

# PROJECT MANAGEMENT TEAM (PMT) MEMBERSHIP AND ROLE

12/16/10

- Minnesota Department of Transportation
- Hennepin County
- City of St. Louis Park
- St. Louis Park School Board
- City of St. Louis Park Neighborhoods
  - Birchwood
  - Blackstone
  - Bronx Park
  - Brooklawns
  - Brookside
  - Cedarhurst
  - Eliot
  - Eliot View
  - Elmwood
  - Lake Forest
  - Lenox
  - Sorenson
  - South Oak Hill
  - Triangle
  - Wolfe Park
- Safety in the Park
- Twin Cities and Western Railroad
- Canadian Pacific Railway
- BNSF Railway Company

The role of the PMT is to provide input and guidance that is representative of the various groups sitting on the PMT, but that also works towards collaborative solutions that effectively and feasibly balance the interests of the varying stakeholders.



# DRAFT STUDY NEEDS AND GOALS

12/16/10

The draft study needs and goals have been summarized below based on input from the PMT members at the August meeting.

## Outline of Proposed Study Needs

- Need to provide the TC&W railway with a safe, economic and efficient movement of freight to St. Paul, while minimizing adverse impacts to the surrounding community, and providing a system that is consistent with the State Rail Plan.
- Need to reduce/eliminate current switching/blocking operations in the Skunk Hollow area of the City of St. Louis Park.
- Need to improve/reduce existing grade crossings with the railway.
- Need to improve through movement of trains through City of St. Louis Park.

## Outline of Proposed Study Goals

- Provide for a safe, efficient and economical movement of freight rail traffic through the City of St. Louis Park.
- Provide improvements to the railway that increases the operational efficiency/movement of freight movements through the City of St. Louis Park.
- Provide improvements to the railway to enhance safety at grade crossings, and throughout the corridor.
- Provide a transportation solution that would minimize impacts to surrounding neighborhoods and sensitive environmental areas (trails, parks, wetlands, contaminated soils).
- Provide a transportation solution that addresses the importance of future development/redevelopment opportunities, particularly in the Skunk Hollow area.
- Provide a transportation solution that does not preclude the ability to expand the “corridor”.
- Provide a transportation solution that effectively integrates feasible/reasonable mitigation measures to the greatest extent possible.
- Provide a transportation solution that minimizes impacts to businesses.
- Provide a transportation solution that minimizes and effectively mitigates property impacts.



# GENERAL QUESTIONS REGARDING NOISE AND VIBRATION

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- How would replacing jointed rail with continuously welded rail reduce noise and vibration impacts?
  - *Typically noise and vibration levels are reduced by about 5 decibels.*
- How would the implementation of Quiet Zones reduce noise levels near a grade crossing (1/4 mile)
  - *Noise levels can be reduced by 20 to 30 decibels with Quiet Zones.*
- What impact would increasing the train speed from 10 to 25 miles per hour have on noise and vibration?
  - *Reduce noise levels from locomotives about 4 decibels.*
  - *Raise noise level from railcars by approximately 8 decibels.*
  - *Raise vibration level by 8 decibels.*
- What impact does increasing the number of cars on a train have on noise?
  - *Increasing rail cars from 50 to 100 (for illustrative purposes only) would result in a 3 decibel increase.*
- What is considered a “perceptible change in noise and vibration”?
  - *Typically, a 3 decibel change is perceptible.*
- Is there a particular threshold for vibration where there could be impacts to surrounding structures?
  - *Typically, vibration levels around 65 vibration decibels (VdB) are at the limit of human perception, “annoyance” impact is around 72-80 VdB and the thresholds for damage for the most sensitive structures are around 95 to 100 VdB.*

A detailed noise and vibration analysis will be completed as part of the MN&S Freight Rail Study.



