

TRAFFIC AND SAFETY MANUAL

Chapter 4 – Signals **4C –Design**

General

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In addition to complying with the MUTCD, traffic signals on roadways under the jurisdiction of the Iowa DOT shall have the following features to increase safety, minimize delay, maximize progression, and provide uniformity:

1. An overhead mounted signal head with back plate shall be installed over each lane from which through movements are allowed. A right side, side of pole signal head shall be provided for each approach. An overhead or a left side, side of pole signal head shall be provided for each left turn lane (for protected phases, the indication must be provided over the lane). Pedestrian indications shall be provided at locations with sidewalks or frequent pedestrian activities.
2. All non-coordinated phases shall be actuated. For approaches with speed limits at 35 mph or above, dilemma zone detection shall be provided.
3. Clear zones shall comply with the Roadside Design Guide*.
4. Roadway lighting shall be combined with traffic signal poles.
5. Coordination shall be provided for all signalized intersections on a route within a jurisdiction unless signals are located more than ½ mile apart. Coordination shall maximize progression.
6. The intersection geometries should be improved as needed to minimize the negative impacts of signalization on safety and operations. (See Section 4B.05 of MUTCD)

The contract documents submitted for approval on traffic signal projects should include the following:

1. A layout showing the location of poles, signal heads, cabinets, handholes, detection and conduits.
2. The location, orientation and legend/indications of traffic signal heads and signs.
3. A schematic wiring diagram detailing the size and type of cables and conduits.
4. Phasing, timing, and operation of the controller and associated equipment.
5. Specification of equipment, materials and construction methods.

* Roadside Design Guide is a publication of the American Association of State Highway and Transportation Officials. An order form can be requested by calling the AASHTO Publications Order Department at 1-800-231-3475.

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