Dane County

Bicycle and Pedestrian Crash Study

November 2017
Study Goals

• Identify common types, characteristics, and locations of bicycle/pedestrian–motor vehicle crashes to inform safety education, enforcement and facility design.

• Set a benchmark for future performance measurement.

• Compare current City of Madison bicycle crash statistics to those presented in the 1992 city crash study.
Work Plan

• Review previous research and identify information to be added to crash geodatabase (complete)

• Add new information to crash geodatabase and correct errors, based on review of crash reports (complete)

• Analyze data to identify common crash factors and trends (ongoing)

• Write final report (ongoing)
WisTransPortal Crash Data (TOPS Lab/WisDOT)

- Includes information from MV4000 crash reports:
  - Date/time
  - Location (city, county, roadway, etc.)
  - Severity (# of persons, vehicles, fatalities, injuries)
  - General (location type, light/weather, urban/rural, etc.)
  - Flags (alcohol/drugs, auto, bike, ped, CMV, etc.)
  - Driver actions/characteristics, citations, etc.
  - Factors (driver/roadway possible contributing factors)
  - Enforcement (law enforcement info - jurisdiction, etc.)
Additional Information added by MATPB

- NHTSA Bicycle and Pedestrian Crash Type
- Location Movement Classification Method (LMCM) Crash Type
- Facility Type
- Travel Direction
- Number of Lanes, Speed Limit
- Bicycle Crash Subtype
- Location of Pedestrian
- Other
  - Aggression Flag
  - Bike Trailer Flag
  - Bike/Pedestrian Light
  - Phone Use
  - Transit Flag
Demographics: Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Pedestrians #</th>
<th>Pedestrians %</th>
<th>Bicyclists #</th>
<th>Bicyclists %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>9</td>
<td>2%</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>5-9</td>
<td>31</td>
<td>6%</td>
<td>25</td>
<td>3%</td>
</tr>
<tr>
<td>10-14</td>
<td>32</td>
<td>6%</td>
<td>58</td>
<td>7%</td>
</tr>
<tr>
<td>15-19</td>
<td>64</td>
<td>12%</td>
<td>77</td>
<td>10%</td>
</tr>
<tr>
<td>20-24</td>
<td>97</td>
<td>18%</td>
<td>191</td>
<td>24%</td>
</tr>
<tr>
<td>25-44</td>
<td>149</td>
<td>27%</td>
<td>253</td>
<td>32%</td>
</tr>
<tr>
<td>45-64</td>
<td>120</td>
<td>22%</td>
<td>162</td>
<td>20%</td>
</tr>
<tr>
<td>65+</td>
<td>44</td>
<td>8%</td>
<td>26</td>
<td>3%</td>
</tr>
<tr>
<td>Unknown</td>
<td>6</td>
<td>1%</td>
<td>5</td>
<td>1%</td>
</tr>
<tr>
<td>Total</td>
<td>552</td>
<td>100%</td>
<td>798</td>
<td>100%</td>
</tr>
</tbody>
</table>
## Demographics: Gender

<table>
<thead>
<tr>
<th>Sex</th>
<th>Pedestrians</th>
<th>Bicyclists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>300 54%</td>
<td>570 71%</td>
</tr>
<tr>
<td>Female</td>
<td>247 45%</td>
<td>225 28%</td>
</tr>
<tr>
<td>Unknown</td>
<td>5 1%</td>
<td>3 0%</td>
</tr>
<tr>
<td>Total</td>
<td>552 100%</td>
<td>798 100%</td>
</tr>
</tbody>
</table>

![Bar chart showing gender distribution of pedestrians and cyclists.](chart.png)
Crashes by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Pedestrian</th>
<th>Bicyclist</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>110</td>
<td>174</td>
</tr>
<tr>
<td>2012</td>
<td>120</td>
<td>185</td>
</tr>
<tr>
<td>2013</td>
<td>111</td>
<td>135</td>
</tr>
<tr>
<td>2014</td>
<td>82</td>
<td>148</td>
</tr>
<tr>
<td>2015</td>
<td>129</td>
<td>156</td>
</tr>
</tbody>
</table>

