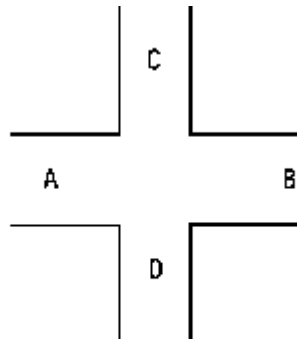


CHAPTER 136
LIGHTING

[Prior to 6/3/87, Transportation Department[820]—(06,K) Ch 4]

761—136.1(319) Lighting of primary-secondary intersections. The purpose of this rule is to establish the qualification criteria, application procedure and financial responsibilities for the placement of roadway luminaires within the limits of the primary road right-of-way at a rural intersection of a primary road and a paved secondary road.

136.1(1) Lighting criteria. A primary-secondary intersection is a candidate for lighting if one of the following is met:



Major traffic flow (primary): A to B and B to A
 Minor traffic flow (secondary): C to D and D to C
 Possible left turns: A to C, B to D, C to B and D to A

- a. The night-to-day accident rate ratio is 2.0 or greater with a minimum of three reportable nighttime accidents in a 12-month period.
- b. Substantial lighted commercial or business development that is affecting operations exists adjacent to the intersection.
- c. Motorists are experiencing operational problems which might be expected to be reduced by lighting.
- d. The current average daily traffic (ADT) is 3500 entering vehicles for the intersection and:
 - (1) The intersection is channelized or “T,” or
 - (2) A change in the direction of the major route occurs.
- e. After making the following calculations, the total in subparagraph (3) below exceeds 3000 points.
 - (1) Determine the “Roadway/Traffic Factors” for traffic at A and for traffic at B, using the following formula and “Standard Sight Distances for Speed”:

$$\text{Roadway/Traffic Factor} = \frac{\text{Standard Passing Sight Distance for Speed}}{\text{Actual Sight Distance}} \times \frac{\text{Actual Approaching Traffic Volume}}{1000}$$

Standard Passing Sight Distances For Posted Speeds

Speed	Distance
55 mph	2000 ft.
50 mph	1800 ft.
45 mph	1700 ft.
40 mph	1500 ft.

- (2) Compare the two answers; the larger number is the “Greater Roadway/Traffic Factor.”
- (3) Calculate points based on the following formula, using current average daily traffic (ADT):

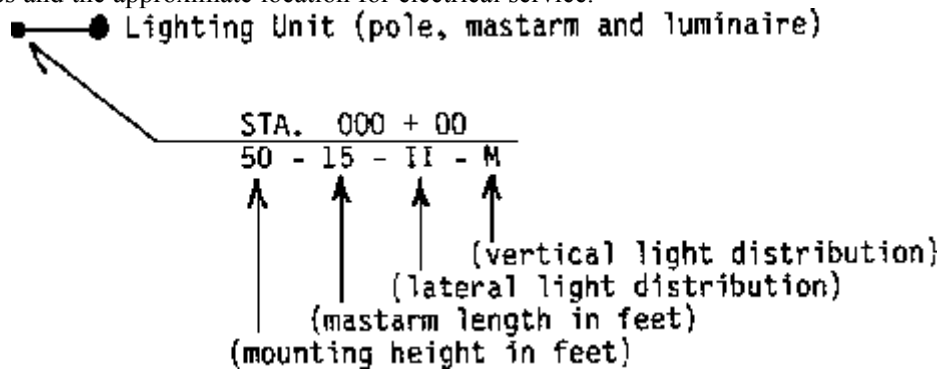
Greater Roadway/Traffic Factor × Traffic Volume from C to D	= _____
Greater Roadway/Traffic Factor × Traffic Volume from D to C	= _____
Greater Roadway/Traffic Factor × Traffic Volume from C to B × (1.5)	= _____
Greater Roadway/Traffic Factor × Traffic Volume from D to A × (1.5)	= _____
Roadway/Traffic Factor for A × Traffic Volume from B to D × (1.5)	= _____
Roadway/Traffic Factor for B × Traffic Volume from A to C × (1.5)	= _____
TOTAL	= _____

136.1(2) Reserved.

136.1(3) Procedures.

a. A request for lighting shall be made by the county to the appropriate district engineer. The request shall indicate the type and size of luminaires proposed, sight distance measurements and posted speed. If the county is requesting that the department participate in the installation costs as a C-STEP (County-State Traffic Engineering Program) project, this should be indicated in the request. A lighting plan shall accompany the request showing:

- (1) The complete dimensions of the intersection including pavement and shoulders.
- (2) The locations of proposed luminaires and poles.
- (3) The mounting heights, mast arm lengths, lateral and vertical light distributions of proposed luminaires and the approximate location for electrical service.



b. The district engineer shall forward the request to the department’s office of traffic and safety for review.

c. If design requirements are satisfied, the department shall approve the lighting installation.

(1) The county shall be responsible for designing and installing the lighting and for all future energy and maintenance costs.

(2) If the location qualifies for lighting installation and if funds are available, the department shall share the installation costs on the basis of the current C-STEP participation ratio.

(3) If the department does not share the installation costs but the county wishes to install the lighting, the county shall be responsible for the installation costs.

d. If the department will share the installation costs, the department shall prepare an agreement for departmental and county approval.

This rule is intended to implement Iowa Code sections 319.1, 319.12 and 319.14.

761—136.2(319) Destination lighting. The purpose of this rule is to establish the application procedure and financial responsibilities for the placement of a roadway luminaire within the limits of primary road right-of-way at a rural intersection of a primary road and a minor road.

136.2(1) Definition.

“Minor road,” for the purposes of this rule, is an entrance to a primary road from a frontage road, a rural commercial establishment, a governmental agency facility, a generator of a substantial traffic volume, or a secondary road.

136.2(2) Reserved.

136.2(3) *Procedures.*

a. Application shall be made to the appropriate district engineer on Form 810025, "Application for Use of Highway Right-of-Way for Utilities Accommodation." The application shall indicate the type of luminaire and intensity of illumination proposed. A sketch shall accompany the application showing the location of the proposed luminaire and pole and the mounting height of the luminaire.

b. The district engineer shall be responsible for departmental approval of the application. A copy of the application indicating the district engineer's determination shall be returned to the applicant. Approved applications are termed "permits."

c. The applicant shall be responsible for installing the lighting and for all installation, energy and maintenance costs.

This rule is intended to implement Iowa Code sections 319.1, 319.12 and 319.14.

761—136.3 to 136.5 Reserved.

761—136.6(306) Warrants and design requirements for lighting.

136.6(1) *Warrants.* Meeting departmental warrants or criteria for lighting simply establishes the location as a candidate for lighting. It does not obligate the department to provide lighting or to participate in lighting costs.

136.6(2) *Design requirements.* The design of lighting installations shall comply with departmental specifications and standard road plans for highway lighting as they exist at the time of installation of the lighting.

This rule is intended to implement Iowa Code subsections 306.4(1) and 669.14(8).

[Filed 7/1/75]

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