# GENERAL DESIGN REQUIREMENTS

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*As this study considers potential transportation improvements to private infrastructure (railway/right-of-way owned by CP and BNSF), specific requirements/expectations of the railroads are defined below; and reflected in the preliminary railway design concepts.*

## General Overview

- Speed of trains is regulated by each owner-railroad, and track conditions must conform to the Federal Railroad Administration's (FRA) track standard rules for the railway's desired track speed.
- FRA regulates and monitors track conditions and equipment conditions.
- Track design requirements set forth through the following:
  - Current Canadian Pacific (CP) and BNSF Track Engineering and Design Standards
  - American Railway Engineering and Maintenance Association (AREMA) Engineering and Design Standards
  - Other applicable engineering and design standards

## Defined Railroad Expectations for MN&S Study

- MN&S track would be upgraded to meet FRA Class 2 operations: maximum allowable speed of 25 miles per hour.
- Existing MN&S rail to be replaced and all new-construction to be 136 pound continuously welded rail with new ballast, ties, and track switches.
- All railway/roadway at-grade crossings would be signalized (minimum requirement).
- Closure of 29th Street at-grade crossing.
- Elimination of TC&W switching movements in Skunk Hollow area.
- Maintain access to current CP customers.
- Maximum grade requirement of 1.0 percent.
- Maximum (tightest) curve of 8 degrees.
- BNSF would require a 10,000 +/- foot controlled siding.
- Through movement of trains on MN&S line.



## KEY ISSUES AND POTENTIAL MITIGATION OPTIONS

Key Issue	Range of Mitigation Options/ Design Elements	Comments
<b>Noise</b> <ul style="list-style-type: none"> <li>■ Residents</li> <li>■ School(s)</li> <li>■ Park/Open Areas</li> </ul>	Improve track from jointed to continuously welded rail (CWR). Implementation of Quiet Zone Crossings Noise Walls Reduce/removal of switching operations	Part of proposed action  Coordination with the FRA and the City  Noise walls can not be located within existing CP ROW Part of proposed action
<b>Vibration</b> <ul style="list-style-type: none"> <li>■ Perceptible level</li> <li>■ Structural Impact</li> </ul>	Improve track from jointed to CWR Reduction in travel speed	Part of proposed action
<b>Safety</b> <ul style="list-style-type: none"> <li>■ Pedestrian</li> <li>■ Vehicle/bus/emergency</li> <li>■ Activity on Railroad ROW</li> <li>■ Derailments</li> <li>■ Hazardous Materials/Fire</li> <li>■ Proximity to homes/school</li> </ul>	Closure of existing grade crossing(s)  Implementation of Quiet Zone Crossing  Improved signalization at grade crossings Pedestrian crossing gate arms Safety Related Outreach Efforts  Grade Separated Pedestrian Crossings Provide additional fencing along track alignment Grade Separation of Railroad Crossing  Expand existing right-of-way  Track improvements to improve sight lines Reduce/remove switching operations in Skunk Hollow area	Currently, the railroad design concept reflects the closure of 29th Street.  Coordination with the FRA and City on implementation of Quiet Zones  Part of proposed action/upgrades programmed  Overpass or tunnel type of crossing Location of fencing would need to meet safety/design requirements of railroads  It is anticipated that given the surrounding character of the area, this mitigation option would result in substantial impacts to the crossing area, beyond the existing railway ROW.  Expanding right-of-way in some areas of the study area would result in impacts to existing residences and businesses. Acquisition and relocation of homes/businesses would require impact evaluation.  Part of proposed action  Part of proposed action
<b>Through Movement of Trains in City/Traffic/Emergency Vehicle/Bus Operations Impacts at Crossings</b>	Moderately increase speed of trains through City  Provide for improvements that allow through movement from CP–Bass Lake Spur to BNSF–Wayzata Sub Coordination with City regarding emergency response plans Coordination with St. Louis Park High School regarding emergency evacuation plans	Part of proposed action  Part of proposed action



# MN&S FREIGHT RAIL STUDY

HENNEPIN COUNTY REGIONAL RAILROAD AUTHORITY AND THE  
MINNESOTA DEPARTMENT OF TRANSPORTATION IN COOPERATION WITH THE CITY OF ST. LOUIS PARK

