

# SR432 Realignment Feasibility Study

## Longview Rail Simulation

### Interim Results

June 12, 2007

Presented by  
MainLine Management, Inc.



# Goal of Study

- To quantify effects of projected rail growth on SR432 grade crossings and impact on rail traffic fluidity

# Study Approach 1

- Growth impact analyzed by simulating main line and local rail traffic between Vancouver Jct. and Vader
  - Included detailed local operations between LV Jct. and multiple industries within Longview
  - Modeling results used to analyze rail fluidity
  - Results also used to develop input for highway traffic model

# Study Approach 2

- LSC, CLC and local industries were interviewed (including POL) to understand operations, potential for growth
  - Received current local data from LSC
  - Utilized BNSF data from 2005 for Base Case
- Rail Traffic Controller model used for simulations

# Study Approach 3

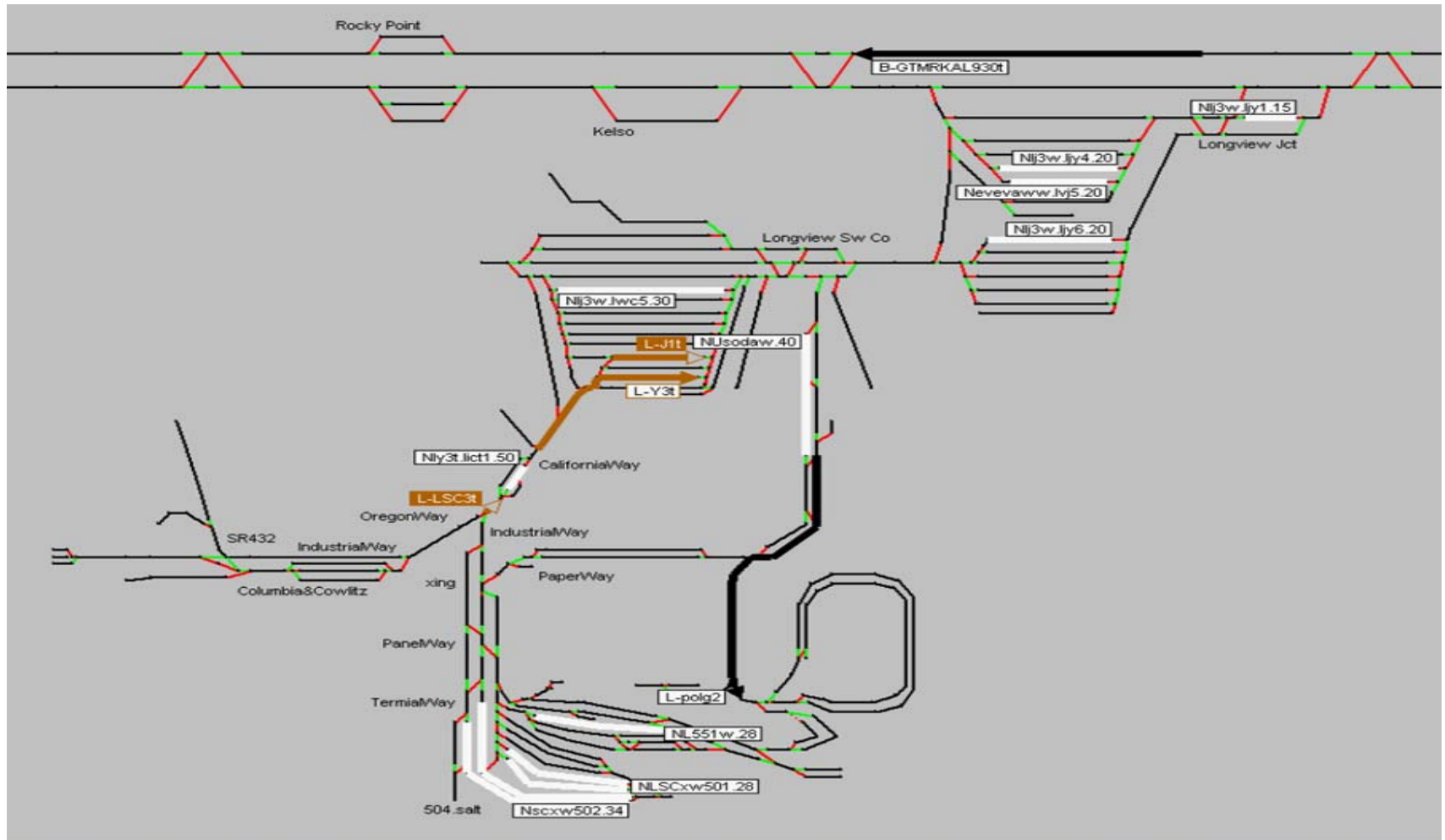
- Growth projected for simulation
  - Amtrak growth schedules provided by BNSF
  - No main line freight growth
    - Train routing uncertainty with Stampede Pass, Vancouver Bypass projects still under review
  - Local switch engine/industry volumes developed from industry projections or estimated at 1 – 1.5% compounded annually
    - Increased size, frequency of local movements
  - Unit trains per Port and industry projections
    - Combined 14 trains/week to Longview industries

