

# Provide Intersection Illumination



The FHWA defines "Provide intersection illumination" as installing or upgrading lighting at intersections to improve nighttime visibility and reduce crashes.

## Implementation Strategy

### How and Where to Apply

- Intersection illumination is typically applied at both signalized and unsignalized intersections that experience a high volume of nighttime traffic or a history of nighttime crashes.
- This treatment is especially effective at intersections with complex geometry, multiple approaches, or pedestrian activity. Agencies typically consider factors such as crash history, traffic volume, pedestrian presence.

### Use in a Safe System Approach

Intersection lighting supports the Safe System principles of visibility, redundancy, and crash severity management by helping drivers detect other road users, signal indications, and crossing pedestrians sooner. Enhanced illumination reduces the likelihood and severity of nighttime crashes by improving recognition of hazards.

### Key Stakeholders

Agency maintenance personnel

### Proactive Implementation

Intersection lighting can be implemented proactively through systemic safety reviews or crash data analysis. Locations can be selected based on common risk factors, such as insufficient ambient lighting, frequent nighttime crashes, or intersections along high-speed rural corridors.

## Countermeasure Overview

**Objective:** Improve driver awareness of intersections as viewed from the intersection approach.

**Strategy:** Improve visibility of the intersection by providing lighting.

## Selected Related Countermeasures

- CM1** Full or Partial Interchange
- CM2** Install Pedestrian-Scale Lighting
- CM3** Install High-Visibility Crosswalks

**Cost:** Moderate to High

**Service Life:** 15 years

## Targeted Solution



### CONTRIBUTING FACTORS

- Low visibility
- Driver inattention /distraction
- Reduced reaction time



### TARGET CRASH TYPE

- Angle
- Rear-end
- Turning



### ROAD FACILITY TYPE

- N/A



### AREA TYPE

- Rural

## Safety Linkage



### NCHRP 500 Series

Intersection

### SAFE SYSTEM APPROACH

Safe Roads



### AASHTO'S TOWARD ZERO DEATHS

Safer Infrastructure

### SAFE SYSTEM ROADWAY DESIGN

TIER 1  
TIER 2  
TIER 3  
TIER 4

Tier 4

Provide Intersection Illumination Source: fhwa

## Safety Benefits

**33%**

Reduces angle crashes of all severities.<sup>1</sup>

<sup>1</sup>CMF ID: 2376

### Resources

- [FHWA Roadway Lighting Handbook](#)
- [FHWA Guidelines for Roadway Lighting](#)
- [NCHRP Report 498: Guidelines for the Use of Lighting in Roadway Safety](#)