Legend: Pedestrian, Bicyclist
Crashes by Location

- City of Madison
- Urban MPO (excl. City of Madison)
- Rest of County

Pedestrians | Bicyclists
--- | ---
80% | 80%
20% | 20%
5% | 5%
Hit & Run

- No: 80% Pedestrians, 90% Bicyclists
- Yes: 20% Pedestrians, 10% Bicyclists
Bicycle Crashes
39 NHTSA\(^1\) Bicycle Crash Types

- Bicycle Failed To Clear
  - Multiple Threat
  - Trapped
- Bicycle Left Turn
  - Facing Traffic
  - In Front Of Traffic
- Bicycle Lost Control
- Bicycle Ride Out
  - At Commercial Driveway
  - At Intersection, Other
  - At Midblock
  - At Residential Driveway
  - At Stop Sign
  - From Sidewalk
- Bicycle Right Turn
- Bicycle Strikes Parked Vehicle
  - Dooring\(^2\)
  - Other\(^2\)
- Bicycle Wrong Way
- Bicycle Overtaking
- Motorist Backing
- Motorist Drive Out
  - At Midblock
  - At Intersection, Other
  - At Stop Sign
  - From On-Street Parking
- Motorist Drive Through
- Motorist Left Turn
  - Facing Bicyclist
  - In Front Of Bicyclist
- Motorist Lost Control
- Motorist Overtaking
  - Bicyclist Path Obstructed
  - Counteractive Evasive Actions
  - Failed To Detect
  - Misjudged Passing Space
  - Other
- Motorist Right Turn
  - On Red
  - Other
- Motorist Wrong Way
- Other
  - Controlled Intersection
  - Non-Roadway
  - Play Vehicle
  - Uncontrolled Intersection
  - Unknown
  - Weird


\(^2\)The original NHTSA crash type, Bicycle Strikes Parked Vehicle, was divided into Dooring and Other for the present study.
Most Common NHTSA Bicyclist Crash Types in Dane County
Motorist Left Turn – Facing Bicyclist

17.4% Motorist turned left while facing approaching bicyclist.
Motorist Drive Out – At Stop Sign

13.0%  Motorist stopped at a stop sign but then failed to yield.
Motorist was turning right and bicyclist was riding in same or opposing direction
Bicycle Ride Out – At intersection

7.6%  Bicyclist failed to yield at intersection
Motorist Right Turn – On Red

7.3%  Motorist turned right while facing a red light.
# Top NHTSA Bicyclist Crash Types

**City of Madison**

<table>
<thead>
<tr>
<th>Crash Type</th>
<th>% of Total</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorist Left Turn – Facing Bicyclist</td>
<td>19.8%</td>
<td>Motorist turned left while facing approaching bicyclist</td>
</tr>
<tr>
<td>Motorist Right Turn – Other</td>
<td>11.6%</td>
<td>Motorist was turning right and bicyclist was riding in same or opposing direction</td>
</tr>
<tr>
<td>Motorist Drive Out – At Stop Sign</td>
<td>11.3%</td>
<td>Motorist stopped at a stop sign but then failed to yield</td>
</tr>
<tr>
<td>Bicycle Ride Out – At Intersection, Other</td>
<td>8.3%</td>
<td>Bicyclist failed to yield at a signalized or uncontrolled intersection</td>
</tr>
<tr>
<td>Motorist Right Turn – On Red</td>
<td>7.8%</td>
<td>Motorist turned right while facing a red light</td>
</tr>
<tr>
<td>Motorist Left Turn – In Front Of Bicyclist</td>
<td>5.3%</td>
<td>Both parties were traveling in the same direction and the motorist turned in front of the bicyclist</td>
</tr>
<tr>
<td>Other Types</td>
<td>35.9%</td>
<td></td>
</tr>
</tbody>
</table>
# Top NHTSA Bicyclist Crash Types
Urban Metro Area (excl. City of Madison)

