



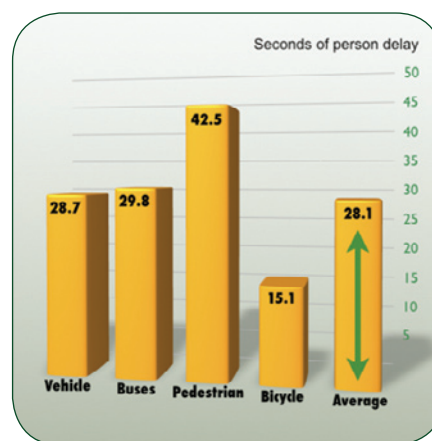
Customer-Based LOS Analysis and Policies

Tools and Policies for considering all transportation systems users

Many planners and engineers feel somewhat constrained by existing practices that require jurisdictions to maintain a minimum level of service (LOS) for traffic operations. These requirements make infill, high-density, pedestrian/bicycle-oriented development, or transit-oriented development difficult to approve due to impacts that they may have on already-congested traffic circulation. The state of the practice for many jurisdictions is to require that transportation facilities, typically intersections, operate at, or better, than a designated LOS threshold, which is measured using average vehicular delay. Often, this policy results in mitigation requirements in the form of increased vehicular capacity at locations where a development may be expected to add traffic and degrade levels of service beneath these acceptable thresholds.

While capacity expansion aimed at moving more cars and trucks through an intersection may reduce the average vehicle delay at an intersection, it may have a negative impact on other modes of transport such as pedestrians, bicycles, and transit. The goal of most local planning agencies with respect to transportation is primarily focused on the movement of people during commute hours, rather than the movement of vehicles. However, current practices treat all types of vehicles nearly equal such that delay imparted to a fully-occupied transit vehicle is weighted the same as delay to two single-occupant vehicles. In recognition of this bias, Fehr & Peers has developed new tools and policies designed to bring a multi-modal or multi-user perspective to transportation planning.

Multi-Modal Intersection Analysis Using Person Delay to Measure Performance



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- **Who needs this?**

Public Agencies, Institutions, and Developers - Any entity that is planning or sizing public transportation infrastructure where multiple modes are present should consider using simulation tools that are capable of analyzing delay to all intersection and roadway system users.

- **How is it better than what I already have?**

Conventional analysis tools based on the Highway Capacity Manual methodology for intersection analysis are based on vehicle delay. This creates a bias towards drivers versus other system users such as pedestrians, bicyclists, or transit riders. Further, most LOS policies don't consider the tradeoffs between designing the roadway system for vehicles versus other modes.

- **Who else is using it?**

Local jurisdictions in urbanized areas and institutions such as major universities have applied these tools and policies. Regional agencies such as MPOs and state DOTs are also starting to take notice as interest in Complete Streets continues to grow. Having the ability to analyze traffic operations across all modes is an important aspect of communicating Complete Street concepts.

