Traffic Signal Design Manual

ORIGINATOR Director, Bureau of Traffic Operations		3-3-1
CHAPTER 3	Project Scoping Process & Geometric Design Considerations	
SECTION 3	Intersection Geometrics	
SUBJECT 1	Basic Guidelines for Intersection Design	

THIS SECTION OFFERS INTERIM GUIDANCE ONLY

The following is a set of guidelines used by Regional Traffic Engineers for the review process of intersection geometrics submitted by Project Development and Consultants. These standards **shall** be followed when designing an intersection that *may* be signalized in the next 5 to 10 years or revising an existing signalized intersection. The guidelines contained in this chapter are a supplement to those found in the FDM 11-25.

The Regional Traffic Engineer *should* review the recommended queue length storage for left and right turns based on the capacity analysis described in TSDM 3-2-1 and 3-2-2. Intersection design *should not* be based solely on capacity analysis but also based on operation requirements. Additional considerations are listed below.

- When designing an intersection keep in mind that even if traffic signals are not an immediate design criteria, signals *may* be needed in the future.
- It is very important to include Traffic Operations personnel early in the scoping of a project. Volumes, storage, geometric, and R/W needs *should* be addressed. It can then be determined if further involvement of Traffic Operations is needed.
- Verify that the intersection design meets these criteria before R/W becomes an issue or is purchased.
- For proposed or reconstructed intersections, use desirable design criteria, not minimum. R/W restrictions are taken into consideration on modifications to existing intersections.
- Intersections *should* not be located on curves (horizontal or vertical). Past experience has shown that motorists don't handle these situations well even if adequate sight distance is provided.
- Design of any signalized intersection **shall** consider applicability of WB-62s. All right turns and both opposing left turn movements *may* need to accommodate WB-62. This includes two WB-62 making opposing left turns at the same time. Higher consideration for application of WB-62 turning movements *should* be given at locations within five miles along long-truck routes.
- Intersection geometrics **shall** be designed using turning templates. The intersection plan with turning template overlay **shall** be submitted to the Regional Traffic Unit for review.

Refer to FDM 11-25-1, *Intersections At Grade – General*

- Selection of Intersection Criteria
- Rural Intersections
- Urban Intersections

Refer to TEOpS 4-2-1, Restricted Locations regarding corridor and intersection spacing guidance.