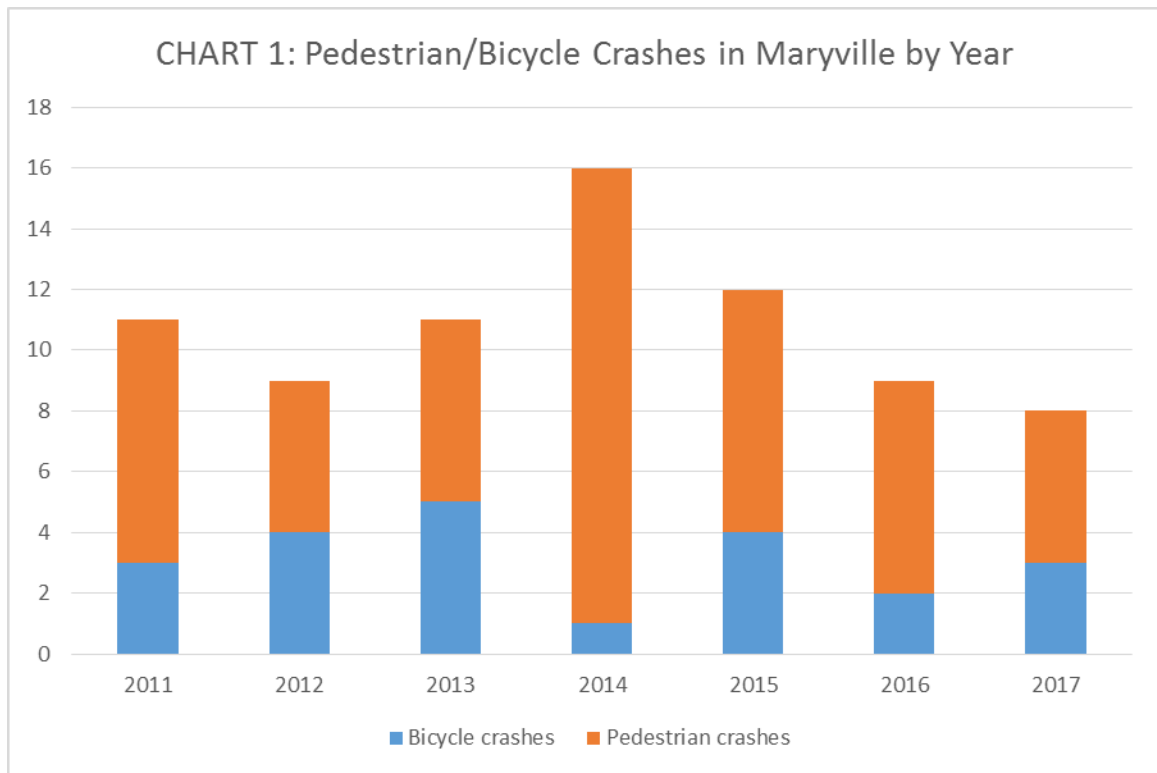# Maryville ped/bike crashes: Sept. 2010-March 2018
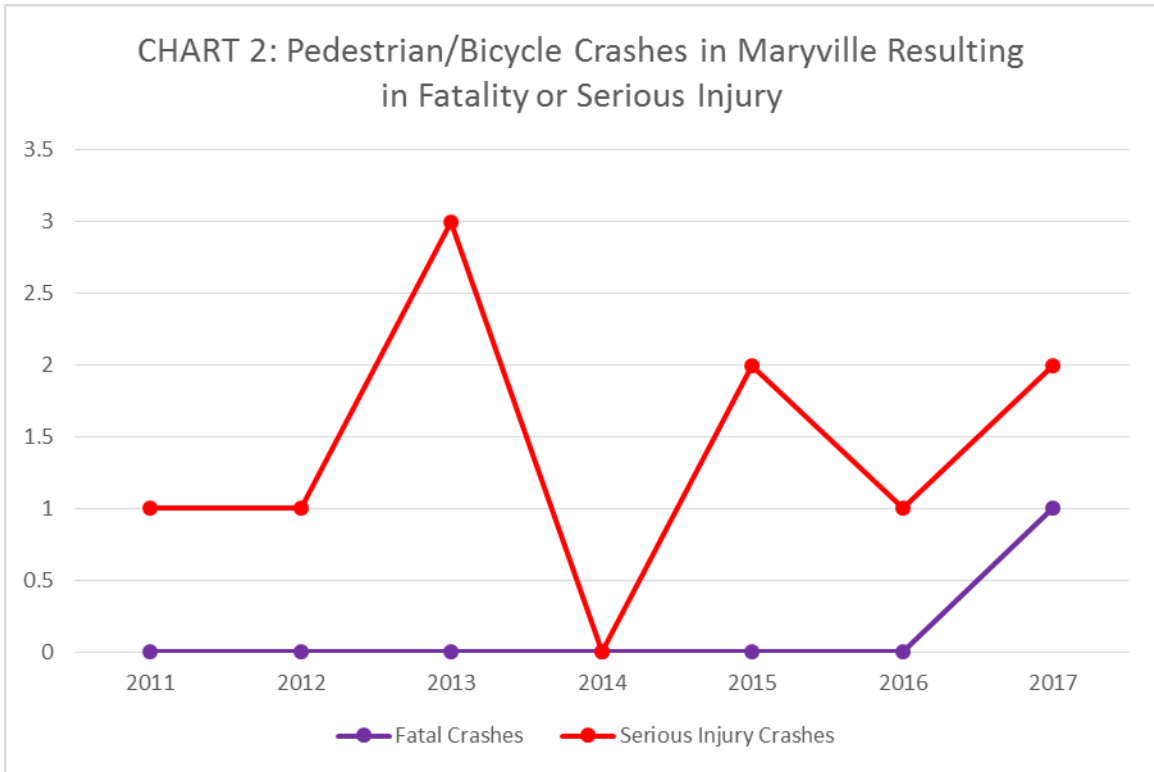
**Overview**

