8. RECOMMENDED IMPROVEMENTS

A. Proposed Recommended Improvements
B. Capacity Analyses at Critical Points
C. Levels of Service at Critical Points

9. CONCLUSION

For capacity analysis and level of service determinations, the most recent Federal Highway Administration software package should be used for the different types of analysis required (e.g., signalized intersections, freeways, ramps). CAPCALC 85 may also be used for analyzing intersections. Regardless of which software package is used, the results should be reviewed for reasonableness. Other software, if approved by the county and VDOT in advance, may be used.

Consultants may use any of a number of software packages available for capacity analysis. They should provide the input data as well as the results of the capacity analysis so that VDOT may check the results with its own analysis. Where a great number of intersections or road sections are analyzed, a sample of those should be checked by performing the analysis and comparing results. Where differences occur, the consultant should be required to explain the differences, and all road sections and intersections should be reviewed closely.

b. Level of Service

Level of Service C will be the design objective, and under no circumstances will less than Level of Service D for all approaches of an intersection be accepted for on-site and off-site traffic. This criterion, however, may be modified by the county and VDOT on a case-by-case basis, depending on traffic conditions in the proposed site vicinity.

c. Use of Results of Level of Service Studies

1. The primary function of a level of service study is the determination of the geometrics required to provide a desired level of service in a design year.

2. The number of lanes required on either a through road or at an intersection can be determined, and the need for auxiliary lanes, as well as their length, can be established.

3. The need for signalization can be determined from the projected traffic volumes and the signal warrants in the *Manual on Uniform Traffic Control Devices for Street and Highways (MUTCD)*.