Walking Toward Safety
Purdue Road School

March 7, 2018
Pedestrian Safety - FHWA

Safety Initiatives from FHWA
- Proven Safety Countermeasures
- Every Day Counts
- Focused Approach to Safety
Pedestrian Safety - FHWA

Focused Approach to Safety
Pedestrian Safety - FHWA

Focused Approach to Safety
- Began in 2004
- Several iterations, most recently 2015
- Three Focus Areas
  - Roadway Departure States
  - Intersection States
  - Pedestrian and Bicycle Cities and associated States
United States Fatalities by FHWA Focus Area

Average 2011-2013

- Roadway Departure Only Crashes: 50%
- Intersection Only Crashes: 16%
- Pedestrian/Bicycle Only Crashes: 12%
- Multiple Focus Areas: 12%
- Crashes not involving a Focus Area: 11%
- Intersections and Pedestrians/Bicycles: 5.0%
- Intersections and Roadway Departures: 4.4%
- Roadway Departures and Pedestrian/Bicycles: 1.3%
- All Focus Areas: 0.2%

NOTE: Totals in the main and secondary pie charts do not add up to 100% and 11%, respectively, due to rounding.
Pedestrian Safety - FHWA

How Focus City designation is determined:
- Using 2011-2013 Fatality Data
- Take 50 cities with largest number of ped/bike fatalities (approx. >= 10/year)
- Two ways a City can be “chosen”:
  - Top 20 for number of ped/bike fatalities
  - Ped/bike fatality rate (per pop.) is greater than the average of top 50 cities
<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Average Annual Total Number of Pedestrian-Bicyclist Involved Fatalities 2011-2013</th>
<th>Average Annual Pedestrian-Bicyclist Involved Fatality Rate (per 100,000 population) 2011-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NEW YORK, NEW YORK CITY</td>
<td>170.00</td>
<td>2.04</td>
</tr>
<tr>
<td>2</td>
<td>CALIFORNIA, LOS ANGELES</td>
<td>100.00</td>
<td>2.60</td>
</tr>
<tr>
<td>3</td>
<td>ARIZONA, PHOENIX</td>
<td>52.33</td>
<td>3.52</td>
</tr>
<tr>
<td>4</td>
<td>TEXAS, HOUSTON</td>
<td>51.67</td>
<td>3.29</td>
</tr>
<tr>
<td>5</td>
<td>ILLINOIS, CHICAGO</td>
<td>44.00</td>
<td>1.62</td>
</tr>
<tr>
<td>6</td>
<td>TEXAS, SAN ANTONIO</td>
<td>42.33</td>
<td>3.06</td>
</tr>
<tr>
<td>7</td>
<td>TEXAS, DALLAS</td>
<td>37.00</td>
<td>2.99</td>
</tr>
<tr>
<td>8</td>
<td>MICHIGAN, DETROIT</td>
<td>36.67</td>
<td>5.26</td>
</tr>
<tr>
<td>9</td>
<td>PENNSYLVANIA, PHILADELPHIA</td>
<td>36.00</td>
<td>2.31</td>
</tr>
<tr>
<td>10</td>
<td>FLORIDA, JACKSONVILLE</td>
<td>33.33</td>
<td>3.99</td>
</tr>
<tr>
<td>11</td>
<td>CALIFORNIA, SAN DIEGO</td>
<td>29.67</td>
<td>2.22</td>
</tr>
<tr>
<td>12</td>
<td>TEXAS, AUSTIN</td>
<td>24.33</td>
<td>2.82</td>
</tr>
<tr>
<td>13</td>
<td>INDIANA, INDIANAPOLIS</td>
<td>22.00</td>
<td>2.63</td>
</tr>
<tr>
<td>14</td>
<td>CALIFORNIA, SAN JOSE</td>
<td>21.33</td>
<td>2.17</td>
</tr>
<tr>
<td>15</td>
<td>FLORIDA, AMARILLO</td>
<td>21.33</td>
<td>5.15</td>
</tr>
<tr>
<td>16</td>
<td>ARIZONA, TUCSON</td>
<td>20.00</td>
<td>3.81</td>
</tr>
<tr>
<td>17</td>
