35th Avenue SW
Road Safety Corridor

Design Alternative Review Meetings
Project Manager Jim Curtin
March 10 and 12, 2015
Our mission, vision, and core values

**Mission:** deliver a high-quality transportation system for Seattle

**Vision:** connected people, places, and products

Committed to **5 core values** to create a city that is:

- Safe
- Interconnected
- Affordable
- Vibrant
- Innovative
Presentation overview

• Meeting purpose
• Project background
• Design process and alternatives
• General Q & A
• Feedback session
Background

• Safety improvements requested by local community on several occasions

• Issue Identification Meetings, October 2014
Project goals

Make 35th Avenue SW safer for everyone

- Reduce speeds
- Reduce collisions and injuries
- Improve conditions for vulnerable users
- Maintain acceptable vehicular travel times
Vision Zero

Seattle’s plan to eliminate traffic deaths and serious injuries

• Street designs that prioritize safety
• Public education and engagement
• Targeted enforcement patrols

www.seattle.gov/visionzero
Project area

35th Avenue SW between SW Avalon Way and SW Roxbury Street
Current street design

35<sup>th</sup> Avenue SW
- Principal arterial
- 4 to 5 lane street
- 55 feet wide
- Served by multiple transit routes
- Emergency response route
Volumes

- 16,500 AWDT at Roxbury; 24,600 AWDT at Alaska
- Significant pedestrian use
- Transit: 21, 21X, Rapid Ride C Line
Along the corridor

- 488 parcels
  - 73% single family residential (359)
  - 11% apartment, condo, townhouse (55)
  - 10% commercial/industrial (48)
- 4 churches or religious service centers
- 3 schools within two blocks
- 2 libraries, parks and community centers
- 2 daycare centers
- Retirement/nursing homes, medical services
Recent speed studies

Posted speed limit 35 mph

- 38.5 mph at SW Brandon St
- 40.9 mph at SW Willow St
- 36.5 at SW Roxbury St
Why speed matters

Drivers’ field of vision
15 mph

Drivers’ field of vision
30 mph – 40 mph
Why speed matters

Note that the chance of injury is nearly 100 percent when pedestrians or people on bicycles are involved in a collision.

HIT BY A VEHICLE TRAVELING AT:

- 20 MPH: 9 out of 10 pedestrians survive
- 30 MPH: 5 out of 10 pedestrians survive
- 40 MPH: Only 1 out of 10 pedestrians survives
Collision data

Last 3 plus years
- 294 total collisions
- 128 injuries
- 2 fatalities

Last 10 years
- 1065 total collisions
- 412 injuries
- 5 fatalities
Collision data

Pedestrian and bicycle collisions last 3 plus years
- 15 pedestrian-vehicle
- 1 bicycle-vehicle

Pedestrian and bicycle collisions last 10 years
- 40 pedestrian-vehicle
- 8 bicycle-vehicle
- 4 of 5 fatalities were pedestrians or bicyclists
Collision data

Collision Types

- Pedestrian: 15
- Head On: 1
- Angles: 49
- Left turns: 33
- Rear end: 59
- Parked car: 31
- Sideswipe: 26
- Other: 20
Behavioral issues and enforcement

• Distraction top contributing cause of crashes on 35th
• Other issues
  – Speeding
  – Impairment
  – Failure to grant ROW
Design process

Design options developed to:

• Balance the need to move people and goods with the function of the nearby land uses

• Reduce collisions

Performance monitoring

• Collect baseline data and update traffic data regularly on 35th and nearby streets
Design process

Enforcement

- Grant funds secured for extra patrols
- Data-driven deployment
- Pedestrian safety emphasis
Design process

Modeling

• Synchro 8 and SimTraffic 8
• Full report and traffic analysis at Spring meeting
Design process

Implementation

• Summer 2015 through 2016
Design alternatives

Lower speed limit

• 35 mph $\rightarrow$ 30 mph
• New speed limit to be implemented with other roadway modifications
Design alternatives

• Signal improvements
  – Turn signals at some locations
  – Signal optimization
  – Reflective materials for most signals

• Lane line markers (buttons) throughout the corridor
Design alternatives

Bicycle facilities

• Protected bicycle lanes envisioned long-term for 35th
  – 2014 Bicycle Master Plan
• Public comment suggested we focus on other routes
• Neighborhood Greenway study
• 2017 implementation
Design alternative A

SW Roxbury St to SW Edmunds St

Rechannelization
- 4 lanes → 3 lanes
  - 2 general purpose lanes
  - Center left turn lane
Design alternative A

Key features
• Reduces top collision types
• Lower vehicle speeds
• Better conditions for people walking
• Opportunities for new crossings
• Improved efficiency
• Easier turning movements

Limitations
• Initial modeling shows vehicle delays of 3 to 4 minutes (peak hours only)
• *Additional delays possible*
Design alternative B

SW Roxbury St to SW Raymond St
  • Rechannelization

SW Raymond St to SW Edmunds St
  • Peak hour parking restrictions
    – Allows for one additional lane for vehicular traffic
      • AM – northbound
      • PM - southbound
Design alternative B

Key features
• Maintains extra travel lane during peak
• Same benefits as Alternative A south of SW Raymond Street
• May consider extending/reducing rechannelization extents

