New Haven, Hartford, Springfield Commuter Rail Implementation Plan

Commuter Trains, Amtrak and Local Freight:
Connecticut Can Make It Work!

Wilbur Smith Associates

Project Purpose

- Evaluate ridership, impacts and costs of providing commuter rail service from New Haven, CT thru Hartford to Springfield, MA
- Potential Users
  - Commuter Work Trips
  - Regional Travel with Connections to
    - Amtrak Intercity Service
    - Metro North Commuter Rail to NYC
    - Shore Line East Commuter Rail
  - Off-peak Travelers including Events and Recreation
  - Bradley International Airport Access

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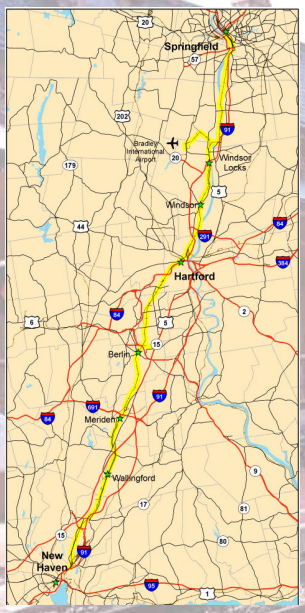

Study Area

- Amtrak owns rail line
  - 16 passenger trains per weekday (8 each way)
  - 8 current Amtrak stops
- 62 mile corridor
  - 23.7 miles double track
  - 38.2 miles single Track
- 54 At-grade Crossings
- 80 mph speed with many restriction

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Alternatives

- ***Minimum Build*** with no new stations and limited service
- ***Maximum Build*** with many new stations and frequent service
- ***Various levels of frequency in between*** considered with appropriate station locations
- ***Recommended Alternative*** chosen based on simulation and other performance criteria

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Capacity Analysis

- Tool: Rail Traffic Controller (RTC)
  - State-of-the-art operations simulation program used by Class 1 railroads and Amtrak
  - Dispatch logic to prioritize trains
- Tool input: data from Amtrak and freight carriers
  - Inputted illustrative commuter schedules
  - Used existing Amtrak schedules
  - Used train detail provided by the freight carriers
    - Connecticut Southern
    - Guilford Rail System

Methodology

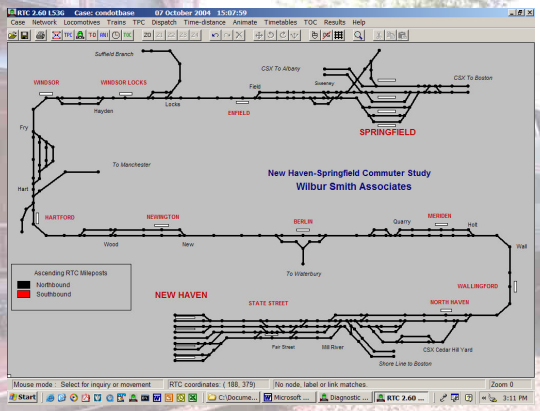
- ***Built*** the networks for the various alternatives
- ***Entered*** the commuter, Amtrak, and freight data
- ***Ran*** the simulation and measured train performance by run time and delay measures
- ***Identified*** the capacity improvements required for each alternative to improve run time and minimize delays
  - Results provided basis for the capital cost estimates

Now, how to make this all work on a shared use network…

- Key operational objectives:
  - *Commuter rail service must be reliable*
  - *Amtrak's service must be reliable*
  - *Freight service impacts should be minimized*

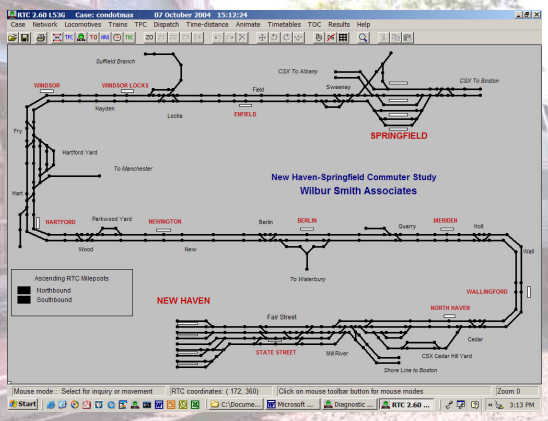
Minimum Build Network

The minimum build network is insufficient to handle limited commuter rail traffic along with the freight and Amtrak traffic



Maximum Build Network

The maximum build network has the capacity to handle a commuter rail service with a high service level along with the freight and Amtrak traffic



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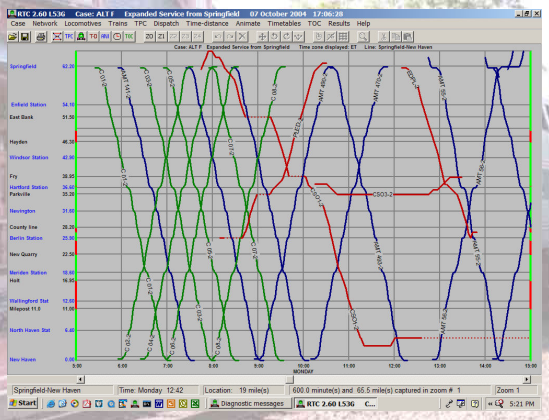
Intermediate Scenario String Line

Intermediate alternatives can handle well the passenger traffic, but freight trains may need to modify operations to avoid delays



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Conclusions

- Recommended Action (handout) includes new stations and 18 miles of added second track
- Next phase of project being scoped and negotiated
  - Environmental Assessment
  - Conceptual Design
  - Further Operations Planning