<td>NORTH CAROLINA, CHARLOTTE</td>
<td>20.00</td>
<td>2.58</td>
</tr>
<tr>
<td>18</td>
<td>CALIFORNIA, SAN FRANCISCO</td>
<td>19.00</td>
<td>2.30</td>
</tr>
<tr>
<td>19</td>
<td>TEXAS, FORT WORTH</td>
<td>18.67</td>
<td>2.40</td>
</tr>
<tr>
<td>20</td>
<td>CALIFORNIA, FRESNO</td>
<td>18.33</td>
<td>3.63</td>
</tr>
<tr>
<td>21</td>
<td>TENNESSEE, MEMPHIS</td>
<td>18.33</td>
<td>2.81</td>
</tr>
<tr>
<td>22</td>
<td>NEW MEXICO, ALBUQUERQUE</td>
<td>16.67</td>
<td>3.01</td>
</tr>
<tr>
<td>23</td>
<td>TEXAS, EL PASO</td>
<td>16.67</td>
<td>2.48</td>
</tr>
<tr>
<td>24</td>
<td>OKLAHOMA, OKLAHOMA CITY</td>
<td>16.00</td>
<td>2.67</td>
</tr>
<tr>
<td>25</td>
<td>NEW YORK, HEMPSTEAD</td>
<td>15.67</td>
<td>2.05</td>
</tr>
<tr>
<td>26</td>
<td>PUERTO RICO, SAN JUAN</td>
<td>15.33</td>
<td>4.03</td>
</tr>
<tr>
<td>27</td>
<td>COLORADO, DENVER</td>
<td>15.33</td>
<td>2.42</td>
</tr>
<tr>
<td>28</td>
<td>KENTUCKY, LOUISVILLE</td>
<td>14.33</td>
<td>2.37</td>
</tr>
<tr>
<td>29</td>
<td>CALIFORNIA, SACRAMENTO</td>
<td>13.67</td>
<td>2.87</td>
</tr>
<tr>
<td>30</td>
<td>GEORGIA, ATLANTA</td>
<td>13.33</td>
<td>3.02</td>
</tr>
<tr>
<td>31</td>
<td>MISSOURI, KANSAS CITY</td>
<td>13.33</td>
<td>2.87</td>
</tr>
<tr>
<td>32</td>
<td>NEW YORK, BROOKHAVEN</td>
<td>13.00</td>
<td>2.66</td>
</tr>
<tr>
<td>33</td>
<td>OHIO, COLUMBUS</td>
<td>13.00</td>
<td>1.60</td>
</tr>
<tr>
<td>34</td>
<td>TENNESSEE, NASHVILLE</td>
<td>13.00</td>
<td>2.08</td>
</tr>
<tr>
<td>35</td>
<td>FLORIDA, TAMPA</td>
<td>12.67</td>
<td>3.62</td>
</tr>
<tr>
<td>36</td>
<td>OREGON, PORTLAND</td>
<td>12.67</td>
<td>2.10</td>
</tr>
<tr>
<td>37</td>
<td>MISSOURI, ST. LOUIS</td>
<td>12.33</td>
<td>3.87</td>
</tr>
<tr>
<td>38</td>
<td>CALIFORNIA, BAKERSFIELD</td>
<td>12.00</td>
<td>3.35</td>
</tr>
<tr>
<td>39</td>
<td>LOUISIANA, NEW ORLEANS</td>
<td>12.00</td>
<td>3.25</td>
</tr>
<tr>
<td>40</td>
<td>NEVADA, LAS VEGAS</td>
<td>11.67</td>
<td>1.96</td>
</tr>
<tr>
<td>41</td>
<td>LOUISIANA, BATON ROUGE</td>
<td>11.00</td>
<td>4.79</td>
</tr>
<tr>
<td>42</td>
<td>MARYLAND, BALTIMORE</td>
<td>11.00</td>
<td>1.77</td>
</tr>
<tr>
<td>43</td>
<td>WISCONSIN, MILWAUKEE</td>
<td>11.00</td>
<td>1.84</td>
</tr>
<tr>
<td>44</td>
<td>CALIFORNIA, OAKLAND</td>
<td>10.67</td>
<td>2.66</td>
</tr>
<tr>
<td>45</td>
<td>CALIFORNIA, LONG BEACH</td>
<td>10.33</td>
<td>2.21</td>
</tr>
<tr>
<td>46</td>
<td>OKLAHOMA, TULSA</td>
<td>10.33</td>
<td>2.62</td>
</tr>
<tr>
<td>47</td>
<td>ARIZONA, MESA</td>
<td>10.00</td>
<td>4.27</td>
</tr>
<tr>
<td>48</td>
<td>CALIFORNIA, SANTA ANA</td>
<td>10.00</td>
<td>3.02</td>
</tr>
<tr>
<td>49</td>
<td>FLORIDA, ST. PETERSBURG</td>
<td>10.00</td>
<td>4.04</td>
</tr>
<tr>
<td>50</td>
<td>FLORIDA, FORT LAUDERDALE</td>
<td>9.67</td>
<td>5.67</td>
</tr>
<tr>
<td>51</td>
<td>FLORIDA, ORLANDO</td>
<td>9.67</td>
<td>3.87</td>
</tr>
<tr>
<td>52</td>
<td>NEW JERSEY, NEWARK</td>
<td>9.67</td>
<td>3.48</td>
</tr>
</tbody>
</table>

