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Background

In its role as the USDOT University Transportation Center for Region 5, the Roadway Safety Institute (RSI) is committed to providing research, education, and engagement opportunities in the six states in its region. In November and December of 2015, the Institute delivered a pedestrian safety workshop for transportation practitioners in Wisconsin, Ohio, and Indiana. These workshops built on the success of a similar pedestrian safety presentation given by Dr. Ron Van Houten of Western Michigan University in June 2014 at the University of Minnesota.

The pedestrian workshops were free of charge and open to all. Each cohort included a wide variety of participants. Nonprofit organizations, private firms, and state and local agencies were all represented.

Van Houten, a researcher in the RSI consortium, presented a thorough overview of cutting-edge pedestrian safety treatment options and research about their efficacy. His presentation discussed both pedestrian-focused and driver-focused countermeasures, with an emphasis on innovative techniques supported by recent research. He also emphasized human factors, noting that changing the safety culture in a community is as important as installing countermeasures.

Group Discussion

Following Van Houten’s presentation, each workshop included substantial time for participant discussion. Each attendee was asked, “What challenge do you face in improving pedestrian safety in your community?” Participants were then asked to form discussion groups based on the challenge(s) they identified. Within each group, participants discussed these challenges and possible solutions. Groups focused on topics such as design, research, public involvement, political will, funding, or jurisdiction.

Each site’s conversations are summarized in the following pages.

Waukesha, Wisconsin

The first workshop was held on November 19. Forty participants gathered at the Wisconsin Department of Transportation Southeast Region headquarters. This group’s conversations were rich and wide-ranging. Common challenges included:

- Balancing motorist and pedestrian needs in road design.
- Lack of education and enforcement for both motorists and pedestrians.
- Preventing pedestrians from crossing at unsafe locations, including mid-block near bus stops. Construction zones were also noted as challenging and unsafe areas for pedestrian crossings.
- Gaining buy-in to fund pedestrian improvements and enforce laws. Particip
• pants noted that all relevant agencies must devote resources to safety; public works agencies can’t oversee enforcement and the police can’t design better intersections.

• Lack of sidewalks, sometimes due to property owners’ resistance.

• Difficulty of creating sufficient pedestrian-friendly crossings on larger and faster roads, whether urban or rural.

Columbus, Ohio

Held on December 3, this workshop drew 21 attendees to the Ohio Department of Transportation Central Office. The diverse mix of participants discussed pressing pedestrian safety challenges in their community. The challenges they identified included:

• Lack of funding for smaller communities to improve pedestrian infrastructure. This is particularly complex when local jurisdictions are responsible for pedestrian improvements during larger construction projects initiated and funded by a different agency.

• Pedestrians crossing mid-block when exiting buses because marked crossings are perceived as too far away from bus stops.

• Need for increased safety education and enforcement for pedestrians, bicyclists, and motorists.

• Lack of traffic counts and research about pedestrian travel behavior and conflicts. One participant noted a lack of political will to improve dangerous crossings without a known crash history at those locations.

• Need for more pedestrian-friendly street design, particularly on multi-lane roads with few signals. Design improvements could include pavement markings, warning signs or beacons, and sidewalks. Attendees noted that it’s hard for walking to be considered normal or common behavior when roads are too auto-centric.

Indianapolis, Indiana

The December 4 workshop at the Indiana Department of Transportation Traffic Management Center drew 27 participants. Some frequently-mentioned pedestrian safety challenges included:

• Challenges in developing a plan to implement Complete Streets policies.

• Lack of funding—and lack of political will to develop more funding—for pedestrian infrastructure. Some attendees noted a perceived disconnect between where the known high-conflict areas are located and where safety improvements are installed.
• Pedestrian behavior when exiting a bus: how to modify behavior to encourage safer street crossings from mid-block bus stops.

• Lack of education and enforcement to push motorists and pedestrians to follow the law. One participant also noted an occasional disconnect between the law and current best practices.

• High rates of pedestrian-related crashes in specific neighborhoods or among cultural groups. Effective outreach and education to these affected communities can be delicate; enforcement may be perceived as antagonistic.

Analysis
While some participants’ challenges were specific to their community, many common themes emerged. Participants at all three workshops identified the difficulty associated with pedestrians crossing mid-block rather than at intersections. Several people noted that when transit buses stop mid-block, pedestrians tend to cross mid-block at the bus stop rather than at the corner.

