Pedestrian Safety Improvement Initiatives – City of Edmonton

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Traffic Safety Analyst, City of Edmonton
Outline

- Background
- Pedestrian Collision Overview
- What Has Been Done
- Future Programs
- Final Remarks
- Q & A
In 2015, City Council approved Edmonton’s Road Safety Strategy 2016-2020, making Edmonton the first major Canadian City to officially adopt Vision Zero.

The Vision Zero is the Swedish approach to road safety thinking:

- No loss of life is acceptable

A fundamental change in decision making process

Evidence-based approach, and the 5 E’s:

- Engineering
- Education
- Enforcement
- Engagement
- Evaluation
2016 Traffic Collisions in Edmonton

- **23,139 Collisions** (-9.3%)
- **20,462 Property Damage Only** (-8.9%)
- **2,980 Minor Injuries** (-12.9%)
- **325 Major Injuries** (-15.1%)
- **22 Fatalities** (-31.3%)

- **6 Drivers**
- **3 Passengers**
- **10 Pedestrians**
- **3 Motorcyclists**
## Pedestrian Collision by Traffic Control

<table>
<thead>
<tr>
<th>Control Type</th>
<th>Intersection</th>
<th>Mid-Block</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marked X-walk</td>
<td>217</td>
<td>47</td>
<td>5</td>
</tr>
<tr>
<td>No Control</td>
<td>155</td>
<td>461</td>
<td>56</td>
</tr>
<tr>
<td>Pedestrian Signal</td>
<td>38</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Pedestrian Flasher</td>
<td>50</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Signal Light</td>
<td>600</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Stop Sign</td>
<td>106</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Yield Sign</td>
<td>49</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Others</td>
<td>9</td>
<td>13</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: 2012-2016 Data
Pedestrian Collision Trend

- # Fatal and Serious Pedestrian Collisions
- Population
What Has Been Done

- Upgrading Pedestrian Crosswalks
  - Pedestrian Activated Signal
  - Overhead Amber Flasher
  - Rectangular Rapid Flashing Beacon

### Location Statistics

<table>
<thead>
<tr>
<th>Control Type</th>
<th>Implementation Year</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
<td>2013</td>
</tr>
<tr>
<td>NEW PED SIGNAL</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>NEW RRFB</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>NEW AMBER FLASHER</td>
<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>

### Collision Classification (group)

<table>
<thead>
<tr>
<th>Control Type</th>
<th>Fatal &amp; Major</th>
<th>Minor &amp; PDO</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW PED SIGNAL</td>
<td>4.0</td>
<td>9.7</td>
</tr>
<tr>
<td>NEW AMBER FLASHER</td>
<td>0.7</td>
<td>2.3</td>
</tr>
</tbody>
</table>
What Has Been Done

- **30 km/h School Zone (8:00 a.m. to 4:30 p.m.)**
  - In Sep 2014 for all elementary school (235 schools)

  - Before-after analysis showed:
    - 71.4% reduction of vulnerable road user collisions
    - 12 km/h reduction in mean and 85th percentile speeds
What Has Been Done

- Protected-Prohibited Left Turn Program
  - Pedestrian Collision is one of the site selection criteria

  ![Traffic Light Diagram]

  77 approaches since 2009

- 100% reduction of pedestrian collisions related to left-turning vehicles
What Has Been Done

- **Driver Feedback Sign (DFS)**
  - Risk based ranking criteria to identify potential locations
  - Fatal and major injury collisions as one of the site selection criteria
What Has Been Done

- Driver Feedback Sign (DFS)

Week of Time Stamp

School Hours?
- (All)
- Non-school hours
- School hours

Speed Limit
- Non-school Hours: 50
- School Hours: 30

Compliance Profile
- Over PSL 16 and over
- Over PSL 11-15
- Over PSL 6-10
- Over PSL 1-5
- Compliance

Speed Distribution Summary - June 11, 2017

<table>
<thead>
<tr>
<th>Day</th>
<th>Highest</th>
<th>Lowest</th>
</tr>
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<tbody>
<tr>
<td>Monday</td>
<td>24.28%</td>
<td>57.84%</td>
</tr>
<tr>
<td>Tuesday</td>
<td>24.91%</td>
<td>51.69%</td>
</tr>
<tr>
<td>Wednesday</td>
<td>30.21%</td>
<td>51.80%</td>
</tr>
<tr>
<td>Thursday</td>
<td>30.14%</td>
<td>55.72%</td>
</tr>
<tr>
<td>Friday</td>
<td>26.86%</td>
<td>24.47%</td>
</tr>
<tr>
<td></td>
<td>23.12%</td>
<td>25.41%</td>
</tr>
<tr>
<td></td>
<td>12.78%</td>
<td>10.41%</td>
</tr>
</tbody>
</table>
Great Neighbourhoods Capital Program

