Corridor Management Committee

June 12, 2013
Today’s Topics

• Project Development Technical Issues (TI)
  – Freight Rail: Co-location / Relocation Options
  – SWLRT Stations: Louisiana, Beltline, West lake, and 21st Street
  – TH 100 and Cedar Lake Parkway

• Communications and Outreach Update
  – Joint BAC / CAC Report
# 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

### System-wide Technical Issues (not shown):

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  
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
SWLRT PD Technical Issues

Freight Rail: Co-location / Relocation Options

SWLRT Stations: Louisiana, Beltline, West Lake, and 21st Street

TH 100 and Cedar Lake Parkway
Technical Issue #21: Freight Rail Co-location / Relocation
Freight Rail Technical Issue #21

- **Background:**
  - Co-location and relocation analysis required by FTA as a condition to enter PE
  - Part of the Metropolitan Council’s due diligence and responsibility as project sponsor
Freight Rail Technical Issue #21

• Review existing information
  ▪ Freight Rail lines
  ▪ Train volumes

• Technical Issue overview

• Freight Rail co-location design options

• Freight Rail relocation design options
Freight Rail Technical Issue #21
## Freight Rail Technical Issue #21
### Existing Train Volumes

<table>
<thead>
<tr>
<th>Railroad and Route</th>
<th>Avg. Weekly Trains</th>
<th>Avg. Number of Cars Per Train</th>
<th>Typical Commodities</th>
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</thead>
<tbody>
<tr>
<td>TC&amp;W/ Bass Lake and Kenilworth</td>
<td>14</td>
<td>65 – 75</td>
<td>Agri-goods</td>
</tr>
<tr>
<td></td>
<td>5 – 6</td>
<td>80 – 125</td>
<td>Ethanol, Grain, Coal</td>
</tr>
<tr>
<td>CP/ MN&amp;S</td>
<td>10</td>
<td>10 – 25</td>
<td>Local Services</td>
</tr>
<tr>
<td>BNSF/ Wayzata Subdivision</td>
<td>91</td>
<td>80 – 125</td>
<td>Wide Variety</td>
</tr>
</tbody>
</table>
Freight Rail Technical Issue #21 - Overview

Wayzata Subdivision
Owner: BNSF
Operator: BNSF

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

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

Kenilworth Corridor
Owner: HCRRA
Operator: TC&W

Map showing locations including:
- Louisiana Station
- Wooddale Station
- Beltline Station
- West Lake Station
- Cedar Lake Pkwy
- Burnham Rd
- Midtown Greenway
- W Lake St
- 21st Street Station
- Penn Station

Map indicates close proximity of stations and lines, with annotations for ownership and operation details.
Freight Rail Co-Location – Kenilworth Corridor

Kenilworth Corridor
Owner: HCRRA
Operator: TC&W
Kenilworth – Existing Right-of-Way Widths

Kenilworth Corridor
Owner: HCRRRA
Operator: TC&W

42’ + 56’ (BNSF) = 98’
Freight Rail Technical Issue #21

• Freight Rail Co-location Design Options
  ▪ All modes at-grade
  ▪ Trail relocated
  ▪ Trail elevated
  ▪ LRT elevated
  ▪ LRT in tunnel
    ▪ Shallow tunnel
    ▪ Deep bored tunnels
All Modes At-Grade - 94 ft Section
All Modes At-Grade – 94 ft Typical Sections

Kenilworth Corridor
Owner: HCRRA
Operator: TC&W
All Modes At-Grade - Typical Section A-A’
All Modes At-Grade - Typical Section B-B’
All Modes At-Grade - Typical Section C-C’
All Modes At-Grade - Typical Section D-D’
Freight Rail Technical Issue #21

- Freight Rail Co-location Design Options
  - All modes at-grade
  - Trail relocated – Midtown Greenway to Cedar Lake Pkwy.
  - Trail elevated – West Lake Station to North side of Burnham Bridge
  - LRT elevated – Lake Street Bridge to North side of Burnham Bridge
  - LRT in tunnel
    - Shallow tunnel: Lake Street Bridge to North of Cedar Lake Pkwy.
    - Deep twin bored tunnels: West of West Lake Station to South of 21st Street Station
Additional Design Options – Typical Section B-B’
Trail Relocated - Typical Section B-B’
Trail Elevated - Typical Section B-B’
LRT Elevated - Typical Section B-B’
LRT in Shallow Tunnel - Typical Section B-B’