Political will was another common theme. Participants’ communities were often seen as reactive (requiring a crash history before installing improvements at a site) rather than proactive about developing a walkable community.

Other common challenges included securing motorist buy-in for pedestrian infrastructure, lack of education and enforcement of laws for all road users, and the need for effective safety treatments on wide, busy roads.

Next Steps
All attendees were sent follow-up materials, including the presentation slides, links to relevant recorded RSI presentations by Ron Van Houten and others, and information about the RSI seminar series. This report will be distributed to attendees as well.

The pedestrian safety challenges identified by participants have been shared with RSI staff and researchers. These challenges, particularly those common across several cities, may spark research or outreach projects if funding can be identified. RSI is currently working with the Region 5 state departments of transportation to explore a possible pooled-fund research project. This is one potential opportunity to address pedestrian safety challenges. RSI staff will also continue to watch for other funding opportunities.

If agencies are implementing new safety measures or using existing technology in innovative ways, researchers may be interested in partnering to evaluate the efficacy of these treatments. Should a research opportunity be identified, RSI staff and researchers could design the study and apply for research funding. Interested agencies should contact Colleen O’Connor Toberman (ctoberma@umn.edu) to discuss this possibility further.
About the Presenter

Dr. Ron Van Houten is a professor in the Department of Psychology at Western Michigan University and a researcher with the Roadway Safety Institute. He is a behavior analysis expert in the areas of traffic safety, pedestrian safety, intelligent transportation systems, traffic calming, bicycle safety, seat belt use, and reducing impaired driving. His research interests include all aspects of traffic and pedestrian safety, the use of technology to implement behavioral principles, and community/organizational psychology.

Dr. Van Houten’s specific projects have included conducting research on bicycle lanes, participating in the development of shared use bicycle marking, and completing a number of large-scale studies on reducing nighttime pedestrian crashes. He also completed an evaluation for the Federal Highway Administration on the Rectangular Rapid Flashing Beacon. Many of these projects included social norming elements to target shifts in the safety culture.
Appendix A: Workshop Agenda

Pedestrian Safety Workshop
Agenda

8:30-9:00 Registration

9:00-9:15 Opening
Roadway Safety Institute staff, University of Minnesota

9:15-10:30 Presentation
Ron Van Houten
Roadway Safety Institute, Western Michigan University

10:30-10:45 Break

10:45-11:45 Facilitated Discussion About Local Pedestrian Safety Challenges
Roadway Safety Institute staff, University of Minnesota

11:45-12:00 Next Steps and Adjourn
Roadway Safety Institute staff, University of Minnesota
Appendix B: Presentation Slides

The following pages contain the PowerPoint slides presented by Dr. Van Houten at each workshop.
Pedestrian Safety

Dr. Ron Van Houten
Western Michigan University

Many Say Pedestrian Safety is a Shared Responsibility
Reasons Drivers and Pedestrian Engage in Unsafe Behavior

1. Takes less effort and/or can be done faster.
2. Do what other people do, particularly when connected to social approval.
3. People forget, due to high workload and distraction.

Forgetting

1. Behavior consistently reinforced becomes automatic.
2. People are most likely to forget when they are distracted.
3. High workload causes us to forget behaviors that are not fully automatic.
Distraction and Impairment

1. Responding to texts has become an automatic behavior.
2. Performing other high workload tasks while they drive.
3. Road users consuming alcohol.
4. Lack of rest and fatigue.

Safety Assessments

1. Begins with examination of crash reports
2. Visit sites and examine conflicts or incidents
3. Examine unsafe behaviors that could be related to the crash type
Special Concerns

Screening Crashes
1. Midblock multilane (multiple threat crash)
2. Parked vehicles (screening)
3. Turning vehicle’s pillar (particularly for left turns)

Failure to Scan for a Pedestrian or Bicyclist
1. Drivers turning right (looking for cars to the left)
2. Drivers turning left (looking for a gap ahead)
3. Speed narrows field of vision
4. Higher speed reduces time available to react

Relationships Related to Vehicle Speed
1. Higher speed increases energy
2. Higher speed increases discrepancy between motorist’s and cyclist’s speed

Relationship Between Speed and Pedestrian Fatalities
(Note 40 km/h = 25 mph)

