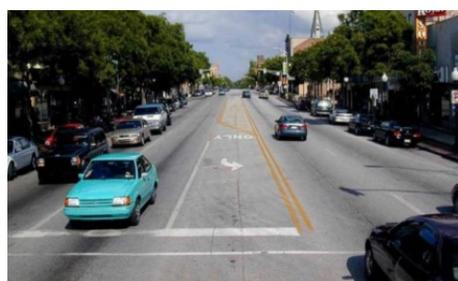


Center for Accelerating Innovation



Every Day Counts so  up
(Safe Transportation for Every Pedestrian)

**MAG Regional Leaders Pedestrian Safety Forum
December 17, 2019**

Why is pedestrian safety and accessibility important?

Too many people who walk are dying on our roadways

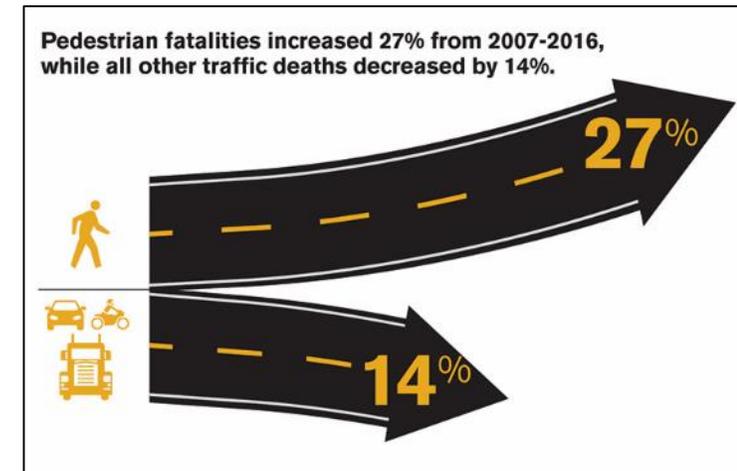
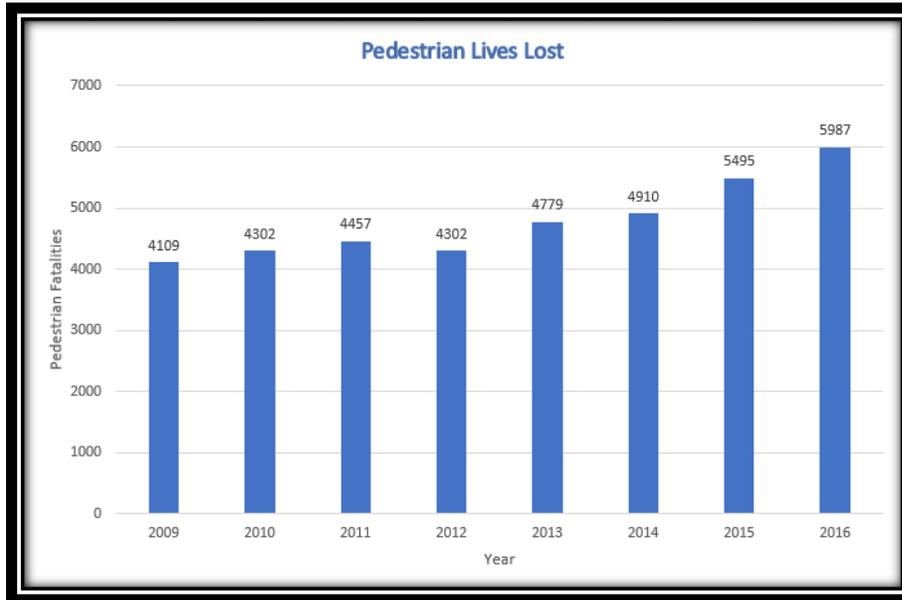


Photo Credit: GHSA

Pedestrians now account for a larger proportion of traffic fatalities (16%) than they have in the past 33 years

NHTSA October 22, 2019 Press Release

- 2018 – 2.4% decline overall fatalities
 - 913 lives saved
 - 2018 - 36,560 people died
 - 2017 - 37,473 people died
- People who walk - more than 3.4% increase
 - 6,283 – deaths
 - most deaths since 1990

