Local Road Safety Initiatives

Improving Pedestrian Safety Within Ohio

Today’s Speakers

- Jordan Whisler
  Ohio Department of Transportation

- Lauren Cardoni
  Mid-Ohio Regional Planning Commission

- Tricia Fought
  City of Columbus
The State of Pedestrian Safety

An overview of Ohio’s pedestrian crashes & trends
Presentation Overview

Over the Next few Minutes….

• What?  - Magnitude & Trends

• When?  - Time of Day/Month/Year

• Who?  - Socio-demographic & economic characteristics

• Where?  - Land use Context & High-risk Facilities

• Why?  - Contributing factors & High-risk Behaviors

• How?  - Top Fatal Crash Types
What?

What is the magnitude of pedestrian safety issues facing Ohio and larger safety trends?
Overview:
2009-2018

- 1,134 Pedestrians Fatalities
- 182 Bicycle Fatalities
Overview:
2009-2018

13% of Ohio’s Traffic Deaths
Severe Pedestrian Crashes:
Ohio (2009-2018)
A National Issue…

U.S. Pedestrian Fatalities: 1990 - 2018

2018 is projected to have the highest number of pedestrian fatalities in the U.S. since 1990.

Source: SHSOs and FARS
A National Issue…

Contributing Factors

• **Smartphones** have introduced major distractions for both drivers and walkers

• Americans are spending a growing amount of time driving their cars (**increases in VMT**)

• The proliferation of popular **heavy-duty SUVs and pickup trucks**, with their greater mass and limited driver visibility, have proved deadly for pedestrians
When?

When do severe pedestrian crashes tend to occur throughout the day? Month? Year?
Severe Pedestrian Crashes:
Month (2009 - 2018)
Severe Pedestrian Crashes:
Severe Crashes by Lighting Condition by Month (2009-2018)
Who?

What are the socio-demographic and economic characteristics at play?
Fatal Pedestrian Crashes:

Age Breakdown (2014-2018)

- 0-4: 2%
- 5-14: 5%
- 15-25: 14%
- 26-45: 29%
- 46-64: 35%
- 65+: 15%
Fatal Pedestrian Crashes:
Age Comparison (2014-2018)

- All Fatalities
- Pedestrian Fatalities

Fatal Pedestrian Crashes:
Sociodemographic & Economic Factors

- Males: 72%
- Females: 28%

Fatal pedestrian crashes are 2x as likely to occur in low-income areas & disproportionately affect the homeless.*

*Governing, August 2014
Where?

High-Risk Facilities & Areas
Pedestrian Fatalities by County
Sorted by Lowest to Highest Number (2014-2018)

Ten counties accounted for 65% of pedestrian fatalities.
Location of Severe Pedestrian Crashes:

Roadway Functional Classification

- Arterial Roads: 54%
- Collector Roads: 19%
- Local Roads: 16%
- Freeways: 7%
Location of Severe Pedestrian Crashes:

High-Risk Facilities

Interstates & Freeways
Arterial Roads
Collectors
Local Roads

STW Miles
Total FSI

Location of Severe Pedestrian Crashes:

High-Risk Facilities

Interstates & Freeways
Arterial Roads
Collectors
Local Roads

STW Miles
Total FSI

Location of Severe Pedestrian Crashes:

Roadway Functional Classification by Maintenance Authority

FSI Pedestrian Crashes (2009-2018)
Location of Pedestrian Fatalities: Facility Types (2018)

Over 50% of all crashes and 25% of fatal crashes occurred at intersections.
Why?

High-Risk Behaviors & Contributing Factors
## Contributing Factors: Impairment

### Potential Contributing Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Fatal Crashes</th>
<th>Serious Injury Crashes</th>
<th>All Severe Crashes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>% Total</td>
<td>Number</td>
</tr>
<tr>
<td>Alcohol Involved</td>
<td>367</td>
<td>33%</td>
<td>756</td>
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<tr>
<td>Youth Involved</td>
<td>239</td>
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<td>Motorcycle Involved</td>
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<tr>
<td>School Zone</td>
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<td>25</td>
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<tr>
<td><strong>Total Crashes</strong></td>
<td>1101</td>
<td>100%</td>
<td>5073</td>
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</tbody>
</table>

### Impairment-Related Pedestrian Fatalities

- Drugs: 4% (63% of total)
- Alcohol: 25% (25% of total)
- Combined: 9% (9% of total)
- No: 6% (6% of total)
## Contributing Factors:

**Speeding**

<table>
<thead>
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### Speeding-Related Pedestrian Fatalities

- **No**: 86%
- **Yes**: 14%
## Contributing Factors:

### Distracted Driving

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How?