This is why we say 25 alive!
Treatment Strategies

1. Separation in time (exclusive pedestrian phase)
2. Separation in space (advance stop lines)
3. Prompting at the right time (built into device)
4. Feedback systems (countdown signals)
5. Increasing or reducing effort (crossing where needed)
6. Increasing or reducing wait time (hot call button)
7. Making a space more or less inviting to be in
8. Incentive systems

GIS Mapping Used to Find Hot Spots

Area Hot Spots

Corridor Crashes
Traffic Signals

1. Advance or offset stop bars (reduce screening, separation in distance)
2. Leading or exclusive pedestrian phase (separation in time)
3. Hot buttons (reduce waiting)
4. Buttons that confirm press (immediate consequence)
5. Narrow turning radius and narrow lanes (reduce speed)
6. Countdown signals and signals that remind you to look (aid in making a decision – reduce uncertainty)
7. Signs that prompt drivers of turning vehicles to look (reduce tunnel vision)
8. Reduce turning radius (reduces speed)
9. Curb extensions (reduce speed)
Where do you look?

Clockwise or Counterclockwise
Use of Advance or Offset Stop Lines

Opens up crosswalk
Better view of each other

Exclusive Pedestrian Phase or Leading Pedestrian Phase

Pedestrians Released
Drivers Held
Leading Pedestrian Phase, Pedestrians Leaving at Start

Leading Pedestrian Phase, Pedestrians Leaving Later
How Far They Get Into the Crosswalk Over Time

Reduce Turning Radius
Prompting Signs

Signs advertising increased enforcement at crosswalks

Countdown Signals and Signal Eyes$_{6,7}$
## Risk vs. Wait at Crosswalk

<table>
<thead>
<tr>
<th>Factors facilitating waiting</th>
<th>Factors facilitating violation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Risk of crossing</td>
<td>1. Long wait times</td>
</tr>
<tr>
<td>2. Pedestrian has something else to do</td>
<td>2. Nothing else to do</td>
</tr>
<tr>
<td>3. Has time available</td>
<td>3. Being late</td>
</tr>
<tr>
<td>5. Fair weather</td>
<td>5. Poor weather</td>
</tr>
</tbody>
</table>

## Risk of Crossing

1. Vehicle speed - faster vehicles, more risk
2. Gap size - shorter gaps, more risk
3. Crosswalk length - greater length, more risk
4. High ADT - more risk
5. Number of lanes to cross - more lanes, more risk
6. Directions that need to be watched – one-way less risky than two-way traffic
7. Presence/absence of a median or pedestrian island
Increasing Pedestrian Compliance

Factors Related to Comfort
- Provide shelter from sun, wind, rain, or cold

Psychological Factors
- Provide a secure environment
- Provide a refuge space for two-way roads
- Provide interesting environment

Temporal Factors
- Reduce wait time

Availability of Concurrent Behavior
Waiting is Easier When Activities are Available

1. Something to listen to, such as music
2. Something to look at: flowers, interesting displays, something to read
3. Interesting messages
4. People to watch

This is why they give children crayons in restaurants. Adults work the same way.
Relationship Between Violation And Minimum Green Time

Easier to Cross Street

Pedestrians waiting for WALK at Alton Rd

Pedestrians waiting for WALK at 1300 SW8th St
Behavior Principles for Signs, Markings, and Signals

1. These most often function as prompts that guide behaviors
2. They should inform the user of consequences of behavior.
3. They should provide feedback and consequences if possible.
4. They should be as specific as possible.

Reducing Screening Crashes

- Advance stop lines and yield markings
- Rectangular rapid flashing beacons (RRFB) (warning allows them to stop early)
- Pedestrian hybrid beacon (PHB or HAWK) (stop line is very effective)
- In-street signs (slows driver and increases awareness of situation)
It Is Dangerous When Cars Stop Too Close
Data From 24-site Study$_9$
Component Analysis

Advance Stop Bar at HAWK

Ypsilanti HAWK
HAWK without stop bars
HAWK with stop bars
Yielding Distances

Rectangular Rapid Flashing Beacon (RRFB)
Night Data

1st. St. & 37th Ave. North
Yielding Percentages NIGHT

Rectangular Rapid Flashing Beacon (RRFB)
Data From Miami Sites$^{12}$

![Graph and images related to data from Miami sites.]