- **EXISTING TOWNHOME**
  - Width: 16.0’
  - Depth: 11.3’
  - Height: 5.1’

- **EXISTING ROW**
  - Distance: 25.0’

- **EXISTING TRAIL ROW**
  - Distance: 25.0’

- **PROPOSED SHALLOW TUNNEL**
  - Length: 2,800’
  - Width: 21.0’
  - Height: 8.5’
  - Depth: 3.7’

- **TOTAL SHALLOW TUNNEL LENGTH**
  - Total: 2,800’
LRT in Deep Twin Tunnels-Typical Section B-B’

**Total Tunnel Length**

= 6,400’

BoRED TUNnel LENGTH = 4,100’

**30’ Typical 50’ Max Under Channel**
Freight Rail Co-Location – Kenilworth Corridor

Freight Tracks
Propose to be Re-aligned

Proposed SWLRT Tracks

Begin Excavation
Bored Tunnels

West Lake Street

Cedar Lake
Trail Proposed
to be Re-aligned

Limits of
Excavation of
Bored Tunnel Pit

Begin Elevated Trail

Begin Bored Tunnels

Proposed Midtown Corridor
(by others)
Freight Rail Co-Location – Kenilworth Corridor

- Begin Bored Tunnels
- Proposed SWLRT Tracks
- Proposed Midtown Corridor (by others)
- End Shallow Tunnel
- Midtown Greenway Trail
- Cedar Lake Pkwy
- Proposed to be Re-aligned
- Kenilworth Trail Proposed to be Re-aligned
- Cedar Lake
- West Lake Street

LEGEND:
- EXISTING RIGHT-OF-WAY
- CENTERLINE FREIGHT
- CENTERLINE LRT
- SECTION LIMITS
- PROPOSED RIGHT-OF-WAY
- PARTIAL PROPERTY ACQUISITION
- TOTAL PROPERTY ACQUISITION
Freight Rail Co-Location – Kenilworth Corridor

- Proposed SWLRT Tracks
- Proposed to be Re-aligned Freight Tracks
- Limits of Excavation for Bored Tunnels
- End Bored Tunnels
- Kenilworth Trail Proposed to be Re-aligned
- End Elevated LRT
- Burnham Rd.
- Cedar Lake
- End Elevated Trail
- 21ST STREET STATION
- Proposed SWLRT Tracks
- Limits of Excavation for Bored Tunnels
- End Excavation Bored Tunnels
Freight Rail Co-Location – Kenilworth Corridor

- Proposed SWLRT Tracks
- Proposed Trail Bridge Over Freight and LRT Tracks
- BNSF Wayzata Subdivision Freight Tracks
- Proposed Access to Penn Station
- Freight Tracks Proposed to be Re-aligned
- Kenilworth Trail Proposed to be Re-aligned
Freight Rail Technical Issue #21

• Freight Rail Relocation Design Options
  ▪ Modified MN&S connection
  ▪ Brunswick West
  ▪ Brunswick Central
Modified MN&S Connection
Brunswick West Alignment
Brunswick Central Alignment
Brunswick West Alignment

Proposed Freight Relocation Connection

Proposed Southerly Freight Connection

Proposed Southwest LRT
Brunswick West Alignment

- Proposed Southwest LRT
- Proposed Southerly Freight Connection
- Proposed Cul-de-Sac
- Proposed Walker St. Connection
- Proposed West Lake St. Re-alignment
- Proposed Dakota Ave Re-alignment
- Proposed Southerly Freight Connection
- Proposed MN&S Freight Connection
- Cedar Lake Trail
- Existing Bass Lake Spur – Proposed to be Removed
- Proposed Freight Relocation Connection

Legend:
- Yellow: Partial Property Acquisition
- Red: Total Property Acquisition
Brunswick West Alignment

Proposed West Lake St. Re-alignment

Existing MN&S Spur: Proposed to be Relocated Between the Cedar Lake Trail and W. 33rd Street

Proposed Dakota Ave Re-alignment

Proposed MN&S Freight Connection

Proposed Wooddale Ave Re-alignment

MN&S Spur: Proposed to be Re-aligned
Brunswick West Alignment – Typical Section A-A’
Brunswick West Alignment – Typical Section C-C’
Brunswick Central Alignment

Proposed Southerly Freight Connection

Proposed Southwest LRT

Louisiana Ave.