# RTC Model

- Base Case
  - To establish baseline for comparison
- 2030 Case
  - Added projected growth traffic
  - Modified LSC and CLC operations based upon work requirements, interviews
  - Minor mainline infrastructure improvements (Kalama CTC)
  - Loop track for POL unit trains was the only infrastructure improvement for industrial areas



# 2030 RTC Network



# Model Scenario Comparison Data

- Delay minutes per 10 train miles operated
  - Measure of rail traffic fluidity
- Delays exceeding 30 minutes
  - Measure of locations of rail congestion
- Grade crossing occupancies
  - Measure of rail traffic impact on SR432 grade crossings at various locations

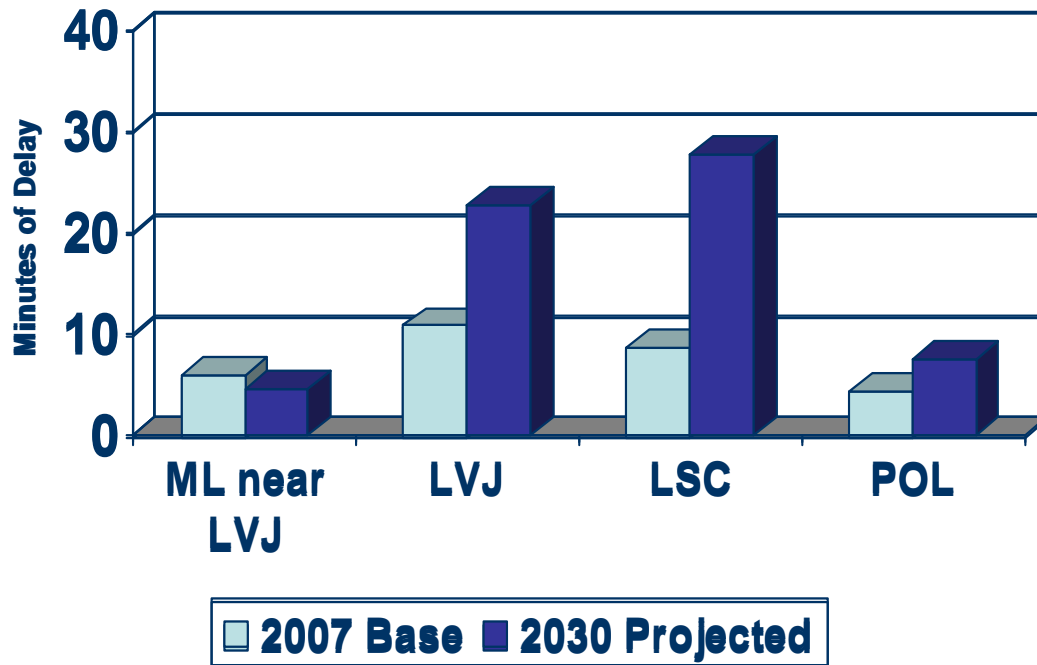
# Impact on Rail Fluidity



*Longview Switching Company Yard*

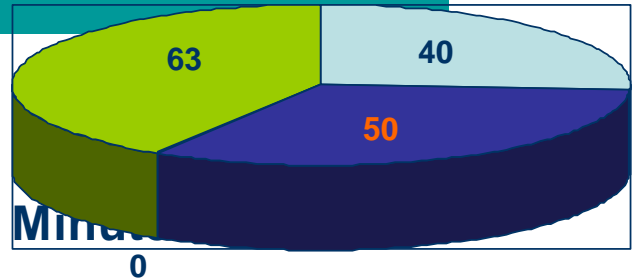
# Impact on Rail Fluidity

## Delay Minutes per 10 Train Miles Operated

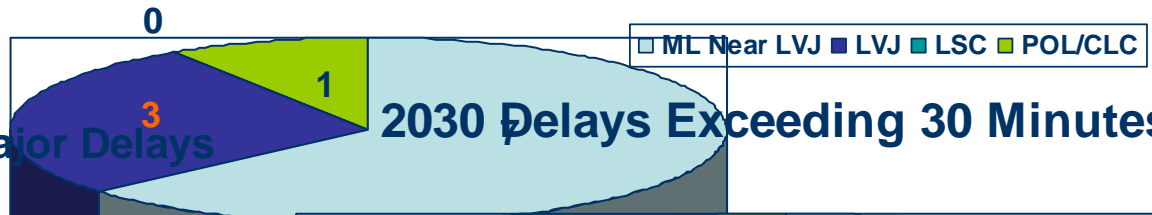


# Impact on Rail Fluidity

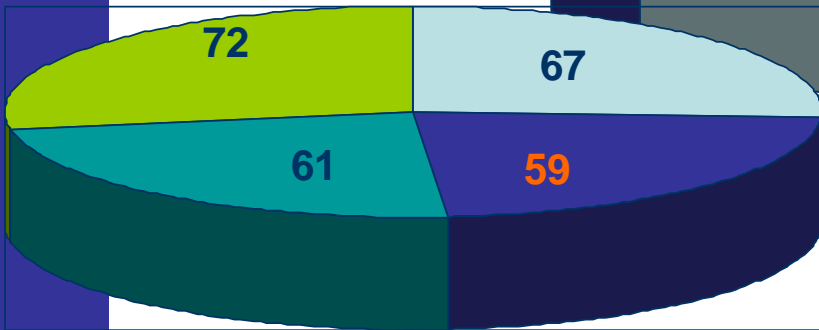