Limitations
• Initial modeling shows vehicle delays of 3 minutes (peak hours only)
• Partial pedestrian safety benefits during peak hours
Design alternatives

- Improves efficiency
- Reduces vehicular speed
- Easier turns
- More space for parking

Easier turning movements to and from 35th

Left turning vehicles out of the flow of traffic

More space for parking
Design alternatives

Existing conditions:
35th between Henderson and Barton

- Route 21 must make 3 lane changes in one block (350 feet)
- Insufficient capacity in turn pockets
- Rapid Ride C Line must make 3 lane changes between Roxbury and Barton
Design alternatives

Proposed: 35th between Henderson and Barton
• Improves efficiency

Route 21 makes 2 lane changes in one block (350 feet) between Henderson and Barton

Maximum capacity in turn pockets

Rapid Ride C Line benefits from this configuration
Design alternatives

Existing conditions: 35th and Barton

- 20 total collisions
- 13 injuries
- C line and 21/21X transit stops
- Turn pocket capacity issues

**Collision types**

<table>
<thead>
<tr>
<th>Collision type</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>Other</td>
<td>1</td>
</tr>
<tr>
<td>Angles</td>
<td>9</td>
</tr>
<tr>
<td>Ped</td>
<td>3</td>
</tr>
<tr>
<td>Left turn</td>
<td>5</td>
</tr>
</tbody>
</table>
Design alternatives

Proposed: 35th and Barton
- Reduces left turn collisions
- May reduce angle collisions
- Improves pedestrian conditions

- New right turn pockets
  - Possible bus and turn lanes

- Buses pull out of the flow of traffic

- Longer left turn pockets
  - Easier movements for buses
Design alternatives

Proposed: 35th and Holden
- Offset intersection
- Models show peak hour delays with new channelization
- Reduces left turn collisions
  - 7 crashes during study period
  - 5 related to left turns

New right turn pockets
- Possible bus and turn lanes

New left turn pockets
Design alternatives

Proposed: 35th and Webster

- Reduces left turn collisions
  - 9 collisions during study period
  - 8 left turn crashes
- Reduces exposure for pedestrians

Fewer lanes of traffic to cross

New left turn pockets
Design alternatives

- Improves efficiency
- Provides more structured roadway channelization

Right turn pockets

Potential bus and turn lanes
Design alternative A

Proposed: 35th and Juneau

- Reducing left turn collisions
- Reducing pedestrian exposure

Center turn lane

Fewer lanes of traffic to cross
Design alternative A

Longer-term: 35th and Juneau

- Monitor left turn and angle crashes
- Potential crossing with turn restrictions (design for discussion only)
- Similar conditions at SW Graham St

![Collision types chart]

- Angles
- Rear end
- Left turn

Collision types
Design alternative B

Proposed: 35th and Juneau

- Reduces left turn collisions
- Does not reduce the number of lanes pedestrian must cross
- Crossing may require traffic signal
- May consider extending rechannelization to Juneau

Center turn lane
Design alternative A

Proposed: 35th and Dawson

- Entrance to Camp Long
- Long-standing community request for crossing
- Reduces exposure for pedestrians
- Opportunity for new crossing
Design alternative A

Longer-term: 35th and Dawson

- Low cost treatments
  - Signs
  - Pavement markings
  - Flashing beacons
  - Potential refuge island
Design alternative B

Proposed: 35th and Dawson

- Peak hour parking restrictions create a 3-lane roadway
- 3-lane configuration in effect for 4 hours on weekdays only
- Signal may be required for new crossing
Design alternatives

North of Edmunds

• Volumes near or above 25,000 ADT
• Existing channelization to remain
• Signal optimization
Design alternatives

Safety benefits of rechannelization

- Lower speeds, less severe crashes
- Less exposure for vulnerable users
- Reduction in crash frequency
- Easier turning movements

<table>
<thead>
<tr>
<th>Street</th>
<th>Collisions</th>
<th>85% speed</th>
<th>10+ mph speeders</th>
<th>Volume change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickerson St</td>
<td>-23%</td>
<td>-21%</td>
<td>-94%</td>
<td>-1%</td>
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<tr>
<td>Fauntleroy Way SW</td>
<td>-31%</td>
<td>-1%</td>
<td>-13%</td>
<td>+0.3%</td>
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<tr>
<td>NE 125th St</td>
<td>-10%</td>
<td>-8%</td>
<td>-69%</td>
<td>+4%</td>
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<tr>
<td>NE 75th St</td>
<td>-50%</td>
<td>-13%</td>
<td>-76% to 90%</td>
<td>+0.3%</td>
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## Next steps

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event Description</th>
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<tr>
<td>October 28, 3:30 PM to 5 PM</td>
<td>Issue Identification Meeting 2 Southwest Library</td>
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<tr>
<td>November through January</td>
<td>Outreach and conceptual designs</td>
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<td>March 2015</td>
<td>Design Alternatives Review Meetings</td>
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<td>June 2015</td>
<td>Final determination and outreach meeting</td>
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<tr>
<td>Late Summer 2015</td>
<td>Implementation begins</td>
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Questions?

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http://www.seattle.gov/transportation/35thSW.htm

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