facilitate industrial development.
- T-18.9: Explore future opportunities to grade separate rail traffic from street arterials where significant safety hazards or traffic congestion warrant.

6.6 Level-of-Service Standards and Concurrency

6.6.1 Definitions

The GMA requires the adoption of LOS standards for arterial streets to serve as a gauge to judge the quality and performance of the transportation system. The LOS standards for arterial streets selected for Lakewood are based on the peak hour LOS for special roadway links designated on Figure 6.3.

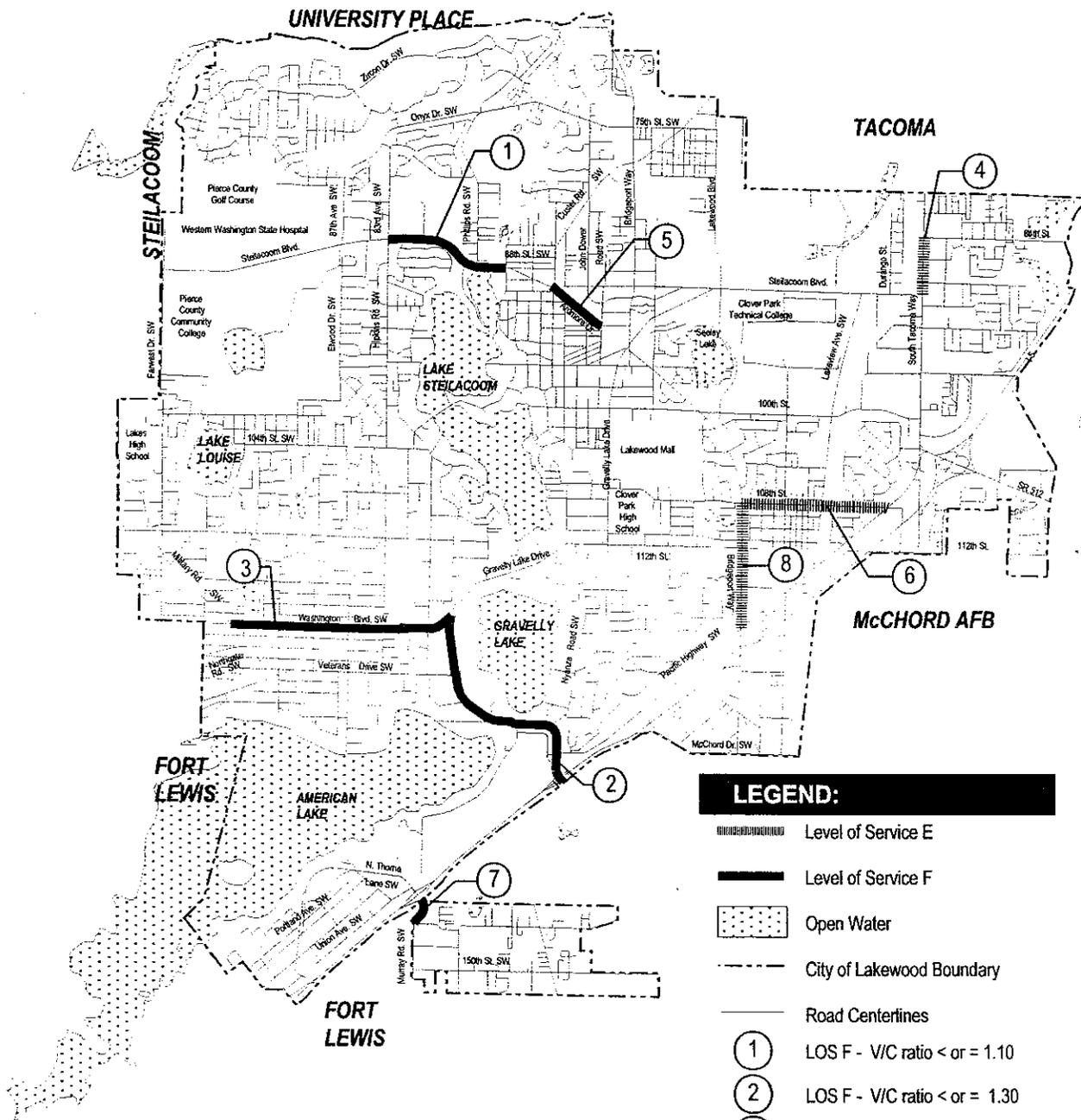
Level-of-service standards required by the GMA are closely related to the issue of concurrency. The GMA requires transportation improvements to be made concurrent with development. Once a street exceeds its LOS standard, improvements must be planned within six years to improve the street's performance to a level that does not violate the standard. If planned improvements were to exceed the six-year time frame, new development that would add traffic to the street could not be approved.