<table>
<thead>
<tr>
<th>Crash Type</th>
<th>% of Total</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorist Drive Out – At Stop Sign</td>
<td>23.4%</td>
<td>Motorist stopped at a stop sign but then failed to yield</td>
</tr>
<tr>
<td>Bicycle Ride Out – At Stop Sign</td>
<td>9.4%</td>
<td>Bicyclist stopped at a stop sign but then failed to yield</td>
</tr>
<tr>
<td>Motorist Left Turn – Facing Bicyclist</td>
<td>9.4%</td>
<td>Motorist turned left while facing approaching bicyclist</td>
</tr>
<tr>
<td>Motorist Right Turn – On Red</td>
<td>7.0%</td>
<td>Motorist turned right while facing a red light</td>
</tr>
<tr>
<td>Motorist Right Turn – Other</td>
<td>7.0%</td>
<td>Motorist was turning right and bicyclist was riding in same or opposing direction</td>
</tr>
<tr>
<td>Bicycle Ride Out – At Intersection, Other</td>
<td>7.0%</td>
<td>Bicyclist failed to yield at a signalized or uncontrolled intersection</td>
</tr>
<tr>
<td>Other</td>
<td>36.7%</td>
<td></td>
</tr>
</tbody>
</table>
## Top NHTSA Bicyclist Crash Types
### Rest of Dane County

<table>
<thead>
<tr>
<th>Crash Type</th>
<th>% of Total</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorist Overtaking – Other</td>
<td>18.6%</td>
<td>Motorist was overtaking a bicyclist and the circumstances could not be specified</td>
</tr>
<tr>
<td>Motorist Overtaking – Failed To Detect</td>
<td>16.3%</td>
<td>Motorist was overtaking and failed to detect the bicyclist</td>
</tr>
<tr>
<td>Bicycle Lost Control</td>
<td>11.6%</td>
<td>Bicyclist lost control and swerved into the path of the motorist</td>
</tr>
<tr>
<td>Motorist Drive Out – At Stop Sign</td>
<td>7.0%</td>
<td>Motorist stopped at a stop sign but then failed to yield</td>
</tr>
<tr>
<td>Motorist Left Turn – Facing Bicyclist</td>
<td>7.0%</td>
<td>Motorist turned left while facing approaching bicyclist</td>
</tr>
<tr>
<td>Motorist Overtaking – Counteractive Evasive Actions</td>
<td>7.0%</td>
<td>Motorist was overtaking and the bicyclist swerved and crashed</td>
</tr>
<tr>
<td>Motorist Overtaking – Misjudged Passing Space</td>
<td>7.0%</td>
<td>Motorist was overtaking and misjudged the width or length required to pass the bicyclist</td>
</tr>
<tr>
<td>Other Types</td>
<td>25.6%</td>
<td></td>
</tr>
</tbody>
</table>
Location Movement Classification Method (LMCM) Crash Types

- 57 crash types identified by letter code
- Intersection crashes:
  - Intersection / Non-intersection
  - Near Side / Far Side
  - Driver Action: Straight / Left Turn / Right Turn
  - Bicyclist/pedestrian travel direction relative to motorist: from Right, from Left, traveling in Same direction, traveling in Opposite direction, or unknown (X)

- Non-intersection:
  - Intersection / Non-intersection
  - Crash location: Right Roadway lane / Left Roadway Lane / Right Shoulder or bike lane / Left Shoulder or bike lane

- Other:
  - Parking lot / Driveway
  - Forward / Backward
  - Other
  - Other
Bicycle Crash Locations by Community Type

- **Madison**
  - Intersection: 90%
  - Non-Intersection: 10%
  - Other/Unknown: 0%

