Tonight’s Presentation

Crosswalk System Management

- Background on crosswalk system – what’s out there
- Overview of the needs and how they’re managed
- Process for priority setting
- Available funding sources
- Crosswalk treatments
- Look Ahead – Opportunities through the Ped/Bike Implementation Initiative (PBII)
Background on Crosswalks

The current system – How do people cross the road?

• Bellevue’s Transportation Department currently manages around 190 crosswalk sites (+ almost 200 “full” traffic signals)

• Of the 190, there are:
  ➢ 17 flashing crosswalk systems (RRFB, Std. Beacons, In-Pavement Flashing Systems)
  ➢ Almost 100 School Designated Crosswalks
  ➢ 8 Pedestrian Only Signals

• There are also 5 pedestrian bridges and 4 pedestrian only under-crossings (not counting WSDOT facilities)
Background on Crosswalks

Mapping the system

- Digitized interface – in progress
- Categorize the type of pedestrian treatment
- Helps manage maintenance of the system
- Assure consistency with national and local standards, dept. practices
- Future public interface to help inform the public of facilities

Crossing Categories – classified by treatment level
Background on Crosswalks

Collision Experience – How Many?

- Typically, between 30 and 50 Pedestrian collisions occur each year.

**Pedestrian Collision History**

- 2015 is data through end of July 2015, pro-rated for full year.

*Legend:*
- Red: Intersection
- Yellow: Midblock
- Blue: Total
Background on Crosswalks

Where do pedestrian collisions occur?

- About half of all pedestrian collisions (48%) occur at a full traffic signal
- Most occur on an arterial street; over 95%. With over 75% occurring on arterials classified as “Major”.
- Over half occur in a marked crosswalk (61%)

- Over past 10 years there have been 1 fatal pedestrian collisions on average about every other year (5 total).
  - 3 of the 5 occurred at a full traffic signal. One occurred at a bus stop and another between signals.
Overview of Needs

Crosswalk Evaluations

• Requests for installing new crosswalks or improving existing ones come from a variety of sources:
  ➢ Residents
  ➢ Businesses, new development
  ➢ Comprehensive plan/policy documents/staff

• Track requests and screen initial viability (qualitative)
• If passes initial tests, then logged as a candidate site
• Once a candidate, enters more in-depth vetting process (both qualitative and quantitative)
• While evaluating feasibility, site enters priority process
Overview of Needs

Crosswalk Evaluations

1st Level Screen

2nd Level Screen

3rd Level Screen

Preliminary Merit Test:
- Proximity to other crossings?
- Use?
- Sight distance?
- Consistent with MUTCD?

Data collection, vetting options, technical assessment, scoring

Concept treatments, costs estimating, opportunity assessments, priority setting

Assigned sites, funded, designed, implemented

Unfunded sites, further study
Priority Setting

How do we set priorities with so many needs and limited resources?

Begins with relative scoring of feasible candidates

High, med., low

Charted

Minimum thresholds set with consideration of resources

Implementation

Vetting

Grouped, opportunities explored, and assigned
Priority Setting

Scoring Candidates

- Key criteria include:
  - Proximity to schools
  - Number of travel lanes/exposure distance
  - Speed limit, traffic volume, arterial classification
  - Accident history
  - Options for crossing, i.e. nearby signal...
  - Can site be coordinated with CIP, developer project, Overlay Program
  - Ped Volume
  - Unique site conditions or implementation complexity (low hanging fruit)
Priority Setting

What influences higher priority candidates?

Higher vehicle volume >>> higher ped volume >>> wider streets

Also, special conditions – e.g. side trails, collision experience and ability for collaboration on other projects
## Funding Sources

**2015-2021 Adopted CIP: Improved Mobility**

<table>
<thead>
<tr>
<th>CIP Plan Number</th>
<th>Project Name</th>
<th>2015-2021 Project Cost</th>
<th>Total Estimated Cost</th>
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<tr>
<td>PW-I-92</td>
<td>Lakemont Blvd and Cougar Mnt Way Improvements</td>
<td>626</td>
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<td>Overlay Program</td>
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<td>Neighborhood Traffic Safety Program</td>
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<td>PW-R-146</td>
<td>Northup Way Corridor Improvements</td>
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<td>Traffic Computer System Upgrade</td>
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<td>ITS Master Plan Implementation Program</td>
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<td>NE 4th Street Extension - 116th to 120th Ave NE</td>
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<td>NE Spring Blvd (Zone 1) - 116th to 120th Avenues NE</td>
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<td>Eastgate Subarea Plan Implementation</td>
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<td>East Link MOU Commitments</td>
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<td>PW-R-184</td>
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<td>PW-R-185</td>
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<td>PW-W-B-78</td>
<td>Mountains to Sound Greenway Trail</td>
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<td>108th/112th Aves NE - N. City Limit to NE 12th St</td>
<td>200</td>
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<td><strong>TOTAL IMPROVED MOBILITY</strong></td>
<td><strong>$ 199,088</strong></td>
<td><strong>$ 446,089</strong></td>
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</table>
Funding Sources

Budgets

- Funding for crosswalks comes from a variety of sources:
  - Large CIP road projects as part of their design
  - Minor Capital, Neighborhood Safety Program, Ped/Bike Improvements
  - Federal and State Grants

FY 2016 $159,135

Description: Typical projects include new crosswalks, channelization and signing improvements, guardrail, roadway safety and access management, new bike lanes...
The “Toolbox” of options

Pedestrian Crossing Improvements can span a broad range of treatments (…and costs)

- Treatments include:
  - Full traffic signals, bridges and under-crossings
  - Flashing crosswalk systems such as RRFBs
  - Raised crosswalks, curb bulbs, overhead internally illuminated signing, median islands
  - Plastic pavement markings, post mounted signing, lighting, legends in advance on pavement, e.g. “TRAIL XING”
The “Toolbox” of options

One City – Realizing Opportunities

• Consider all options:
  ➢ Role is not just crosswalks – But, what is the full spectrum of options for pedestrians crossing safely?

• Case in Point – Coal Creek Pkwy Trailhead Crossing – Utilities Dept. lead project:
  ➢ Looking for opportunities; departments joining forces to achieve multiple benefits
  ➢ New culvert/bridge to support and keep road safe, provide ped crossing and trail connectivity, stream restoration, utilities upgrades, enhanced landscaping/aesthetic,

Source: COB web site - Coal Creek Parkway Culvert Project
The “Toolbox” of options

School Designated
Raised Crosswalk
(Phantom Lake Elementary School)

Center Medians
(145\textsuperscript{th} PI SE at 144\textsuperscript{th} Ave SE)

Overhead Signing and Narrowed Crossing
(Lake Hills Blvd at Lake Hills Trail)
The “Toolbox” of options

Rectangular Rapid Flashing Beacon (RRFB)

156th Ave SE north of SE Eastgate Way

RRFB in action video
The “Toolbox” of options

Pedestrian Only Signal

Started off as in-pavement flashing lights, then std. yellow round flashing beacons, then signal

156th Ave NE at 1600 block (Crossroads)
Look Ahead

Continued development of the strategies and practices to manage crosswalks

• Pedestrian and Bicycle Implementation Initiative (PBII)
  ➢ Where planning converges upon operations - Major effort looking at implementing both pedestrian and bicycle related improvements
  ➢ Identifying projects and how to fast track
• Hone the practices that help prioritize needs
• Improved documentation of the process, projects and implementation
• Develop dynamic interfaces, such as mapping systems of inventory, to aid in the management practices
Look Ahead

Questions?