ORIGINATOR Director, Bureau of Highway Operations	3-2-1
CHAPTER 3	Project Scoping Process & Geometric Design Considerations
SECTION 2	Capacity Analysis
SUBJECT 1	Intersection Capacity Analysis

In cases where the Signal Investigation Study indicates a traffic signal is warranted, the maintaining authority or its agents **shall** compute the capacity and level of service for the future signalized intersection during the peak hour periods for construction and design year volumes. If no projection information is readily available, reasonable assumptions should be made to extrapolate turning movement volumes to the design year level. It is typically assumed that traffic growth increases at a rate of 2 to 3 percent per year.

Capacity analysis *should* be based on actual turning movement volume counts and projected turning movement volumes. Turning movement counts conducted within the last three years *should* be used for capacity analysis. Refer to FDM Procedure 3-10-10 to request volume forecast information.

The purpose of the analysis is to determine proper intersection geometric design, and to begin to develop appropriate signal phasing and timing plans. Additional guidance regarding intersection design relative to signal operation is included in Chapter 3, Section 3 of this manual. If the signal is to be located on the STH system, the intersection capacity analysis **shall** be shared with the Regional traffic unit for review.

The analysis of the unsignalized vs. signalized intersection provides additional information for the review of the study, the design of the signal, and the need for possible geometric improvements. Signals that are a part of or adjacent to a coordinated system **shall** be studied as part of a systems analysis. In these cases, a traffic simulation model *may* also need to be developed, particularly when signal timing plans will be created.

If computer software is used to determine the intersection capacity, the software version number *should* be provided. Per FDM Procedure 11-05-03, the Department currently accepts capacity analyses based on the following software.

- CORSIM
- HCS
- PASSER II & III

- TEAPAC (SIGNAL 2000)
- SYNCHRO/SIMTRAFFIC
- TRANSYT 7F

Capacity analyses that are performed for state maintained signals **shall** be supplemented with a technical memorandum summarizing analysis results using existing and/or proposed geometrics and recommending preferred phasing and timing alternatives. The technical memorandum and capacity analysis **shall** be provided to Regional Traffic Engineers in electronic and hard copy form.