- **Urban MPO**
  - Intersection: 90%
  - Non-Intersection: 10%
  - Other/Unknown: 0%

- **Rest of County**
  - Intersection: 30%
  - Non-Intersection: 70%
  - Other/Unknown: 0%
# Top Bike Crash Locations 2011 – 2015

<table>
<thead>
<tr>
<th>Location</th>
<th>Crashes</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Ave at N. Park St</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>University Ave at N. Randall St</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>John Nolen Dr at S. Blair St</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>University Ave at N. Frances St</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>John Nolen Dr at North Shore Dr</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>University Ave at N. Brooks St</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>E. Johnson St at N. Pinckney St</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>E. Johnson St at N. Hamilton St</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>
Facility Type Used by Bicyclist

- Street: 33%
- Bike Lane/Shoulder: 23%
- Bike Lane - Contraflow: 6%
- Bike Boulevard: 2%
- Sidewalk: 28%
- Shared-Use Path: 7%
- Residential Driveway: 1%
## Injury Severity by Posted Speed Limit – Bicyclists

<table>
<thead>
<tr>
<th>Posted Speed Limit</th>
<th>Fatal</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>≤ 25</td>
<td>1</td>
<td>0.2%</td>
<td>37</td>
<td>6.9%</td>
<td>494</td>
<td>92.5%</td>
<td>2</td>
<td>0.4%</td>
</tr>
<tr>
<td>30</td>
<td>0</td>
<td>0%</td>
<td>3</td>
<td>3%</td>
<td>97</td>
<td>97%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>35</td>
<td>3</td>
<td>2.8%</td>
<td>8</td>
<td>7.5%</td>
<td>94</td>
<td>87.9%</td>
<td>2</td>
<td>1.9%</td>
</tr>
<tr>
<td>≥ 40</td>
<td>2</td>
<td>3.5%</td>
<td>10</td>
<td>17.5%</td>
<td>44</td>
<td>77.2%</td>
<td>1</td>
<td>1.8%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>6</td>
<td>0.8%</td>
<td>58</td>
<td>7.3%</td>
<td>729</td>
<td>91.4%</td>
<td>5</td>
<td>0.6%</td>
</tr>
</tbody>
</table>
Comparison:
Bicycle Crashes in the City of Madison

<table>
<thead>
<tr>
<th></th>
<th>2017 Study</th>
<th>1992 Study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Years</strong></td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td><strong>Study Area</strong></td>
<td>Dane County</td>
<td>City of Madison</td>
</tr>
<tr>
<td><strong>Total Crashes</strong></td>
<td>798</td>
<td>774</td>
</tr>
<tr>
<td><strong>City of Madison</strong></td>
<td>627</td>
<td>774</td>
</tr>
<tr>
<td><strong>Annual Crashes</strong></td>
<td>125</td>
<td>194</td>
</tr>
<tr>
<td><strong>Bicycle Commuting Pct.</strong></td>
<td>5.2%</td>
<td>3.3%</td>
</tr>
<tr>
<td><strong>Crash Rate per 100,000 pop.</strong></td>
<td>51.4</td>
<td>101.7</td>
</tr>
</tbody>
</table>

*Includes only motor vehicle – bicycle crashes*

Age

- 1992 Study
- 2017 Study
- Population 1990
- Population 2010

Gender

- Male
- Female
- Unknown

- 1992
- 2017
Bicyclist Direction of Travel Relative to Nearest Traffic Lane

- With traffic
- Against traffic
- Other/unknown

1992 vs 2017
Summary – Bicycle Crashes

• Crash Types, Citations Issued
  • *Motorist Left Turn Facing Bicyclist, Motorist Drive Out at Stop Sign,* and *Motorist Right Turn* most common urban crash types  
    – *Bicycle Ride Out at Stop Sign* also common in suburban areas
  • *Motorist Overtaking* most common rural crash type
  • Driver cited in 50% of City of Madison crashes, 35-40% of other crashes while bicyclist cited in about 10% of crashes