BASS LAKE SPUR

Oxford St.
Brunswick Central Alignment

- Proposed Southwest LRT
- Proposed Walker St. Connection
- Frontage Road
- Proposed Roadway Re-alignment
- Proposed Roadway Re-grading
- Proposed Dakota Ave Re-alignment
- Proposed Southerly Freight Connection
- Proposed MN&S Freight Connection
- Existing Bass Lake Spur Proposed to be Removed
- Proposed Dakota Ave Re-alignment

Legend:
- Partial Property Acquisition
- Total Property Acquisition
Brunswick Central Alignment

Existing MN&S Spur: Proposed to be Relocated Between the Cedar Lake Trail and W. 33rd Street

Proposed Dakota Ave Re-alignment

Proposed Wooddale Ave. S. Re-grading

Proposed MN&S Freight Connection

Proposed Road Closure
Brunswick Central Alignment – Typical Section A-A’
Brunswick Central Alignment – Typical Section B-B'
Brunswick Central Alignment – Typical Section C-C’
Brunswick Central Alignment – Typical Section D-D’
Brunswick Central Alignment – Typical Section E-E'
Brunswick West/Central Alignments: Property Impacts Common to Both Options
Brunswick Alignment:
Segment Common to Both West and Central Options

MN&S Spur: Proposed to be Re-aligned

Roadways Proposed to be Re-graded to Accommodate At-grade Crossing at Freight Tracks
Brunswick Alignment
Segment Common to Both West and Central Options
Brunswick Alignment – Typical Section F-F’
Brunswick Alignment – Typical Section G-G’
Brunswick Alignment – Typical Section H-H’
Brunswick Alignment – Typical Section I-I’
Freight Rail Technical Issue #21

• Presentations to Date: Review co-location and relocation designs / seek input
  – St. Louis Park School Board – May 28
  – Minneapolis Transportation & Public Works Committee – June 4
  – Special Joint SWLRT Business/Community Advisory Committee – June 6
Freight Rail Technical Issue #21

• Next Steps

  – SWLRT Corridor Management Committee – June 12
  – Public Open Houses – June 13
  – Develop cost estimates/Continue design refinement – environmental evaluation – June/July
  – Present recommended design option
    o Business Advisory Committee – July 24
    o Community Advisory Committee – July 25
    o SWLRT Corridor Management Committee – August 7
    o Metropolitan Council – August
  – Continue design refinement – environmental evaluation
SWLRT Stations: Louisiana, Beltline, West Lake, and 21st Street

TH 100 and Cedar Lake Parkway
SITE DATA

SITE AREA (NORTH OF PLATFORM): 2.6 ACRES

SURFACE PARKING:
- 216 SPACES (EXISTING)
- 131 SPACES (REMAINING)
- 86 SPACES (REMOVED)

SITE AREA (EAST OF LRT TRACK): 4.4 ACRES (USING PARTS OF 3 PARCELS)

SURFACE PARKING: 220 SPACES

*PARKING REQUIRED TO BE DETERMINED BY NUMBER OF PARK-AND-RIDE LOCATIONS AND POTENTIAL DEVELOPMENT
SITE DATA

SITE AREA (NORTH OF PLATFORM): 2.6 ACRES

SURFACE PARKING:
- 216 SPACES (EXISTING)
- 131 SPACES (REMAINING)
- 86 SPACES (REMOVED)

SITE AREA (EAST OF LRT TRACK): 4.4 ACRES (USING PARTS OF 3 PARCELS)

