Chapter 7

Traffic and ITS Design

Section 7.2.5 External Lighting of Overhead Signs

- Initiated by Research Project BDK82 977-07
- Implemented by Roadway Design Bulletin 13-12 dated October 11, 2013
- Effective with Letting Dates After January 1, 2014

Section 7.2.5 External Lighting of Overhead Signs

External lighting of overhead signs shall only be required under the following conditions:

1. Horizontal curves with radii of 880 feet or less in rural areas

2. Horizontal curves with radii of 2500 feet or less in urban areas

3. In sag vertical curves with a K value of 60 or less

Internally Illuminated Street Name Signs

- ***Traffic Engineering Manual***

2.2.4 SIGN DESIGN

(2) The sign panel used for overhead street name signs shall be 24 inches in height with length determined by legend.

(3) At a minimum, 8-inch upper and 6-inch lower case lettering for the street name …. shall be used. The preferred font is Series E-Modified; however, Series E may be used to accommodate the amount of legend.

Internally Illuminated Street Name Signs

- ***Traffic Engineering Manual***

2.2.4 SIGN DESIGN

(4) When structurally possible, overhead street name signs should be designed in compliance with FHWA recommendations for older drivers …. When used, the minimum lettering size should be 12-inch upper case with 9-inch lower case.

Internally Illuminated Street Name Signs Signs

- Specifications in Section 700-3

700-3.2.1 Internally Illuminated Signs:

700-3.2.1.1 General Signs larger than 18.0 sq. ft. in area or weighing more than 144 lbs. are not listed on the APL and must be submitted to the Engineer for approval.

Section 7.2.10 Internally Illuminated Street Name Signs

The sign design shall be in accordance with the ***Traffic Engineering Manual,*** Section 2.2. The text should utilize the following text attributes in descending order to limit the width to nine feet.

- 10-inch upper case with 8-inch lower case, Type EM font
- 10-inch upper case with 8-inch lower case, Type E font
- 8-inch upper case with 6-inch lower case, Type EM font
- 8-inch upper case with 6-inch lower case, Type E font

Section 7.2.10 Internally Illuminated Street Name Signs

The width of an internally illuminated street name sign shall not exceed nine feet. When used in conjunction with span wire systems, the signs shall be mounted to the strain poles. On mast arm supports the signs may be mounted to the support or to the arm. When mounted to the arm, the distance between the support and the near side edge of the sign shall not be greater than 10 feet.

Lighting Justification

- Initiated by discussion at Executive Workshop in July of 2013.
- 549 interchanges on interstate highway system
- Currently 55 interchanges are not lighted and funding is not allocated
- Program for lighting by 2019

Section 7.3.4 Lighting Justification

For consistency and to meet driver expectations, all interchanges on the interstate highway system shall be lighted. A warrant analysis will be required but will not be used as the determining factor for the installation of lighting at these interchanges.

Section 7.4.11 Mast Arm Supports

Mast arm signal structures shall be oriented approximately 90°to approach traffic, mast arms diagonal to traffic are not allowed.

Section 7.4.11 Mast Arm Supports

The Signal Designer will provide the Structural Engineer with a copy of the mast arm tabulation sheet that includes the following information:

1. The pole and arm locations
2. Elevations and offsets
3. Signal ~~and sign sizes and~~ locations on the mast arm
4. Size and locations of signs. Signs on mast arms shall be restricted to required regulatory and street name signs

Section 7.4.17 Span Wire Assemblies

Perpendicular spans, box spans or drop box spans shall be used for all signal assemblies. Diagonal span assemblies shall only be used for flashing beacon installations.

Signs on span wires shall be restricted to only required regulatory signs.

Chapter 29

Structural Supports for Signs, Luminaires, and Traffic Signal

Section 29.1 General

The following sign and signal structure limits apply:

1. ***Design Standards, Index 11310***, Span Sign Structure span length: 250 feet
2. ***Index 11320***, Cantilever Sign Structure span length: 50 feet
3. ***Index 17743***, Standard Mast Arm Assemblies span length: 78 feet

   ~~(For longer span lengths use ***Index 17745***, Mast Arm Assemblies)~~
4. ***Index 17723*** or ***Index 17725***, Steel or Concrete Strain Pole with Signal Cable span length: 250 feet

These limits were chosen based on past practice and practical experience. See the ***Instructions*** for the applicable ***Design Standards*** for additional information on sign and signal structures.

~~A Design Variation is required when sign or signal structure limits are exceeded. The Design Variation documentation shall include the type of structure, height, length, discussion of alternatives and costs.~~

UPDATES

LED

- Recommend on New Projects
- Large Variety of Photometrics
- Modified Special Provision for LED Specification
- Monitoring Payback Periods & Fixtures Used

Underdeck Pendant Lighting

Notes to Table 7.3.4:

1.The light levels for underdeck lighting shall be equal to the adjacent roadway lighting.

2.The preferred luminaire for underdeck lighting is a wall mount fixture. Pendant hung shall only be used when it is impossible to meet the requirements with wall mount fixtures.

Questions ???