The most common approach to LOS for roads is the ratio of traffic volume to the design capacity of a facility. The measurement can be taken at intersections or on roadway segments. It can be measured during the peak hour of travel or for total traffic throughout the day. These volume-to-capacity (v/c) ratios are typically converted to letter grades "A" through "F," as described in the Transportation Research Board's *Highway Capacity Manual*. The letter "A" represents the least amount of congestion, while the letter "F" represents the highest level of congestion.

Level-of-service standards can be chosen for different arterials within a city. Levels-of-service should desirably be the same on both sides of a city/county boundary; however, different goals on either side of a boundary can be legitimate reasons for two jurisdictions to establish different standards.

6.6.2 Goals and Policies

GOAL T-19: Apply standardized performance measurement criteria to monitor transportation LOS.



LEGEND:

-  Level of Service E
-  Level of Service F
-  Open Water
-  City of Lakewood Boundary
-  Road Centerlines
-  LOS F - V/C ratio < or = 1.10
-  LOS F - V/C ratio < or = 1.30
-  LOS F - V/C ratio < or = 1.25
-  LOS E - V/C ratio < or = 1.00
-  LOS F - V/C ratio < or = 1.05
-  LOS E - V/C ratio < or = 1.00
-  LOS F - V/C ratio < or = 1.05
-  LOS E - V/C ratio < or = 1.00

NOTE: All other arterial streets to be LOS D or better, V/C < or = 0.9

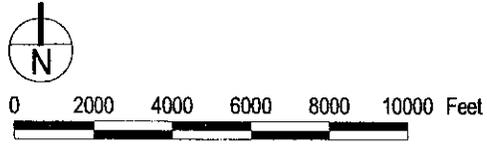


Figure 6.3
Designated Level of Service Thresholds

Source: Pierce County GIS / Lakewood Parcel Survey Database / EDAW Inc., 1999.

Policies:

- T-19.1: Monitor road performance using the *Highway Capacity Manual's* standardized A-F LOS measures:
- LOS A is defined as representing a free flow condition. Travel speeds are typically at or near the speed limit and little to no delay exists. Drivers have the freedom to select their desired speeds and to make turns and maneuver within the traffic stream.
 - LOS B is defined as representing stable flow. Drivers still have some freedom to select their travel speed. Average delays of 5 to 15 seconds per vehicle are experienced at signalized intersections.
 - LOS C is defined as falling within the range of stable flow, but vehicle travel speeds and maneuverability are more closely controlled by higher traffic volumes. The selection of speed is not affected by the presence of others, and maneuvering within the traffic stream requires vigilance on the part of the driver. Longer average delays of 15 to 25 seconds per vehicle are experienced at signalized intersections.
 - LOS D is defined as approaching unstable flow. Travel speed and freedom to maneuver are somewhat restricted, with average delays of 25 to 40 seconds per vehicle at signalized intersections. Small increases in traffic flow can cause operational difficulties at this level.
 - LOS E is defined as representing operating conditions at or near the capacity of the roadway. Low speeds (approaching 50 percent of normal) and average intersection delays of 40 to 60 seconds per vehicle are common. Freedom to maneuver within the traffic stream is extremely difficult. Any incident can be expected to produce a breakdown in traffic flow with extensive queuing.
 - LOS F is defined as forced flow operation at very low speeds. Operations are characterized by stop-and-go traffic. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Long typical delays of over 60 seconds per vehicle occur at signalized intersections.
- T-19.2: Collaborate with adjacent jurisdictions to develop appropriate LOS standards where roadway centerlines serve as a jurisdictional boundary.
- T-19.3: Work toward developing a multi-modal LOS standard.

GOAL T-20: Adopt the following arterial LOS thresholds for maintaining transportation concurrency on arterial streets in Lakewood (These level of service thresholds were used in the impacts analysis described in Chapter 3 of the SEPA EIS).

