Corridor Management Committee

January 14, 2016
Today’s Topics

• Regional METRO System Overview

• 2016 Project Overview: Key Activities and Milestones
  ▪ Municipal Consent Schedule
  ▪ Design Resolution Schedule

• FEIS Noise Analysis Overview

• 2016 Meeting Schedule
METRO System: All-Day, Frequent Service

- **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)
Average Green Line Daily Ridership

Green Line Passenger Trips
Weekday Average

2030 Forecast: 40,940

2014 Forecast: 26,635

2015 Forecast: 27,529
Green Line: Over $3B In Private Development

Westgate

Hamline

Fairview

Victoria
• 17 Fortune 500 Companies headquarters in Minnesota
• 16 are in the Twin Cities metro area
• 11 are on an existing or planned regional transitways
METRO System: Sports Venues

• Target Field
• Target Center
• US Bank Stadium
• TCF Bank Stadium
• Xcel Energy Center
• CHS Field
METRO System: Regional Attractions

- Mall of America
- MSP Int’l Airport
- VA Hospital
- University of Minnesota
- State Capitol
METRO System: Regional Destinations

Target North Campus
Target Field (Twins)
Target Center (Lynx/Timberwolves)
US Bank Stadium (Vikings)
General Mills
Minneapolis Convention Center
UnitedHealth Group
SuperValu
Best Buy
CH Robinson
Mall of America

Amersport Financial
Target
Trevor's Financial
US Bancorp
Xcel Energy

University of Minnesota
TCF Bank Stadium (Gophers)
Ecolab
CHS Field (St. Paul Saints)
3M
State Capitol
RiverCentre
Xcel Energy Center (Wild)

VA Medical Center
MSP International Airport

0 5 10 Miles
2016 Project Overview: Key Activities and Milestones
## Project Timeline

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

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTA Grants Entry to Project Development</td>
<td>Aug 22, 2014</td>
</tr>
<tr>
<td>Met Council Approves Municipal Consent Scope</td>
<td>Dec 9, 2015</td>
</tr>
<tr>
<td>Municipal Consent Starts</td>
<td>Dec 15, 2015</td>
</tr>
<tr>
<td>Publication of FEIS Notice of Availability</td>
<td>June 2016</td>
</tr>
<tr>
<td>Record of Decision</td>
<td>Aug 2016</td>
</tr>
<tr>
<td>Complete 30% Design</td>
<td>Q3 2016</td>
</tr>
<tr>
<td>FTA Grants Entry to Engineering</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Complete 100% Design</td>
<td>Q4 2017</td>
</tr>
<tr>
<td>Full Funding Grant Agreement</td>
<td>Q4 2017</td>
</tr>
<tr>
<td>Heavy Construction</td>
<td>2018-2020</td>
</tr>
<tr>
<td>Revenue Service</td>
<td>2021</td>
</tr>
</tbody>
</table>
## 2016 Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Municipal Consent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notice of Intent to Enter Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEIS/Record Of Decision</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Development Continuance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry to Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Municipal Consent Schedule**

Dec 15, 2015: Plans delivered to city halls, community and reference libraries; posted on project website

Jan 19, 2016: Joint Met Council/Hennepin County/HCRRA Public Hearing

**Open House**: 5:00 PM, **Public Hearing**: 6:00 PM

**Location**: Hennepin County’s Minneapolis Central Library

<table>
<thead>
<tr>
<th>City/County</th>
<th>Open House/Public Hearing</th>
<th>Committee/Council/Board Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brooklyn Park (Published)</td>
<td>Jan 25</td>
<td>Feb 22</td>
</tr>
<tr>
<td>Crystal (Published)</td>
<td>Jan 14: Open House</td>
<td>Feb 16</td>
</tr>
<tr>
<td></td>
<td>Feb 2: Public Hearing</td>
<td></td>
</tr>
<tr>
<td>Robbinsdale</td>
<td>Feb 16</td>
<td>March 2</td>
</tr>
<tr>
<td>Golden Valley (Published)</td>
<td>Feb 2</td>
<td>Feb 16</td>
</tr>
<tr>
<td>Minneapolis (T&amp;PW) (Published)</td>
<td>Feb 2</td>
<td>Feb 2</td>
</tr>
<tr>
<td></td>
<td>(Public Hearing Only)</td>
<td></td>
</tr>
<tr>
<td>Minneapolis (Council)</td>
<td>n/a</td>
<td>Feb 12</td>
</tr>
<tr>
<td>Hennepin County</td>
<td>Jan 19</td>
<td>TBD</td>
</tr>
<tr>
<td>Hennepin County Regional Railroad Authority</td>
<td>Jan 19</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**NOTE**: Dates are tentative until officially noticed by city/county.
Design Resolution Schedule: January

- Municipal Consent Check-In
- PE Plans/Schedule
- BNSF Update
- Utilities
- Bridge Design
- Noise Walls
- Pedestrian Facilities
- Grade Crossings
- Secondary Platform Access
Design Resolution Schedule: February