Top Fatal Crash Types
# Top Fatal Pedestrian Crash Types:

(Ohio, 2014 - 2018)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Crash Type</th>
<th>Ohio 2014-2018 Percentage</th>
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<tr>
<td>1</td>
<td>Midblock: Crossing</td>
<td>24%</td>
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<tr>
<td>2</td>
<td>Walking along roadway</td>
<td>22%</td>
</tr>
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<td>15%</td>
</tr>
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<td>5</td>
<td>Turning Vehicle at Intersection</td>
<td>7%</td>
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*Note: *Lying in Road, 5% and Working Related, 3% are not included in the table. They are mentioned separately.*
Top Fatal Pedestrian Crash Types:
Midblock - Cross (24%)

High Speeds:
Typically along 35+ MPH facilities

MIDBLOCK – CROSS:
The pedestrian walked or ran into the roadway and was struck by a vehicle.

Urban Context:
85% occurred in urban settings
70% on City-Maintained roads
Top Fatal Pedestrian Crash Types:

Walking Along the Roadway (22%)

Lack of Sidewalks:
70% along no sidewalk segments

Dark Conditions:
88% occurred at night

4-Lane Arterials:
Majority of crashes occurred on 4-lane Arterials

Walking Along Roadway:
The pedestrian was walking or running along the roadway and was struck from the front or from behind by a vehicle.
Top Fatal Pedestrian Crash Types: Through Vehicle at Intersection (15%)

Urban Context: Majority occurred in urban areas

Un-marked Crosswalks: Markings typically not present

Stop-Controlled: Intersection typically un-signalized

THROUGH VEHICLE AT INTERSECTION
The pedestrian was struck at a signalized or unsignalized intersection by a vehicle that was traveling straight ahead.
Top Fatal Pedestrian Crash Types:
Secondary Crash / Disabled Vehicle (13%)

SECONDARY CRASH/DISABLED VEHICLE:
The pedestrian was struck by a passing vehicle following a previous crash or their vehicle becoming disabled.

Freeway-Facilities:
Majority occurred along freeways
Top Fatal Pedestrian Crash Types:

Turning Vehicle at Intersection (7%)

Marked Crosswalks:
Markings typically present

Left-turns:
Majority occurred when driver was making a left-turn

Signalized:
Intersection typically signalized

Turning Vehicle at Intersection
The pedestrian was struck at a signalized or unsignalized intersection by a turning vehicle.

Conclusions
Major Takeaways:

• Some roadways/facilities are inherently dangerous by design

• High-risk behaviors have a huge impact on pedestrian safety within Ohio

• Lighting is a major contributing factor

• Severe pedestrian crashes disproportionately impact our high-need communities

• Severe pedestrian crashes are clustered in urbanized areas and on city-maintained roadways
Proven Safety Countermeasures:

**Pedestrian-Related Countermeasures:**

- **DEDICATED FACILITIES:**
  - Sidewalks
  - Shared-Use Paths

- **CROSSING ENHANCEMENTS:**
  - Leading pedestrian intervals (LPI)
  - Crosswalk visibility enhancements
  - Raised crosswalks & refuge islands
  - Pedestrian hybrid beacons (PHBs)
  - Rectangular rapid-flashing beacons (RRFB)
Local Road Safety Initiatives


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Local Safety & Active Transportation Manager
ODOT Office of Program Management
614.644.8181
Jordan.Whisler@dot.ohio.gov
Pedestrian Fatalities by County

Fatalities by Lighting Condition by Month (2009-2018)
Pedestrian Fatalities

Severe Crashes by Lighting Condition by Month (2009-2018)
Fatal Pedestrian Crashes:
Month (2014 - 2018)
## Fatal Pedestrian Crashes:

**Crashed by Hour by Month (2009-2018)**

| MONTH        | HOUR | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | TOTAL: |
|--------------|------|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| January      |      | 1 | 1 | 2 | 2 | 2 | 4 | 4 | 1 | 1 | 3 | 1 | 2 | 2 | 1 | 5 | 4 | 2 | 12 | 5 | 4 | 10 | 11 | 2 | 83 |
| February     |      | 4 | 3 | 7 | 6 | 0 | 0 | 7 | 6 | 0 | 0 | 2 | 1 | 3 | 0 | 1 | 1 | 1 | 5 | 6 | 6 | 8 | 12 | 7 | 4 | 90 |
| March*       |      | 5 | 2 | 1 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 0 | 2 | 2 | 0 | 2 | 5 | 1 | 2 | 4 | 7 | 12 | 12 | 5 | 2 | 89 |
| April        |      | 4 | 6 | 5 | 1 | 1 | 3 | 4 | 1 | 2 | 0 | 1 | 1 | 3 | 1 | 4 | 4 | 0 | 0 | 0 | 0 | 7 | 10 | 6 | 1 | 65 |
| May          |      | 3 | 5 | 5 | 0 | 5 | 5 | 0 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 3 | 2 | 3 | 0 | 3 | 10 | 19 | 3 | 83 |
| June         |      | 6 | 2 | 4 | 1 | 2 | 4 | 0 | 0 | 1 | 0 | 1 | 1 | 3 | 1 | 4 | 2 | 2 | 1 | 2 | 8 | 8 | 5 | 61 |
| July         |      | 5 | 5 | 3 | 7 | 0 | 3 | 1 | 5 | 1 | 1 | 3 | 2 | 3 | 0 | 3 | 3 | 3 | 2 | 3 | 4 | 3 | 5 | 13 | 7 | 85 |
| August       |      | 4 | 6 | 9 | 3 | 3 | 3 | 3 | 1 | 0 | 0 | 2 | 3 | 3 | 1 | 0 | 2 | 5 | 2 | 1 | 4 | 7 | 5 | 7 | 9 | 83 |
| September    |      | 5 | 5 | 2 | 3 | 1 | 4 | 4 | 4 | 5 | 1 | 1 | 1 | 7 | 0 | 5 | 3 | 3 | 6 | 4 | 8 | 12 | 14 | 5 | 9 | 112|
| October      |      | 4 | 0 | 10 | 4 | 6 | 1 | 7 | 7 | 4 | 0 | 1 | 1 | 1 | 3 | 4 | 6 | 5 | 3 | 6 | 17 | 15 | 5 | 9 | 125|
| November*    |      | 4 | 1 | 5 | 2 | 2 | 3 | 9 | 3 | 2 | 0 | 3 | 0 | 2 | 1 | 3 | 2 | 5 | 12 | 18 | 18 | 8 | 4 | 6 | 6 | 119|
| December     |      | 5 | 0 | 3 | 1 | 1 | 4 | 11 | 3 | 2 | 2 | 6 | 2 | 3 | 5 | 2 | 7 | 1 | 18 | 21 | 10 | 13 | 10 | 5 | 4 | 139|
| TOTAL:       |      | 50 | 36 | 55 | 33 | 27 | 36 | 54 | 40 | 22 | 12 | 24 | 17 | 32 | 18 | 28 | 41 | 35 | 56 | 80 | 80 | 94 | 105 | 101 | 58 | 1,134 |

* Indicates time change
Pedestrian Fatalities:

Daylight 27%

Dark - Lighted Roadway 38%

Dark - Roadway Not Lighted 32%

Dusk 2%

Dawn 1%

Pedestrian Fatalities:
Fatal Pedestrian Crashes:
Age Comparison (2014-2018)
Pedestrian Fatalities by County
Sorted by Lowest to Highest Number (2014-2018)
Location of Pedestrian Fatalities:
Facility Types (2018)

KEY FACTS (2018):

Non-Intersection (60%)
Intersection (19%)
Freeway (18%)
Not a road (3%)
# Location of Pedestrian Fatalities:

## Crash Types by Facility Types (2018)

<table>
<thead>
<tr>
<th>Location of Pedestrian Fatalities:</th>
<th>Not at intersection</th>
<th>Intersection</th>
<th>Freeway</th>
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<tbody>
<tr>
<td>Walking along roadway, 37</td>
<td>Midblock: Dart/Dash, 18</td>
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<td>Secondary Crash / Disabled Vehicle, 12</td>
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<td>Lying In Road, 7</td>
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<td>Scooter, 1</td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>

ATSSA: How To Conference - 4.10.2019
Fatal Pedestrian Crashes:
Ohio (2009-2018)

- How Ohio Moves
- 88.6%
- 5.7%
- 0.4%
- 5.1%
- *Other - 0.2%

Fatal Pedestrian Crashes:
Ohio (2009-2018)

Traffic Deaths

- 83%
- 12%
- 5%
### Severe Pedestrian Crashes:

**Fatal Crashes by Hour by Month (2009-2018)**

| MONTH   | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | TOTAL: |
|---------|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
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Location of Pedestrian Fatalities:
The Rural Urban Divide (2018)

Rural Context: 25%

Urban Context: 75%