Pedestrians accounted for 17% of all roadway fatalities in the US in 2018.¹

74% of pedestrian fatalities occurred at non-intersection locations.¹

Pedestrian fatalities are on the rise compared to all traffic fatalities. To reduce pedestrian fatalities, the Federal Highway Administration (FHWA) is making an effort to reduce pedestrian fatalities and injuries at uncontrolled crossing locations through Safe Transportation for Every Pedestrian (STEP). FHWA’s actions through the STEP program also promote Vision Zero efforts. Vision Zero aims to eliminate traffic fatalities by improving safety across all transportation systems. Vision Zero uses a Safe Systems approach, believing that humans make mistakes, and roadways should be designed in a way so that if a crash occurs as a result of these mistakes it would not result in a fatality. Additionally, Safe Systems encourages shared responsibility between roadway designers and users. Safe designs can promote safe behaviors.

CROSSWALK VISIBILITY ENHANCEMENTS

In-context stop or yield zone. Young drivers improve driver yielding rates.

Non-visibility markings improves visibility of the crosswalk, compared to the standard parallel lines.

Raised crosswalk makes the pedestrian more prominent in the driver’s field of vision, and allows pedestrians to cross at grade with the sidewalk.

Approach signs may reduce vehicle speeds and improve motorist yielding.

PEDESTRIAN HYBRID BEACON

A pedestrian hybrid beacon is a traffic control device that stops all lanes of traffic, which can reduce pedestrian crashes.

Rectangular rapid-flashing beacon

Lights illuminate the front of the pedestrian and avoids creating a silhouette.

Trail crossings are made more visible by RRFBs when coupled with crosswalk visibility enhancements, and a refuge island. The PHB should be considered as an option to the RRFB along highways with high traffic volumes or speeds.

RAISED CROSSWALK

PEDESTRIAN REFUGE ISLAND

Leading Pedestrian Interval

LEADING PEDESTRIAN INTERVAL is programmed into the WALK signal for pedestrians as head start in the crosswalk, which can reduce conflicts with vehicles.

Safe Transportation for Every Pedestrian

Most of the STEP countermeasures have been evaluated for their effectiveness to reduce pedestrian crash rates, which supports the Vision Zero approach. The Crash Reduction Factor (CRF) is reported for each countermeasure below, based on national transportation safety studies. The CRF is the expected percent reduction in the number of pedestrian crashes after implementing a countermeasure. CRFs on this poster are presented in terms of total crashes unless otherwise indicated. Please consult PESSAFE, the Pedestrian Safety Guide and Countermeasure Selection System (http://www.pedsafe.org), for more information about CRFs and guidance for application of these countermeasures to various roadway and safety conditions.

Proven Countermeasures

CROSSWALK VISIBILITY ENHANCEMENTS

CRF (see notes): 23.48%²⁷

CRFs are added features that increase the prominence of crosswalks and pedestrians to oncoming drivers, such as lighting, warning signage, or varied crosswalk markings. Common examples include using a ladder design for the crosswalk markings (instead of two parallel lines) and installing in-street warning signage.

RAISED CROSSWALK

CRF (ped. crashes): 45%²

Raised crosswalks span the width of a roadway at a crossing point, often at mid-block crossings. These raised speed tables calm vehicular traffic and create a level crossing at sidewalk height for pedestrians.

PEDESTRIAN REFUGE ISLAND

CRF (ped. crashes): 32%¹

Pedestrian refuge islands are islands within a street, located at intersections or mid-block crossings. Pedestrian refuge islands break up a complex crossing into two shorter crossings and separate motor vehicle and pedestrian crossing movements.

PEDESTRIAN HYBRID BEACON

CRF (ped. crashes): 55%⁵

PHBs are pedestrian-activated warning devices designed for higher speed, multilane roadways. PHBs are typically installed at the side of the road or on mast arms over uncontrolled mid-block pedestrian crossings. When activated, the device displays a sequence of flashing yellow, steady yellow, solid red (pedestrians get a walk symbol; drivers must stop), and flashing red (pedestrians finish crossing; drivers stop and proceed once the roadway is clear).

ROAD DIET

CRF (ped. crashes): 19.47%²⁰

Road Diets reconfigure the roadway to improve safety for all users. The most common type of Road Diet involves converting a four-lane, undivided roadway to two through lanes and a center two-way left-turn lane. This new configuration may include pedestrian refuge islands, curb extensions, sidewalks, or other features to improve conditions for pedestrians.

RECTANGULAR RAPID-FLASHING BEACON

CRF (ped. crashes): 47%³⁰

RRFBs are pedestrian-actuated conspicuity enhancements to improve safety at uncontrolled crossing locations. The device includes two rectangular-shaped yellow indicators, each with an LED-array-based light source, that flash with high frequency and are used in tandem with a pedestrian crossing warning sign. RRFBs are installed on both sides of the roadway at the crosswalk, on the right side and median (instead of the left side) of medium-divided roadways. The flashing pattern is pedestrian-activated by pushbuttons or automated detection and is until not activated.

LEADING PEDESTRIAN INTERVAL

CRF (ped. crashes): 12%³⁰

LPIs provoke a pedestrian 3 to 7 second head start in a crosswalk during the WALK signal. Programmed into traffic signals, LPIs help reduce the number of conflicts between pedestrians and turning vehicles.