## KEY ISSUES AND POTENTIAL MITIGATION OPTIONS

Key Issue	Range of Mitigation Options/ Design Elements	Comments
<b>Right-of-Way Impacts</b>	<p>Provide connection from CP – Bass Lake Spur to MN&amp;S on structure</p> <p>Tighten curves from CP- Bass Lake Spur to MN&amp;S. Shift Take off from existing CP- Bass Lake spur to the west</p> <p>Consider potential phasing of southern connection to MN&amp;S</p>	<p>Structure costs higher than retaining wall</p> <p>Curves need to meet safety/design requirements of railroads</p> <p>Would require alternative move for TC&amp;W trains to head south to Savage from CP- Bass Lake Spur</p>
<b>Parks and Natural Resources</b>	<p>Provide grade separated crossing of Cedar Lake Trail</p> <p>Fencing along right-of-way (safety)</p> <p>Minimize wetland impacts through alignment configuration and design elements (primarily northern section of study area)</p>	<p>Part of proposed action</p> <p>See comment in Safety section of table</p> <p>Wetland permitting process would further define design requirements to minimize wetland impacts (northern section)</p>
<b>Soil Contamination</b>	<p>Avoid and/or minimize impacts to existing contaminated sites</p> <p>Propose construction techniques and right-of-way alignment that minimizes impacts to the greatest extent possible</p>	
<b>Visual</b>	Landscaping to serve as visual buffer	Plantings would need to meet railroad safety/design requirements
<b>Property Values</b>		National case studies to be reviewed
<b>Development/Redevelopment Impacts</b> <ul style="list-style-type: none"> <li>Land acquired for right-of-way</li> </ul>	Develop design that allows for future development and redevelopment opportunities	On-going effort through consideration of design options
<b>Business Impacts</b> <ul style="list-style-type: none"> <li>Disruption of traffic</li> <li>Noise</li> <li>Potential property acquisition</li> </ul>	Develop design concept that is operationally efficient and minimizes grade crossing closures	
<b>Health Related Concerns</b> <ul style="list-style-type: none"> <li>Diesel fumes</li> </ul>	Remove/reduce idling	Proposed design assumes through-movement of trains on MN&S
<b>Hazardous Materials</b>	Work with railroads and City in regarding emergency response action plan	

## Estimated Intersection Block Time (Minutes)

Train Length		Train Speed (miles per hour)			
Cars	Feet	10	15	20	25
40	3,400	3.9	2.6	1.9	1.5
50	4,250	4.8	3.2	2.4	1.9
60	5,100	5.8	3.9	2.9	2.3
80	6,800	7.7	5.2	3.9	3.1
100	8,500	9.7	6.4	4.8	3.9
Travel Time Through Corridor (Minutes) (Wye to BNSF Wayzata)		13.5	9.0	6.8	5.4

- Coal trains = 80 cars @ 10 mph
  - Freight trains = 40-50 cars @ 10 mph
  - Coal trains = 80 cars @ 25 mph
- Estimates reflect 85 foot cars

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# SUMMARY OF EXISTING ALIGNMENT CONFIGURATION

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## Characteristics of Canadian Pacific – Bass Lake Spur/ St. Louis Park Junction Area

- Currently double track, with the south track serving as the single main track and north track serving as the siding
- Bike trail parallels the alignment on the north side, within existing HCRRA right-of-way (100 feet)
- Current track is 112 pound jointed rail
- Maximum operating speed of 25 mph/10 mph loaded coal trains
- Rail served customer on south side of tracks, west of Louisiana
- Existing right-of-way: varies between 54 and 70 feet
- Grade crossings, with signals, at Wooddale Avenue and Beltline Boulevard

