Tangent Length

The most valuable aspect of adding tangent length before and after a crossover is the propensity to align vehicles to the correct receiving lane as they approach the crossover.

When tangent length beyond the intersection is used, a length of 15-20 ft along the inner edge of pavement is recommended before the crossover. This distance should be provided measuring from behind the stop bar when possible, but may be provided from the crossover itself when space is limited. Since cars do not experience stopping after the crossover, a shorter length of about 10-15 ft along the inner edge of pavement is encouraged. Figure 2-17 shows the recommended minimum lengths.

Lane Width

The crossover lane width is a function of the layout and horizontal geometrics in conjunction with modeling the off tracking of a WB-67. A recommended approach is to begin the design using the minimum lane widths of 15 ft and widen them based on the off-tracking modeling until optimum lane width is achieved. Such might be the case if the crossroad has a wide median. All approach lanes on the crossroad should be tapered following the lane width transition as shown in Figure 3-23 in Appendix F of the RDM. The lanes should be tapered to meet the crossover lane width before entering the curve approaching the crossover and maintained through the curve after the crossover. Between the crossovers, lane widths may need to be tapered if existing conditions constrain the roadway. Existing structures can limit lane width between crossovers. Right-of-way can affect lane width approaching a crossover.

Pedestrian and bicycle accommodation can influence lane widths before, after and between the crossovers. The ramp spacing and distance between the crossovers are additional considerations. The lane width between the crossovers should meet standard lane width where possible but shall* not exceed the lane width of the crossover.

Shoulders

If the cross route has shoulders and there is space, they should be continued through the interchange. For a relatively short segment in a DDI, the left shoulder becomes the outside shoulder and the right shoulder becomes the inside shoulder. For this reason, some alterations to the shoulders may need to be considered.

Under normal circumstances, when a vehicle needs to pull over and stop, the driver expectation is to use the right shoulder. In addition, the left lanes between the crossovers will be heavily used for left-turn movements and potentially experience more weaving. While it is not desirable to have vehicles stop and pull over between the crossovers, the design should account for that possibility when feasible. The right shoulder is considered the safer place, which, in this case, is the inside shoulder. In addition, bicyclists riding on the right shoulder would expect to be able to continue using the same shoulder through the interchange.

* Rev. 7/16