Today’s Topics

• Welcome
• Resolution Thanking Commissioner Dorfman
• October 9, 2013 CMC Project Scope and Budget Recap
• Resolution of Support: Downtown Hopkins Station
• Southwest Station Update
• Responses to February 20 CMC Meeting
• Shallow Tunnel Update
• Surface Transportation Board Staff Meeting Update
• Railroad/Shippers’ Comments
• Communications/Outreach Update
• Adjourn
October 9, 2013 CMC
Project Scope and Budget Recap
SWLRT Project Development Technical Issues

Revision 04: 28 May 2013

Technical Issues:
1. Eden Prairie Alignment
2. Nine Mile Creek Crossing
3. Golden Triangle Station
4. Shady Oak Road & TH 212 Crossing
5. City West Station & TH 62 Crossing
6. Opus Station
7. Opus Hill/Minnetonka-Hopkins Bridge
8. Shady Oak Station

9. PEC West/PEC East Interface Point

10. Downtown Hopkins Station
11. Excelsior Blvd. Crossing
12. Blake Station
13. Louisiana Station
14. Wooddale Station
15. TH 100
16. Beltline Station
17. West Lake Station
18. Kenilworth Corridor
19. Bassett Creek Valley Corridor
20. Royalston Station/Interchange Project Coordination
21. Freight Rail Co-location/Relocation Alternatives

System-wide Technical Issues (not shown):
22. Traction Power Substation and Signal Bungalow Locations
23. Operation & Maintenance Facility (OMF) Location
24. Park & Ride, Kiss & Ride and Bus Layover Locations
25. Trails and LRT Interface Coordination
SWLRT PD Technical Issues
Technical Issues: 2-20, 22, 24 and 25

• At it’s October 9 meeting, the CMC voted to recommend to the Council as presented to the CMC on August 7 and August 28, 2013
Technical Issues: 2013 CMC Actions

• At it’s September 4 meeting, the CMC voted to recommend to the Council:
  - TI #1: Eden Prairie Alignment: Comp Plan Alignment to Southwest Station
  - TI #21: Removal of the Deep Bore LRT Tunnel option from further consideration

• At it’s September 11 meeting, the CMC voted to recommend to the Council:
  - TI #23: Hopkins Site 9A for the OMF location

• At it’s October 9 meeting, the CMC voted to recommend to the Council:
  - TI #21: Shallow LRT tunnels through the Kenilworth Corridor
Project Budget Recommendation

- SWLRT Base Project $1.390 B
- Freight Rail
  - Common Elements $.090 B
  - Kenilworth Shallow LRT Tunnel $.160 B
- Scope/Cost Reductions ($0.087 B)
- SWLRT Adjusted Budget $1.553 B*

*Includes 27% contingency allowance
TI #23: Operations and Maintenance Facility (OMF) Update
Hopkins: Downtown Hopkins Station

- Provide additional amenities
  - Landscape and hardscape elements
  - Enhanced bike facilities

- Prioritize additional civic plaza elements as contingency funds are available

- Identify non-project funding to help implement the ARTery project along 8th Ave from the station platform to Mainstreet
Downtown Hopkins Station

- Parking facility incorporates TOD redevelopment opportunities
- Compliments historic Mainstreet district and ARTery plans
- Improves pedestrian and bicycle facilities
- Proposed $7 M CMAQ grant is matched with $1.75 M of local funds
Resolution of Support:
Downtown Hopkins Station CMAQ Funding Request
TI #1: Southwest Station Update
October 9, 2013 CMC Resolution

• Calls on SPO to design SWLRT so as not to preclude a future LRT extension from Southwest Station to Mitchell Road
Southwest Station: Concept #5

CONCEPT SECTION A-A

RECONFIGURED SW TRANSIT BUS OPERATIONS

POTENTIAL BMP

6x3x4 HEATED SHELTER, ETC

SHARED SWIFT AND SWT BUS PLATFORM

WEST EXPANSION TO PARKING STRUCTURE 36 SPACES ON G 138 SPACES ON 1-3

450 TOTAL SPACES

KISS & RIDE ENTRY/EXIT

MAIN PARKING ENTRY/EXIT

POTENTIAL TRACK ADJUSTMENT

ANCHOR BANK

EXISTING SOUTHWEST TRANSIT PARKING RAMP

SHORT TERM KISS & RIDE PARKING SPACES (L2 TOTALL)

STRIP MALL

SANTORINI

DRAFT WORK IN PROCESS
Southwest Station: Concept #5

- **Reconfigured SW Transit Bus Operations**
- **Potential BMP**
  - 6'x24' Heated Shelter, TYP
  - Shared SWLRT and SWT Bus Platform
- **West Expansion to Parking Structure**
  - 90 Spaces on G
  - 192 Spaces on 1-5
  - **1050 Total Spaces**
- **Main Parking Entry/Exit**
- **Existing Southwest Transit Parking Ramp**
  - **Short Term Kiss & Ride Parking Spaces (36 Total)**
  - **Strip Mall**