## Characteristics of MN&S Spur Area

- Current track is 90 pound rail
- Recent grade crossing surface improvements at Walker Street, Lake Street, Library Lane, Dakota and recent undergrade bridge reconstruction at Minnetonka Boulevard (112 -115 pound rail)
- Existing allowable maximum speed is 10 mph
- Existing right of way:
  - From 27th Street to Minnetonka Boulevard: 66 feet.
  - From Minnetonka Boulevard to Brunswick Avenue: majority of ROW is 145 feet, however there are a couple of areas that are 105 feet, and 3 parcels adjacent to rail ROW at 35, 45 and 55 feet.
  - From Brunswick to Highway 7: irregular ROW, varying from 50 to 121 feet+.
- Newly-constructed rail bridge carries MN&S over Minnetonka Blvd.
- Entire grade of MN&S through St. Louis Park is approximately 25 feet above grade of Bass Lake Spur and Wayzata Sub.
- Grade crossings from the BNSF – Wayzata Sub to CP Bass Lake Spur:
  - West 28th and 29th Streets: Crossbuck and stop sign
  - Dakota Avenue S.: Gates and flashers
  - Library Lane: Flashers
  - Lake Street: Overhead flashers
  - Walker Street: Flashers
  - Brunswick Avenue: Ped crossing only



## Characteristics of Iron Triangle - Burlington Northern Santa Fe - Wayzata Sub Area

- Wayzata Subdivision extends appropriately 90 miles from Minneapolis to Willmar.
- BNSF operates this as a mainline track. Maximum allowable speed is 60 mph for all movements.
- Currently single track, with 115 pound rail on crushed stone ballast. Some rail has been replaced with 132 to 141 pound rail.
- Cedar Lake bike path runs parallel to and south of the existing railway.
- Not a current connection from MN&S to BSNF. Roadbed of former/abandoned alignment is still intact.
- Existing right-of-way: BNSF Wayzata Sub ROW varies from 100 to 221 feet.
- 10,000 +/- of available right of way exists east of proposed connection switch location for proposed siding location.



## Summary of Current Operations

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### CP and TC&W on the MN&S

- CP is the only railroad running trains on the MN&S line today. TC&W has trackage rights, but is not currently running trains on the line today. CP operates one local assignment, round trip, 5 days per week on this property. The length of the train is variable, but typically the size ranges between 10-30 cars per day.

### TC&W Operations to Connect to St. Paul

#### Regular Trains

- Currently runs one train per day into St. Paul (CP yard) 6-7 days per week. Average 50 carloads/train (since 2008).
- Currently run a train 3-4 days per week into the UP, averaging 20 carloads/train.
- Both trains go out of Hopkins around 7:00 am, and return 8-10 hours later.
- Total cars per day (out and back): 140 cars

#### Unit Train Operations

##### Coal Unit Trains

- Currently operate 25-27 trains per year (average one train every two weeks).
- TC&W only handles loaded trains on east end — empties go out the west end.
- Trains approximately 123 cars long.

##### Ethanol Unit Trains

- TC&W handles both empty and loaded trains on east end.
- Currently operates average 3 loaded trains per month, and typically 2 of the loads return.
- Trains approximately 80 cars long.
- Total Maximum number of cars per day, including; regular trains, coal load, empty ethanol train, loaded ethanol train: 353

### BNSF – Wayzata Sub

- Currently run 8 to 20 trains per day. Track is controlled by a Centralized Traffic Control System (CTC).



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## AT-GRADE CROSSING SUMMARY