Data From 19 Sites$^{13}$

<table>
<thead>
<tr>
<th>Percentage Yielding</th>
<th>Before</th>
<th>7 Days</th>
<th>30 Days</th>
<th>90 Days</th>
<th>180 Days</th>
<th>1 Year</th>
<th>2 Years</th>
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<td></td>
<td>4</td>
<td>78</td>
<td>82</td>
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<td>77</td>
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NCHRP 17-56: Crash Modification Factors: Preliminary Data Before and After Empirical Bayes

<table>
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<th>Treatment</th>
<th>CMF</th>
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</thead>
<tbody>
<tr>
<td>Refuge Islands</td>
<td>Yes</td>
</tr>
<tr>
<td>Advance Yield/Stop Sign</td>
<td>Yes</td>
</tr>
<tr>
<td>PHB plus Advance Stop</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Cross Sectional Analysis with Generalized Linear Modeling

- PHB, Refuge Island, Advance Stop/Yield and RRFB all had CMFs.
- Advance Stop/Yield and Refuge Island had the highest CMF between both studies.
In-Street Signs

Evaluation of In-Street Pedestrian Crossing Sign
One vs. Three Signs_{14}
Another Example
Results: Percent of Drivers Yielding Right-of-Way to Pedestrians

Trowbridge Averages
- No sign: 25%
- 1 sign: 57%
- Gateway configuration: 79%

Farmington Averages
- No sign: 25%
- 1 sign: 57%
- Gateway configuration: 82%

BL = Baseline
What happens if we combine them?  

- Two comparisons
  - Gateway vs. one in street sign
  - Gateway + PHB
- Two sites
- Same collection method
- Reversal design
Results: Percentage Drivers Yielding Right-of-Way to Pedestrians

Livernois Averages
- No sign: 1%
- 1 sign: 37%
- PHB: 62%
- PHB and 1 sign: 85%
- Gateway configuration: 72%

Cass Averages
- No sign: 10%
- PHB: 84%
- PHB and 1 sign: 94.5%

The Role of the Sign Message
Replacement of Signs on Lane Line with the City Post

Results

<table>
<thead>
<tr>
<th>Multi Lane Site 1</th>
<th>Condition Average Yielding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>7%</td>
</tr>
<tr>
<td>Gateway with Blanks</td>
<td>27%</td>
</tr>
<tr>
<td>Gateway with Signs</td>
<td>79%</td>
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<tr>
<td>Gateway with City Post</td>
<td>60%</td>
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</table>

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<thead>
<tr>
<th>Multi Lane Site 2</th>
<th>Condition Average Yielding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>7%</td>
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<tr>
<td>Gateway with Blanks</td>
<td>39%</td>
</tr>
<tr>
<td>Gateway with Signs</td>
<td>77%</td>
</tr>
<tr>
<td>Gateway with City Post</td>
<td>60%</td>
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</tbody>
</table>
Component Analysis (Multi-Lane)

Sign on Lane Lines Alone  
Sign at Edge and on Centerline Alone

Results

<table>
<thead>
<tr>
<th>Multi Lane Site 1</th>
<th>Condition Average Yielding</th>
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<tbody>
<tr>
<td>Baseline</td>
<td>7%</td>
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<tr>
<td>Edge and Center Line</td>
<td>36%</td>
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<td>Lane Line Alone</td>
<td>52%</td>
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<tr>
<td>Edge and Center Line</td>
<td>79%</td>
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</tbody>
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<tr>
<th>Multi Lane Site 2</th>
<th>Condition Average Yielding</th>
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<tbody>
<tr>
<td>Baseline</td>
<td>25%</td>
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<tr>
<td>Lane Line Only</td>
<td>60%</td>
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<tr>
<td>Full Gateway</td>
<td>80%</td>
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Curb Top vs. Gutter Pan Placement

1. Both placements should be hit less often by vehicles.
2. Curb top should be hit less often than gutter pan placement.
3. Gutter pan placement could present drainage issues at some sites.
4. Gutter pan placement could be a problem for sweepers.
5. Sometimes there is no gutter pan.
6. Bike lanes may preclude gutter pan placement.