• Fatal Crashes
  • 6 total fatal crashes (<1% of reported bicyclist crashes)
  • None at downtown Madison crash hotspots

• Comparison to 1992 Study (City of Madison)
  • Older cyclists (45 – 65 age group) involved in a much larger share of crashes – 3.5% (1987-1990) to 18.6% (2011-2015)
  • Common crash types generally the same; even higher % - motorist turn/merge into bicyclist’s path
Pedestrian Crashes
38 NHTSA¹ Pedestrian Crash Types

- Special Circumstances
  - Commercial Bus Related
  - School Bus Related
  - Ice Cream Vendor
  - Mailbox Related
  -Exiting or Entering Parked Vehicle
- Vehicle Specific
  - Driverless Vehicle
  - Backing Vehicle
  - Hot Pursuit
- Disabled/Emergency Vehicle Related
- Working/Playing in Roadway
  - Working on Roadway
  - Play Vehicle Related
  - Playing in Roadway
- Walking along Road
- Expressway Crossing
- Not in Road
  - Waiting to Cross
  - Not in Roadway
- Intersection Related
  - Multiple Threat at intersection
  - Vehicle Turn/Merge
  - Intersection Dash
  - Trapped
- Intersection Related (continued)
  - Walked into Vehicle at Intersection
  - Driver Violation at Intersection
  - Intersection – Other
- Midblock Related
  - Multiple Threat at Midblock
  - Midblock Dart Out
  - Midblock Dash
  - Walked into Vehicle at Midblock
  - Driver Violation at Midblock²
  - Midblock – Other
- Other
  - Lying in Road
  - Suicide
  - Assault With Vehicle
  - Pedestrian On Vehicle
  - Motorist Lost Control²
  - Vehicle-Vehicle Crash
  - Vehicle-Object Crash
  - Weird
  - Inadequate Information

²The original FHWA crash type: Domestic/Dispute Related was not used in the present study. Motorist Lost Control and Driver Violation at Midblock were added.
Most Common NHTSA Pedestrian Crash Types in Dane County
33.9% The pedestrian and vehicle collided while the vehicle was preparing to turn, in the process of turning or had just completed a turn (or merge).
Driver Violation At Intersection

10.3% Motorist was going straight and committed a violation.
9.4%

All of these crashes involved a pedestrian walking out at intersection.
*30 out of these 52 crashes involve pedestrians crossing against a traffic signal.
5.1% Pedestrian was running and/or the motorist’s view was blocked.
4.2% All of these crashes involved a pedestrian walking into the street at midblock.
# Top NHTSA Pedestrian Crash Types

## City of Madison

<table>
<thead>
<tr>
<th>Crash Type</th>
<th>% of Total</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Turn Or Merge At Intersection</td>
<td>38%</td>
<td>The vehicle was preparing to turn, in the process of turning, or had just completed a turn (or merge)</td>
</tr>
<tr>
<td>Driver Violation At Intersection</td>
<td>11%</td>
<td>The vehicle was proceeding straight ahead and the report indicated that the driver committed a violation such as careless driving, failure to yield, DWI, etc.</td>
</tr>
<tr>
<td>Intersection Related - Other</td>
<td>10%</td>
<td>The crash occurred at an intersection but does not conform to any other specified crash type (Note: All of these crashes involved a pedestrian walking into the street at an intersection.)</td>
</tr>
<tr>
<td>Intersection Dash</td>
<td>5%</td>
<td>The pedestrian was running through an intersection and/or the motorist’s view of the pedestrian was blocked until an instant prior to impact</td>
</tr>
<tr>
<td>Midblock Related - Other</td>
<td>4%</td>
<td>The crash occurred at midblock but does not conform to any other specified crash type (Note: All of these crashes involved a pedestrian walking into the street at midblock.)</td>
</tr>
<tr>
<td>Other/Unknown Crash Types</td>
<td>33%</td>
<td></td>
</tr>
</tbody>
</table>
## Top NHTSA Pedestrian Crash Types
### Urban Metro Area (excl. City of Madison)