Crossing #	Location	24-Hour Traffic Count	Crash History at Crossing (1999-2008)	Crossing Width	Existing Control	Recent or Planned Improvements
854231S	28th Street	1,303 (2009)	None	36 feet	Stop Signs with Crossbucks	None
854232Y	29th Street	109 (2004)	None	32 feet	Stop Signs with Crossbucks	None
	Brunswick Avenue (North)	N/A (pedestrians only)	None	10 feet	None	Roadway crossing closed 2005. Pedestrian crossing constructed 2006.
854234M	Dakota Avenue	4,583 (2009)	Rear-end collision at gates (2006)	97 feet	Flashers and Gates	Gates and new concrete surface constructed 2005.
854235U	Library Lane	No count available	None	142 feet	Flashers	Programmed for gate installation in 2011/2012.
854236B	Lake Street	4,017 (2009)	Collision with train (2002)		Overhead Flashers	
854237H	Walker Street	2,805 (2009)	None	66 feet	Flashers	None
	Brunswick Avenue (South)	N/A (pedestrians only)	None	10 feet (main) 10 feet (spur)	None	Roadway crossing closed 2003. Pedestrian crossing constructed 2004.
854241X	Alabama Avenue	3,025 (2009)	None	89 feet	Flashers	Programmed for gate installation in 2011/2012.
-	Cedar Lake Road	12,207 (2009)	Rear-end collision at crossing (2006)	76 feet	Overhead Flashers	None

Intersections outside direct study area

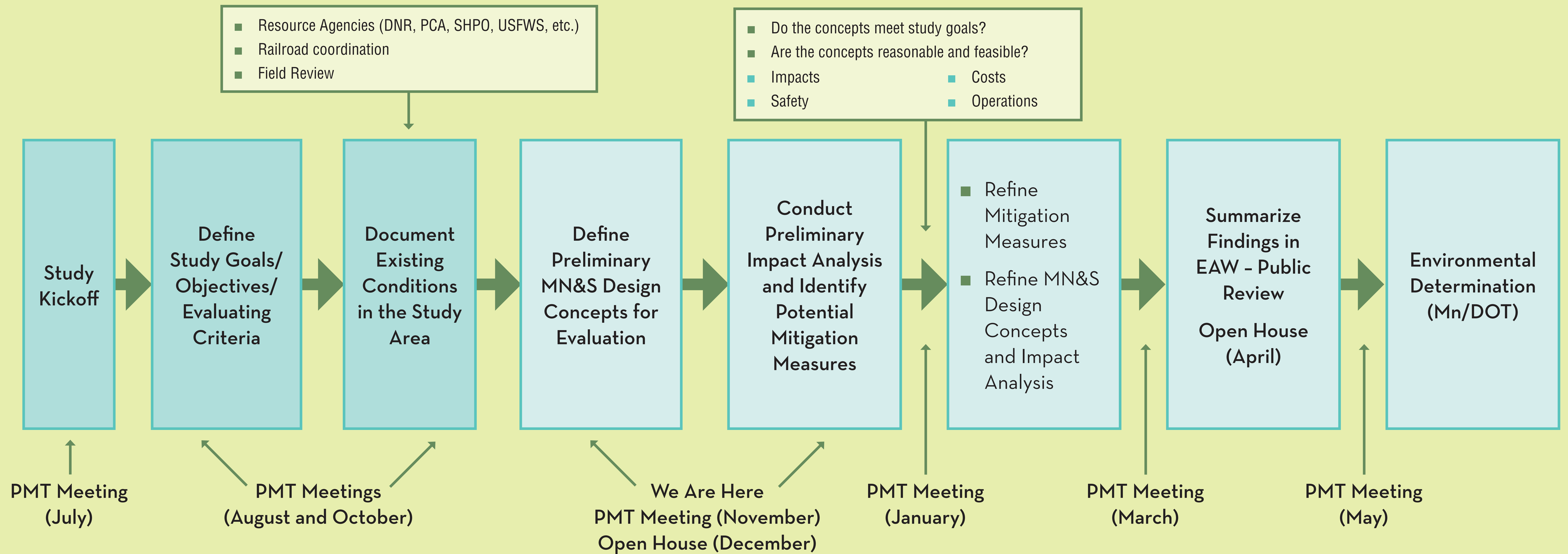


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## OVERVIEW OF MN&S STUDY PROCESS



The purpose of the MN&S Freight Rail Study is to define and evaluate if the TC&W freight rail operations are relocated from the Kenilworth corridor to the MN&S line, what the design would need to be, along with potential impacts and mitigation measures.