Uncontrolled Pedestrian Crossings in the Suburbs

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ITE Keystone
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Pedestrians in Arvada

- First-ring suburb of Denver
- Typically low-density, mostly SOV travel
- Walking consistently reported as an important factor for livability

- Requests for marked crosswalks
- Complaints about failure to yield
Project Requirements

What did we want?
• Respond to requests quickly
• Respond consistently
• Explain easily to stakeholders

Existing methods were insufficient
• Too reliant on pedestrian counts
• Too time-consuming
• Too judgmental
A New Methodology

No pedestrian volume counts required

Leans heavily on Open Data Catalog

- AADT and roadway classification
- Posted speed
- Number of lanes
- Trail and road network
- Surrounding land uses
The Two-Part Test

Separate planning and design decisions

• Is a crossing warranted at this location?
• If yes, what crossing will achieve sufficient yielding behavior?

Benefits:

• Avoid negotiations
• Remove cost and constructability concerns from the planning decision
• Ensure that only the right crossing is installed
Step 1: Needs Assessment

Pedestrian Crosswalk Treatment Guidelines

Needs Assessment Worksheet

Crossing Location: McIntyre St & W 63rd Ave  
Date: October 23, 2017

Existing Facility Attributes

Characteristics: ADA compliant curb ramps, pavement markings, W1-1-2, W 16-7P, and R1-6 signs on McIntyre St approaches

Number of Lanes: 4 with left turn lanes  
Crossing Width: Approx. 78 feet

Posted Speed Limit: 35 MPH  
ADT: 3487

Presence of Median and/or Parking: Median  
Lighting: Yes

Other: Additional development is anticipated adjacent to crossing

Context Assessment

<table>
<thead>
<tr>
<th>Question</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the crossing within or directly adjacent to an existing commercial, mixed-use, or high-density residential area?</td>
<td></td>
<td></td>
<td>✓</td>
<td>❌</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will the crossing be within or directly adjacent to a new commercial, mixed-use, or high-density residential area?</td>
<td></td>
<td></td>
<td>✓</td>
<td>❌</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will the crossing be within or directly adjacent to a pedestrian attraction/ generator?</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will the crossing be within or directly adjacent to a new pedestrian attraction/ generator?</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

- Westwood Shopping Center is located adjacent to the crossing.
- Broad Lake Park is located adjacent to the intersection.

Does the crossing provide a needed linkage for a trail option? ✓

Is the crossing the primary crossing to an existing and/or new transit facility (bus stop, rail stop)? ✓

Are other factors creating extenuating circumstances not covered in the previous questions? ✓

Weight: 0 1 3 4 

0 0 4 0 4 Total: 8

Crossing Needs Assessment

1 Arvada’s 2014 Comprehensive Plan’s land uses including Medium Density Residential, High Density Residential, Mixed-Use Residential, Employment, Mixed Use, Neighborhood Commercial, Open Space and Park, and Parks/Open-Park Facilities.

2 Examples of mixed-use properties include schools, civic facilities such as libraries, a post office, religious facilities, recreation centers, and parks.

Conclusions

Recommendation: Type D

Notes: Modify to meet MUTCD criteria as noted on map.

Existing Facilities and Proposed Improvements
Step 2: Most Appropriate Treatment

A  ADA Curb Ramp Only

B  Marked Crosswalk

ADA curb ramps for pedestrian crossings

Pavement markings on the surface of the roadway
Step 2: Most Appropriate Treatment

C Marked Crosswalk with Signing

D Rectangular Rapid Flashing Beacon
Step 2: Most Appropriate Treatment

E Signalized Crossing

F Grade-Separated Crossing
Step 2: Most Appropriate Treatment

<table>
<thead>
<tr>
<th>Roadway ADT (vpd)</th>
<th>≤ 1,000</th>
<th>≤ 3,000</th>
<th>≤ 8,000</th>
<th>≤ 15,000</th>
<th>&gt; 15,000</th>
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<tbody>
<tr>
<td>Speed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 lanes</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>3 lanes</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>D</td>
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<tr>
<td>4 lanes</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>More than 4 lanes</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>D</td>
<td>D</td>
</tr>
</tbody>
</table>

ADT = average daily traffic  
mph = miles per hour  
vpd = vehicles per day
Thank you!

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