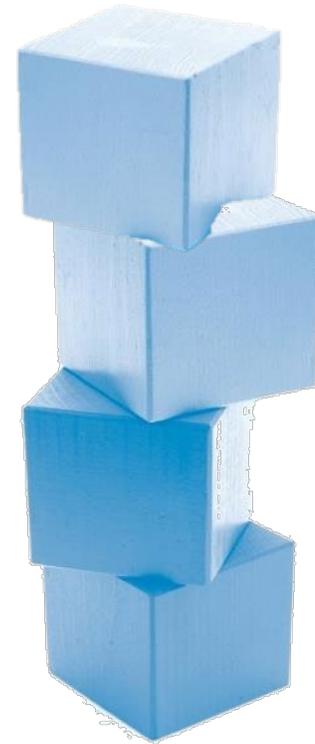
What is “*Every Day Counts*”(EDC)?

State-based model to identify and rapidly deploy proven but underutilized innovations to:

- ✓ shorten the project delivery process
- ✓ enhance roadway safety
- ✓ reduce congestion
- ✓ improve environmental sustainability

EDC Rounds: two year cycles

- STEP Round 5 (2019-2020)
- STEP Round 4 (2017-2018)
- Road Diets Round 3 (2015-2016)





Why STEP?

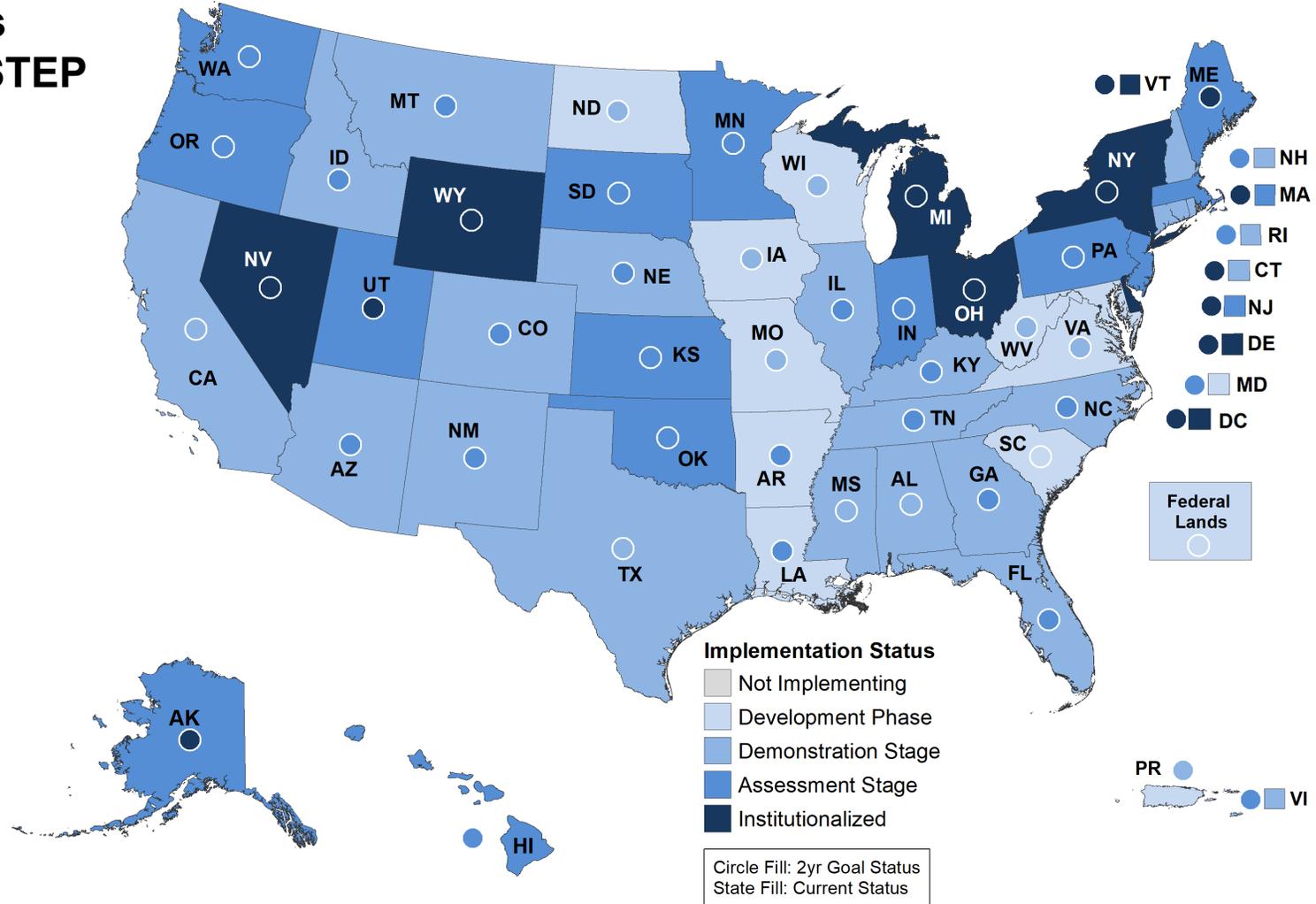
- Over 72% of pedestrian fatalities occur at non-intersection locations (mid-block)
- Roughly 27% of pedestrian fatalities occur at intersections (with more at uncontrolled)

