Detailed Level–of-Service (LOS) Descriptions:

Level of service is a qualitative measure used to describe the operational conditions of the traffic stream along sections of roadways or at intersections. Generally expressed in terms of ability to maneuver within the traffic stream, delay, driver comfort, ability to obtain desired speeds, and safety.

There are six levels into which operations are stratified. Letter designations A through F are used to denote each level. Like a report card, the letter A is used to describe the best or highest order, and F describes the lowest order or worst conditions. Level of Service for roadway sections and intersections is treated and described differently. Level of service for roadway sections is defined in terms of vehicle density in the traffic stream and speed. These units are usually passenger cars per hour per lane and miles per hour.

For intersections, level of service is defined in terms of average stopped delay at the intersection. The unit of delay is seconds.

The general descriptions of the operational levels are as follows:

LOS A

Roads – Free flow operations. Posted speeds are easily maintained. Vehicles are almost completely unimpeded in their ability to maneuver in the traffic stream. Driver comfort is at a maximum.

Intersections – Very low delay, at most 5 seconds per vehicle. Progression through the intersection is extremely favorable. Most vehicles arrive on the green phase and do not stop at all.

LOS B

Roads – Stable flow. The presence of other vehicles is now evident. The ability to maneuver in the traffic stream is now slightly impeded. The driver comfort and convenience is still high.

Intersections – Average vehicle delay is between 5 and 15 seconds per vehicle. Generally good progression through the intersection.

LOS C

Roads – Represents stable flow. The presence of other vehicles is now evident such that selection of speed and maneuverability are now significantly affected. Driver comfort and ease of operation decline noticeably at this level.

Intersections – Delay is greater than 15 seconds, up to 25 seconds. Cycle failures (green light not being able to process the traffic queue) are now occurring.

LOS D

Roads – The lower end of the stable flow. Speed and maneuverability are severely restricted. Driver comfort and convenience is now poor. At this level even a minor incident in the traffic stream can be expected to cause queuing.

Intersections – Delay is greater than 25 seconds up to 40 seconds. Congestion becomes noticeable. The proportion of vehicles not stopping declines.

LOS E

Roads – This is operation at or near capacity, where virtually no usable gaps in the traffic stream exist. Maneuvering in the traffic stream is extremely difficult and usually requires forcing another vehicle to yield. Any incident in or along the traffic stream will cause a disruptive wave propagating upstream to the next intersection or interchange. This may also cause significant reductions in speeds, at times approaching 15-20 miles per hour.

Intersections – Delay is greater than 40 seconds up to 60 seconds. Cycle failures are frequent. Vehicle progression is poor.

LOS F

Roads – Forced or breakdown flow. Demand exceeds the roadway's capacity. Movement in the traffic stream is stop and go. At this level even minor incidents or disruptions cause queuing that extends significant distances upstream along the roadway. Traffic flow may fluctuate between stopped and slow moving.

Intersections – Delay is significant, in excess of 60 seconds. The amount of vehicles approaching the intersection is great than its capacity.