TRAFFIC AND SAFETY MANUAL

Intersection Lighting Warrants

Originally Issued: 12-17-01, Last Revised: 12-17-01

Intersection Lighting

The following criteria (warrants) shall be used to determine if a rural primary/primary, rural primary/secondary, or other rural primary/minor road intersection is a candidate for lighting.

The programming of lighting projects is the responsibility of the Transportation Commission and is determined in relation to the needs of the entire highway system and not on the warrants established above. Meeting the warrants, therefore, does not obligate the Department to provide lighting. For funding responsibilities see Section 6A-2 of the Traffic and Safety Manual.

Full Lighting

New or Reconstructed Intersections (Primary to Primary)

An intersection is a candidate for lighting if the current average daily traffic (ADT) is 3500 entering vehicles for the intersection AND:

- The intersection is channelized, or
- The intersection is a "T", or
- A change in the direction of the major route occurs.

Existing intersection (Primary to Primary)

An intersection is a candidate for intersection lighting if:

- It meets the criteria above for lighting of new or reconstructed intersections.
- If after making the calculations as defined in Appendix A the value of ‘c’ exceeds 3000.

Primary to Secondary

Refer to Transportation Section 761 Chapter 136 of the Administrative Rules.

Destination Lighting

New or Reconstructed Intersections (Primary to Primary and Primary to Minor Road)

An intersection is a candidate for destination lighting if the current average daily traffic (ADT) is 1750 entering vehicles for the intersection AND:

- The intersection is channelized, or

- The intersection is a "T", or
- A change in the direction of the major route occurs.

Regardless of volume, an intersection is also a candidate for destination lighting if the District has documentation of motorists experiencing operational problems which might be expected to be reduced by a destination light.

Existing Intersections (Primary to Primary and Primary to Minor Road)

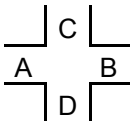
An intersection is a candidate for destination lighting if one of the following is met:

- The night-to-day crash rate ratio is 1.0 or greater with a minimum of 2 reportable nighttime crashes in a 5-year period.
- The warrants for destination lighting of new or reconstructed intersections are met.

Appendix A
Intersection Lighting Warrants

Major traffic flow: A to B & B to A

Minor traffic flow: C to D & D to C



Possible left turns: A to C, B to D, C to B, & D to A

	Sight Distance	Speed Limit	Approaching Traffic
Actual A:	_____	_____	_____
Actual B:	_____	_____	_____
Standard:	2000 FT.	55 MPH	
	1800 FT.	50 MPH	
	1700 FT.	45 MPH	
	1500 FT.	40 MPH	

SAF = Safety Adjustment Factor

$$SAF = \frac{\text{Standard sight distance}}{\text{Actual sight distance}} \times \frac{\text{Actual approaching traffic}}{1000}$$

"A" SAF = _____ x $\frac{\text{_____}}{1000}$ = _____

"B" SAF = _____ x $\frac{\text{_____}}{1000}$ = _____

GSAF = Greater Safety Adjustment Factor

GSAF = greater "A" SAF or "B" SAF

GSAF x Traffic from C to D =
GSAF x Traffic from D to C =
GSAF x Traffic from C to B x 1.5 =
GSAF x Traffic from D to A x 1.5 =
"A" SAF x Traffic from B to D x 1.5 =
"B" SAF x Traffic from A to C x 1.5 = _____
"c" =

Document Revision History: 12-17-01