

ITASCA COUNTY POLICIES & PROCEDURES	EFFECTIVE DATE: 5-11- 2021	POLICY #:
	RBA #: 2021-1553	BOARD APPROVAL DATE: 5-11-2021 Format Updates:
Transportation Department	REFERENCES:	
SUBJECT: Intersection Street Lighting Policy		

## Intersection Street Lighting Policy

The purpose of this policy is to establish uniformity and consistency in the application, installation, and maintenance of street lighting on Itasca County’s roadway system and to establish the cost participation guidelines.

### Background:

1. The Minnesota Local Road Research Board (Report No. MN/RC-1999-17) has concluded that the installation of streetlights at rural intersections offers a low cost and very effective strategy for mitigating nighttime vehicle crashes. This report found that the installation of intersection lighting at rural intersections resulted in a 25 to 40 percent reduction in the nighttime crash frequency and an 8 to 26 percent reduction in nighttime crash severity. A benefit-cost analysis indicated that the crash reduction benefits associated with the installation of street lighting at rural intersections outweigh the costs by a 15:1 ratio.
  
2. The 2012 Itasca County Safety Plan evaluated all rural intersections and recommended locations where streetlights would be beneficial. This plan utilized the systemic intersection risk factors method.

### Policy:

It is in the public interest that Itasca County use the strategy of installing streetlights at intersections to reduce crashes and improve motorist guidance. The object of the intersection lights is to provide a landmark or guide light for motorist, not to provide a specific level of illumination.

These provisions are provided for use by the County Engineer in regulating the location, design, and method of installation in a uniform manner. It also establishes the cost sharing responsibilities between local governments and Itasca County.

### Warrants:

Installation of rural streetlights shall be completed based on a comprehensive evaluation of Itasca County’s roadway system. Recognizing that rural street lighting cannot be implemented at all locations, the systemic intersection risk factors method will be used.

Itasca County may consider a streetlight warranted when at least one of the following conditions are met:

1. County Road Safety Plan:
  - a. The intersection is listed in the County Road Safety Plan with a recommended treatment of a streetlight and has a three-star rating or higher.
  - b. The intersection is not listed in the County Road Safety Plan, but conditions are such that the recommended treatment would be streetlights if the Intersection Project Identification Decision tree, attached as Appendix A, is followed. The intersection must have a minimum rating of three-stars to be warranted.
2. Accident Experience:
  - a. There are three or more nighttime crashes in the previous three years.
3. Ambient Light:
  - a. Where the illumination in areas adjacent to the intersection adversely affects the driver's vision.