- Between September of 2010 and March of 2018, there were 82 crashes involving either pedestrians or bicyclists. This results in a rate of 0.9 crashes per month, 11 crashes per year.
- 59 crashes (72 percent) involved pedestrians, and 23 involved bicyclists.
- Most of the crashes (84 percent) involved the injury or death of a person walking or bicycling.
    - 68 crashes involved injuries only, and another 1 involved a fatality. The fatal crash involved a person walking.
    - 19 percent of injury-only crashes involved serious injuries. [1]
- Chart 1 shows the number of crashes by year. Chart 2 shows the number of fatal and serious injury crashes by year.



CHART 1: Pedestrian/Bicycle Crashes in Maryville by Year

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Ped | 8 | 5 | 6 | 15 | 8 | 7 | 5 |
| Bike | 3 | 4 | 5 | 1 | 4 | 2 | 3 |
| Total | 11 | 9 | 11 | 16 | 12 | 9 | 8 |

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[1] Crash reports rank the severity of crashes as either fatal, suspected serious injury, suspected minor injury, possible injury, or no injury. Suspected serious injury crashes used to be reported as "incapacitating," and suspected minor injury were reported as "non-incapacitating." For this report, suspected serious and incapacitating crashes are combined as "serious injury" crashes.

**CHART 2: Pedestrian/Bicycle Crashes in Maryville Resulting in Fatality or Serious Injury**



- The location of 3 crashes (4 percent) is uncertain because of incomplete information in the crash reports. The remainder of this report focuses on the 79 crashes where the location is certain.
- 25 of the 79 crashes (32%) occurred on major arterials. 20 of the major arterial crashes involved people walking, while 5 involved bicyclists. None of those were fatal crashes, but 7 (28%) involved serious injuries.
- 17 (68%) of the major arterial crashes occurred on U.S. 321. Another 4 took place on S Washington St, while 2 each occurred along U.S. 129 and Sevierville Rd.