**TOP 50-CITY AVERAGE**
23.51 2.98
<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Number of Pedestrian-Bicyclist Involved Fatalities 2011-2013</th>
<th>Average Annual Pedestrian-Bicyclist Involved Fatality Rate (per 100,000 population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NEW YORK, NEW YORK CITY</td>
<td>170.00</td>
<td>2.04</td>
</tr>
<tr>
<td>2</td>
<td>CALIFORNIA, LOS ANGELES</td>
<td>100.00</td>
<td>2.60</td>
</tr>
<tr>
<td>3</td>
<td>ARIZONA, PHOENIX</td>
<td>52.33</td>
<td>3.52</td>
</tr>
<tr>
<td>4</td>
<td>TEXAS, HOUSTON</td>
<td>51.67</td>
<td>2.39</td>
</tr>
<tr>
<td>5</td>
<td>ILLINOIS, CHICAGO</td>
<td>44.00</td>
<td>1.62</td>
</tr>
<tr>
<td>6</td>
<td>TEXAS, SAN ANTONIO</td>
<td>42.33</td>
<td>3.06</td>
</tr>
<tr>
<td>7</td>
<td>TEXAS, DALLAS</td>
<td>42.33</td>
<td>3.06</td>
</tr>
<tr>
<td>8</td>
<td>MICHIGAN, DETROIT</td>
<td>36.67</td>
<td>3.06</td>
</tr>
<tr>
<td>9</td>
<td>PENNSYLVANIA, PHILADELPHIA</td>
<td>36.00</td>
<td>2.33</td>
</tr>
<tr>
<td>10</td>
<td>FLORIDA, JACKSONVILLE</td>
<td>33.33</td>
<td>3.99</td>
</tr>
<tr>
<td>11</td>
<td>CALIFORNIA, SAN DIEGO</td>
<td>29.67</td>
<td>2.22</td>
</tr>
<tr>
<td>12</td>
<td>TEXAS, AUSTIN</td>
<td>24.33</td>
<td>2.82</td>
</tr>
<tr>
<td>13</td>
<td>INDIANA, INDIANAPOLIS</td>
<td>22.00</td>
<td>2.63</td>
</tr>
<tr>
<td>14</td>
<td>CALIFORNIA, SAN JOSE</td>
<td>21.33</td>
<td>2.17</td>
</tr>
<tr>
<td>15</td>
<td>FLORIDA, MIAMI-DADE</td>
<td>21.33</td>
<td>5.15</td>
</tr>
<tr>
<td>16</td>
<td>ARIZONA, TUCSON</td>
<td>20.00</td>
<td>3.81</td>
</tr>
<tr>
<td>17</td>
<td>NORTH CAROLINA, CHARLOTTE</td>
<td>20.00</td>
<td>2.58</td>
</tr>
<tr>
<td>18</td>
<td>CALIFORNIA, SAN FRANCISCO</td>
<td>19.00</td>
<td>2.30</td>
</tr>
<tr>
<td>19</td>
<td>TEXAS, FORT WORTH</td>
<td>18.67</td>
<td>2.40</td>
</tr>
<tr>
<td>20</td>
<td>CALIFORNIA, FRESNO</td>
<td>18.33</td>
<td>3.63</td>
</tr>
<tr>
<td>21</td>
<td>TENNESSEE, MEMPHIS</td>
<td>18.33</td>
<td>2.81</td>
</tr>
<tr>
<td>22</td>
<td>NEW MEXICO, ALBUQUERQUE</td>
<td>16.67</td>
<td>3.01</td>
</tr>
<tr>
<td>23</td>
<td>TEXAS, EL PASO</td>
<td>16.67</td>
<td>2.48</td>
</tr>
<tr>
<td>24</td>
<td>OKLAHOMA, OKLAHOMA CITY</td>
<td>16.00</td>
<td>2.67</td>
</tr>
<tr>
<td>25</td>
<td>NEW YORK, HEMPSTEAD</td>
