Corridor Management Committee

February 4, 2015
Today’s Topics

• 2015 Look Ahead
  ▪ Design and Engineering
  ▪ Environmental
  ▪ Joint Development
  ▪ Public Involvement

• BAC/CAC Update

• Executive Change Control Board Update

• Noise and Vibration Overview
Peer “New Starts” Projects Recommended for FFGA

**February 2015 Status**

- Los Angeles, CA
- San Diego, CA
- Denver, CO
- Fort Worth, TX
- Minneapolis – St. Paul, MN Green Line Ext. (Southwest)
- Baltimore, MD Maryland/D.C.
# New Starts Project Rating

<table>
<thead>
<tr>
<th></th>
<th>SWLRT (Sept. 2011)</th>
<th>SWLRT (Nov. 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Justification Rating</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Local Commitment Financial Rating</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Overall Project Rating</td>
<td>Medium</td>
<td>Medium-High</td>
</tr>
</tbody>
</table>
Advancing the Design Process
Advancing Design from 30% to 60% Engineering

• Corridor-wide:
  ▪ Station architecture/integrated public art
  ▪ Streetscape/landscape design
  ▪ LRT track features
  ▪ Roadway and trail details
  ▪ Bridges and tunnels
  ▪ Systems elements
  ▪ Freight rail features
  ▪ ADA features
  ▪ Incorporate changes developed through environmental review process

• Unique elements:
  ▪ Operations and Maintenance Facility (OMF) in Hopkins
  ▪ Park and ride facilities
Station Design
Station Design Scope/Vision

• Provide architectural consistency with the Green Line and tie the SWLRT corridor together with a corridor-wide design approach
• Control construction and maintenance costs and learn from past projects
• Acknowledge the different communities and station sites along the SWLRT corridor
• Apply one of four identified station types based on previous public input and site observations
Four Station Types

- Landscape Station
- Neighborhood Station
- Town Square Station
- Landmark Station
Integrated Public Art
Integrated Public Art Scope

- Incorporate public art concepts into ongoing station design process
- Enhance unique identity of stations, aid in passenger wayfinding, promote transit use and community pride
- Reflect community values and histories

Green Line East Bank Station
Kenilworth Corridor Landscaping
Kenilworth Landscape Design
Scope/Vision

• Reflect existing setting of the Kenilworth corridor
• Design vegetation and landscape with trails, freight rail and light rail
• Ensure quality user experience
Design: Next Steps

• Seek appointments to advisory committees
  ▪ Station Art Committees (SAC)
  ▪ Kenilworth Landscape Design/Station Art Committee (KDLC/SAC)

• Initiate community engagement
  ▪ Hold kick-off meeting with KDLC/SAC
  ▪ Hold open houses on station prototype location and site elements

• Refine station prototype designs to reflect site and public input

• Select artists and hold kick-off meeting with the SACs

• Host public events seeking input on station design and public art design concepts
Kenilworth Channel
Bridge Design Concepts
Kenilworth Channel Bridge Design Scope

• Incorporate Section 106 process for historic properties, considerations coordinated with design process

• Reflect input received from consulting parties
  ▪ Maximize natural light between bridges
  ▪ Create more space for skiers and kayakers
  ▪ Use natural materials/dark colors

• Consider vegetation and bridge abutments along embankments

• Meet functional requirements that is tested with structural engineering
Kenilworth Channel Bridge Design
Next Steps

• Continue review with State Historic Preservation Office (SHPO) and consulting parties
• Seek public comments at open houses Q2 2015
Advancing the Environmental Process
National Environmental Policy Act and Minnesota Environmental Policy Act
Supplemental Draft Environmental Impact Statement

• SDEIS will evaluate adjustments that may result in significant adverse impact from the proposed project since publication of the DEIS, including:
  ▪ Eden Prairie alignment adjustments
  ▪ Proposed location of the operations and maintenance facility
  ▪ Kenilworth corridor/freight rail alignment
Next Steps

• **SDEIS publication (conferring with FTA)**
• **Notice of Availability starts the 45 day public comment period**
  - Document will be made available online and at public locations
  - Open House & Hearings will be held no earlier than 15 days after publication date
• **Comments from DEIS and SDEIS will be responded to in FEIS and through engineering design refinement**
• **Mitigation will be included in the FEIS and Record of Decision (ROD)**
Section 4(f) of the Department of Transportation Act
Section 4(f) Overview