2007 Avg Minutes of Major Delays



2007 Delays Exceeding 30 Minutes

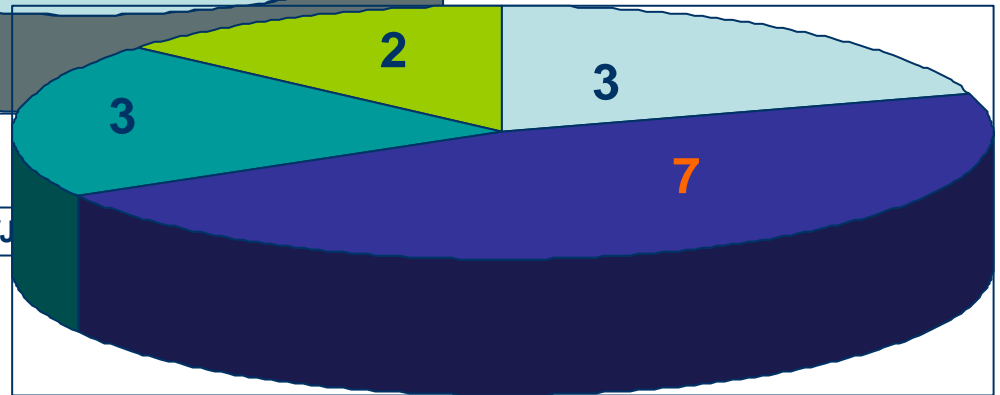


2030 Avg Minutes of Major Delays



ML Near LVJ LVJ LSC POL/CLC

2030 Delays Exceeding 30 Minutes



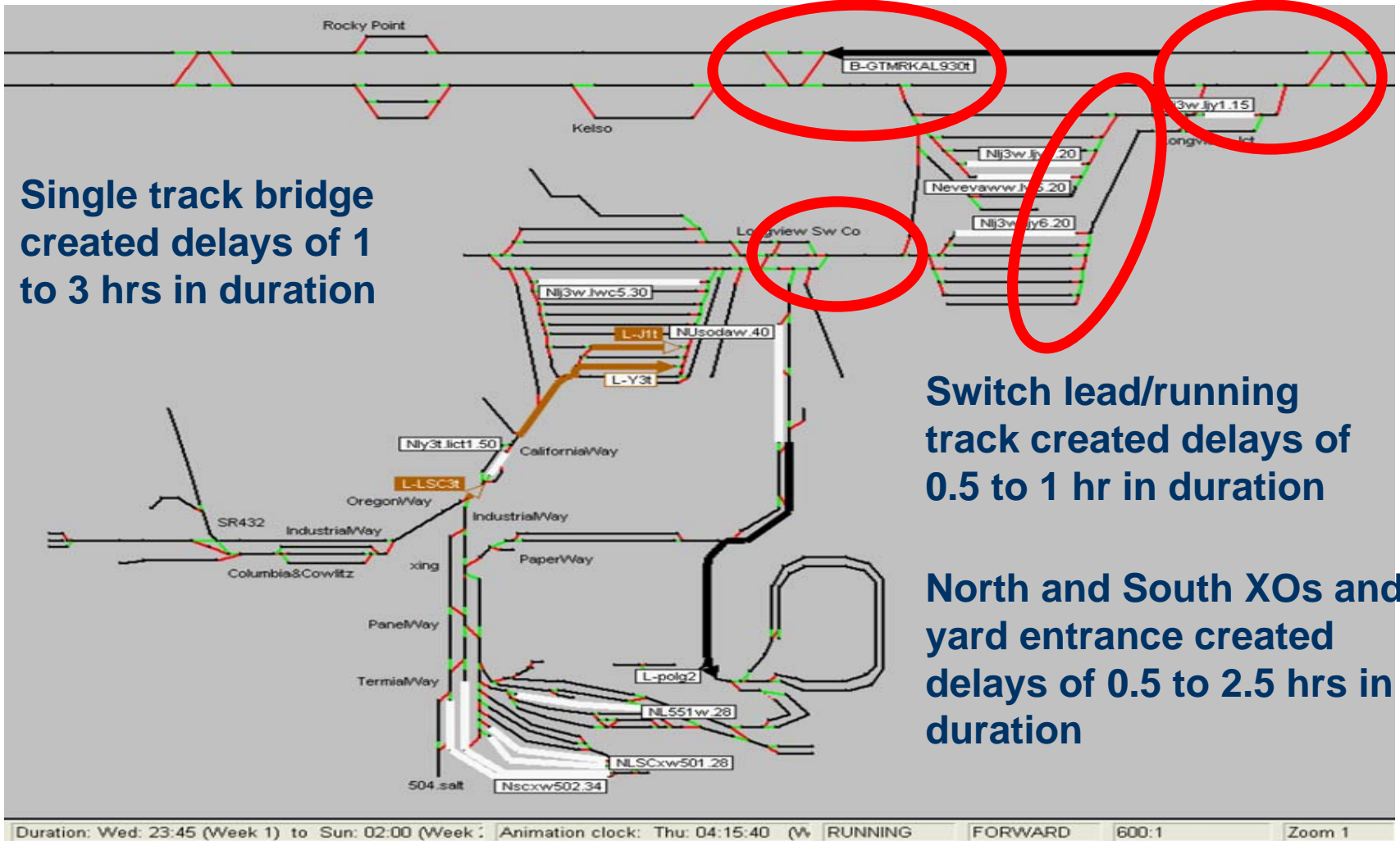
ML Near LVJ LVJ LSC POL/CLC

# Major Delay Locations

Single track bridge created delays of 1 to 3 hrs in duration

Switch lead/running track created delays of 0.5 to 1 hr in duration

North and South XO's and yard entrance created delays of 0.5 to 2.5 hrs in duration