<td>15.67</td>
<td>2.05</td>
</tr>
<tr>
<td>26</td>
<td>PUERTO RICO, SAN JUAN</td>
<td>15.33</td>
<td>4.03</td>
</tr>
<tr>
<td>27</td>
<td>COLORADO, DENVER</td>
<td>15.33</td>
<td>2.42</td>
</tr>
<tr>
<td>28</td>
<td>KENTUCKY, LOUISVILLE</td>
<td>14.33</td>
<td>2.37</td>
</tr>
<tr>
<td>29</td>
<td>CALIFORNIA, SACRAMENTO</td>
<td>13.67</td>
<td>2.87</td>
</tr>
<tr>
<td>30</td>
<td>GEORGIA, ATLANTA</td>
<td>13.33</td>
<td>3.02</td>
</tr>
<tr>
<td>31</td>
<td>MISSOURI, KANSAS CITY</td>
<td>13.33</td>
<td>2.87</td>
</tr>
<tr>
<td>32</td>
<td>NEW YORK, BROOKHAVEN</td>
<td>13.00</td>
<td>2.66</td>
</tr>
<tr>
<td>33</td>
<td>OHIO, COLUMBUS</td>
<td>13.00</td>
<td>1.60</td>
</tr>
<tr>
<td>34</td>
<td>TENNESSEE, NASHVILLE</td>
<td>13.00</td>
<td>2.08</td>
</tr>
<tr>
<td>35</td>
<td>FLORIDA, TAMPA</td>
<td>12.67</td>
<td>3.62</td>
</tr>
<tr>
<td>36</td>
<td>OREGON, PORTLAND</td>
<td>12.67</td>
<td>1.10</td>
</tr>
<tr>
<td>37</td>
<td>MISSOURI, ST. LOUIS</td>
<td>12.33</td>
<td>3.87</td>
</tr>
<tr>
<td>38</td>
<td>CALIFORNIA, BAKERSFIELD</td>
<td>12.00</td>
<td>3.35</td>
</tr>
<tr>
<td>39</td>
<td>LOUISIANA, NEW ORLEANS</td>
<td>12.00</td>
<td>3.25</td>
</tr>
<tr>
<td>40</td>
<td>NEVADA, LAS VEGAS</td>
<td>11.67</td>
<td>1.96</td>
</tr>
<tr>
<td>41</td>
<td>LOUISIANA, BATON ROUGE</td>
<td>11.00</td>
<td>4.79</td>
</tr>
<tr>
<td>42</td>
<td>MARYLAND, BALTIMORE</td>
<td>11.00</td>
<td>1.77</td>
</tr>
<tr>
<td>43</td>
<td>WISCONSIN, MILWAUKEE</td>
<td>11.00</td>
<td>1.84</td>
</tr>
<tr>
<td>44</td>
<td>CALIFORNIA, OAKLAND</td>
<td>10.67</td>
<td>2.66</td>
</tr>
<tr>
<td>45</td>
<td>CALIFORNIA, LONG BEACH</td>
<td>10.33</td>
<td>2.21</td>
</tr>
<tr>
<td>46</td>
<td>OKLAHOMA, TULSA</td>
<td>10.33</td>
<td>2.62</td>
</tr>
<tr>
<td>47</td>
<td>ARIZONA, MESA</td>
<td>10.00</td>
<td>4.27</td>
</tr>
<tr>
<td>48</td>
<td>CALIFORNIA, SANTA ANA</td>
<td>10.00</td>
<td>3.02</td>
</tr>
<tr>
<td>49</td>
<td>FLORIDA, ST. PETERSBURG</td>
<td>10.00</td>
<td>4.04</td>
</tr>
<tr>
<td>50</td>
<td>FLORIDA, FORT LAUDERDALE</td>
<td>9.67</td>
<td>4.04</td>
</tr>
<tr>
<td>51</td>
<td>FLORIDA, ORLANDO</td>
<td>9.67</td>
<td>3.02</td>
</tr>
<tr>
<td>52</td>
<td>NEW JERSEY, NEWARK</td>
<td>9.67</td>
<td>2.98</td>
</tr>
</tbody>
</table>

