Technical Advisory Committee

I-93 Transit Investment Study

February 15, 2007

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Agenda

- Purpose and Need
- Initial Alternatives
- Public Meetings

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Purpose and Need

Project Purpose

The purpose of I-93 Transit Investment Study Project is to increase mobility options for New Hampshire and Massachusetts residents to access major employment centers and other destinations within the project corridor by establishing additional transportation modes as alternatives to the single occupant vehicle.

Purpose and Need

1. Levels of roadway congestion are projected to increase along the corridor between New Hampshire and many area employment centers
2. Mobility options are limited
3. Continued rate of growth of vehicular travel will negatively impact the study area's environment
4. Economic development is constrained
5. There is a lack of implementation plan for an integrated transportation and land use strategy for the area

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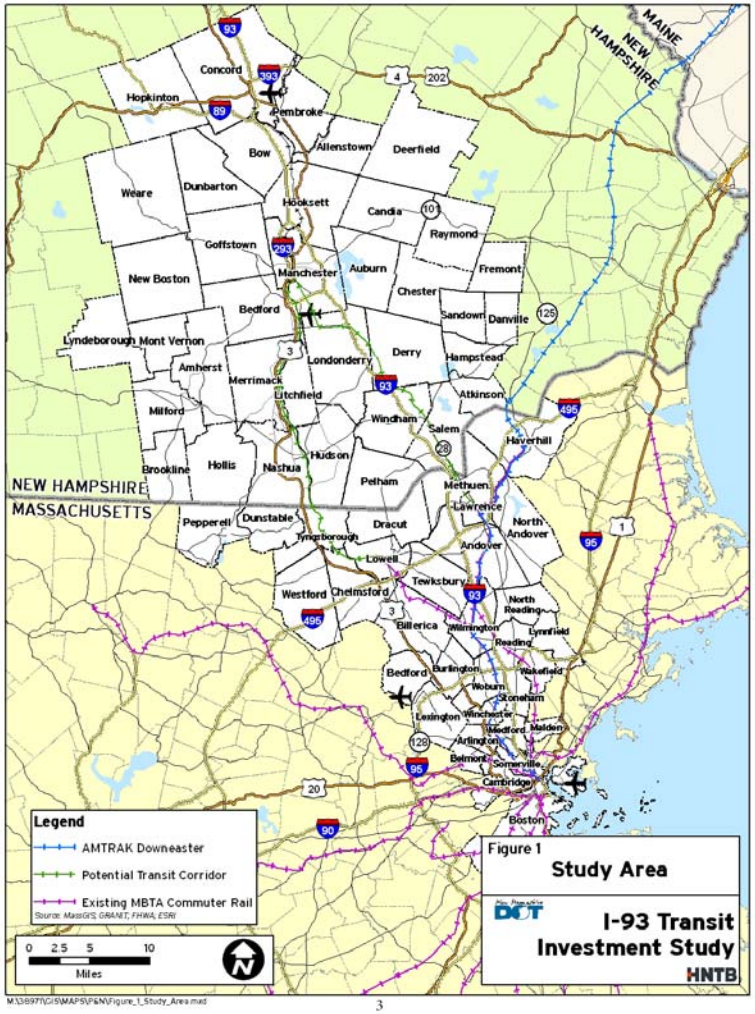
Study Area Map



Study Goals and Objectives

Goals:

- Identify potential feasible opportunities, and establish funding priorities, for bi-state investments in transit (bus and rail).
- Develop alternatives that will be consistent with Smart Growth initiatives in both states and support Transit Oriented Development.
- Develop a strategic plan for funding and phased implementation of recommended options, incorporating agency, community, and stakeholder inputs.

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Study Goals and Objectives (cont.)

Objectives

- Accommodate growth in longer distance (north-south) travel markets
- Increase mobility options
- Improve economic development opportunities
- Support transit oriented development, smart growth
- Support regional strategies

Study Goals and Objectives (cont.)

- Help Attain Regional Environmental Objectives
  - Land use and zoning
  - Vehicular travel/congestion
  - Regional/mesoscale air quality
  - Noise/vibration
  - Historical/Archeological
  - Section 4(f)/parklands
  - Water Resources and Wetlands
  - Hazardous Materials

Study Goals and Objectives (cont.)

Evaluation Criteria

- Capital cost
- Ridership
- User benefits (travel time savings)
- User costs
- Mode shift
- Land use / development impacts
- Environmental impacts
- Public support