<table>
<thead>
<tr>
<th>Crash Type</th>
<th>% of Total</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Turn Or Merge At Intersection</td>
<td>25%</td>
<td>The vehicle was preparing to turn, in the process of turning, or had just completed a turn (or merge)</td>
</tr>
<tr>
<td>Intersection Related - Other</td>
<td>9%</td>
<td>The crash occurred at an intersection but does not conform to any other specified crash type (Note: All of these crashes involved a pedestrian walking into the street at an intersection.)</td>
</tr>
<tr>
<td>Driver Violation At Intersection</td>
<td>9%</td>
<td>The vehicle was proceeding straight ahead and the report indicated that the driver committed a violation such as careless driving, failure to yield, DWI, etc.</td>
</tr>
<tr>
<td>Multiple Threat At Intersection</td>
<td>8%</td>
<td>The pedestrian entered the traffic lane in front of stopped traffic and was struck by another vehicle traveling in the same direction as the stopped traffic</td>
</tr>
<tr>
<td>Intersection Dash</td>
<td>6%</td>
<td>The pedestrian was running through an intersection and/or the motorist’s view of the pedestrian was blocked until an instant prior to impact</td>
</tr>
<tr>
<td>Play Vehicle Related</td>
<td>6%</td>
<td>The pedestrian was struck while riding a play vehicle such as a skateboard, wagon, tricycle, etc.</td>
</tr>
<tr>
<td>Other/Unknown Crash Types</td>
<td>38%</td>
<td></td>
</tr>
</tbody>
</table>
# Top NHTSA Pedestrian Crash Types

## Rest of County

<table>
<thead>
<tr>
<th>Crash Type</th>
<th>% of Total</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working On Roadway</td>
<td>13%</td>
<td>The pedestrian was struck while working on/over/under the roadway</td>
</tr>
<tr>
<td>Vehicle Turn Or Merge At Intersection</td>
<td>8%</td>
<td>The vehicle was preparing to turn, in the process of turning, or had just completed a turn (or merge)</td>
</tr>
<tr>
<td>Intersection Related - Driver Violation At Intersection</td>
<td>8%</td>
<td>The vehicle was proceeding straight ahead and the report indicated that the driver committed a violation such as careless driving, failure to yield, DWI, etc.</td>
</tr>
<tr>
<td>Walking Along Road</td>
<td>8%</td>
<td>The pedestrian was struck while walking or running along a road without sidewalks</td>
</tr>
<tr>
<td>Midblock Related - Other</td>
<td>8%</td>
<td>The crash occurred at midblock but does not conform to any other specified crash type (Note: All of these crashes involved a pedestrian walking into the street at midblock.)</td>
</tr>
<tr>
<td>Backing Vehicle</td>
<td>8%</td>
<td>The pedestrian was struck by a vehicle that was backing</td>
</tr>
<tr>
<td>Not In Roadway</td>
<td>8%</td>
<td>The pedestrian was struck in a parking lot, sidewalk, yard, or other non-roadway location</td>
</tr>
<tr>
<td>Disabled/Emergency Vehicle Related</td>
<td>8%</td>
<td>The pedestrian was struck walking to/from or while near a disabled or emergency vehicle</td>
</tr>
<tr>
<td>Other/Unknown Types</td>
<td>31%</td>
<td>The pedestrian was struck while riding a play vehicle such as a skateboard, wagon, tricycle, etc.</td>
</tr>
</tbody>
</table>
Pedestrian Crash Locations by Community Type