**INFORMATION:**

- PEDESTRIAN/BICYCLIST Involved Fatalities for the Top 50 Cities (2011-2013)
- TOT 50-CITY AVERAGE: 23.51
Pedestrian Safety - FHWA

Benefits of being a Focus City/State (other than the sheer honor of it)
- Access to resources
  - Training
  - Workshops
  - Peer Exchanges

And Now.....................
Pedestrian Safety

• 2013
  – Marion County Public Health Department
    • Mapped Data
  – Indiana Criminal Justice Institute
    • Held Pedestrian Safety Action Plan Training
• 2015
  – Received funding to identify and designate pedestrian safety zones
  – Plan4Health award
Pedestrian Safety Strategies

The 6 E’s

- Evaluation
- Enforcement
- Environment
- Education
- Community Engagement
- Engineering
Pedestrian Safety Strategies

The 6 E’s

- **Evaluation**
- Enforcement
- Environment
- Education
- Community Engagement
- Engineering
Evaluation: Crash Analysis

- Mapping and zone analysis
- Additional review of crash factors
  - Temporal
  - Seasonal
  - Weather
  - Lighting
  - Pre-crash vehicle action
  - Pedestrian characteristics
- Walk Audits
Marion County/Indianapolis Crash Stats

• 1703 pedestrian crashes (2010 – 2016)
  – 6% were fatalities; 15% were incapacitating
  – 20% were hit and run
  – 59% were men
  – 25% involved children and youth ≤ age 20
  – Most in clear, dry, daylight conditions

• 2016 crashes (245)
  – 16 zones: 45% of all crashes; 6.8% of land area
Pedestrian Safety Strategies

