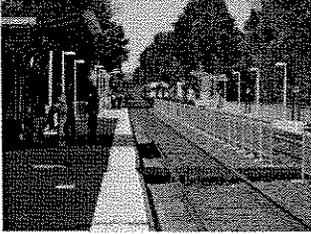


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## Fitchburg Commuter Rail Line Improvements Project



Alternatives Analysis  
 June 22, 2007

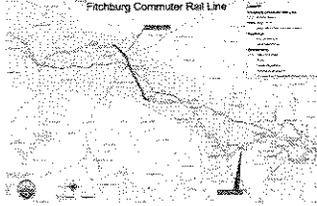


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## Fitchburg Commuter Rail Line - Overview

- 17 Stations
- 49.5 Miles
- MBTA-Owned Right-of-Way
- Active Freight Service
- Almost 5,300 daily riders



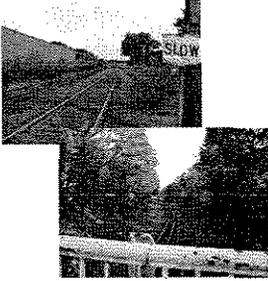


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## Fitchburg Commuter Rail Line - Issues

- Longest Commuter Rail Line
- Oldest Infrastructure in MBTA System
- Highest # of Stations
- Reduced Travel Speeds
- Reliability





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## Project Goals

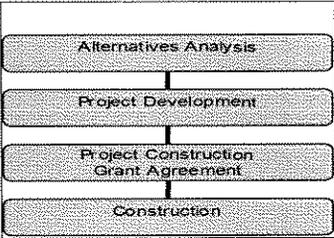
- Significantly Decrease Travel Time
- Improve Service Reliability
- Implement Quickly
- Support Economic Development and Land Use Goals

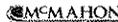


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## FTA Process

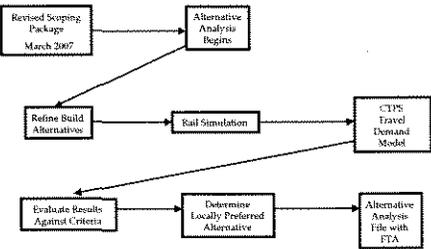




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## FTA Process - Alternatives Analysis (AA)





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### Alternatives Analysis - Define Alternatives

- Scoping Package Identified Alternatives
- Developed with MBCR, EOT, FTA, and MBTA
- Evaluated Costs
- Planned Funding/Implementation

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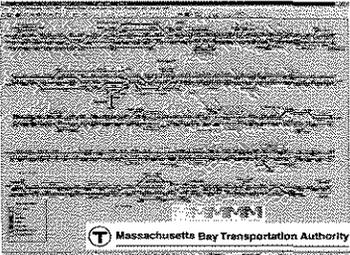
### Alternatives Analysis - Define Alternatives

- No Build
- Baseline
- Alternative 1
- Alternative 2
- Alternative 3

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### Alternatives Analysis - RTC Rail Simulation

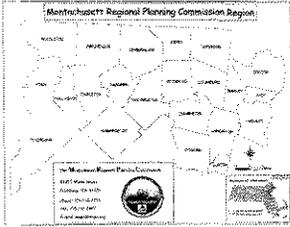
- Built Simulation Model
- Import Improvement Packages
- Summarize Results



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### Alternatives Analysis - Regional Travel Demand Model

- CTPS Adding MRPC Towns to Model
- Rail Sim Results Tested
- Determines Ridership and User Benefits



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### Alternatives Analysis - Evaluate Results

- Results will inform Public Participation Process
- Review Model Results
- Evaluate Alternative Results against Criteria
- Determine Local Preferred Alternative (LPA)

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### Alternatives Analysis - Schedule



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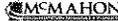
### Alternatives Analysis - No Build/Baseline

- No Build
  - Continuously Welded Rail
  - Maintain Existing Service Levels
- Baseline
  - Additional Express Service
  - New Train Set
  - Upgrade or Relocated Layover Facility


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### Alternatives Analysis - Alternative 1

- System Wide Track Improvements
- Install In-Cab Signal System from Ayer to North Station
- Double Track from Ayer to South Acton
- Commuter Rail Flyover Track at Willows Yard


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### Alternatives Analysis - Alternative 1

- Replace the Route 62 Bridge in Concord
- Construct High Level Platforms
  - South Acton
  - Littleton
  - Waltham
- Double Track through Waltham
- Upgrade Grade Crossings (4)


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### Alternatives Analysis - Alternative 2

- Alternative 1 Improvements
- Fiber Optic Cable from Fitchburg to Ayer
- Install In-Cab Signal System from Fitchburg to Ayer
- Construct High Level Platforms
  - Concord


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### Alternatives Analysis - Alternative 3

- Alternative 1 Improvements
- Alternative 2 Improvements
- Construction High Level Platforms
 

Brandeis/Roberts	Porter Square
Lincoln	Belmont
West Concord	Waverly
North Leominster	
- Construct New Regional Station at Ayer/Shirley/Devens


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### Alternatives Analysis - Alternative 3

- Grade Separations
  - Parker St, Acton
  - Conant Rd, Concord
- Upgrade Grade Crossings (4)
- Grade Crossing Closures (4)


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## Alternatives Analysis - Public Participation

- Evaluate Technical Analysis
- Suggest Preferred Actions
- Assist Project Coordination
- Support Locally Preferred Alternative

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## National Evaluation Criteria

- FTA Mandated Criteria
  - Cost-Effectiveness
  - Utilization and Mobility Improvements
  - Equality
  - Operating Efficiencies
  - Economic and Land Use Impacts
  - Environmental Benefits
  - Financial Feasibility

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## National Evaluation Criteria

```

graph TD
    A[Overall Project Rating] --> B[Project Justification Criteria]
    A --> C[Local Financial Commitment]
    B --> D[Cost Effectiveness]
    B --> E[Land Use]
    B --> F[Other Factors - Economic Development]
  
```

Source: Small State Fast Slow, FTA

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## Next Steps

- Examine CTPS Model Results
- Review Elements with Individual Towns
- Convene Three (3) Public Meetings
- Determine Locally Preferred Alternative

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