- Requires consideration of publically owned parks, recreation areas and wildlife refuges and publically or privately owned historic sites during transportation project development
- Includes coordination with officials with jurisdiction
- Supplemental draft 4(f) analysis included in SDEIS
  - Updates draft analysis included in DEIS
  - Addresses adjustments made during preliminary engineering
Section 4(f) Next Steps

- Coordination with officials with jurisdiction
- Publish supplemental draft 4(f) evaluation (conferring with FTA)
- Publish final 4(f) evaluation in Final EIS
Section 106 of the National Historic Preservation Act
Section 106 Overview

• Requires federal agencies to consider effects of project on historic properties

• Includes consultation with Section 106 consulting parties
  ▪ MN State Historic Preservation Office
  ▪ Cities of Eden Prairie, Minnetonka, Hopkins, St. Louis Park, Minneapolis
  ▪ Hennepin County
  ▪ Minneapolis Park and Recreation Board
  ▪ Three Rivers Park District
  ▪ Kenwood Isles Area Association
  ▪ Cedar-Isles-Dean Neighborhood Association
Section 106 Next Steps

- Continue consultation with Section 106 Consulting Parties
- Make determinations of adverse effects on historic properties impacted by the project
- Develop Section 106 Agreement
  - Identify measures to avoid, minimize, or mitigate adverse effects
Joint Development
Joint Development Overview

• Joint Development integrates transit elements with private development
• Funded with 50% federal funds and 50% local funds
• Revenue from ground/air rights or other leases helps pay for transit operations and maintenance costs
• FTA supportive of SWLRT Joint Development efforts
• Two potential SWLRT Joint Development opportunities
  ▪ Blake Station
  ▪ Beltline Station
## Joint Development: Next Steps

<table>
<thead>
<tr>
<th>Activity</th>
<th>2015 Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define and Commence Due Diligence Activities</td>
<td>Q1</td>
</tr>
<tr>
<td>Seek input from real estate community and the public (Station design open houses)</td>
<td>Q1-Q2</td>
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<tr>
<td>Secure City, local funding partners and Met Council Approval</td>
<td>Q3</td>
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<tr>
<td>Release Request for Interest (RFI) for Real Estate Developers</td>
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Public Involvement
# 2015 Public Involvement Overview*

## Activities

<table>
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<tr>
<th>Activities</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
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<td>Integrated Public Art</td>
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## Advisory Committees

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<th>July</th>
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<th>Sept</th>
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*All schedules are subject to change
BAC/CAC Update
Southwest LRT Committee Structure

- Metropolitan Council
- Southwest LRT Corridor Mgmt Committee
- Southwest Project Office

Shared Advisory Committees
- CAC, BAC

Supporting Committees

- Hennepin County
- Community Works Steering Committee
- Technical Implementation Committee
Advisory Committee Leadership

• CAC Co-Chairs:
  ▪ Jennifer Munt, Metropolitan Council
  ▪ Russ Adams, Alliance for Metropolitan Sustainability

• BAC Co-Chairs:
  ▪ Daniel Duffy, TwinWest Chamber
  ▪ Will Roach, Minneapolis Regional Chamber
Advisory Committee Next Steps

- Feb 12: Hold joint BAC/CAC kick-off
- Week of Feb 23: Resume regular meetings
Executive Change Control Board Update
Executive Change Control Board (ECCB)

• Purpose:
  - Ensure compliance with the contingency management process called for in the CTIB and HCRRA full funding commitment resolutions
    - Approve change orders, project requirements, contracts and contract cost increases > $250,000
    - Approve scope deferrals and LRCI > $75,000
    - Review at regular intervals all change orders < $250,000
Locally Requested Capital Investment Criteria for Local Funding*

- Improve benefits to the regional system
- Improve connectivity to the community by increasing ridership
- Increase safety and security for patrons
- Reduce operating costs

*LRCI must meet one or more criteria
Locally Requested Capital Investment

- LRCIs being funded locally for both design and construction
- ECCB identified 14 of those LRCIs as eligible for funding if FTA allows use of project contingency
  - Requires ECCB approval
## Locally Requested Capital Investment