**Notes:**
- Draft work in process.
February 20 CMC Questions
Freight Rail Relocation Draft Report Discussion

- Safety considerations
- Property impacts
- Cost
- Railroad operational considerations
- Developable land
- Additional community considerations
# Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Safety Considerations</th>
<th>Kenilworth LRT Shallow Tunnels (Co-location)</th>
<th>MN&amp;S North (Relocation)</th>
</tr>
</thead>
</table>
| **Freight Rail**       | 4 FR at-grade crossings (existing and proposed):  
  • Wooddale  
  • Beltline  
  • Cedar Lake  
  • 21st  
  • ADT: 33,600 | 6 FR at-grade crossings (existing):  
  • Walker  
  • Library  
  • Lake  
  • Dakota  
  • 29th  
  • 28th  
  • ADT: 15,000 | 2 FR at-grade crossings (proposed):  
  • Library  
  • Dakota |

ADT: Average Daily Traffic
## Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Safety Considerations</th>
<th>Kenilworth LRT Shallow Tunnels (Co-location)</th>
<th>MN&amp;S North (Relocation)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LRT</strong></td>
<td>2 LRT at-grade crossings with FR:</td>
<td>3 LRT only at-grade crossings at roadways:</td>
</tr>
<tr>
<td></td>
<td>• Wooddale</td>
<td>• Wooddale</td>
</tr>
<tr>
<td></td>
<td>• Beltline</td>
<td>• Beltline</td>
</tr>
<tr>
<td></td>
<td>FR at station areas:</td>
<td>• 21&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>• Wooddale</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Beltline</td>
<td>No FR at station areas:</td>
</tr>
<tr>
<td></td>
<td>• West Lake</td>
<td>• Wooddale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Beltline</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• West Lake</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 21st</td>
</tr>
</tbody>
</table>
At-Grade Freight Rail Crossings Map

Wayzata Subdivision
Owner: BNSF
Operator: BNSF

MN&S North (Relocation)

28th Street

29th Street

MN&S Spur
Owner: CP
Operator: CP/TC&W

Library Ln

West Lake Street

Dakota Ave

Walker Street

Wooddale Ave

Beltline Blvd

Cedar Lake Pkwy

21st Street

Kenilworth LRT Shallow Tunnel (Co-location)

Bass Lake Spur
Owner: CP
Operator: TC&W/CP

Kenilworth Corridor
Owner: HCRRA
Operator: TC&W
At-Grade Freight Rail Crossings Map
TranSystems’ Concept MN&S North Relocation

- Surface Parking to be realigned
- 5° Curve 660' in length
- West Lake St to be realigned
- Walker St to be closed
- Proposed #15 LH turnout
- Existing overhead electric not to be disturbed
- End structure at STA 170+00
- Total structure length = 3600'
- MN 7 Service Rd
- 880' tangent track
- Power substation wall to be adjusted
- 5° Curve 1055' in length
- Potential bus accessway
- Proposed alignment east wye segment
## Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Proximity to Proposed Freight Rail Track Route</th>
<th>Kenilworth LRT Shallow Tunnels* (Co-location)</th>
<th>MN&amp;S North** (Relocation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of school buildings within 150’ of FR tracks</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Number of residential units within 150’ of FR tracks</td>
<td>750</td>
<td>240</td>
</tr>
</tbody>
</table>

*Along Bass Lake Spur/Kenilworth Corridor from Louisiana Ave. to Cedar Lake Junction
** Along proposed MN&S North route/BNSF from Louisiana Ave. to Cedar Lake Junction
## Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Property Impacts*</th>
<th>Kenilworth LRT Shallow Tunnels (Co-location)</th>
<th>MN&amp;S North (Relocation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full permanent acquisitions requiring relocation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Residential</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>• Private Business</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>• Schools</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

*Numbers do not include acquisitions required for LRT Louisiana Station or Southerly Connection, which are common to both options
# Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Cost (M) ($YOE)</th>
<th>Kenilworth LRT Shallow Tunnels (Co-location)</th>
<th>MN&amp;S North (Relocation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Cost</td>
<td>$150 - $160</td>
<td>$130 - $140</td>
</tr>
<tr>
<td>Common Elements</td>
<td>$85 - $90</td>
<td>$90 - $100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$235 - $250</td>
<td>$220 - $240</td>
</tr>
</tbody>
</table>
TranSystems’ MN&S North Concept
Unaccounted Costs: $20 - $25 M*

• Additional retaining walls for LRT: $2 - $3M
  › Blake to Louisiana
• Additional Right-of-Way: $12 - $15M
  › Skunk Hollow Rail Customer
  › Property along North Frontage Road
  › 27th Street Properties
• Bass Lake Spur/Kenilworth freight track removal: $1M
  › MN&S to Cedar Lake Junction
• North Cedar Lake Trail Bridge (Iron Triangle): $5 - $6M