Project History and Prior Studies

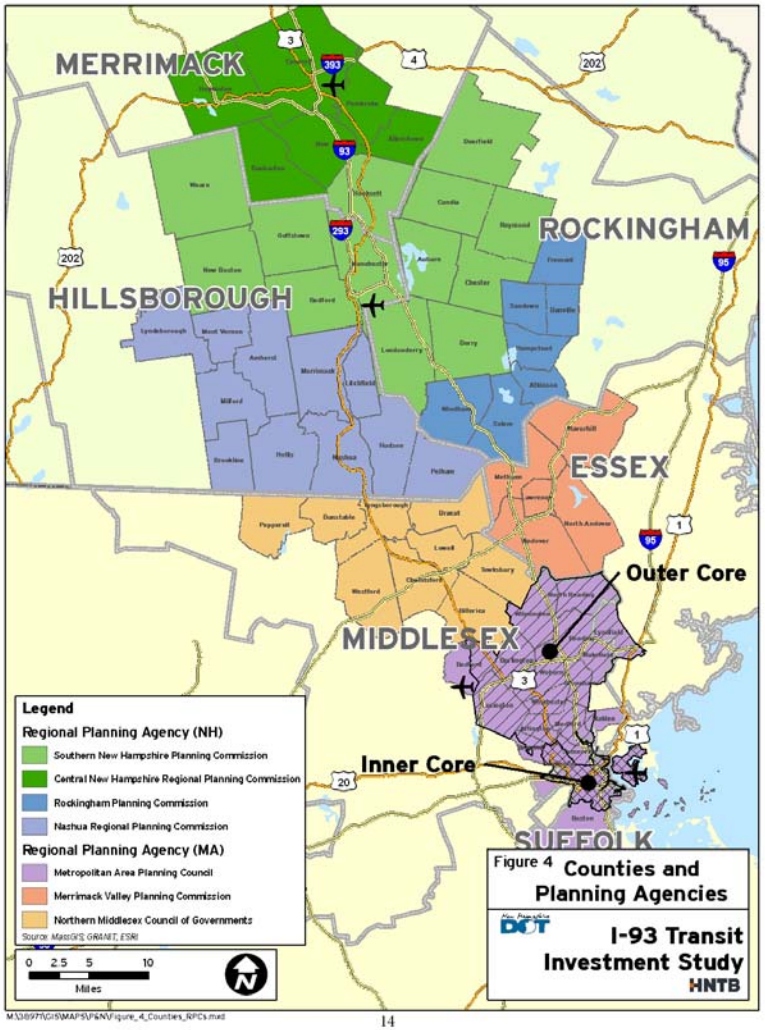
A. I-93 Salem to Manchester, NH Corridor Improvements
B. Lowell to Nashua Commuter Rail Extension Project
C. I-93 Corridor Study, Andover and Methuen, MA
D. Interstate Memorandum of Agreement for Current Study