<table>
<thead>
<tr>
<th>Improvement Type</th>
<th>Eden Prairie</th>
<th>Minnetonka</th>
<th>Hopkins</th>
<th>St. Louis Park</th>
<th>Mpls.</th>
<th>Hennepin Co.</th>
<th>Total</th>
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<tbody>
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<td>Roadway Improvements</td>
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<td>--</td>
<td>--</td>
<td>5</td>
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<td>Streetscape/Landscape/Aesthetic</td>
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<td>--</td>
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<td>--</td>
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<td>1</td>
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<td>0</td>
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<td>Grading and Retaining Walls</td>
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<td></td>
<td></td>
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<td>2</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>14</td>
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Colors identify LRCI requestor on following maps
Southwest LRT Locally Requested Capital Investments (LRCIs): Eden Prairie

29 Jan. 2015
Noise and Vibration Overview
Background

• Conducted additional noise and vibration analysis for incorporation into the Supplemental Draft Environmental Impact Statement (SDEIS)

• Based on FTA Noise and Vibration Impact Assessment methodology and criteria

• Information in the 2012 DEIS still applies for areas without new impacts and/or not included in the SDEIS
How is Noise Assessed?

• Compares existing noise levels with predicted noise levels due to project
• Considers source, pathway and receiver
• Takes into account noise sensitivity of receiver by land use category, including:
  ▪ Category 1: Quiet is an essential element for intended purpose. Includes outdoor amphitheaters, recording studios and concert halls.
  ▪ Category 2: Residences and other places where people normally sleep. Includes homes, hospitals and hotels.
  ▪ Category 3: Institutional land uses with primary daytime and evening use. Includes schools, churches & other places with daytime use.
How is Noise Assessed?
Noise Levels for LRT and Freight Trains

<table>
<thead>
<tr>
<th>Distance</th>
<th>LRT @ 45 mph (dBA)</th>
<th>Freight Rail @ 20 mph (dBA)</th>
<th>Other Sources (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 feet</td>
<td>76</td>
<td>88</td>
<td>Lawnmower: 72</td>
</tr>
<tr>
<td>100 feet</td>
<td>71</td>
<td>83</td>
<td>Bus Idling: 66</td>
</tr>
<tr>
<td>200 feet</td>
<td>66</td>
<td>78</td>
<td>Diesel Generator: 67</td>
</tr>
</tbody>
</table>

Table represents maximum noise level for a single event.

dBA = A-weighted decibel: Measurement taken during monitoring that describes a receivers noise at any moment in time
Eden Prairie Noise Analysis
~Mitchell Station to Town Center Station

• 2 moderate noise impacts and one severe noise impact without mitigation
  ▪ Baymont Inn and Residence Inn on Flying Cloud Drive
  ▪ Optum facility on Technology Drive – analysis pending results from monitoring

• Due to nearby at-grade crossing and proximity to LRT alignment
Minneapolis/St. Louis Park Noise Analysis
~ Louisiana Station to Van White Station

• 66 moderate noise impacts and 3 severe noise impacts without mitigation
  ▪ Mostly due to proximity to LRT alignment
  ▪ Impacts near Thomas Ave S, Upton Ave S and 21st St would also be due to noise from grade crossing and LRT bells and station activity
# Minneapolis/St. Louis Park Noise Analysis
~ Louisiana Station to Van White Station

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance from near LRT Track Centerline (feet)</th>
<th>LRT Speed (mph)</th>
<th>Existing Noise Level (dBA)</th>
<th>Project Noise Level for LRT</th>
<th>Criteria</th>
<th>Type and # of Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railroad Avenue</td>
<td>50</td>
<td>55</td>
<td>58</td>
<td>64</td>
<td>57</td>
<td>6</td>
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<tr>
<td>Camerata Way</td>
<td>50</td>
<td>55</td>
<td>64</td>
<td>64</td>
<td>60</td>
<td>32</td>
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<tr>
<td>Burnham Road N</td>
<td>50</td>
<td>45</td>
<td>61</td>
<td>64</td>
<td>58</td>
<td>6</td>
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<tr>
<td>Thomas Avenue S</td>
<td>50</td>
<td>35</td>
<td>56</td>
<td>66</td>
<td>56</td>
<td>16</td>
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<tr>
<td>Upton Avenue S</td>
<td>125</td>
<td>40</td>
<td>56</td>
<td>59</td>
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<td>6</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>66</td>
<td>3</td>
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</tbody>
</table>

Noise levels for each location are the highest levels projected for that location.
How is Vibration Assessed?