- Signal/Communication House Locations
- Water Resources
- Bus Stops/Passenger Drop-Off
- Station Typology
Design Resolution Schedule: March

- Noise Walls
- TPSS Locations
- Bicycle Facilities
- Fencing
- Bridge Design
Design Resolution Schedule: April/May

- Utilities
- BNSF Update
- Station Typology/Platform Design
- Landscape/Vegetation
- Lighting
- Retaining Wall Design
- Traffic
- Station Typology/Platform Design
- Station Site Plans
FEIS Noise Analysis Overview
Noise Overview

• Basics
• Criteria
• Assessment methods
• Mitigation options
• Construction
Sources of Transit Noise

• LRT
  ▪ Wheel/rail interaction
  ▪ Propulsion system
  ▪ Wheel squeal
  ▪ Horns and bells

• Stations
  ▪ Automobile and bus traffic
  ▪ Idling autos, busses
  ▪ P.A. systems

• Buses
  ▪ Diesel engine, exhaust & fans
  ▪ Traction motors (electric buses)
  ▪ Tire/roadway

• Maintenance/storage yards
  ▪ Maintenance vehicle activity
  ▪ Signal horns and bells
Source-Path-Receiver
## Typical Noise Levels

<table>
<thead>
<tr>
<th>Typical Environments</th>
<th>Ldn dBA</th>
<th>Transit/Freight Rail Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient close to Urban Freeways or Major Airport</td>
<td>85</td>
<td>Freight Rail with Horn at 20 mph 2 Loco + 50 Cars 15 Day, 9 Night</td>
</tr>
<tr>
<td>Urban Ambient</td>
<td>70</td>
<td>Freight Rail at 20 mph 2 Loco + 50 Cars 15 Day, 9 Night</td>
</tr>
<tr>
<td>Suburban Ambient</td>
<td>65</td>
<td>Rail Transit at 40 mph 6-car Trains 300 Day, 18 Night</td>
</tr>
<tr>
<td>Rural Ambient</td>
<td>45</td>
<td>Rail Transit at 20 mph 2-car Trains 300 Day, 18 Night</td>
</tr>
<tr>
<td>Wilderness Ambient</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

Source: Federal Transit Administration
Construction Noise Sources

- Diesel engines: excavators, backhoes, dozers
- Impacts: jackhammers, pile drivers, hoe-rams
- Backup alarms
## Construction Typical Noise Levels

<table>
<thead>
<tr>
<th>Typical Noise Levels at 50Ft (DBA)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pile Driver (impact)</td>
<td>101</td>
</tr>
<tr>
<td>Hoe-Ram</td>
<td>95</td>
</tr>
<tr>
<td>Jackhammer</td>
<td>88</td>
</tr>
<tr>
<td>Excavator</td>
<td>82</td>
</tr>
<tr>
<td>Backhoe</td>
<td>80</td>
</tr>
<tr>
<td>Pickup Truck</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Federal Transit Administration
Noise Assessment Inputs

• Number of cars per train
• Number of trains per hour
• Speed
• Hours of operation
• Path factors
• Track type
• Distance
Combined Transit and Roadway Projects

- Two projects assessed independently
  - Blue Line LRT Extension
  - West Broadway Ave Reconstruction: Candlewood to 94th Ave
- Combined effects of both projects (cumulative effects) will be documented in the FEIS for the Blue Line LRT
  - Will include combined LRT and traffic noise
  - Mitigation, if required, will be designed for both projects
FTA Noise Mitigation Policy

- **No Impact**
  - Mitigation not required

- **Moderate Impact**
  - Mitigation to be considered and adopted, if reasonable

- **Severe Impact**
  - Seek alternatives to avoid impacts
  - If not practical to avoid, mitigation must be considered
Potential Noise Mitigation

- **Source**
  - Vehicle noise specs
  - Lubrication/friction modification
  - Wheel truing/rail grinding
  - Vehicle design
  - Wheel treatments
  - Crossovers
  - Quiet zones
  - Wayside devices

- **Path**
  - Barriers
  - Berms

- **Receiver**
  - Sound insulation
Mitigation of Construction Noise

• Design considerations and project layout

• Sequence of construction phasing

• Alternative construction methods
Noise Analysis Status & Next Steps

• Share results of detailed noise analysis with city staff
• Discuss mitigation options/recommendations
• Document results in Final EIS; planned for publication in June 2016
• Work with city staff to develop public communications/outreach plans
2016 Meeting Schedule
2016 Meeting Schedule

• Second Thursday of the month: 1:00 to 2:30 PM
• Held at Hennepin County Brookdale Library (6125 Shingle Creek Parkway, Brooklyn Center) unless otherwise noted:
  - February 11
  - March 10 (Hennepin County Rockford Road Library, 6401 42nd Avenue N, Crystal)
  - April 14
  - May 12
  - June 9
  - July 14
  - August 11
  - September 8
  - October 13
  - November 10
  - December 8
More Information

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