Existing Conditions

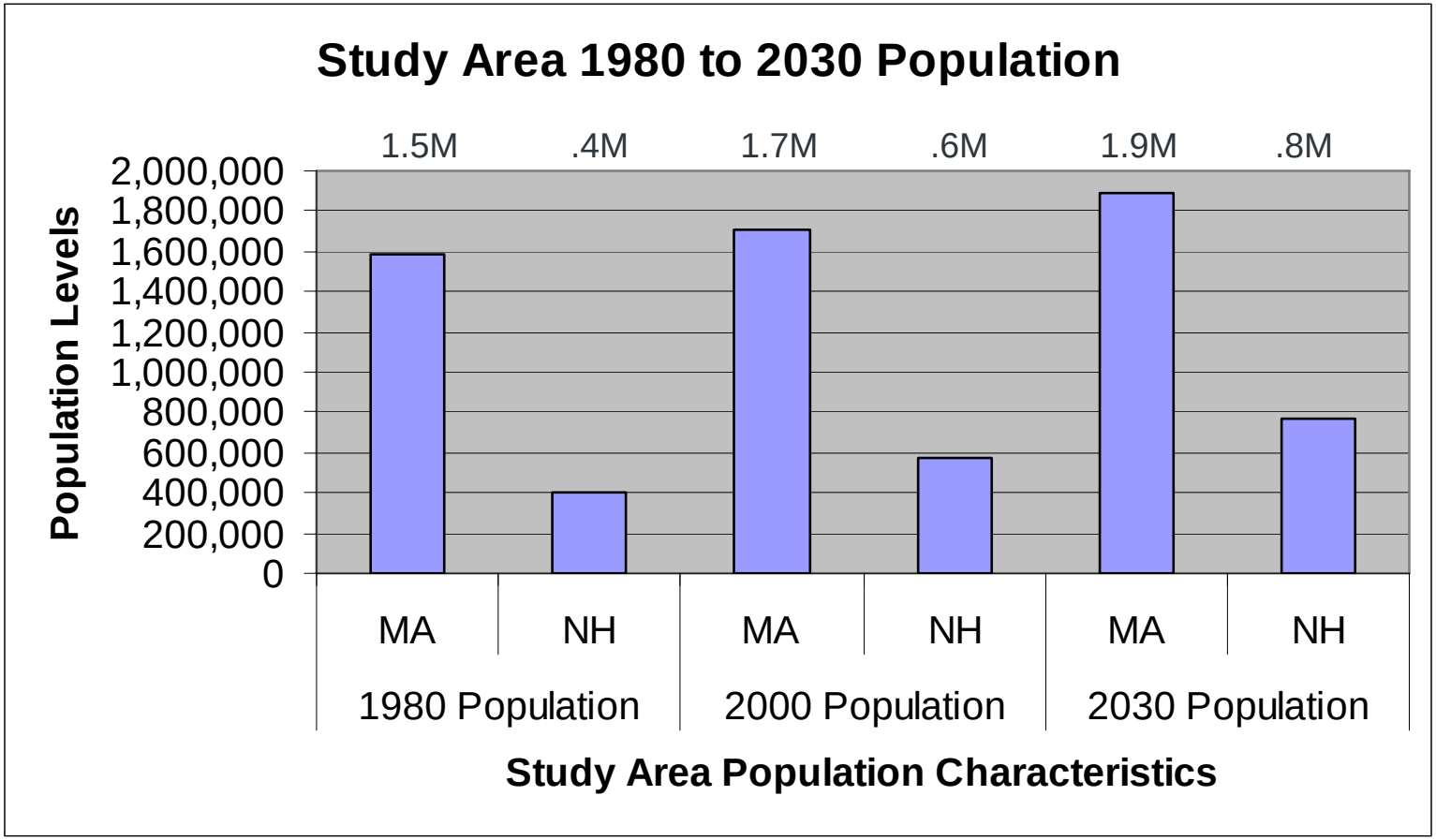
A. Population and Employment

B. Existing Transportation System

Counties & Planning Areas



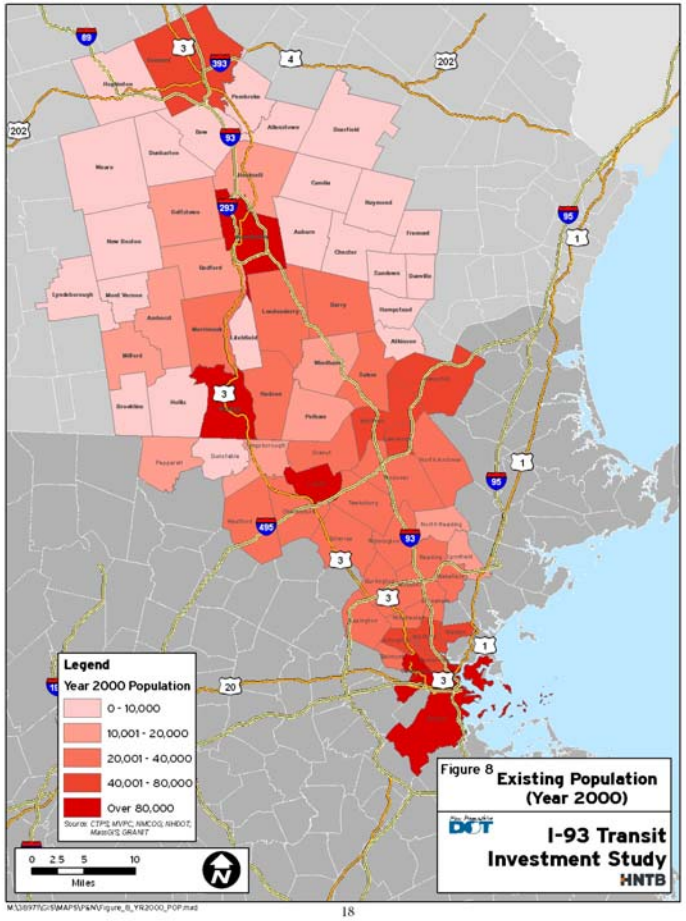
Study Area 1980-2030 Population



- **1980 – 2030 increase: MA 19%, NH 92%**
- **NH as % of total: 1980 20%, 2030 30%**

Population Growth

Existing Population (Year 2000)



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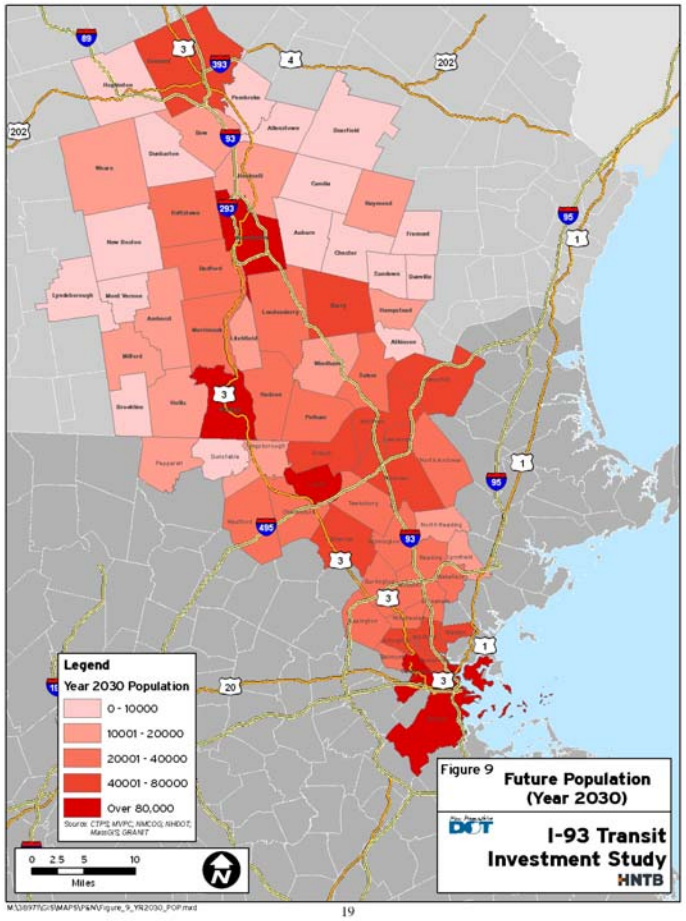
Future population (Year 2030)