An Example From San Antonio
Comparison of Curb Top and Gutter Pan Placement at Four Sites

**Huron Midblock**
- Baseline: 62%
- Gutter Pan Placement: 97%
- Curb Top Placement: 92%

**Midblock 7th St.**
- Baseline: 15%
- Gutter Pan Placement: 70%
- Curb Top Placement: 54%

**Nixon at Bluett**
- Baseline: 40%
- Gutter Pan Placement: 93%
- Curb Top Placement: 86%

**Rose at Academy**
- Baseline: 6%
- Gutter Pan Placement: 82%
- Curb Top Placement: 72%
- Centerline Only: 52%

---

**Huron St. Between Thayer and Ingalls**

![Graph showing percent driver yielding over sessions for different conditions: Baseline, GW Gutter, GW Curb, and GW Gutters and GW Curb.](image)

Percent Driver Yielding

0 10 20 30 40 50 60 70 80 90 100

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Session
Sign Survival

1. Use of curb top or gutter pan placement
2. Use of city post delineators for vulnerable locations
3. Preliminary results suggest type of R1-6 installation may be important.
4. Protection by a delineator
The Use of Treatment Packages to Produce a Culture Change

1. A good package is multifaceted.
2. A good package is cost efficient.
3. A good package ties components together to generate a synergistic effect.

Treatment and Generalization Sites
(Red dots are enforcement sites, blue dots control)
Prior to Beginning,
We Refreshed Crosswalk and Added Advance Stop/Yield Markings

Treatment Strategy:
High Visibility Enforcement (HVE)

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<th>HVE Element</th>
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<td>Parent Outreach</td>
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<td>Earned Media</td>
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<td>Paid Radio Ads</td>
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<td>In-Street Signs</td>
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Community Support

1. Identify community groups who can support the program.
2. Focus on getting support and participation from a cross-section of community groups.
3. Once on board, include groups as program sponsors.

Enforcement Countermeasures

1. Begin with warnings to win support.
2. Use police decoy pedestrians.
3. Hand flyers to stopped drivers that document the seriousness of the problem.
4. Use a large sign downstream of the enforcement site to inform drivers passing through that a pedestrian operation was being conducted.
5. Rapid rotation between many sites.
6. Use standardized procedures that have held up in court.
Signs That Clearly Delineate What Law is Being Enforced

1. Warnings distributed to residents just prior to the beginning of the first wave (warnings) and second wave (citations)
2. Earned attention by media (make it interesting and the media will come!)
3. Large highway feedback signs (social norming and implied enforcement)
4. Partnerships between city agencies and community partners

Educational Elements
Message Aimed at Parents

NOTICE
We are sending you this notice to alert you that the Gainesville Police Department, Alachua County Sheriff’s Department, and University of Florida Police Department will begin an intensive program of stopping and ticketing drivers that do not yield to pedestrians in crosswalks starting this coming week.
We need your help to make Gainesville safer for pedestrians of all ages.
You can help by:
1. **Looking for pedestrians in crosswalks**
2. **Yielding by stopping or slowing for the pedestrian** as the law requires
3. **Encouraging others to do the same**

Be a Good Model. Yield, avoid a ticket, and help keep pedestrians safe
*A safety message from the Gainesville Police Department*

Earned Attention by Media

<table>
<thead>
<tr>
<th>Month</th>
<th>The Gainesville Sun</th>
<th>T.V. News</th>
<th>Radio</th>
<th>UF News</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>3</td>
<td>3</td>
<td>2</td>
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<td>March</td>
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</table>
Speeding, Seatbelt Use, and Yielding to Pedestrians

Pedestrian Prompt Signs
Results

Blue: Pedestrian Crossing in the Normal Way
Red: Pedestrian Extending Arm
Green: Pedestrian Extending Hand

Engineering

1. Solid line from dilemma zone to the crosswalk to discourage passing
2. Use advance yield markings (opens up area around the crosswalk)
3. Use in-street signs to remind drivers that yielding to pedestrians is state law
In-Street Signs

Multiple Use of R1-6 Sign
Yielding Results

Treated Sites:
• Yielding for staged crossing averaged 32% before, 66.0% after, and 77% four years after the study ended.
• Yielding for natural crossings averaged 45% before, 83% after, and 87% four years after the program ended.

Untreated Generalization Sites:
• Yielding for staged crossings averaged 37% before, 59% after, and 77% four years after the study ended.
• Yielding for natural crossing averaged 50% before, 73.% after, and 85% four years after the program ended.

