Appendix D

2010 Highway Capacity Manual

LOS Descriptions for Arterial, Two-Lane Highway, and Multi-Lane Highway Road Segments

Automobile LOS is defined by density.

Automobile Mode

Automobile LOS for multilane highway segments are defined in Exhibit 14-4. Because speeds are constant through a broad range of flow rates, LOS are defined on the basis of density, which is a measure of the proximity of vehicles to each other in the traffic stream.

Exhibit 14-4 Automobile LOS for Multilane Highway Segments

| LOS | FFS (mi/h) | Density (pc/mi/ln) |
|-----|------------|--------------------|
| Α | All | >0-11 |
| В | All | >11-18 |
| С | All | >18-26 |
| D | All | >26-35 |
| | 60 | >35-40 |
| E | 55 >35- | >35-41 |
| _ | 50 | >35-43 |
| | 45 | >35-45 |
| | Demand E | Exceeds Capacity |
| | 60 | >40 |
| F | 55 >4 | >41 |
| | 50 | >43 |
| | 45 | >45 |

On Class I two-lane highways, speed and delay due to passing restrictions are both important to motorists. Therefore, on these highways, LOS is defined in terms of both ATS and PTSF. On Class II highways, travel speed is not a significant issue to drivers. Therefore, on these highways, LOS is defined in terms of PTSF only. On Class III highways, high speeds are not expected. Because the length of Class III segments is generally limited, passing restrictions are also not a major concern. In these cases, drivers would like to make steady progress at or near the speed limit. Therefore, on these highways, PFFS is used to define LOS. The LOS criteria for two-lane highways are shown in Exhibit 15-3.

| | Class I H | <u>ighways</u> | Class II <u>Highways</u> | Class III <u>Highways</u> |
|-----|------------|----------------|-----------------------------|------------------------------|
| LOS | ATS (mi/h) | PTSF (%) | PTSF (%) | PFFS (%) |
| Α | >55 | ≤35 | ≤40 | >91.7 |
| В | >50-55 | >35-50 | >40-55 | >83.3-91.7 |
| С | >45-50 | >5065 | >55-70 | >75.0-83.3 |
| D | >40-45 | >65-80 | >70-85 | >66.7-75.0 |
| E | ≤40 | >80 | >85 | ≤66.7 |

Exhibit 15-3Automobile LOS for Two-Lane Highways

Exhibit 17-2 lists the LOS thresholds established for the automobile mode on urban streets.

| Travel Speed as a ercentage of Base Free- | LOS by Volume-t | o-Capacity Ratio |
|---|-----------------|------------------|
| Flow Speed (%) | ≤1.0 | > 1.0 |
| >85 | A | F |
| >67-85 | В | F |
| >50-67 | С | F |
| >40-50 | D | F |
| >30-40 | E | F |
| ≤30 | F | F |

Note: "Volume-to-capacity ratio of through movement at downstream boundary intersection.

Exhibit 17-2 LOS Criteria: Automobile Mode