SURFACE PARKING: 220 SPACES

*PARKING REQUIRED TO BE DETERMINED BY NUMBER OF PARK-AND-RIDE LOCATIONS AND POTENTIAL DEVELOPMENT
SITE DATA

SITE AREA (OPTION 1): 4.8 ACRES
SURFACE PARKING: 477 SPACES
SURFACE PARKING (OPTION 2): 220 SPACES

*PARKING REQUIRED TO BE DETERMINED BY NUMBER OF PARK-AND-RIDE LOCATIONS AND POTENTIAL DEVELOPMENT
SITE DATA

SITE AREA: 2.0 ACRES (HCRRM PROPERTY)
0.7 ACRES (RAMP OVER ADJACENT PROPERTY)

PARKING STRUCTURE:
LEVEL PLATE, SPEED RAMP DESIGN
AT GROUND LEVEL = 76 SPACES
AT 2 LEVELS = 235 SPACES
AT 3 LEVELS = 394 SPACES
AT 4 LEVELS = 653 SPACES
AT 5 LEVELS = 712 SPACES

TOTAL STRUCTURE HEIGHT: 48 FEET
POTENTIAL DEVELOPMENT: 28,000 SF (FOOTPRINT AREA)

*PARKING REQUIRED TO BE DETERMINED BY NUMBER OF PARK-AND-RIDE LOCATIONS AND POTENTIAL DEVELOPMENT

SOUTHWEST LIGHT RAIL
ST. LOUIS PARK - BELTLINE STATION 1
RELOCATION

IRT #16
Rev 1
05/21/2013

DRAFT WORK IN PROGRESS
SITE DATA

SITE AREA (OPTION 1): 5.9 ACRES
SURFACE PARKING: 618 SPACES

SITE AREA (OPTION 2): 6.77 ACRES
SURFACE PARKING: 630 SPACES

*PARKING REQUIRED TO BE DETERMINED BY NUMBER OF PARK-AND-RIDE LOCATIONS AND POTENTIAL DEVELOPMENT

DRAFT - WORK IN PROGRESS
EXISTING SECTION

PROPOSED SECTION CENTER PLATFORM
Communications and Outreach Update
Special Joint BAC and CAC Meeting

• Welcome and Introductions

• Technical Issue Presentations:
  – Freight Rail: Co-location and Relocation Options
  – SWLRT Stations: Louisiana, Beltline, West Lake and 21st Street
  – TH 100 and Cedar Lake Parkway

• Next Steps/Open Houses:
  – June 13: Freight Rail Co-location and Relocation
  – June 17 – June 26: SWLRT Stations

• Technical Issues Workshop/Discussion
BAC and CAC Technical Comments/Key Themes

• Freight Co-location Options
  – Concerned with impacts to residential properties
  – Concerned about corridor aesthetics and noise
  – More open to deep bore tunnel option through corridor

• Freight Relocation Options
  – Concerned with impacts to school properties
  – Concerned about visual impacts of freight rail structures
  – Concerned with impacts to business and residential properties
BAC and CAC Technical Key Themes

• Louisiana, Beltline, West Lake and 21st Street Stations
  – Encourage multi-modal access to stations
  – Concerned about on-street neighborhood parking impacts
  – Ensure opportunities for development are preserved around stations
BAC and CAC Technical Key Themes

• TH 100
  – Concerned about MnDOT project timing and construction

• Cedar Lake Parkway
  – Prefers LRT underpass scenario
SWLRT Open Houses

• Freight Rail Open Houses: June 13
  – Location: Benilde-St. Margaret’s School, St. Louis Park
  – 8:00 – 9:30 AM
  – 4:30 – 7:00 PM

• Station Open Houses: June 17 – June 26
  – June 17: Minneapolis (8:00 – 9:30 AM)
  – June 17: Minneapolis (4:30 – 7:00 PM)
  – June 18: Minnetonka/Hopkins (4:30 – 7:00 PM)
  – June 20: St. Louis Park (4:30 – 7:00 PM)
  – June 24: Minneapolis (4:30 – 7:00 PM)
  – June 26: Eden Prairie (4:30 – 7:00 PM)
More Information

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