Weekly Yielding at Enforcement Sites

![Weekly Yielding at Enforcement Sites](chart)
Weekly Yielding at Sites That Did Not Receive Enforcement

Driver Results

Whether they had recently seen a yield sign before they were installed (baseline) and after each enforcement wave:

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Apr ‘10</th>
<th>Sep ‘10</th>
<th>Jan ‘11</th>
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<td>Percent</td>
<td>13%</td>
<td>53%</td>
<td>75%</td>
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All Pedestrian Crashes

Interesting Results

- Enforcement led to a slow and steady increase in the percentage of drivers yielding to pedestrians.
- Marked increase in yielding behavior - best described as a sustained change in driving culture.
- Higher levels of yielding to natural pedestrian crossings than to staged crossings.
Interesting Results

• Yielding to pedestrians increased at sites that did not receive HVE enforcement (generalized sites).

• Yielding to pedestrians increased further during the four years after the program ended.

• Yielding at sites that did not receive HVE increased to a similar level as the sites that received HVE.

Questions?
References


2. Ellis, R. & Van Houten, R. (2009). Reduction of Pedestrian Fatalities, Injuries, Conflicts, and Other Surrogate Measures in Miami-Dade, Florida: Results of Large-Scale FHWA Project. Transportation Research Record. No. 2073, 55-62


11. MDOT Report


### Appendix C: Attendees

**Waukesha, WI**

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Arthur Ross</td>
<td>City of Madison</td>
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<tr>
<td>Aziz Aleiow</td>
<td>Milwaukee County</td>
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<tr>
<td>Brian Block</td>
<td>City of West Allis</td>
</tr>
<tr>
<td>Brian Porter</td>
<td>Wisconsin Dept. of Transportation (WisDOT)</td>
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<tr>
<td>Chris Squires</td>
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<td>Craig Skala</td>
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<td>David Tapia</td>
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<tr>
<td>Elliot Smyth</td>
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<tr>
<td>Erin Schoon</td>
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<tr>
<td>James Keegan</td>
<td>City of Mequon</td>
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<td>City of Oconomowoc</td>
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<td>Jason Mayer</td>
<td>Waukesha County</td>
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<td>Jason Wilke</td>
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<tr>
<td>Jennifer Stillig</td>
<td>City of Wauwatosa</td>
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<td>Jeremy Nash</td>
<td>City of Madison</td>
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<tr>
<td>Jerry Schippa</td>
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<tr>
<td>Jill Glenzinski</td>
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<tr>
<td>Jim Haggerty</td>
<td>Village of Slinger</td>
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<tr>
<td>Joseph Blakeman</td>
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<tr>
<td>Joseph Wieczorek</td>
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<tr>
<td>Karen Braun</td>
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<td>Kathy Kramer</td>
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<td>Kelvin Santiago</td>
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<td>Kwame Amegashitsi</td>
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<tr>
<td>Caitlin Harley</td>
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<td>Cory Hopwood</td>
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<td>Don Fisher</td>
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<td>Gina Balsamo</td>
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<td>Kate Moening</td>
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<td>Ken Shonkwiler</td>
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<td>Kendra Schenk</td>
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<td>Kristine Connolly</td>
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<td>Ronni Nimps</td>
<td>Mid-Ohio Regional Planning Commission</td>
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<td>Andrew Wolka</td>
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<td>Chris Burt</td>
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<td>Daniel A. Backler</td>
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<td>Dustin Shoe</td>
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<td>Hillary Lowther</td>
<td>Indiana Department of Transportation (INDOT)</td>
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<td>Jason Taylor</td>
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<td>Jeanette Wilson</td>
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<td>Joan Cook</td>
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<td>John Thomas</td>
<td>Area Plan Commission of Tippecanoe County</td>
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<td>John Vonarx</td>
<td>Indiana Criminal Justice Institute</td>
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<tr>
<td>Jon Higdon</td>
<td>City of New Palestine</td>
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<tr>
<td>Joyce Newland</td>
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<tr>
<td>Laura Slusher</td>
<td>Indiana Local Technical Assistance Program</td>
</tr>
<tr>
<td>Long K. Nguyen</td>
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<td>Ryan Crum</td>
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<td>Tim Stroshine</td>
<td>Area Plan Commission of Tippecanoe County</td>
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Appendix D: Evaluations

Waukesha, Wisconsin

How will you apply today’s workshop to your work?

