



# Protected Intersection

A protected intersection uses physical elements to separate users and enhance safety for pedestrians and cyclists at crossings.

## Implementation Strategy

### How and Where to Apply

- Protected intersections are most effective at urban and suburban intersections with high pedestrian and bicycle activity.
- They can be implemented at new intersections or retrofitted into existing ones as part of complete streets projects.
- According to **FHWA** guidance, key features include corner refuge islands, setback crossings, vehicle setback stop lines, and separated bike facilities that connect seamlessly through the intersection.

### Use in a Safe System Approach

A protected intersection uses physical elements to separate users and enhance safety for pedestrians and cyclists at crossings.

### Key Stakeholders

Transportation agencies  
Bicycle and pedestrian safety planners

### Proactive Implementation

Agencies can use crash data, speed studies, and community input to identify intersections that would benefit from protected designs. Systematic implementation may target corridors with frequent turning movements, high vehicle speeds, or significant pedestrian and bicycle volumes. Protected intersections can be added during major repaving, intersection redesigns, or complete streets projects.

## Countermeasure Overview

**Objective:** Reduce bicycle crashes at intersections.

**Strategy:** Improve intersection geometry.

## Selected Related Countermeasures

- CM1** Dedicate bike signals
- CM2** Raised crosswalks
- CM3** High-visibility crosswalks

**Cost:** High

**Service Life:** 20 years

## Targeted Solution



**CONTRIBUTING FACTORS**

- Turning vehicles
- High-speed vehicle interactions



**TARGET CRASH TYPE**

- Intersection-related



**ROAD FACILITY TYPE**

- N/A



**AREA TYPE**

- Urban

## Safety Linkage



**NCHRP 500 Series**

Pedestrians and Bicyclists

**SAFE SYSTEM APPROACH**

Safe Road Users

**SAFE SYSTEM ROADWAY DESIGN**



**AASHTO'S TOWARD ZERO DEATHS**

Safer Vulnerable Users

**TIER 1  
TIER 2  
TIER 3  
TIER 4**

Tier 1

Protected Intersections. Source: [Intersection](#)

## Safety Benefits



Separates bikes and pedestrians from turning vehicles, reducing crash risks.

## Resources

- [Innovative Intersection Designs](#)
- [Protected Intersection](#)