**Types of crashes analyzed in this report**

This report analyzes certain crash factors. It focuses on identifying locations and behaviors where interventions – in the form of design changes, education, or enforcement – may help to prevent future crashes. 34 (43 percent) of the 79 total crashes fit into one of these categories. Categories of crashes analyzed in this report are:

- **Drivers failing to yield while turning.** These are crashes where the report indicates that the pedestrian or bicyclist was behaving properly while traveling along or across a street, and the driver failed to yield while making a turn. These crashes suggest the need for changes to the geometry of the intersections and/or to the function of the traffic signals to prevent future crashes. Education and traffic enforcement can also help prevent these types of crashes.
- **People struck by cars while walking in locations without sidewalks.** These are crashes where the report indicates the pedestrian was walking along a street without sidewalks and was struck by a car. These crashes indicate the need for sidewalks to be installed.
- **Drivers failing to yield while going straight.** These are crashes where the report indicates that the pedestrian or cyclist was crossing the street in a legal crosswalk[2], either marked or unmarked, and was struck by a driver. These crashes indicate the need for better design of crossing locations, which may include reducing crossing distances and the addition of signs, beacons, or signals. Education and traffic enforcement can also help prevent this type of crash.
- **Bicyclists riding in locations without safe facilities.** These are crashes where the report indicates a bicyclist was struck from behind or while riding on the sidewalk.[3] These crashes indicate the need for a safe bicycle facility along a corridor.
- **People struck by cars while crossing a street outside of an intersection or marked midblock crossing.** These are crashes where the report indicates a pedestrian was struck while crossing a street at a location other than an intersection or a marked midblock crossing. These crashes suggest the need for additional crossings, as the existing crossings may be dangerous or inconvenient. Education of pedestrians can also help prevent this type of crash.
- **Bicyclists riding in an unsafe manner or location.** These are crashes where the report indicates that the bicyclist was either riding on the street against traffic, or riding at night with no lights. These crashes suggest the need for better education of bicyclists.
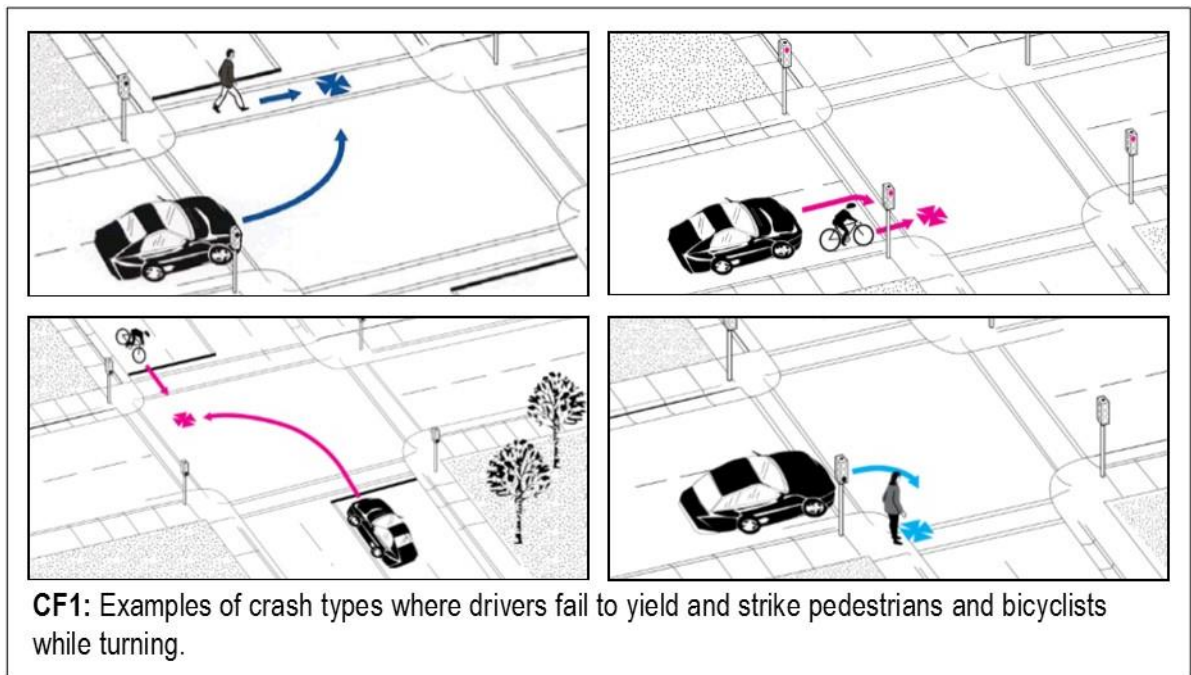
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[2] Tennessee Code Annotated 55-8-101 (11) defines "crosswalk" as "(A) That part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the traversable roadway; or (B) Any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface."