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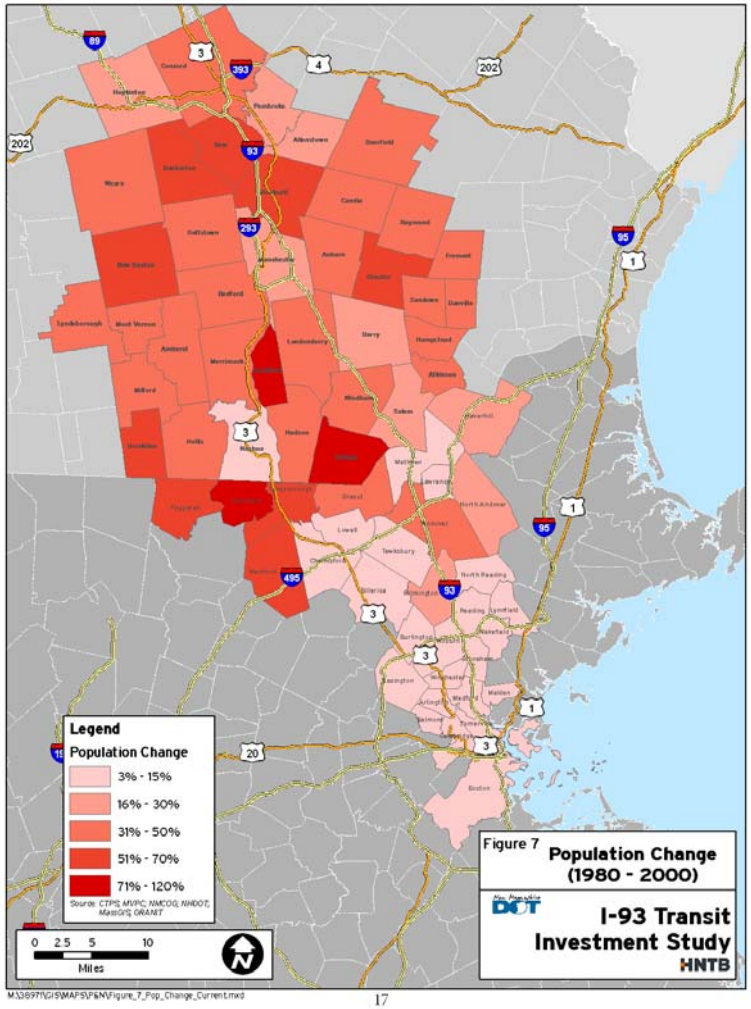
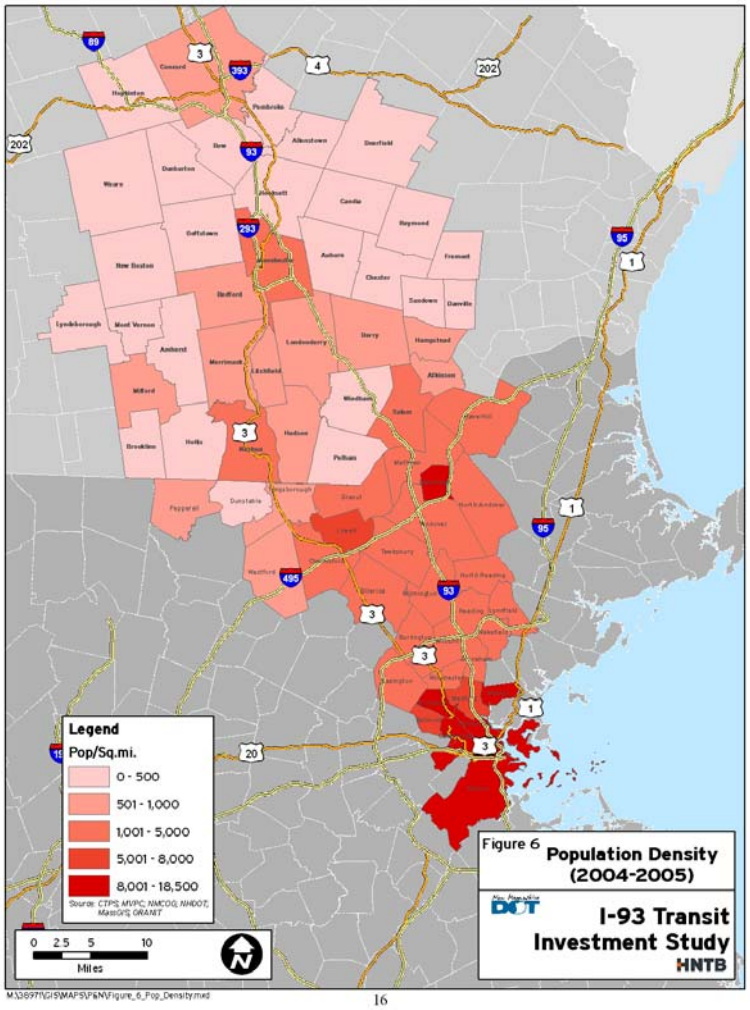
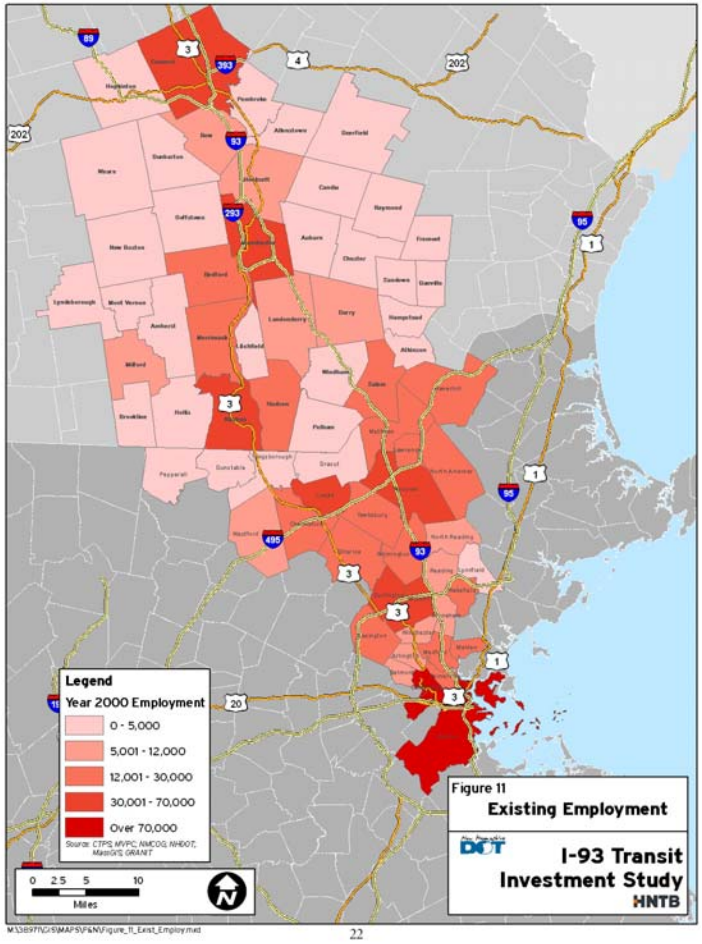
Population Change