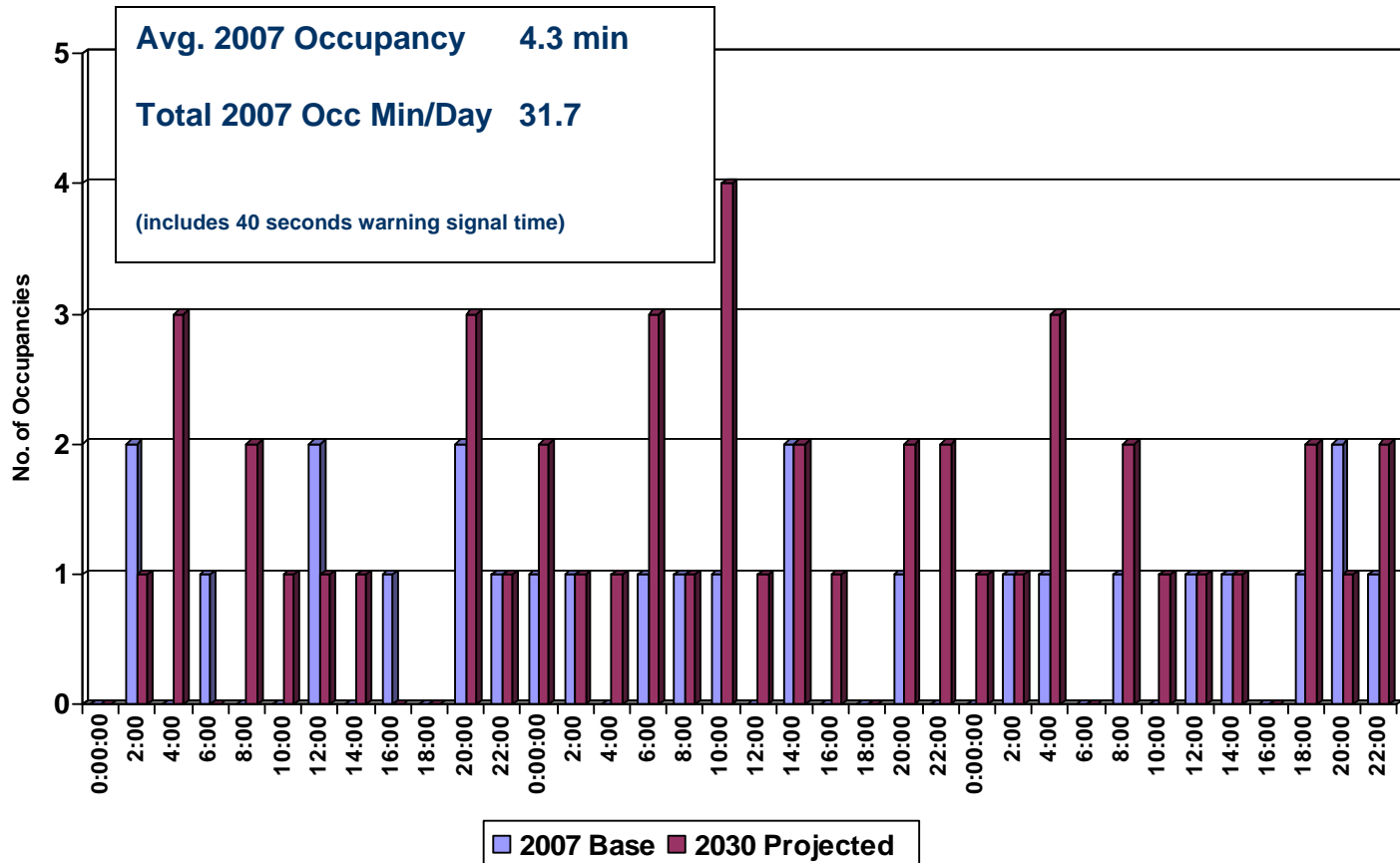


# Impact on Grade Crossings



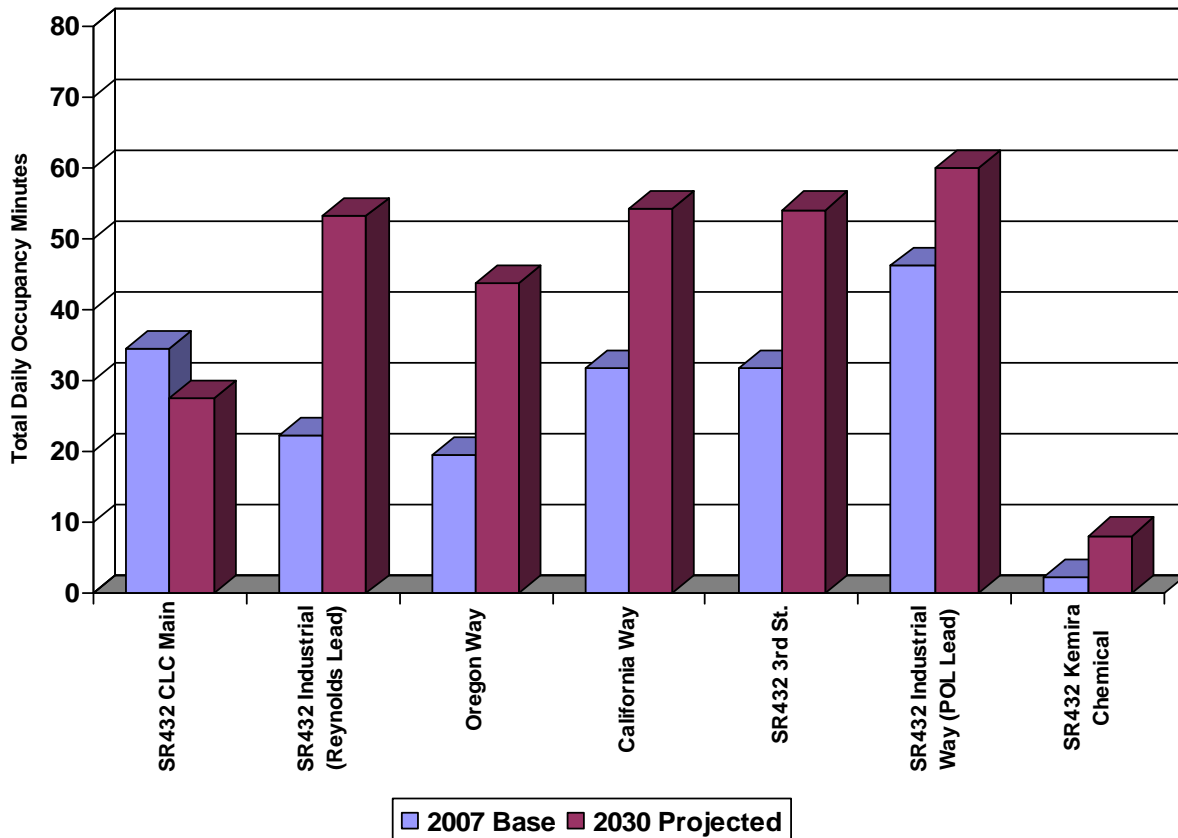
# Impact on Grade Crossings

Example of RR Occupancy Graphs,  
SR432 - LSC Lead (3rd Ave.)



# Impact on Grade Crossings

Average Total Daily Occupancy Minutes by Crossing



# Next Steps

- Final simulation to test potential improvements to rail corridor, grade crossing configuration
  - 2030 case with modifications compared to 2030 case without infrastructure modifications
  - Results become input to highway traffic model to understand impact on road traffic congestion