



April 2013

# FEASIBILITY STUDY RESULTS

## Feasibility Study Content

The purpose of the Feasibility Study was to determine whether or not the existing rail corridor could handle an increase in freight rail traffic. This question focused on rail operations and whether or not the railroad could feasibly operate on the existing rail track with rail traffic increases.

The study:

- Evaluated existing railroad conditions
- Developed rail growth scenarios
- Modeled operations for each scenario
- Recommended improvements to mitigate operational impacts

## Scenarios Evaluated

Four different train scenarios were evaluated to determine the existing rail corridor's ability to support a potential increase in train traffic. These scenarios are shown below and were developed to account for a potential increase in mixed freight (Freight) and possible coal trains (Other).

<b>Scenario 1</b>	Existing Freight (4/Day)
<b>Scenario 2</b>	Freight (4/Day) + Other (8/Day)
<b>Scenario 3</b>	Freight (7/Day) + Other (16/Day)
<b>Scenario 4</b>	Freight (7/Day) + Other (32/Day)

## Existing Conditions

The Feasibility Study included an evaluation of the conditions of the existing rail corridor. The table below highlights those findings.

Feature	Miles									
Length	48.6 miles									
Speed	<table border="1"> <tr> <td>Class 2 (25 mph)</td> <td>Class 3 (30 mph)</td> </tr> <tr> <td>18.6 miles</td> <td>30 miles</td> </tr> </table>	Class 2 (25 mph)	Class 3 (30 mph)	18.6 miles	30 miles					
Class 2 (25 mph)	Class 3 (30 mph)									
18.6 miles	30 miles									
Signals	No Signal Control – Train dispatch through radio communication 48.6 miles									
Vertical	<table border="1"> <tr> <td>Flat</td> <td>1.1%</td> </tr> <tr> <td>47.3 miles</td> <td>0.5 miles Eastbound &amp; 0.8 miles Westbound</td> </tr> </table>	Flat	1.1%	47.3 miles	0.5 miles Eastbound & 0.8 miles Westbound					
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47.3 miles	0.5 miles Eastbound & 0.8 miles Westbound									
Right of Way	<table border="1"> <tr> <td>30'</td> <td>30' – 100'</td> <td>&gt;100'</td> </tr> <tr> <td>0.1 miles</td> <td>2.9 miles</td> <td>44.9 miles</td> </tr> <tr> <td></td> <td></td> <td>0.7 miles</td> </tr> </table>	30'	30' – 100'	>100'	0.1 miles	2.9 miles	44.9 miles			0.7 miles
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		0.7 miles								

## Operational Results

Each of the four scenarios was modeled along the existing rail corridor to determine whether or not rail operations are feasible at varying levels of train traffic. **The Study found that it is operationally feasible for the existing rail corridor to accommodate traffic increases up to 39 daily trains by implementing a series of improvements.**

The table below shows the operational results of train traffic assuming implementation of recommended improvements. Train delay less than 2.25 hours within the study area is considered acceptable for rail operations.

Daily Trains	Weekly Trains	Traffic Type	Results
4	24	Mixed Freight	Zero (0) minutes of train delay
12	72	Mixed Freight	Seventeen (17) minutes of train delay
23	134	Mixed Freight	Twenty-one (21) minutes of train delay
39	230	Mixed Freight	Fifty-five (55) minutes of train delay

Operations under the 12-39 train scenarios without improvements are not desirable. As such, the Feasibility study recommended improvements to maintain acceptable levels of rail operation performance.

### Project Team

**Federal Railroad Administration (FRA)**  
**MnDOT**  
**Olmsted County Regional Railroad Authority**

#### Consultant Team

Kimley-Horn & Associates, Inc.  
 TranSystems  
 Richardson, Richter & Associates, Inc.

## Recommended Improvements

The Study recommended improvements to the existing rail corridor under each of the different scenarios.

### Scenario 1: Existing (2012) Conditions

- No recommended improvements

### Scenario 2: 12 Daily Trains

- Relocate the existing rail yard outside of downtown Rochester to improve operating efficiency and corridor safety
- Add a new siding east of downtown Rochester to allow for additional passing movements to increase rail capacity
- Incorporate Power Assisted Switching (PAS) to improve efficiency for rail operators who currently must manually operate switches

### Scenario 3: 23 Daily Trains

- Implement all improvements from the 12-train scenario
- Upgrade remaining 19 miles of rail outside of downtown Rochester to continuously welded rail to increase speed of operations (other rail already upgraded)
- Extend the length of the siding in the relocated rail yard to allow for additional capacity

### Scenario 4: 39 Daily Trains

- Implement all improvements from the 12 and 23-train scenarios
- Implement Centralized Traffic Control over the current radio dispatch system to increase operational efficiency and corridor safety