- Compares levels predicted to be generated by project with appropriate criteria
- Considers source, pathway and receiver
- Takes into account the vibration sensitivity of the receiver by land use category:
  - Category 1: Highly vibration sensitive, such as manufacturing facilities and hospitals
  - Category 2: Residences and other places where people sleep, such as hotels and hospitals
  - Category 3: Institutional, such as schools and churches
How is Vibration Assessed?
Typical Vibration Levels

- **VdB = Vibration decibel**
  - The maximum vibration level in terms of velocity – the standard measure of vibration for human response

<table>
<thead>
<tr>
<th>Human/Structural Response</th>
<th>Vibration Level (VdB)</th>
<th>Transit/Freight Rail Sources at 50 ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold, minor cosmetic damage to fragile buildings</td>
<td>100</td>
<td>Blasting from construction projects</td>
</tr>
<tr>
<td>Difficulty with tasks such as reading a CRT screen</td>
<td>90</td>
<td>Bulldozers and other heavy-tracked construction equipment</td>
</tr>
<tr>
<td>Residential annoyance, infrequent events (e.g. commuter rail)</td>
<td>80</td>
<td>Freight rail, upper range</td>
</tr>
<tr>
<td>Residential annoyance, frequent events (e.g. rapid transit)</td>
<td>70</td>
<td>Commuter rail, upper range</td>
</tr>
<tr>
<td>Limit for vibration sensitive equipment. Approx. threshold for human perception of vibration</td>
<td>60</td>
<td>Rapid transit, upper range</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rapid transit, typical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bus or truck, typical</td>
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<tr>
<td></td>
<td></td>
<td>Typical background vibration</td>
</tr>
</tbody>
</table>
## Vibration Generated by LRT and Freight Trains

<table>
<thead>
<tr>
<th>Distance</th>
<th>LRT Vib (VdB)</th>
<th>LRT GBN (VdB)</th>
<th>Freight Rail Vib (VdB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 feet</td>
<td>71</td>
<td>39</td>
<td>88</td>
</tr>
<tr>
<td>100 feet</td>
<td>66</td>
<td>34</td>
<td>82</td>
</tr>
<tr>
<td>200 feet</td>
<td>58</td>
<td>26</td>
<td>76</td>
</tr>
</tbody>
</table>

Vib = Vibration  
VdB = Vibration decibel  
GBN = Ground borne noise
Eden Prairie Vibration Analysis
~Mitchell Station to Town Center Station

- No vibration impacts
- Auditorium at the Optum facility on Technology Drive identified as sensitive receptor
  - Analysis pending results from monitoring
Minneapolis/St. Louis Park Vibration Analysis
~ Louisiana Station to Van White Station

• No vibration impacts
• 54 ground-borne noise impacts without mitigation in the area along the tunnel
  ▪ Ground borne noise is low frequency noise that is radiated through the ground to adjacent buildings due to the train passing
## Minneapolis/St. Louis Park Vibration Analysis

~ Louisiana Station to Van White Station ~

<table>
<thead>
<tr>
<th>Location</th>
<th>Distance from near LRT Track Centerline (feet)</th>
<th>LRT Speed (mph)</th>
<th>Ground-Borne Noise Level (dBA)</th>
<th>Project Ground-Borne Level</th>
<th>Impact Criterion</th>
<th># of Impacts</th>
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<tr>
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<td>Dean Court</td>
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Noise and Vibration: Next Steps

• Include updated analysis in the SDEIS
• Complete noise and vibration impact analyses based on engineering design refinement
• Identify measures to avoid, minimize, or mitigate impacts through advancing design
• Consult with impacted parties on potential impacts and mitigation
• Include detailed analyses and committed mitigation measures in Final Environmental Impact Statement
More Information

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SWLRT@metrotransit.org

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