[3] Riding a bicycle on the sidewalk is legal. Bicycle safety educators generally warn against it, because of the danger from turning motor vehicles.

| TABLE 1: Crash Factors | | Number of Crashes | Percent of Crashes* |
|---|---|---|---|
| 1. Drivers failing to yield while turning (16 total crashes) | Turning left | 10 | 29 |
| | Turning right (not right on red) | 4 | 12 |
| | Turning right on red light | 0 | 0 |
| | Direction of turn unclear | 2 | 6 |
| 2. Pedestrian struck while walking along corridor without sidewalks | | 6 | 18 |
| 3. Driver failing to yield while going straight | | 1 | 3 |
| 4. Bicyclist riding on sidewalk | | 7 | 21 |
| 5. Pedestrian crossing street outside of an intersection or marked crosswalk | | 2 | 6 |
| 6. Bicyclist riding against traffic | | 2 | 6 |
| 7. Driver striking bicyclist from behind | | 0 | 0 |
| 8. Bicyclist riding at night with no lights | | 0 | 0 |

*Percentages do not total to 100 due to rounding

**Crash Factor 1: Drivers failing to yield while turning**



**CF1:** Examples of crash types where drivers fail to yield and strike pedestrians and bicyclists while turning.

- Of the crashes where a crash factor has been identified, 16 (47 percent) involved a pedestrian or bicyclist hit by a car whose driver failed to yield properly when turning.[4] Of these, 10 crashes involved drivers turning left, 4

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[4] This crash factor is identified only where the bicyclist or pedestrian involved was traveling safely and within the law and the driver failed to yield.

involved a right turn (not on a red light), and in 2 the direction of the turn was unclear based on information in the crash report.
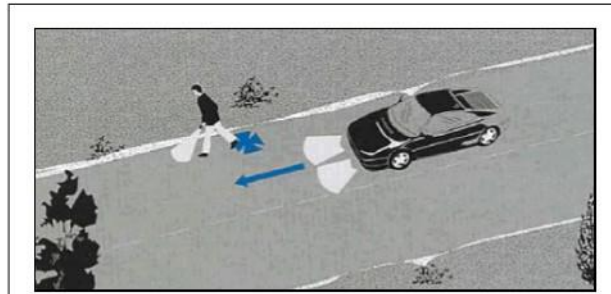
- 13 of these crashes involved injuries, with 1 fatality (in the Walmart parking lot).
- 12 of these cases involved pedestrians, and the remaining 4 involved bicyclists.
- The crashes occurred in the following locations:

| TABLE 2: Locations of failure-to-yield crashes | | | | | |
|---|---|---|---|---|---|
| Corridor | Cross street | Left turns | Right turn (not on red) | Right turn on red | Turn direction unclear |
| Highland Ave | East of Cunningham St | 1 | | | |
| McGinley St | Irwin Ave | 1 | | | |
| Montvale Rd | Mountain View Ave | | 1 | | |
| Montvale Rd | W Goddard Ave | | 1 | | |
| Montvale Station Rd | Best St | 1 | | | |
| N Cusick St | Harper Ave | 1 | | | |
| Park Dr | North of Lincoln Rd | | | | 1 |
| Scenic Dr | Cardinal St | 1 | | | |
| Sevierville Rd | West of S Everett High Rd | | | | 1 |
| S Washington St | Lamar St | 1 | | | |
| S Washington St | U.S. 321 | | 1 | | |
| U.S. 129 | Walmart parking lot | 2 | | | |
| U.S. 321 | Chantily Lane | 1 | | | |
| U.S. 321 | Morganton Square | | 1 | | |
| White Ave | East of S Magnolia St | 1 | | | |

Number in red indicates that crashes involved a bicyclist.

