Designing for Safety

Toward Zero Deaths Conference
October 29, 2015
Collaboration

• 4 E’s of TZD
  – Enforcement
  – Engineering
  – Education
  – Emergency Services

• Sharing New Approaches
“Complete streets is not all modes for all roads, but the right modes on the right roads!”

Our Alternative Transportation Plan helps us prioritize “the right modes on the right roads”
Speed Reduction

- Speeding is a contributing factor in 30 percent of all fatal crashes.
- Speeding always contributes to the severity of a crash.

Figure 1. Vehicle Impact Speed and Pedestrian Injury Severity (from DETR)

- 40 mph
- 30 mph
- 20 mph

Public Works: Administration, Engineering, Maintenance, and Utilities
Speed Reduction
Speed Reduction
Design Standards for On-Road Bicycle Facilities

- Changes in MSA Design Standards for On-Road Bicycle Facilities for Urban MSA and CSAH were implemented in 2012.
- Reviewed in 2014
- Changes “tweeks” to be made in 2016 thru the MNDOT Rule Changes process
Bike Safety

- Minnesota averages 184 fatal and serious injury crashes involving pedestrian and bicycles per year.
- This is approximately 14% of all severe crashes.
Bike Safety
Bike Safety

Minnesota Bluffs Drive

W 94th Street at Normandale Blvd

W 90th Street at France Avenue

W 86th Street

Public Works: Administration, Engineering, Maintenance, and Utilities
Pedestrian Safety

• Causes of pedestrian fatalities...
  – Research
    » Alcohol
    » Nighttime (Lighting)
    » Risky crossing
  – Local
    » Low driver yielding rates
    » Multiple Vehicle Threat
Crosswalk Enhancements

Overhead

RRFB

In-Pavement

Signage

H.A.W.K.
# Pedestrian Safety

## Table 11. Recommendations for installing marked crosswalks and other needed pedestrian improvements at uncontrolled locations.*

<table>
<thead>
<tr>
<th>Roadway Type (Number of Travel Lanes and Median Type)</th>
<th>Vehicle ADT ( \leq 9,000 )</th>
<th>Vehicle ADT &gt;9,000 to 12,000</th>
<th>Vehicle ADT &gt;12,000–15,000</th>
<th>Vehicle ADT &gt; 15,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Speed Limit**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( \leq 48.3 \text{ km/h} ) (30 \text{ mi/h})</td>
<td>56.4 \text{ km/h} (35 \text{ mi/h})</td>
<td>64.4 \text{ km/h} (40 \text{ mi/h})</td>
<td>( \leq 48.3 \text{ km/h} ) (30 \text{ mi/h})</td>
</tr>
<tr>
<td>Two lanes</td>
<td>C</td>
<td>C</td>
<td>P</td>
<td>C</td>
</tr>
<tr>
<td>Three lanes</td>
<td>C</td>
<td>C</td>
<td>P</td>
<td>C</td>
</tr>
<tr>
<td>Multilane (four or more lanes) with raised median***</td>
<td>C</td>
<td>C</td>
<td>P</td>
<td>C</td>
</tr>
<tr>
<td>Multilane (four or more lanes) without raised median</td>
<td>C</td>
<td>P</td>
<td>P</td>
<td>P</td>
</tr>
</tbody>
</table>

*ADT = Average Daily Traffic
**Speed Limit** refers to the speed limit in km/h and mi/h for each level of traffic volume.
Pedestrian Safety
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