Population Density



Employment



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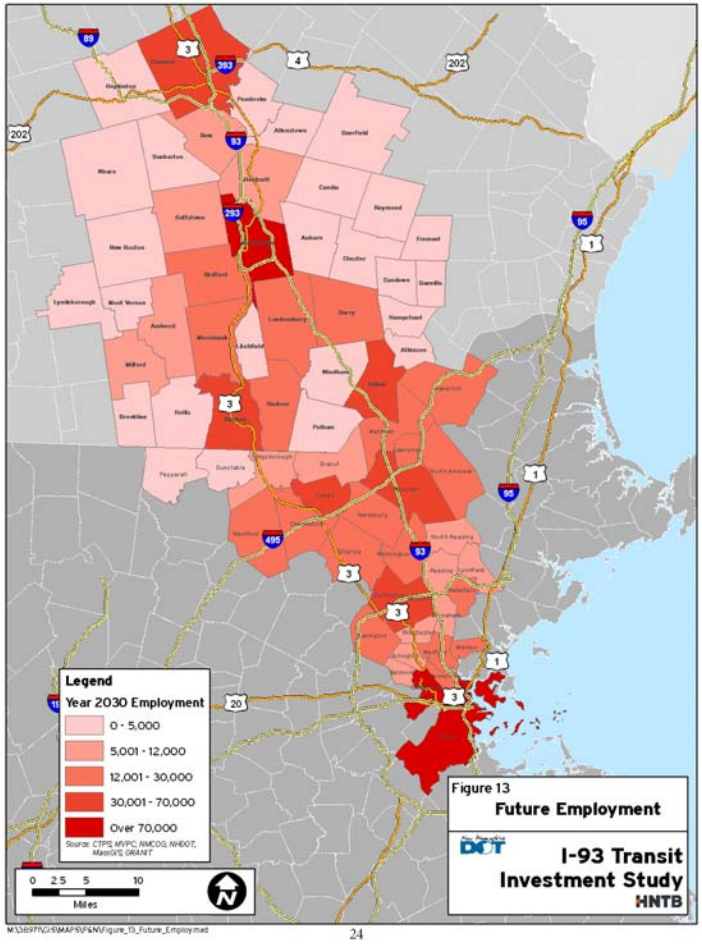