**Crash Factor 2: People struck by cars while walking in locations without sidewalks**

In 6 (18 percent) crashes, a person walking along a street without a sidewalk was hit by a driver.[5] 5 of these crashes involved injuries, with no fatalities. The crashes occurred in the following locations:
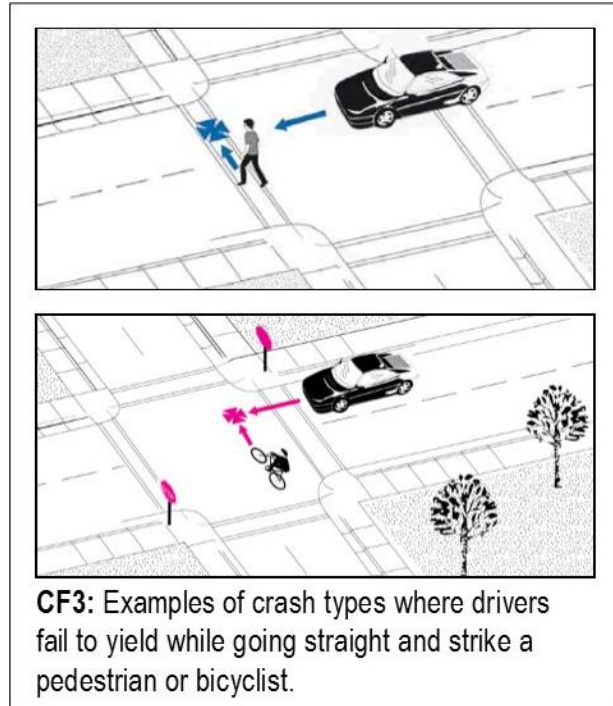


**CF2:** A frequent crash type in rural & suburban areas is pedestrians being struck while walking in locations lacking sidewalks.

| TABLE 3: Locations of people being struck while walking along streets without sidewalks ||
|---|---|
| **Crash occurred on this street** | **Near the intersection with this street** |
| Effler Rd | Montvale Rd |
| Old Knoxville Pike | Horn St |
| S Everett High Rd | Morningside Ave |
| Sevierville Rd | Brown School Rd |
| U.S. 129 | Fairview Dr |
| U.S. 321 | Ross Dr |

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[5] This crash factor is identified only where the crash report finds that the pedestrian was walking along the side of the road when the crash happened, not cases where pedestrians entered the road to cross.
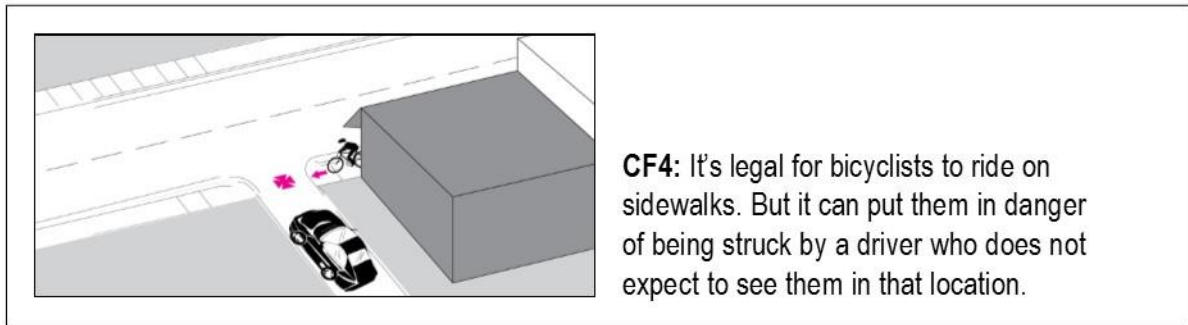
**Crash Factor 3: Driver failing to yield while going straight**

- In 1 crash, a driver was going straight and failed to yield for a person walking or bicycling across the street in a legal crosswalk, either marked or unmarked, or who otherwise has the right of way.[6] The crash involved a pedestrian, and resulted in an injury. The crash occurred in the parking lot of Foothills Mall.



**CF3:** Examples of crash types where drivers fail to yield while going straight and strike a pedestrian or bicyclist.

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[6] This crash factor is not identified where the crash report finds that the person walking or bicycling entered the street in a way that failed to give the driver sufficient time to yield the right of way.

