

Install Red-light Cameras



Installing red-light cameras helps reduce angle and rear-end crashes by deterring red-light running through automated enforcement.

Implementation Strategy

How and Where to Apply

- Install at signalized intersections with frequent red-light violations or right-angle crashes, especially in high-traffic urban corridors or near schools; not suitable for low-volume rural sites or where violations are not documented.
- Install cameras aligned with signals, ensuring authority and required warning signs.
- MUTCD requires automated enforcement like red-light cameras to have proper driver notification signage and comply with state and local laws.

Use in a Safe System Approach

Red-light cameras strengthen the Safe Speeds and Safe Road Users elements of the Safe System Approach by enforcing compliance and reducing risky behaviors. By lowering the severity of intersection crashes, they support the principle that deaths and serious injuries are unacceptable.

Key Stakeholders

State DOTs, MPOs, advocacy groups, law enforcement agencies, engineering consultants.

Proactive Implementation

Red-light cameras should be proactively installed at intersections with growing red-light violation trends or a history of angle crashes. Data-driven site selection helps prevent severe crashes by deterring risky driving behaviors before they escalate.

Countermeasure Overview

Objective: Improve efficiency and effectiveness of speed enforcement efforts.

Strategy: Implement automated speed enforcement.

Selected Related Countermeasures

- CM1** Advanced warning flashers
- CM2** Retroreflective sheeting on signposts
- CM3** Automated speed enforcement cameras

Cost: \$\$\$ (Moderate to High)

Service Life: 10 years

Benefit-Cost Ratio: 2.6:1

Targeted Solution



CONTRIBUTING FACTORS

- Speeding through intersection



TARGET CRASH TYPE

- Angle
- Rear-end



ROAD FACILITY TYPE

- N/A



AREA TYPE

- Urban

Safety Linkage



NCHRP 500 Series

Speeding



SAFE SYSTEM APPROACH

Safe Roads



AASHTO'S TOWARD ZERO DEATHS

Improved Safety Management

SAFE SYSTEM ROADWAY DESIGN

TIER 1
TIER 2
TIER 3
TIER 4

Tier 4

Red Light Camera. Source: Howard County, MD.

48%

Reduces crashes of all types and K, A, B, and C severities on roads ([CMF ID: 8091](#))

17%

Reduces crashes of all types and severity K on urban roads ([CMF ID: 3861](#))



Resources

- [FHWA Safe Pedestrian](#)
- [TTI study-underscores-safety-benefits-of-red-light-cameras](#)