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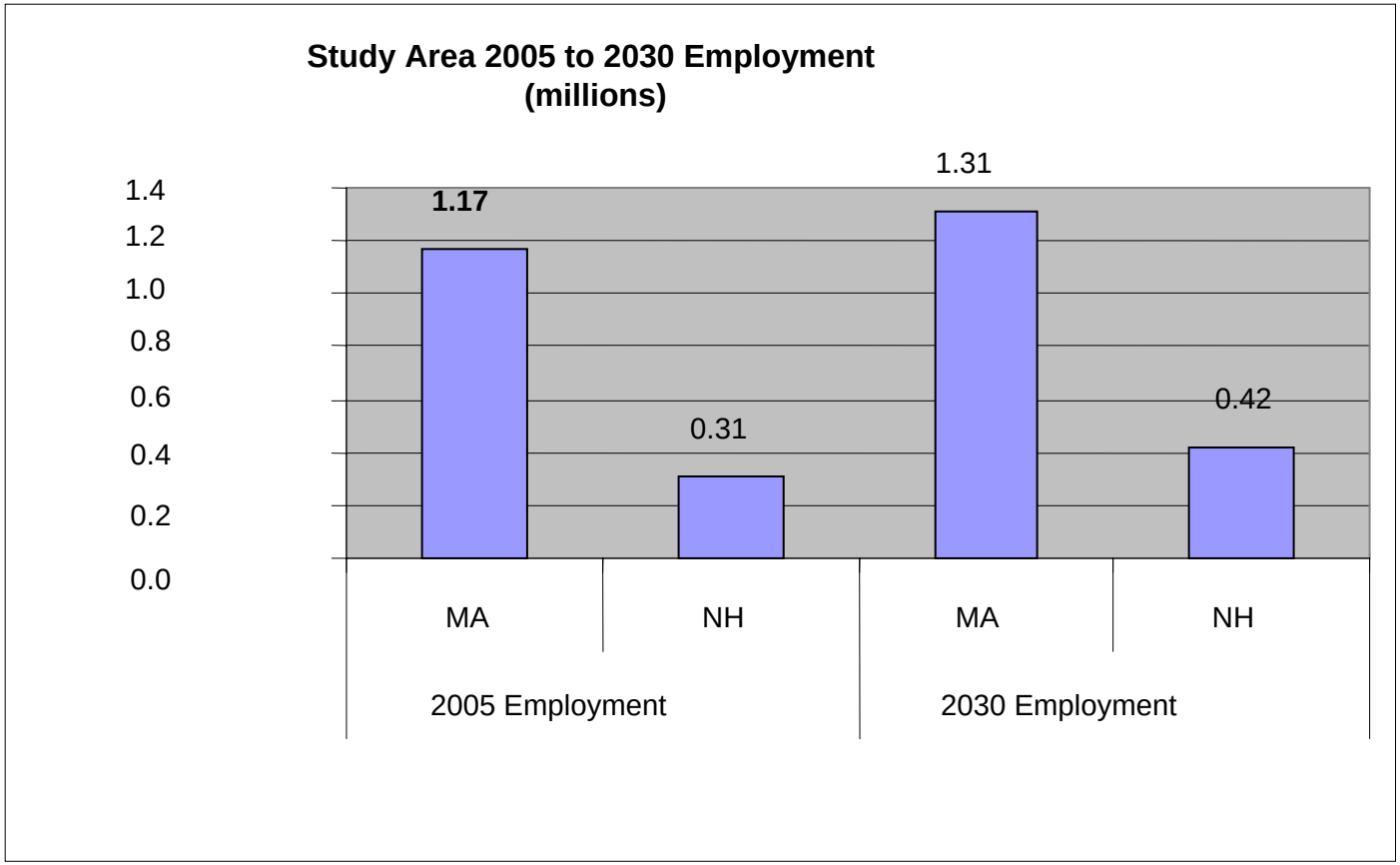
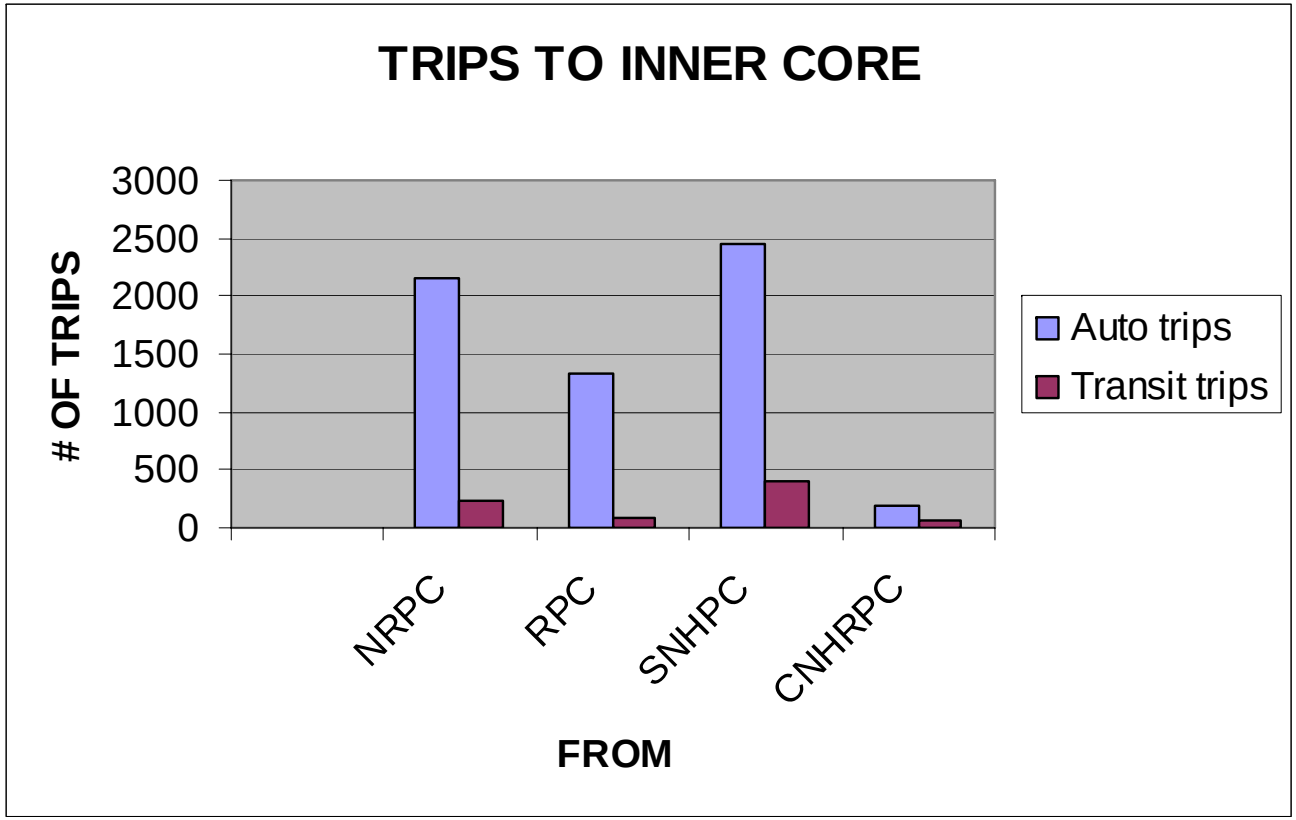
Study Area 2005 – 2030 Employment Changes