EDC-5 Safe Transportation for Every Pedestrian (STEP)

2019 January Baseline & 2yr Goal Status

32 States / US Territories adopted STEP

- AK MO
- AR MT
- AZ NC
- CO ND
- CT NE
- FL NH
- GA NJ
- IA NM
- ID PR
- IL RI
- IN TN
- KY UT
- LA VA
- MA VI
- MD WI
- ME WV



Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations

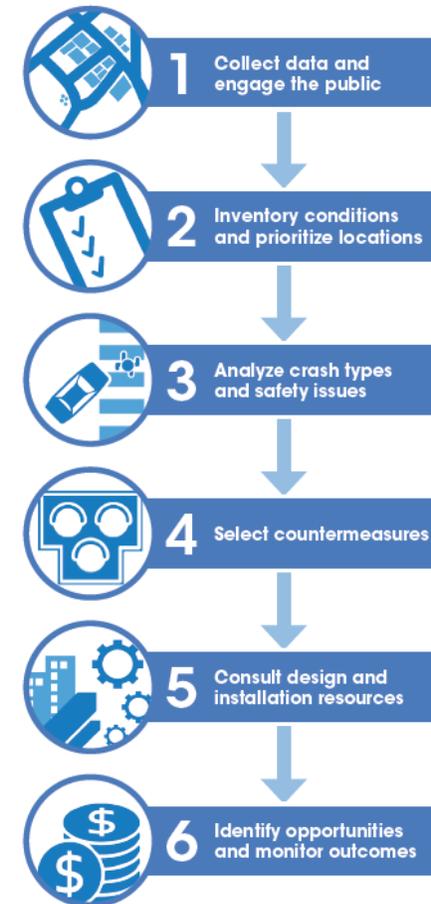
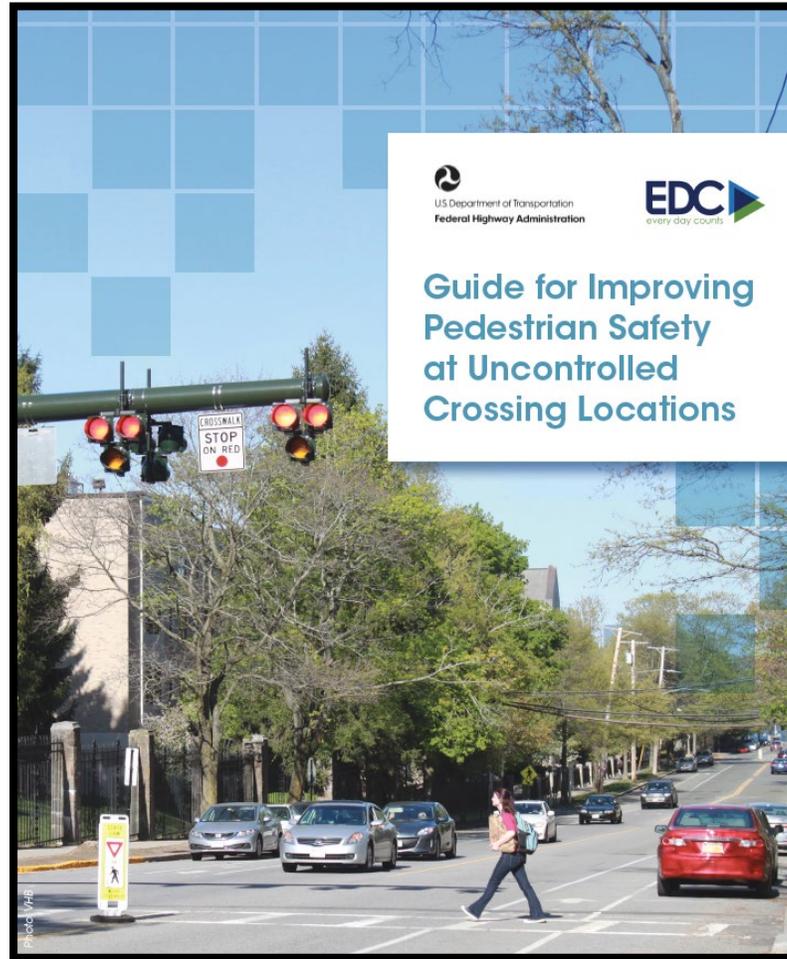