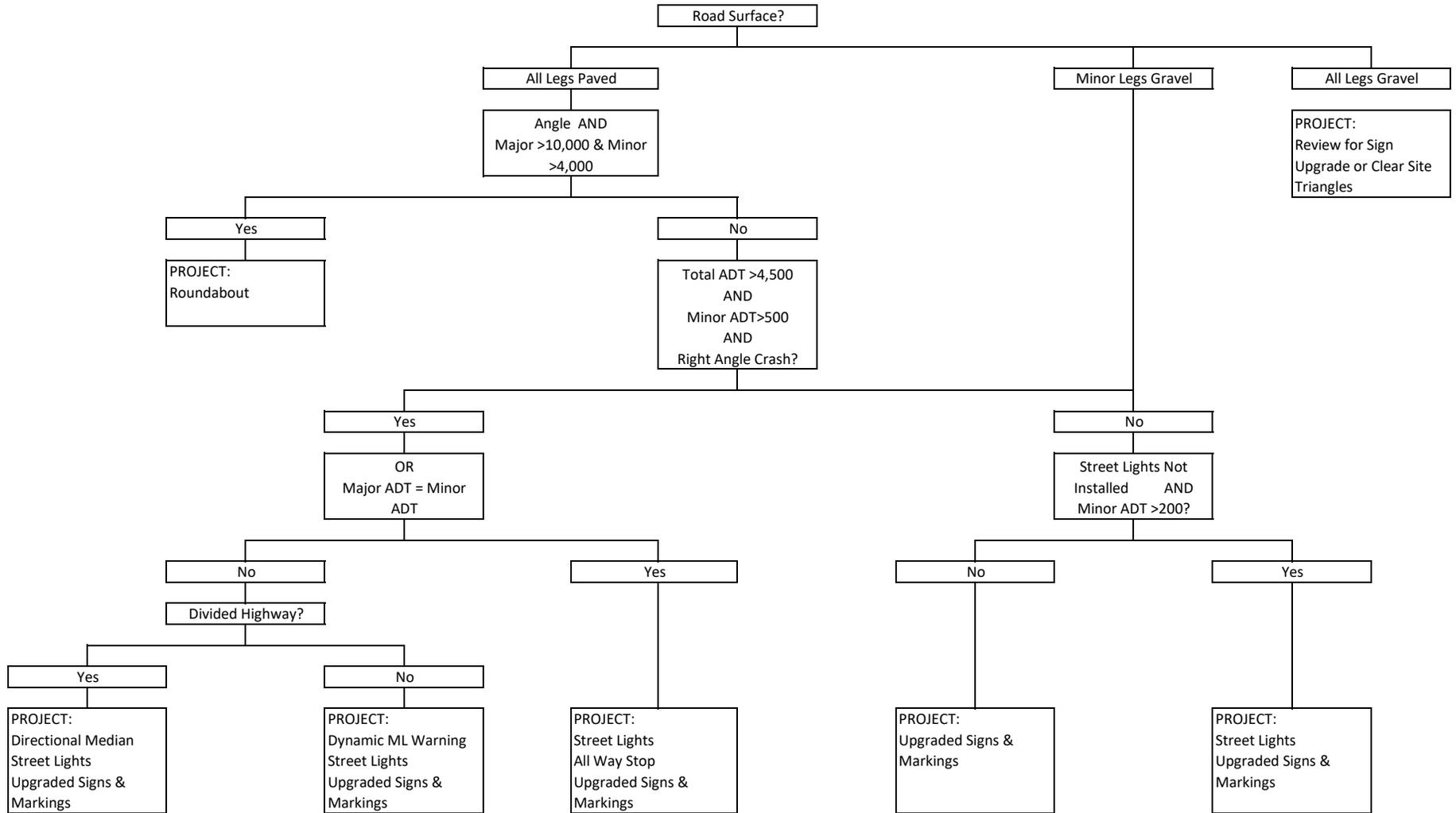
**Design:**

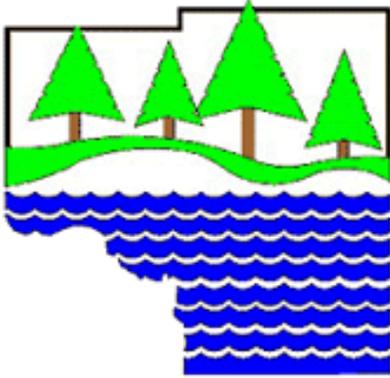
1. At County Road, Unorganized Township Roads or Town Road intersections the County will first utilize existing power poles for the mast arm and luminaire.
2. At County State Aid Highways and State Highways, the County will follow the standards for streetlight systems found in Minnesota Department of Transportation's most recent Traffic Engineering Manual, Chapter 10 – Lighting of Traffic Facilities.

**Funding:**

1. Itasca County will be responsible for all costs associated with the installation and maintenance of street lighting at warranted intersections under the County's jurisdiction, including electrical costs.
2. For intersections that include a segment that is under MnDOT's jurisdiction, a formal agreement, outlining the cost participation between the two agencies or a MnDOT Permit will be required.
3. Any local road authority that requests street lighting at an un-warranted intersection will be responsible for all costs associated with the installation, electrical costs, and maintenance of the street lighting. Under this provision, the local road authority will be required to apply for a utility permit from Itasca County for the installation of the street lighting.
4. Nothing in this policy requires Itasca County to install streetlights at intersections that meet warrants. In all cases the budget will be considered when making final decisions.

# Intersection Project Identification Decision Tree





**ITASCA COUNTY  
BOARD OF COMMISSIONERS**

Itasca County Courthouse  
123 NE 4th Street  
Grand Rapids, MN 55744

Tuesday, May 11, 2021

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**REQUEST FOR BOARD ACTION: RBA-2021-1553**

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**DEPARTMENT:** Transportation

**TIME REQUESTED:** 5 Minutes

**PRESENTER:** Karin Grandia

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**AGENDA ITEM:**

Intersection Street Lighting Policy

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**BOARD ACTION REQUESTED:**

Declare the existing Itasca County Roadway Lighting Policy void and adopt the attached Intersection Street Lighting Policy.

**BACKGROUND:**

The County originally adopted the Roadway Lighting Policy in 1996 and was updated in 2008. That policy outlined standards where roadway lighting would be considered. The criteria used to prioritize locations was current at that time but is outdated. Additionally, it specified the specific type of lighting that would be required which is something that changes with time and technology improvements.

The proposed policy references the County Road Safety Plan that was completed in 2012. That plan looked at intersections outside of municipal boundaries and used a systemic approach to determine what improvements should be considered at each location.

The systemic approach for evaluating is based on the assumption that the absence of crashes does not equate to no risk. In order to support the development of a new approach that defines risk based on crashes plus a variety of surrogate measures, research was conducted that identified rural intersections with crashed and then documented the geometric and traffic features that were common among the various locations. The risk factors include:

1. Geometry of the intersection (skew)
2. Geometry of the roadway (on/near curve - both horizontal and vertical)
3. Commercial development in any quadrant
4. Distance to previous Stop sign (more than 5 miles)
5. Average Daily Traffic (ADT) ratio (a ratio between 0.6 - 1)
6. Crash history

Using the systemic approach of evaluation allows us to review and prioritize intersections without crashes based on the risk factors at locations where crashes have occurred and make improvements before a crash happens.

The safety plan did not evaluate all intersections on the County Road system, therefore, a decision

tree is attached to this policy that will provide a systematic method for evaluating additional intersections using the methodologies that were used in that plan.

Lastly, the policy addresses how the intersection lighting will be funded and which intersections the County will participate in.

**COUNTY ATTORNEY REVIEW:** N/A

**SUPPORTING DOCUMENTATION:**

1. Intersection Street Lighting Policy

05/04/2021

<b>RESULT:</b>	<b>RECOMMENDED FOR CONSENT</b>	<b>NEXT: 05/11/2021 2:30 PM</b>
<b>RESULT:</b>	<b>APPROVED (5 TO 0)</b>	
<b>MOVER:</b>	Commissioner Leo Trunt	
<b>SECONDER:</b>	Commissioner Davin Tinquist	
<b>AYES:</b>	Davin Tinquist, Terry Snyder, Leo Trunt, Burl Ives, Ben DeNucci	