- **Greatest employment increases**
  - **Boston CPD**
  - **I-93, US 3 corridor communities**

Characteristics of Travel

Table 2



Existing Conditions – Highways

Existing Conditions - Highways

Average Daily Traffic

Vehicles Per Day (VPD)

I - 93		
New Hampshire	Manchester (between exits 7 and 8)	71,000
	Manchester (between exits 6 and 7)	85,000
	Manchester (No. of I-293) (between exits 5A and 6)	101,000
	Londonderry (between exits 5 and 5A)	77,000
	Windham (between exits 4 and 5)	72,000
	Londonderry (between exits 3 and 4)	73,000
	Londonderry (between exits 2 and 3)	84,000
	Londonderry (between exits 1 and 2)	87,000

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Existing Conditions – Highways (cont.)

	Average Daily Traffic (cont'd)	**VPD**
Massachusetts	Methuen (between exits 48 and State Line)	101,100
	Methuen (between exits 46 and 47)	126,900
	Andover (No. of I-495) (between exits 44 and 45)	136,400
	Andover (between exits 43 and 44)	137,400
	Andover (between exits 42 and 43)	138,700
	Andover (between exits 41 and 42)	140,400
	Wilmington (between exits 40 and 41)	154,900
	Woburn (No. of I-95) (between exits 37 and 38)	163,200
	Stoneham (between exits 35 and 36)	183,700
	Stoneham (between exits 33 and 34)	172,600
	Medford (between exits 33 and 34)	177,900
	Medford (between exits 30 and 31)	170,400
	Medford (between exits 32 and 33)	169,000
	Medford (between exits 31 and 32)	166,000
	Somerville (between exits 29 and 30)	130,300

Existing Conditions – Highways (cont.)

Average Daily Traffic (cont'd)		**VPD**
I-95		
Massachusetts	Lynnfield (between exits 42 and 43)	132,100
	Wakefield (between exits 41 and 42)	131,300
	Wakefield (between exits 40 and 41)	135,000
	Wakefield (between exits 39 and 40)	134,800
	Woburn (West of I-93) (between exits 36 and 37)	172,700
	Woburn (between exits 35 and 36)	174,200
	Woburn (between exits 34 and 35)	154,300
	Burlington (between exits 33 and 34)	176,000
	Lexington (between exits 30 and 31)	171,800

Existing Conditions – Highways (cont.)

	Average Daily Traffic (cont'd)	**VPD**
	Route 3/F.E. Everett Tpke	
New Hampshire	Bedford (at Bedford Toll)	47,000
	Merrimack (between exists 10 and 11)	56,000
	Nashua (between exists 7 and 8)	71,000
	Nashua (between exists 6 and 7)	94,000
	Nashua (between exists 4 and 5)	101,000
	Nashua (between exits 2 and 3)	97,000
	Nashua (between State Line and exit 1)	81,000
Massachusetts	Tyngsborough (between exits 36 and 37)	63,800
	Tyngsborough (between exits 35 and 36)	86,500
	Tyngsborough (between exits 34 and 35)	77,900
	Chelmsford (So. of I-495) (between exits 29 and 30)	60,000
	Billerica (between exits 28 and 29)	72,300
	Billerica (between exits 27 and 28)	84,100

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Existing Conditions – Highways (cont.)

Average Daily Traffic (cont'd) **VPD**

I-495		
Massachusetts	Haverhill (between exits 49 and 50)	84,100
	Methuen (between exits 45 and 46)	102,500
	Lawrence (between exits 42 and 43)	99,500
	Andover (No. of I-93) (between exits 40 and 41)	97,200
	Lowell (between exits 36 and 37)	121,600
	Chelmsford (between exits 33 and 34)	104,300

VPD = vehicles per day

Sources: Mass Highway (2004) and NH DOT (2004)

Note: Route 3 data is Mass Highway (1999, 2000, & 2001) prior to improvement project