Policies:

- T-20.1: Maintain LOS F with a v/c ratio threshold of 1.10 in the Steilacoom Boulevard corridor between 88th Street SW and 83rd Avenue SW.
- T-20.2: Maintain LOS F with a v/c ratio threshold of 1.30 on Gravelly Lake Drive between I-5 and Washington Blvd. SW.
- T-20.3: Maintain LOS F with a v/c ratio threshold of 1.25 on Washington Boulevard SW, west of Gravelly Lake Drive.
- T-20.4: Maintain LOS F with a v/c ratio threshold of 1.05 on Ardmore Drive SW between Steilacoom Blvd. SW and Whitman Avenue SW.
- T-20.5: Maintain LOS F with a v/c ratio threshold of 1.05 on Murray Road SW north of 146th Street SW.
- T-20.6: Maintain LOS E with a v/c ratio threshold of 1.00 on South Tacoma Way between 84th Street S and Steilacoom Boulevard SW.
- T-20.7: Maintain LOS E with a v/c ratio threshold of 1.00 on 108th Street SW between Pacific Highway SW and Bridgeport Way W.
- T-20.8: Maintain LOS E with a v/c ratio threshold of 1.00 on Bridgeport Way SW between Pacific Highway SW and 108th Street SW.
- T-20.9: Maintain LOS D with a v/c ratio threshold of 0.90 on all other arterial streets in the city, including state highways of statewide significance.

(The traffic conditions at these locations have high congestion levels. Improving existing LOS would require road improvements beyond the funding capacity of the City's capital facilities plan. The above-listed policies acknowledge the City's inability to fund the road improvements necessary to lower the LOS.)

GOAL T-21: Use traffic management strategies and land use regulations to protect street and network LOS standards.

Policies:

- T-21.1: Establish mitigation requirements for new development where LOS is expected to fall below acceptable standards as a result of that development.
- T-21.2: Limit new development to areas where LOS standards can be maintained and restrict development in areas where they cannot be maintained.
- T-21.3: Use road widening only as a last resort to address LOS deficiencies, except in areas where roadways are substandard and improving them to standards would increase their contribution to overall LOS.
- T-21.4: Ensure that comprehensive plan amendments, rezones, master plans, conditional uses, and other significant land use proposals are reviewed with consideration of the proposal's impact on street LOS standards.

6.7 Reassessment Strategy

The arterial level of service thresholds established above will be monitored over time. For locations that may exceed the level of service threshold in the future, a different threshold would need to be established or a specific facility improvement would need to be identified and programmed for funding within six years.

While the future of transportation financing from state and federal sources remains uncertain at present, there are mechanisms available to municipalities to generate revenue for, or otherwise encourage private investment in, transportation facilities. If the above proactive policies fail to maintain future levels of service within the established LOS thresholds, the City of Lakewood will resort to some combination of the following TDM/TSM and land use strategies to bring any LOS deficiencies back into compliance under GMA concurrency requirements:

- Coordinate timing of new development in LOS-deficient areas with fully-funded improvements identified in the required six-year transportation improvement plan.
- Provide for routing traffic to other roads with underutilized capacity to relieve LOS standard deficiencies, but taking into consideration the impact of additional traffic on the safety and comfort of existing neighborhoods.
- Aggressively pursue the following TDM strategies, including parking management actions in dense commercial centers:

- Install parking meters on streets within and adjacent to commercial centers;
 - Develop public parking facilities and use cost pricing to discourage SOV commuting;
 - Institute a municipal parking tax;
 - Set maximum parking space development standards and reduce over time to further constrain parking supply;
 - Support charging for employee parking and providing monetary incentives for car and vanpooling;
 - Partner with Pierce Transit to identify public and/or private funding for expanded transit service during peak and off-peak times along LOS-deficient corridors.
- Aggressively pursue federal and state grants for specific transportation improvements on LOS deficient roadway segments.
 - Make development density bonuses available to developers who provide additional transit, bicycle, and pedestrian-friendly amenities beyond the minimum requirements.
 - Reassess commercial and residential development targets by planning area and make adjustments to channel development away from LOS-deficient corridors.
 - Adjust LOS standards to accept higher levels of traffic congestion in corridors where none of the previous strategies are feasible, or where LOS deficiencies still occur after all feasible strategies have been implemented.