- Improve pedestrian safety and accessibility
- Add curb ramps to intersections
- Eliminate “over-designed” intersections
- Improve curb radii
- Curb extensions at pedestrian crossings near schools, community halls and playgrounds
- Ensure streetlights meet current lighting design practices and standards, including LED upgrades
What Has Been Done

- Brochures
- Factsheets
- Posters
- Videos
What Has Been Done

- Back of the Bus
- Roadside Signs
- Website
- Social Media
- Movie Theatres
What Has Been Done

- Dynamic Messaging System (DMS)
  - Over 30 permanent & 50 portable units
  - Example:
    - ✓ LOOKOUT FOR EACH OTHER
    - ✓ WATCH FOR PEDESTRIAN
Future Initiatives

- Continue the existing programs
- 30 km/h Junior High School Zone
  - Starting from Sep 2017
- 30 km/h Playground Zone
  - Council decision in Sep 2017 on 424 playgrounds
- 30/40 km/h Residential Speed Limit
  - Currently in discussion
- Main Street and Complete Street Initiatives
  - First main street will be constructed in 2019
- Crosswalk Upgrade
- Signalized Intersection Improvements
- Fall Pedestrian Campaign
Crosswalks in Edmonton

Arterial Crosswalks
(476 crosswalks)

Collector Crosswalks
(1100 crosswalks)
<table>
<thead>
<tr>
<th>Crosswalk Prioritization Criteria</th>
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<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Pedestrian Collision and Severity</td>
<td>Senior/Youth Pedestrian Collision</td>
<td>Roadway Cross Section</td>
<td></td>
</tr>
<tr>
<td><img src="image1" alt="Pedestrian Collision Icon" /></td>
<td><img src="image2" alt="Senior/Youth Pedestrian Collision Icon" /></td>
<td><img src="image3" alt="Roadway Cross Section Icon" /></td>
<td></td>
</tr>
<tr>
<td>Pedestrian Volume</td>
<td>Vehicle Volume</td>
<td>Speed Limit</td>
<td></td>
</tr>
<tr>
<td><img src="image4" alt="Pedestrian Volume Icon" /></td>
<td><img src="image5" alt="Vehicle Volume Icon" /></td>
<td><img src="image6" alt="Speed Limit Icon" /></td>
<td></td>
</tr>
<tr>
<td>Distance to the Nearest Control</td>
<td>Citizen Complaints</td>
<td>Others (e.g., Multiuse trails)</td>
<td></td>
</tr>
<tr>
<td><img src="image7" alt="Distance to the Nearest Control Icon" /></td>
<td><img src="image8" alt="Citizen Complaints Icon" /></td>
<td><img src="image9" alt="Others Icon" /></td>
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</tbody>
</table>
Crosswalk Improvements

- 70 high risk crosswalks have been identified
- 5 million existing fund was available for upgrade
- Additional 5 million is approved by City Council
- All identified crosswalks will be upgraded by 2019
Signalized Intersection Improvements

- Leading Pedestrian Interval (LPI)
- Scramble Pedestrian Phase
- Protected Left Turn and Right Turn
- Curb Extension
- Crosswalk Pavement Marking
Pedestrian Safety Campaign in Fall

- Hired a marketing agency
- Data-driven campaign
- Focus Area:
  - Day Light Hours
  - Senior
  - Back to School
- Multiple medium of communications

2016 Pedestrian Collisions
2017 Pedestrian Collision

# Fatal and Serious Pedestrian Collisions

Population
Final Remarks

- Adopting Vision Zero has changed the traffic safety decision making process in the City of Edmonton
- A wide range of pedestrian safety initiatives has been implemented
- Collision data is showing the sign of success
- However, still many pedestrians are getting killed or seriously injured on our City Street
- We believe everyone deserves to leave and come home safely
- Edmonton will continue to work towards Vision Zero
Thank You!
Questions?