The 6 E’s

– Evaluation
– **Enforcement**
– Environment
– Education
– Community Engagement
– Engineering
Enforcement: Speed

Safety > Speed

- Hit by a vehicle traveling at 20 MPH: 9 out of 10 pedestrians survive
- Hit by a vehicle traveling at 30 MPH: 5 out of 10 pedestrians survive
- Hit by a vehicle traveling at 40 MPH: Only 1 out of 10 pedestrians survives

Image: Seattle Department of Transportation
Enforcement: Speed

Safety > Speed

Image: Local Government Commission
Enforcement: Drivers and Pedestrians

Images: City of Chicago, City of South Orange
Pedestrian Safety Strategies

The 6 E’s

– Evaluation
– Enforcement

– Environment
– Education
– Community Engagement
– Engineering
The Built Environment

Image: Kaid Benfield
The Built Environment

Image: Planetizen, Eric Sehr
The Built Environment

Image: www.pedbikeimages.org/DanBurden
Pedestrian Safety Strategies

The 6 E’s

– Evaluation
– Enforcement
– Environment
– **Education**
– Community Engagement
– Engineering
Safety Education Campaign

Kids don’t come with turn signals.
Always be alert.

WALKWAYS
moving INDY forward

IndyWalkWays.org
Safety Education Campaign

You can’t fix a person at a body shop.

Look twice before you turn.

WALKWAYS moving INDY forward

IndyWalkWays.org
Language

Crash ≠ Accident
Pedestrian Safety Strategies

The 6 E’s

- Evaluation
- Enforcement
- Environment
- Education
- Community Engagement
- Engineering
Community Engagement

• Outreach: Community Champion

• Communication
Pedestrian Safety Strategies

The 6 E’s

– Evaluation
– Enforcement
– Environment
– Education
– Community Engagement
– Engineering
Engineering: Project Types

4 Types of Projects Resulting From Walk Audits
- Short Term
- Mid Term
- Long Term
- Hybrid
Engineering: Project Types

Short Term or “Low Hanging Fruit” Projects
– Implementation within days to months
– Activities performed by Operations Group
  • Crosswalk Install / Repair
  • Sign Install / Repair
  • Ped Indication or Pushbutton Install / Repair
  • Brush Removal
  • Broken Sidewalk Panel or Ramp Problem
Engineering: Project Types

Mid Term Project

– Implementation within months to a year
– Improvements made via stand-alone locally funded project
  • Minor resurface/restripe/repurpose
  • Reconstruction of ramps in small area
  • Installation of median refuge island
  • HAWK installation
– Improvements made via addition to an existing locally funded project
Engineering: Project Types

Long Term Project
- Implementation within multiple years
- Improvements made using federal funds
  - Highway Safety Improvement Program (HSIP)
  - Considered low cost systemic improvements
  - Abbreviated Report/Application
  - Typically 80/20 split
Hybrid Project

- Implementation using multiple funding strategies
- Audit may identify some problems that can be addressed quickly while others may take more time or dollars to correct
Engineering: Project Example

Pedestrian Crash Focus Area Zones
- Long Term Projects
- Large geographic areas (1.5 mi²)
- High dollar cost ($1M)
- Improvements range from new ADA compliant curb ramps, bumpouts, crosswalks, upgraded signage & warning beacons
- 7 Individual zones submitted for HSIP Funds
  - 3 approved for funds bidding in Fall 2020
  - 4 awaiting approval bidding in Fall of 2023
Engineering: Project Example

Pedestrian Crash Focus Area Zone 9
- Zone identified using zonal analysis
- Walk audit performed in Summer 2015
- HSIP application submitted Fall 2016
- Funding awarded Summer 2017
- Design start Summer 2018
- Shooting for a Summer 2020 bid date
- Estimated Total Project Cost $1.2M
# Highway Safety Improvement Program