• Use the concepts presented to better plan future studies.
• Use best practices.
• I liked the “Risk of Crossing” slide that was presented. It should be helpful for discussions on systemic pedestrian treatments.
• Hopefully improve public education and involvement (behavior change) by implementing tools and ideas discussed and presented today.
• Take information back to department heads and P.D. to discuss opportunities for better compliance with trouble crossing spots. Still have a problem with crossing multilane, high-speed (+45 mph) highways, especially for school children.
• Presented good application to improve pedestrian safety and reduce driver/pedestrian conflict
• I will incorporate what I learned today in the design work I do daily.
• Think about how stop bars/yield bars in advance of crosswalks could be beneficial.
• Research data very informative.
• Will consider many safety suggestions to my design.
• Focusing on one issue at a time instead of trying to do multiple issues at once.
• I will look into applying the gateway in street YTP.
• Dr. Van Houten’s presentation on behavior of pedestrians and drivers will be very helpful to me with safety treatments.
• I work with the public a lot, so knowing the best approach to solving [its] safety issue[s] is in everyone’s best interest.
• Informed of potential research.
• It was helpful to be aware of research behind tools so when questioned why doing or proposing a given improvement I know the “why” behind [it].
• Will use research-backed solutions to promote improvements.
• Good information that is very beneficial! Thank you.
• As street designer, I’ll incorporate some of the new ideas I got at presentation and workshop.
• Development of responses to elected officials and guidelines for use in situation pedestrian treatments.
• Promote more yield lines and gateway treatments.
• I will share with co-workers.
• Engineering, enforcement, education!

| The program covered the promised objectives. | 4.3 |
| The content was informative. | 4.6 |
| The instructors did a good job of presenting the content. | 4.7 |
| The group discussion was helpful and interesting. | 4.0 |

Average rating (scale of 1-5)
Columbus, Ohio

| The program covered the promised objectives. | 4.7 |
| The content was informative. | 4.6 |
| The instructors did a good job of presenting the content. | 4.6 |
| The group discussion was helpful and interesting. | 4.4 |

How will you apply today’s workshop to your work?

- Refresh knowledge about countermeasures and learn about more impact when some countermeasures are combined.
- Planning city projects and reviewing pedestrian issues in the city.
- To design projects.
- It made me aware of potential changes to traffic control devices.
- By making sure during planning that we better understand the user base and its behaviors before we implement design.
- Information will help with design efforts as well as client education.
- Excellent! Made some great connections in the group discussion. Thought the safety data were fascinating—very usable info.
- Apply ideas and research on forming a statewide walkability team that could possibly implement some of this funding in communities.
- I will use the material covered to consider the situations where innovative treatments will be most effective and push for their inclusion in plans.
- Short term: safe routes to school. Long term: planning/redesigning communities
- Good new ideas about countermeasures.
- Aid in assessing and designing safer pedestrian facilities for the communities I work with.
- In current and future projects—use data to reinforce need for the pedestrian improvement.
- This will help when working on safety studies with pedestrian crash histories.
- Great learning about pedestrian applications that are low cost and statistically relevant.
- I have several places these ideas can be directly applied.
Indianapolis, Indiana

| The program covered the promised objectives. | 4.6 |
| The content was informative. | 4.6 |
| The instructors did a good job of presenting the content. | 4.8 |
| The group discussion was helpful and interesting. | 3.6 |

**Average rating (scale of 1-5)**

**How will you apply today’s workshop to your work?**

- Consideration of stop line and crosswalk modifications to increase safety. Work to identify bus stop or midblock crossing locations.
- I like the actual measurement of effects and impacts. We seem to do little of that.
- Insist on greater considerations to vulnerable users.
- Take ideas back to staff and committees to improve research partnerships and policies.
- Specific countermeasures for improvements.
- Strengthen our ability to advocate for pedestrian improvements.
- Add more signage.
- Discuss content with co-workers to evaluate problematic areas.
- May use some of the slides from Dr. Van Houten in future presentations/talks with locals.
- I will be more cognizant of human behavior as it pertains to pedestrian safety issues.
- In figuring out countermeasures in high-crash areas, the info presented will be very helpful.
- Promote it to our designers and planners.
- Really enjoyed Dr. Van Houten’s behavior/data-rich presentation.
- Looking into different ways to help protect pedestrians at non-signalized intersections.
- Be less hesitant to make pedestrian needs/safety a priority.
- Provide info to city engineering department and elected officials.
- Some concepts to include in future design and marking changes during resurface.