

APPENDIX G: LEVEL OF SERVICE ANALYSIS DEFINED

Level of Service (LOS) analysis quantifies how well a section of roadway is operating under peak hour traffic volumes based on the driver's expectations. In other words, this classification is based on calculating the quality or efficiency of the traffic flow for the motorist. The delay is calculated based on the difference between the travel time actually experienced and the travel time that would have been experienced under ideal road conditions. *The Highway Capacity Manual* provides a methodology for calculating the LOS for rural two-lane roadways such as Route 112. Two-lane highways are categorized into two classes for this analysis. Class 1 applies to two-lane highways that motorists expect to travel at relatively high speeds. This classification generally applies to major intercity Routes, primary arterials connecting major traffic generators, daily commuter Routes or primary links in state or national highway networks. Class 2 applies to two-lane highways where motorists do not necessarily expect to travel at high speeds. This classification generally applies to roadways that serve as scenic or recreational Routes that are not primary arterials.

The Level of Service calculation analyzes the geometry of the road, peak hour traffic volumes and environmental conditions, including the lane and shoulder widths, amount of available passing, and the mix of vehicle types in order to calculate the performance rating. LOS is based on a scale "A" through "F". "A" is the best and "F" the worst and have the following general definitions:

- LOS A – Describes the highest quality of service, when drivers are able to drive at their desired speed. The passing frequency required to maintain these speeds has not reached a demanding level with drivers delayed less than 40 percent of the time.
- LOS B – The demand for passing to maintain desired speeds becomes significant, with drivers being delayed in platoons (multiple vehicles following closely) up to 50 percent of the time.
- LOS C – Traffic volumes are increasing, resulting in a noticeable increase in platoon formation and size. Passing opportunities begin to become infrequent although traffic flow remains stable, in that reasonable travel speed is maintained. Slow moving and turning traffic may cause congestion. Time spent following other vehicles will be likely up to 65 percent of the time.
- LOS D – Traffic flow is unstable and the opposing flows begin to operate separately as passing opportunities become very limited. Passing demand is high, but passing capacity approaches zero. Turning vehicles and roadside distractions cause major interruptions in the traffic stream. Platoon size increases to between 5 and 10 vehicles on average delaying vehicles up to 85 percent of the time.

- LOS E – Average travel speeds will likely be less than 40 miles per hour and greater than 85 percent of the time is spent in platoons behind slower or turning vehicles as passing becomes virtually impossible.
- LOS F – Traffic flow is heavily congested as traffic demand exceeds the capacity of the roadway.

In general, it is desirable to maintain traffic conditions at a LOS C or better.