* NOTE: does not include Xcel substation impacts
# Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Capital Cost (M) ($YOE)</th>
<th>Kenilworth LRT Shallow Tunnels (Co-location)</th>
<th>MN&amp;S North (Relocation)</th>
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</thead>
<tbody>
<tr>
<td>Base Cost</td>
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</tr>
<tr>
<td>Common Elements</td>
<td>$85 - $90</td>
<td>$90 - $100</td>
</tr>
<tr>
<td>TranSystems’ Safety Recommendations</td>
<td>$5-$10</td>
<td>Included in Base Cost</td>
</tr>
<tr>
<td>Unaccounted Costs*</td>
<td></td>
<td>$20 - $25</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$240 - $260</td>
<td>$240 - $265</td>
</tr>
</tbody>
</table>

* NOTE: does not include Xcel substation impacts
### Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Operating Cost Considerations</th>
<th>Kenilworth LRT Shallow Tunnels (Co-location)</th>
<th>MN&amp;S North (Relocation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased operations and maintenance costs for ventilation, lighting and other tunnel systems</td>
<td>Maintenance costs for an additional 5,400 LF of FR bridge structure and 81,000 square feet of FR retaining walls</td>
<td></td>
</tr>
</tbody>
</table>
Freight Rail Operations – MN&S North
Freight Rail Operations – MN&S North

25 Car Train
1600' Long

MN&S North
TranSystems' Concept

Louisiana Station

Wooddale Station
Freight Rail Operations – Kenilworth

- 120 Train Cars
  - 8000' Long

- Kenilworth Corridor
  - Owner: HCRRA
  - Operator: TC&W
Freight Rail Operations – Kenilworth

Kenilworth Corridor
Owner: HCRRA
Operator: TC&W

25 Train Cars
1600' Long

West Lake Station

Penn Station

394
## Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Developable Land</th>
<th>Kenilworth LRT Shallow Tunnels (Co-location)</th>
<th>MN&amp;S North (Relocation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility of Joint Development (JD) concept of PnR over rail corridor with FR at Beltline station decreases possibly requiring PnR to locate on 2 acres of land otherwise available for redevelopment</td>
<td><strong>Net impact:</strong> reduction of 2 acres of developable land</td>
<td>Removal of FR from transit corridor could open up approx. 1 acre of land for redevelopment at Wooddale and about 3 acres of land combined at Beltline and West Lake for a total of approx. 4 acres</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loss of approx. 3 acres of developed land due to full property impacts of reroute</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feasibility of JD concept of PnR over rail corridor without FR at Beltline increases approx. 2 acres of land for redevelopment</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Net impact:</strong> addition of approx. 3 acres of developable land</td>
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</tbody>
</table>
## Freight Rail Location Comparison

<table>
<thead>
<tr>
<th>Additional Community Considerations</th>
<th>Kenilworth LRT Shallow Tunnels (Co-location)</th>
<th>MN&amp;S North (Relocation)</th>
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<tbody>
<tr>
<td></td>
<td>CMC Discussion</td>
<td></td>
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</table>
Shallow Tunnel Update
Feb 5, 2014 Minneapolis Park and Recreation Board Resolution

• Requests SPO to conduct a detailed engineering feasibility study and cost comparison of tunneling under the Kenilworth Channel as part of the shallow LRT tunnels option
Shallow LRT Tunnels

Begin Tunnel

End Tunnel

Approx. 2,200'

Approx. 2,500'

Kenilworth Corridor
Owner: HCRRA
Operator: TC&W

West Lake Station
Kenilworth Shallow LRT Tunnel
Kenilworth Shallow LRT Tunnel – Under Channel
LRT Tunnel Under Channel - Short

Begin Tunnel

End Tunnel

Approx. 3,100'

21st St Station

Kenilworth Corridor
Owner: HCRRA
Operator: TC&W
Metro Transit
St. Louis, Missouri
Cross-County Extension Project
WMATA - Metrorail Blue Line Extension to Largo, Maryland
Wiener Linien (Vienna Lines)
Vienna, Austria
U-Bahn - U1 Extension
Winnipeg Transit
Winnipeg, Canada
Southwest Transitway
Deep Tunnel Under Kenilworth Channel

• Requires extensive retaining walls and bracing to support tunnel excavation
• Access to channel temporarily blocked during summer and winter conditions during construction
• Requires re-vegetation of channel embankments after the tunnel is constructed
• Requires additional one year of construction
• Requires additional cost:
  - Long Tunnel: $65 - $85M
  - Shorter Tunnel: $30 - $40M
Surface Transportation Board Staff Meeting Recap
Railroad/Shippers’ Comments
Communications and Outreach Update
Communications and Outreach Update

- Business Advisory Committee Report
- Community Advisory Committee Report
- Public comments received on draft reports
More Information

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