Figure 1. Process diagram for selecting countermeasures at uncontrolled pedestrian crossing locations.

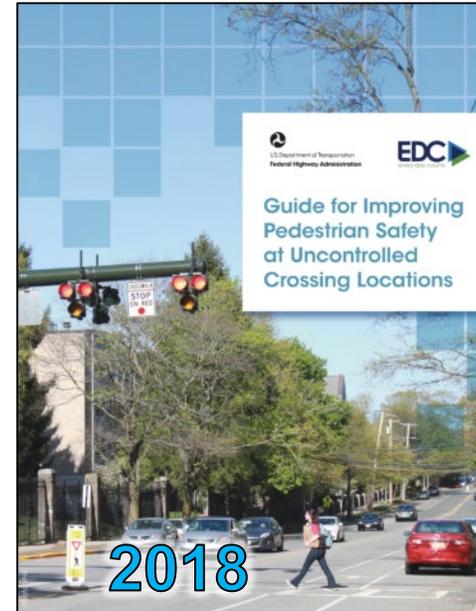
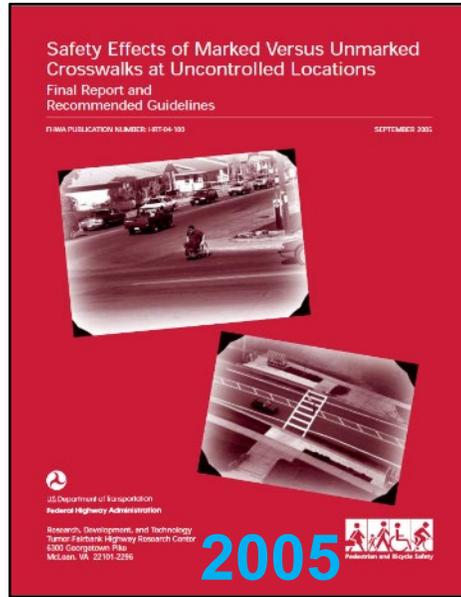


Table 11. Recommendations for installing marked crosswalks and other needed pedestrian improvements at uncontrolled locations.*

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT < 9,000		Vehicle ADT >9,000 to 12,000			Vehicle ADT >12,000-15,000			Vehicle ADT > 15,000			
	Speed Limit**											
	≤ 48.3 km/h (30 mi/h)	56.4 km/h (35 mi/h)	64.4 km/h (40 mi/h)	≤ 48.3 km/h (30 mi/h)	56.4 km/h (35 mi/h)	64.4 km/h (40 mi/h)	≤ 48.3 km/h (30 mi/h)	56.4 km/h (35 mi/h)	64.4 km/h (40 mi/h)	≤ 48.3 km/h (30 mi/h)	56.4 km/h (35 mi/h)	64.4 km/h (40 mi/h)
Two lanes	C	C	P	C	C	P	C	C	N	C	P	N
Three lanes	C	C	P	C	P	P	P	N	P	N	N	N
Multilane (four or more lanes) with raised median***	C	C	P	C	P	N	P	N	N	N	N	N
Multilane (four or more lanes) without raised median	C	P	N	P	P	N	N	N	N	N	N	N

* These guidelines include intersection and midblock locations with no traffic signals or stop signs on the approach to the crossing. They do not apply to school crossings. A two-way center turn lane is not considered a median. Crosswalks should not be installed at locations that could present an increased safety risk to pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossings safer, nor will they necessarily result in more vehicles stopping for pedestrians. Whether or not marked crosswalks are installed, it is important to consider other pedestrian facility enhancements (e.g., raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions), as needed, to improve the safety of the crossing. These are general recommendations; good engineering judgment should be used in individual cases for deciding where to install crosswalks.