- Madison
  - Intersection: 70%
  - Non-Intersection: 15%
  - Other/Unknown: 5%
- Urban MPO (excl. City of Madison)
  - Intersection: 60%
  - Non-Intersection: 10%
  - Other/Unknown: 25%
- Rest of County
  - Intersection: 20%
  - Non-Intersection: 70%
  - Other/Unknown: 5%
# Top Pedestrian Crash Locations 2011 – 2015

<table>
<thead>
<tr>
<th>Location</th>
<th>Crashes</th>
<th>Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Ave at N. Frances St</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Monroe St at Regent St</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>University Ave at N. Lake St</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>E. Washington Ave at Stoughton Rd</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>University Ave at N. Park St</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>W. Johnson St at N. Frances St</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>W. Johnson St at N. Lake St</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>W. Washington Ave at Broom St</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
Pedestrian Location at Time of Crash

- Not Crossing: 17%
- In Marked Crosswalk: 57%
- No Crosswalk (marked or unmarked): 14%
- Unknown: 3%
- In Unmarked Crosswalk: 4%
- Outside of Marked Crosswalk: 5%
Injury Severity by Posted Speed Limit – Pedestrians

<table>
<thead>
<tr>
<th>Posted Speed Limit</th>
<th>Fatal</th>
<th>%</th>
<th>Incapacitating</th>
<th>%</th>
<th>Non-Severe</th>
<th>%</th>
<th>Unknown</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤25</td>
<td>4</td>
<td>1.1%</td>
<td>47</td>
<td>13.1%</td>
<td>304</td>
<td>84.7%</td>
<td>4</td>
<td>1.1%</td>
<td>359</td>
<td>100%</td>
</tr>
<tr>
<td>30</td>
<td>4</td>
<td>4.7%</td>
<td>12</td>
<td>13.95%</td>
<td>69</td>
<td>80.2%</td>
<td>1</td>
<td>1.2%</td>
<td>86</td>
<td>100%</td>
</tr>
<tr>
<td>35</td>
<td>6</td>
<td>8.45%</td>
<td>13</td>
<td>18.3%</td>
<td>52</td>
<td>73.2%</td>
<td>0</td>
<td>0%</td>
<td>71</td>
<td>100%</td>
</tr>
<tr>
<td>≥40</td>
<td>8</td>
<td>22.2%</td>
<td>7</td>
<td>19.4%</td>
<td>21</td>
<td>58.3%</td>
<td>0</td>
<td>0%</td>
<td>36</td>
<td>100%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>22</td>
<td>3.99%</td>
<td>79</td>
<td>14.31%</td>
<td>446</td>
<td>80.8%</td>
<td>5</td>
<td>0.91%</td>
<td>552</td>
<td>100%</td>
</tr>
</tbody>
</table>
Citations Issued in Pedestrian Crashes

- City of Madison
  - Both Cited: 2%
  - Driver Cited: 45%
  - Pedestrian Cited: 10%
  - No Citation: 33%

- Urban MPO
  - Both Cited: 1%
  - Driver Cited: 52%
  - Pedestrian Cited: 5%
  - No Citation: 42%

- Rest of County
  - Both Cited: 1%
  - Driver Cited: 41%
  - Pedestrian Cited: 8%
  - No Citation: 50%
Summary – Pedestrian Crashes

• Crash Types, Citations Issued
  • By far most common is Vehicle Turn/Merge at Intersection, accounting for 1/3 of crashes
  • Other common types are Drive Violation at Intersection and Intersection Related – Other (all pedestrian walk-outs)
  • Driver cited in around 50% of crashes

• Fatal Crashes
  • 22 total fatal crashes (4% of reported crashes)
  • Widely distributed throughout the metro area

• Crashes in Crosswalks
  • 312 (57%) occurred in a marked crosswalk.
  • 51 (9%) occurred outside a marked crosswalk or in an unmarked crosswalk.

• Speed
  • 14 (64%) fatalities occurred on streets with speed limits of at least 35 mph. These streets accounted for only 104 (19%) total crashes.
Thank You

Questions?

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wholloway@cityofmadison.com