## Low Cost Systemic LPA Project Eligibility Request

### SPONSOR

**Date** | Nov 14, 2018 | **Submitted by** | IMPO
--- | --- | --- | ---

**Local Public Agency** | City of Indianapolis DPW
---

**Official Signatory** | (ERC) Mark Zwoyer; 317-327-5523 mark.zwoyer@indy.gov
---

**Office Title** | Administrator Engineering
---

**Project Contact** | Mark Zwoyer
---

**Telephone** | 317-327-5523 | **Email** | mark.zwoyer@indy.gov
---

### PROJECT

**Request** | New Project | **Des No. of existing project**
--- | --- | ---

**Road Name** | Various
---

**Improvement Type** | Install new pedestrian crosswalk warning signs, flashing beacons, special pavement
---

### SIGN UPGRADE PROJECT QUESTION

If improvement selected above is a sign retroreflectivity upgrade project, also indicate the following:

**Sign Inventory**
---

- If installing signs at formerly unsigned locations? (Select if yes)

### LOCATION DESCRIPTION

- The project is in Center Township, Marion County, Indianapolis, Indiana. It is generally bounded by 14th Street to the south, I-50 to the west, 34th Street to the north, and Delaware on the east.

### SCHEDULE AND FUNDING

- If LPA is to contribute more than 10% match | Local Contribution Amount
--- | ---

- Existing project funding type | No existing project
---

<table>
<thead>
<tr>
<th>P/E</th>
<th>Est. Start Date</th>
<th>Land Acquisition</th>
<th>Est. Start Date</th>
<th>Construction</th>
<th>Est. Start Date</th>
<th>Construction Eng.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>210,760</td>
<td>Jul 17, 2017</td>
<td></td>
<td></td>
<td>876,000</td>
<td>Jul 15, 2021</td>
<td>131,850</td>
<td>1,230,600</td>
</tr>
</tbody>
</table>
PROJECT INTENT (required)
Provide a short description of the safety improvements to be achieved. Attach a map or aerial photos depicting the proposed project limits.

The proposed improvements will consist of a combination of #6 Install new pedestrian crosswalk warning signs, flashing beacons, special warning signs, and #11 Install or upgrade pedestrian curb ramps and refuge areas in areas of high conflict between pedestrians and vehicular traffic.

The focus area was determined by analyzing ARIES and EMS crash data, and appropriate improvements within that area will be recommended on a case-by-case basis, to be determined by Preliminary Engineering. Potential improvements include curb and sidewalk modifications (curb ramp construction, sidewalk widening in the vicinity of curb ramps, sidewalk gap elimination, curb bump outs, medians, median cuts), pavement markings (upgraded crossing, word/symbol message), signage, and signalization (pedestrian phase modification, HAWK, activated RRFB).

The City is willing to scale back the extents of the project area to match available funding.

Special Rule Narrative (attach additional pages if needed)
Provide a detailed narrative to explain that the location experiences a higher than normal frequency, rate, and/or risk of fatal and incapacitating injury events (severe crashes), and how the proposed project will reduce severe crashes.

The proposed project area is focused on Pedestrian Crash Zone 9, which was developed from 2010 to 2014 ARIES data. Intersections with existing pedestrian infrastructure connections will be prioritized over areas without. Connections to traffic generators such as schools, parks, libraries, medical facility and grocery will be prioritized. Curb and sidewalk improvements are generally planned at the intersections along 33rd, 32nd, 31st, 29th, 28th, 27th, 26th, 25th and 17th Streets. New pedestrian signalization is planned of Fall Creek near 24th Street, Illinois near 27th Street, Illinois near 26th Street, and Capitol near 14th Street.

This project will compliment three other projects in the area that are improving pedestrian infrastructure.
Thank you!

Rick Drumm, FWHA
Rick.Drumm@dot.gov

Nathan Sheets, Indianapolis DPW
Nathan.Sheets@Indy.gov

Alison Redenz, Health by Design
aredenz@hbdin.org