

SECTION 2B – 3 - DETERMINATION OF ROADWAY DESIGN

OPERATIONAL / CAPACITY / SAFETY ANALYSIS

*This type of analysis is a review of the volume and types of traffic and the physical characteristics of the roadway, which includes operational, capacity, and safety analysis and/or traffic flow simulation, as well as Highway Safety Manual methods for evaluating potential safety impacts of proposed projects. The goal is to develop potential roadway and/or traffic control improvement to reduce crash potential and to improve operations for all road users through the intersection(s) and along other sections of the roadway.

Traffic Data shall be analyzed in relation to the pre-determined Functional Classification.

The basic number of thru lanes required in order for the mainline to operate at a satisfactory level of service shall be determined by capacity analyses. Capacity and crash risk of connecting and crossing roadways shall also be determined, taking into consideration plans for future improvements to these facilities.

Where at-grade intersections are proposed, a capacity analysis shall be performed to determine whether or not the intersection will operate at a satisfactory level of service. Innovative intersections shall be considered before proposing to replace an existing at-grade intersection with an interchange or before proposing a new grade-separated interchange on an existing non-limited-access facility. When interchanges are proposed or are being considered, an analysis in accordance with IIM-LD-200 shall be performed to determine the most appropriate interchange type.

Design year peak hour traffic projections shall be used for all capacity analyses (see Chapter 2 of this Manual). Traffic capacity analysis shall be performed in accordance with the Traffic Operations and Safety Analysis Manual (TOSAM).

A safety analysis review of crash data and the physical characteristics of the roadway that includes an evaluation of potential engineering countermeasures (physical roadway improvements and/or use of traffic control devices) to reduce the potential for crashes at intersections and along other sections of the roadway.

* Rev. 1/19