

CATSO 2030 Long Range Transportation Plan

CHAPTER FIVE: TRANSPORTATION SYSTEM MANAGEMENT

1. Levels of Service

Level of Service is defined as conditions within a traffic stream as perceived by the users of a traffic facility. In practice, levels of service have been defined by measures of effectiveness for each facility type, relating more to speed, delay and density than to qualitative factors or safety.

The following describes levels of service, according to the Highway Capacity Manual.

Level of Service A describes primarily free flowing operations at average travel speeds usually about 90 percent of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.

Level of Service B represents reasonably unimpeded operations at average travel speeds usually about 70 percent of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome.

Level of Service C represents stable operations. However, ability to maneuver and change lanes in mid-block locations may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50 percent of the average free flow speed for the arterial class.

Level of Service D borders on a range on which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40 percent of free flow speed.

Level of Service E is the point at which the roadway has reached its maximum capacity. Traffic operations are unstable, speeds and flow rates fluctuate, and there is little independence for driver speed selection or maneuvering.

Level of Service F characterizes forced flow at extremely low speeds below one-third to one-quarter of the free flow which will drop to zero at times. Intersection congestion is likely at critical signalized locations, with high approach delays resulting. Adverse progression is frequently a contributor to this condition. .