

Proven Safety Countermeasures for Pedestrians and Bicyclists



Benefits of Leading Pedestrian Interval

- Increased visibility of pedestrians.
- Reduced conflicts between pedestrians and vehicles.
- Enhanced safety for pedestrians who may be slower to start.
- Recommended at intersections with high turning-vehicle volumes.
- 13 percent reduction in pedestrian-vehicle intersection crashes.

Source: [Federal Highway Administration \(FHWA\)](#)



Benefits of Medians and Pedestrian Crossing Islands in Urban/Suburban Area

- Raised Medians:
 - ◇ 46% reduction in pedestrian crashes.
- Pedestrian Crossing Island:
 - ◇ 56% reduction in pedestrian crashes.
- Consider at areas with significant mix of pedestrians/vehicles in intermediate/high speed areas.

Source: [Federal Highway Administration \(FHWA\)](#)



Benefits of Pedestrian Hybrid Beacon

- Option between flashing beacon and full signal.
- Assigns right of way/provides positive stop control.
- Allows motorists to proceed once pedestrians clear their side of travel lane, reducing vehicle delay.
- 74% of pedestrian fatalities at non-intersections.
- Benefits of this improvement:
 - ◇ 55% reduction in pedestrian crashes.
 - ◇ 29% reduction in total crashes.
 - ◇ 15% reduction in serious injury/fatal crashes.

Source: [Federal Highway Administration \(FHWA\)](#)



Benefits of Road Diets in Michigan

- Typically involves converting four lane undivided to three lanes with a center left turn lane.
- Benefits of this improvement:
 - ◇ Reduction of rear-end and left-turn crashes.
 - ◇ Reduction of right angle crashes.
 - ◇ Fewer lanes for peds/bikes to cross.
 - ◇ Opportunity to install ped refuge island, bike lanes, on-street parking, or transit stops.
 - ◇ 40% reduction in total crashes expected to make a difference.

Source: [Michigan Department of Transportation \(MDOT\)](#)

For Additional Information:

MDOT – Toward Zero Deaths: www.michigan.gov/zerodeaths

FHWA – Proven Safety Countermeasures: <https://safety.fhwa.dot.gov/provencountermeasures/>

Proven Safety Countermeasures for Pedestrians and Bicyclists



Benefits of Crosswalk Visibility Enhancements

- High-visibility crosswalks, lighting, and signing/pavement markings help make crosswalks and pedestrians and bicyclists more visible to drivers.
- For multilane roadway crossings where volumes exceed 10,000 AADT, a marked crosswalk alone is typically not sufficient.
- Benefits of these improvements:
 - ◇ High-visibility crosswalks can reduce pedestrian injury crashes up to 40%.
 - ◇ Intersection lighting can reduce pedestrian crashes up to 42%.
 - ◇ Advance yield or stop markings and signs can reduce pedestrian crashes up to 25%.

Source: [Federal Highway Administration \(FHWA\)](#)



Benefits of Walkways

- Important to provide and maintain accessible walkways along both sides of the road in urban areas, particularly near school zones/transit locations, and where there is a large amount of pedestrian activity.
- Walkable shoulders should be considered along both sides of rural highways when routinely used by pedestrians.
- Benefits of these improvements:
 - ◇ Sidewalks 65-89% reduction in pedestrian involved crashes along roadways.
 - ◇ Paved shoulders provide 71% reduction in pedestrian involved crashes along roadways.

Source: [Federal Highway Administration \(FHWA\)](#)



Benefits of Rectangular Rapid Flashing Beacons (RRFB)

- RRFBs are applicable to many types of ped crossings but particularly effective at multilane crossings with speed limits less than 40 mph.
- RRFBs are placed on both sides of a crosswalk below the pedestrian crossing sign and above the diagonal downward arrow plaque pointing at the crossing.
- Up to 47% reduction in pedestrian crashes.

Source: [Federal Highway Administration \(FHWA\)](#)



Benefits of Bicycle Lanes

- Most fatal and serious injury bicyclist crashes occur at non-intersectional locations.
- Nearly one-third of these crashes involve overtaking motorists; the speed and size differential between vehicles and bicycles can lead to severe injury.
- Benefits of these improvements:
 - ◇ Up to 57% total crash reduction on urban 4-lane undivided collectors and local roads.
 - ◇ Up to 30% total crash reduction on urban 2-lane undivided collectors and local roads.

Source: [Federal Highway Administration \(FHWA\)](#)