** Where the speed limit exceeds 64.4 km/h (40 mi/h), marked crosswalks alone should not be used at unsignalized locations.
*** The raised median or crossing island must be at least 1.2 m (4 ft) wide and 1.8 m (6 ft) long to serve adequately as a refuge area for pedestrians, in accordance with MUTCD and American Association of State Highway and Transportation Officials (AASHTO) guidelines.

C = Candidate sites for marked crosswalks. Marked crosswalks must be installed carefully and selectively. Before installing new marked crosswalks, an engineering study is needed to determine whether the location is suitable for a marked crosswalk. For an engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, and other factors may be needed at other sites. It is recommended that a minimum utilization of 20 pedestrian crossings per peak hour (or 15 or more elderly and/or child pedestrians) be confirmed at a location before placing a high priority on the installation of a marked crosswalk alone.

P = Possible increase in pedestrian crash risk may occur if crosswalks are added without other pedestrian facility enhancements. These locations should be closely monitored and enhanced with other pedestrian crossing improvements, if necessary, before adding a marked crosswalk.

N = Marked crosswalks alone are insufficient, since pedestrian crash risk may be increased by providing marked crosswalks alone. Consider using other treatments, such as traffic-calming treatments, traffic signals with pedestrian signals where warranted, or other substantial crossing improvement to improve crossing safety for pedestrians.

Table 1. Application of pedestrian crash countermeasures by roadway feature.

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000-15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	① 2 4 5 6	① 5 6 7 9	① 5 6 7 9	① 1 4 5 6	① 1 5 6	① 1 5 6	① 1 4 5 6	① 1 5 6	① 1 5 6 6
3 lanes with raised median (1 lane in each direction)	① 2 3 4 5	① 5 6 7 9	① 5 6 7 9	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	① 2 3 4 5 6	① 5 6 7 9	① 5 6 7 9	① 1 4 5 6	① 1 4 5 6	① 1 4 5 6	① 1 4 5 6	① 1 4 5 6	① 1 4 5 6
4+ lanes with raised median (2 or more lanes in each direction)	① 5 7 8 9	① 5 7 8 9	① 5 7 8 9	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5
4+ lanes w/o raised median (2 or more lanes in each direction)	① 5 7 8 9	① 5 7 8 9	① 5 7 8 9	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5	① 1 4 5 5

Given the set of conditions in a cell,
● Signifies that the countermeasure is a candidate treatment of a marked uncontrolled crossing location.

● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment of a marked uncontrolled crossing location.

○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.**

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

- 1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning sign
- 2 Raised crosswalk
- 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- 4 In-Street Pedestrian Crossing sign
- 5 Curb extension
- 6 Pedestrian refuge island
- 7 Rectangular Rapid Flashing Beacon (RRFB)**
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon (PHB)**

**Refer to Chapter 4, Using Table 1 and Table 2 to Select Countermeasures, for more information about using multiple countermeasures.
**The RRFB and PHB are not both installed at the same crossing location.

— PEDESTRIAN FATALITY & SERIOUS INJURY RISK +

18%



50%



77%



CONE OF VISION

As motor vehicle speeds increase, the risk of serious injury or fatality for a pedestrian also increases (AARP Impact Speed and a Pedestrian's Risk of Severe Injury or Death 2011, p. 1). Also, motorist visual field and peripheral vision is reduced at higher speeds.

The Spectacular Seven



Crosswalk Visibility Enhancements



Raised Crosswalks



Pedestrian Refuge Island



Rectangular Rapid Flashing Beacon (RRFB)



Pedestrian Hybrid Beacon (PHB)



Road Diets



Leading Pedestrian Interval (LPI)

Technical Services Available through EDC5

- **STEP Workshops**
- **Road Safety Audits/Assessments**
- **Scan Tours**
- **Peer Exchange**
- **Conference Presentations**
- **STEP Action Plans**
- **Pedestrian Systemic Analysis assistance**



Source: FHWA

Arkansas – Tennessee Scan Tour



Questions