INTERSECTION TRAFFIC CONTROL COMMITTEE

Blue Line Crossing Near a Roundabout and Multi-Modal Scenarios

Meeting Minutes
May 4th, 2016

ATTENDEES

<table>
<thead>
<tr>
<th>Name</th>
<th>Agency</th>
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<tbody>
<tr>
<td>Morgan Abbott</td>
<td>SEH</td>
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<tr>
<td>Chad Braun</td>
<td>Carver County</td>
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<tr>
<td>Nik Costello</td>
<td>Washington County</td>
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<tr>
<td>Jonah Finkelstein</td>
<td>Spack Consulting</td>
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<tr>
<td>Joe Gustafson</td>
<td>Washington County</td>
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<tr>
<td>Luke James</td>
<td>SRF</td>
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<td>Sean Jenkins</td>
<td>City of Bloomington</td>
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<tr>
<td>Tyler Krage</td>
<td>Alliant Engineering</td>
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<td>Jon Krieg</td>
<td>Hennepin County</td>
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<td>Jonette Kuhnu</td>
<td>Kimley-Horn</td>
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<tr>
<td>Ken Levin</td>
<td>Hennepin County</td>
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<tr>
<td>Nick Ollrich</td>
<td>Metro Transit</td>
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<tr>
<td>Jan Rybar</td>
<td>Dakota County</td>
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<td>Kristi Sebastian</td>
<td>Dakota County</td>
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<td>Sarah Tracy</td>
<td>Dakota County</td>
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MEETING LOCATION: Dakota County

I. Blue Line Rail At-Grade Crossing At West Broadway
Nick Ollrich and Jonette Kuhnu presented on a Blue Line at grade crossing at West Broadway in Brooklyn Center area. The area had the following issues to consider in its design:
- Must be quiet zone ready
- Safety for all modes at crossing
- Access for surrounding neighborhoods
- Limit the property impacts
- Displacing residences was off the table, so whole area couldn’t get fully reconfigured.

Many scenarios were analyzed, including closing the crossing, median variations, and different alternatives to roundabouts.
The preferred alternative was a roundabout with a gated arm on the east edge of the roundabout, allowing for a clearance interval for vehicles on the tracks free of yielding conflicts. The preferred alternative as well as the other scenarios are shown in the attached power point.

II. **Blue Line 7th and Olson Memorial Highway Multi-Modal Design**

Nick and Jonette also presented on the Blue Line design at 7th and Olson Memorial Highway in Minneapolis, near the Target Field. The Blue Line is planned to line up in the median of the Olson Memorial Highway. All modes of transportation were considered in the design including:

- BRT
- Planned SWLRT
- Interchanges streets and SWLRT
- Protected Bicycle Lanes
- Pedestrians

The design team faced the following issues in determining the best design for the Blue Line in the area:

- Vehicle LOS
- Coordination with SWLRT
- Unique geometry of area (skewed intersection and NBR free channelized right-turn)
- Pedestrian and Bicycle Access

A large number of design scenarios were analyzed, including a tunnel for the roadway or rail, vehicle lane reduction, and aligning LRT in different configurations. Ultimately, the preferred option included a track shift as well as a reduction in lanes. The preferred alternative allowed for acceptable pedestrian crossing distances and bike lane geometry, as well as addressing the main issues with the area.

**Key Operations Points**

- The current setup has 2-stage pedestrian crossing at the cross street, the proposed utilizes single stage crossing.
- LRT now has its own exclusive phase.
- Met City’s objectives, but since an LOS E was yielded, an explanation of why the design served such low LOS was needed.

**Comments and Addressed Questions**

- All alternatives yielded an LOS D, but once preferred alternative was reached, the LOS dropped to E.
- A pedestrian/bike bridge was not considered, didn’t want to hinder usage by pedestrians and bikes by inconvenience/ease of use.
- Overlaps played large role in aiding operations.
III. Round Robin

Chad- Wondering if anyone had used battery-powered Accusense technology for stop bar detection. Washington County noted that Sensys yielded mixed results, but could be improved in later generations. Washington County noted that they were never used for advanced detection, but when installed correctly no plowing issues were noticed. Hennepin County noted that their planning department has also used them for bike counting. Sarah noted that the Iowa DOT had also used Wavetronix for intersection detection and seemed to work well.

Jon and Kristi- MnDOT ATMS will update to Intellight Maxview and will have enough licenses for all counties interested. Dakota County is looking to purchase in September.

NEXT MEETING:

Date: Wednesday, September 7th (8:00-10:00am)

Location: HDR
701 Xenia Ave S # 600,
Minneapolis, MN 55416

Topics: TBD

Minutes Submitted By: Tyler Krage
METRO System

- Light Rail Transit
  - Blue Line (2004)
  - Green Line (2014)
  - Green Line Extension (2020)
  - Blue Line Extension (2021)

- Bus Rapid Transit
  - Red Line (2013)
  - Orange Line (2019)
  - Gold Line (TBD)
Project Overview