**Crash Factor 4: Bicyclist riding on sidewalk**



**CF4:** It's legal for bicyclists to ride on sidewalks. But it can put them in danger of being struck by a driver who does not expect to see them in that location.
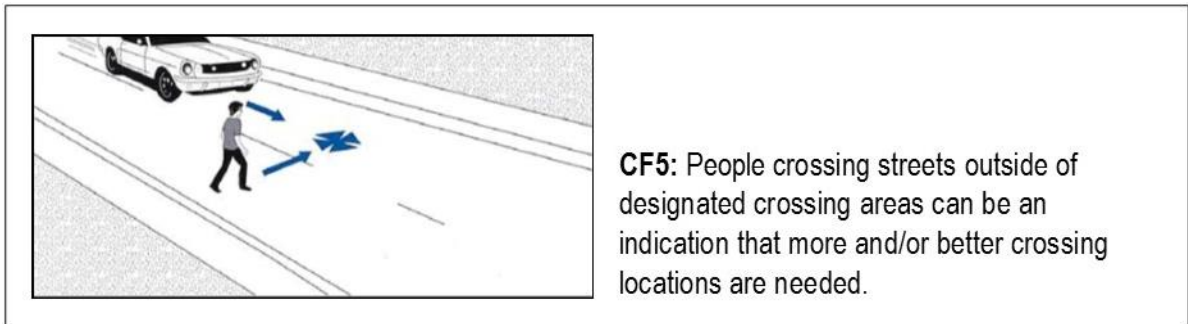
7 crashes (21 percent) were associated with bicyclists riding on the sidewalk. 4 of these crashes involved injuries, with no fatalities. 2 of these crashes occurred on Montvale Rd, and another 2 on U.S. 321. The crashes occurred in the following locations:

| TABLE 4: Locations of bicyclists being struck while riding on sidewalks | |
|---|---|
| **Crash occurred on this street** | **In this area** |
| Montvale Rd | Mountain View Ave |
| Montvale Rd | Tristan Lane |
| N Cusick St | driveway to Blount County Public Library |
| S Magnolia St | White Ave |
| S Washington St | Ellis Ave |
| U.S. 321 | Belfast St |
| U.S. 321 | Dunlap St |

**Crash Factor 5: Pedestrian crossing street outside of an intersection or marked crosswalk**



**CF5:** People crossing streets outside of designated crossing areas can be an indication that more and/or better crossing locations are needed.

In 2 crashes, pedestrians were crossing the street outside of an intersection or marked crosswalk. 1 of these crashes involved injuries, with no fatalities. The crashes occurred in the following locations:

| TABLE 5: Areas with pedestrians struck while crossing outside of an intersection or marked crosswalk | |
| --- | --- |
| Crash occurred on this street | In this area |
| Horn St | Old Knoxville Pike |
| Camellia Trce | U.S. 321 |

**Crash Factor 6: Bicyclist riding against traffic**

2 bicyclists were struck while riding against traffic. Both crashes involved injuries, with no fatalities. Both crashes occurred along U.S. 321, one crash near Foothills Mall Drive, and the other east of Tuckaleechee Pike.

**Crash Factor 7: Driver striking bicyclist from behind**

No crashes of this type were reported in Maryville during the time analyzed in this report.

**Crash Factor 8: Bicyclist riding at night with no lights**

No crashes of this type were reported in Maryville during the time analyzed in this report.

**Methodology**

Crash data were obtained directly from KPD (all crashes prior to June 2009) or downloaded from the TITAN database maintained by the State of Tennessee. Crashes were mapped in ArcMap GIS software based on latitude/longitude or closest intersection, where lat/long data were not available. TPO staff then reviewed the location of each crash to correct data errors. TPO staff assigned crash factors based on information obtained from individual crash reports, including crash narratives and information about citations issued.

**Image credit**

All crash type images are from the Pedestrian and Bicycle Crash Analysis Tool (PBCAT), which was developed by the Federal Highway Administration (FHWA), in cooperation with the National Highway Traffic Safety Administration (NHTSA). The purpose of the PBCAT is to assist with analysis of pedestrian/bicycle crashes with the goal of preventing them.