• 11 new LRT stations
• 13.5 miles of double track
• 27,000 est. rides by 2040
• Serving Brooklyn Park, Crystal, Robbinsdale, Golden Valley, and Minneapolis
• One seat ride from Brooklyn Park to Bloomington
• New Starts Status: Project Development
### Project Timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>2014-2016</td>
<td>Project Development</td>
</tr>
<tr>
<td>2016</td>
<td>Environmental/Municipal Consent</td>
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<tr>
<td>2017</td>
<td>Engineering</td>
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<tr>
<td>2018</td>
<td>Full Funding Grant Agreement</td>
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<tr>
<td>2018-20</td>
<td>Heavy Construction</td>
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<td>2021</td>
<td>Passenger Operations</td>
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Project Funding

Current Cost Estimate: $1.496 Billion
Issue Resolution Process

IRTs → TPAC → BAC/CAC → CMC → Met Council
Issue Resolution Team (IRT)

- **IRT Members**
  - BPO Design & Planning staff
  - BPO Environmental, Development and Outreach staff
  - Engineering Consultants
  - Agency staff: Cities, County, MnDOT, Minneapolis Park & Recreation Board, Watershed Management Organizations, and Metro Transit

- **IRT Meetings**
  - Began in December 2014
W Broadway Ave (CSAH 8) Highway-Rail Grade Crossing
DEIS Layout

SIGNALIZED CROSSING WITH GATES

4100+00
Issues to be Resolved

• Provide quiet zone ready crossing
• Provide for safe pedestrian, bicycle, and vehicle crossing
• Maintain access to neighborhoods on east and west sides
• Maintain continuity of the County Road
• Limit property impacts
IRT Options – Full Crossing Closure
IRT Options – 100’ Median
IRT Options – 40’ Median
IRT Options – Roundabout 1
IRT Options – Roundabout 3
IRT Options – Roundabout 4
IRT Options – Roundabout 4A
IRT Options – Roundabout 4B
IRT Options – Roundabout 5
<table>
<thead>
<tr>
<th>Option</th>
<th>Strengths</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>100’ Median</td>
<td>• No additional ROW</td>
<td>• Partial access at Vera Cruz</td>
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<tr>
<td></td>
<td>• Continuity of County roadway</td>
<td>• Skew of railroad crossing</td>
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<td></td>
<td></td>
<td>• Safety issues due to left turns near railroad</td>
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<tr>
<td>Full Closure</td>
<td>• Reduce noise impacts</td>
<td>• Traffic diversion</td>
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<tr>
<td></td>
<td>• No additional ROW</td>
<td>• Eliminates at-grade pedestrian crossing</td>
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<td></td>
<td></td>
<td>• Roadway turnback to city</td>
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<tr>
<td>Roundabout 3</td>
<td>• Perpendicular railroad crossing</td>
<td>• Reduced continuity of county road</td>
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<tr>
<td></td>
<td>• Full vehicle access</td>
<td>• Potential turnback to city</td>
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<tr>
<td></td>
<td>• Pedestrian access</td>
<td>• ROW imapcts</td>
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<td></td>
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<td>• Safety issues due to left turns near railroad</td>
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# IRT Evaluation Process

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<tr>
<th>Option</th>
<th>Strengths</th>
<th>Weaknesses</th>
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<tr>
<td>Roundabout 4</td>
<td>• Full vehicle access &lt;br&gt;• Pedestrian access &lt;br&gt;• Improved safety at RIRO &lt;br&gt;• SB movements maintained</td>
<td>• Eliminates NB access to Welcome &lt;br&gt;• ROW impacts &lt;br&gt;• Potential turnback to city</td>
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<tr>
<td>Roundabout 5</td>
<td>• Perpendicular railroad crossing &lt;br&gt;• Full vehicle access &lt;br&gt;• Pedestrian access</td>
<td>• ROW impacts &lt;br&gt;• Reduced continuity of county road &lt;br&gt;• Potential turnback to city</td>
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IRT Preferred Option
## Intersection Operations

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<tr>
<th>Scenario</th>
<th>Average Vehicle Delay (seconds/vehicle) and Level of Service</th>
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<tr>
<td>2040 AM Peak</td>
<td>0.8 A</td>
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<tr>
<td>2040 PM Peak</td>
<td>3.1 A</td>
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Questions?
Olson Memorial Highway and 7th Street Intersection
Project Area
Issues to be Resolved

- Connection requires coordination with SWLRT
- 7th Street intersection has unique geometry
  - Skew and northbound free right-turn
- Intersection is challenging for safe pedestrian and bike access
- Intersection LOS
IRT Options
IRT Options – 1. Side Running
IRT Options – 2A. LRT in Tunnel
IRT Options – 2B. LRT in Tunnel
IRT Options – 3. Reduced Lanes
IRT Options – 6. Roadway Tunnel
IRT Options – 3A. More Reduced Lanes
IRT Options – 3B. Reduced Lanes + Track Shift
IRT Preferred Option
IRT Preferred Option
Intersection Operations

• Key movements are eastbound right-turn in the AM and northbound left-turn in the PM
• Existing signal operations have two-stage pedestrian crossings
• Proposed signal operations have one-stage pedestrian crossings
• With recommended lane geometry, LRT will operate on its own phase
• Eastbound right-turn will be allowed to be green with LRT phase, all other phases will be red
# Intersection Operations

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<tr>
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<td>2040 No Build</td>
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<td>AM Peak</td>
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<td>PM Peak</td>
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Questions?
More Information

Website: BlueLineExt.org
Email: BlueLineExt@metrotransit.org
Twitter: @BlueLineExt