F.E. Everett Tpke data is 2003 and I-95 data is 2005

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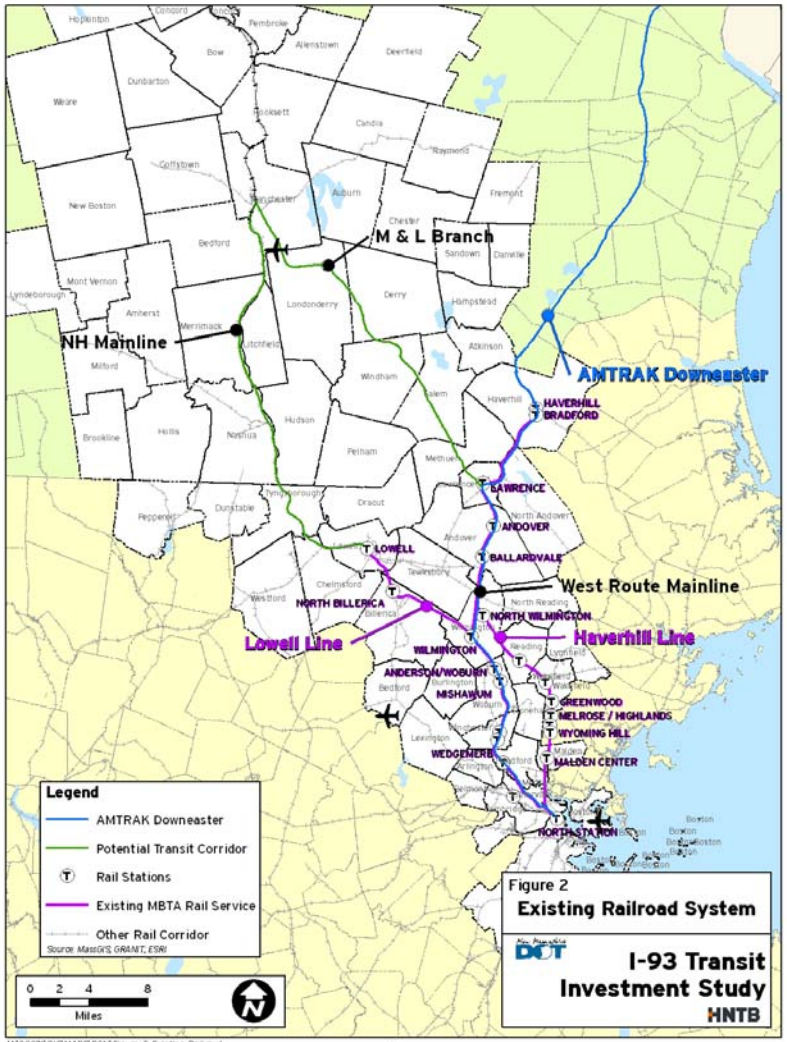
Existing Railroad System



Existing Traffic Service

Bus Services

1. I-93 Corridor Bus Services
2. Local

Consistency with Long Range Plans

A. Transit-Oriented Development: Consistency with Smart Growth Principles
   - Achieving Smart Growth in New Hampshire
   - The New Hampshire Long Range Transportation Plan (Community Advisory Committee)
   - The Commonwealth of Massachusetts Long-Range Transportation Plan
   - The Massachusetts Office of Commonwealth Development. Principles for sustainable development

B. Transportation Needs in MA and NH Long Range Transportation Plans

C. Technical Advisory Committee/Stakeholder Committee

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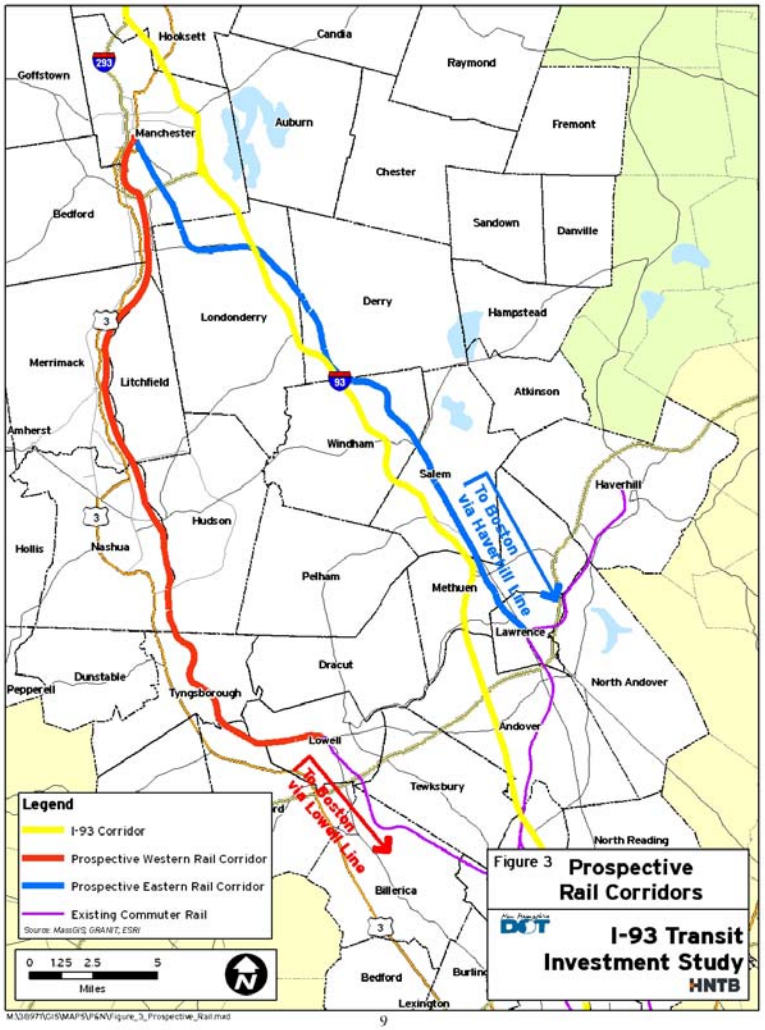
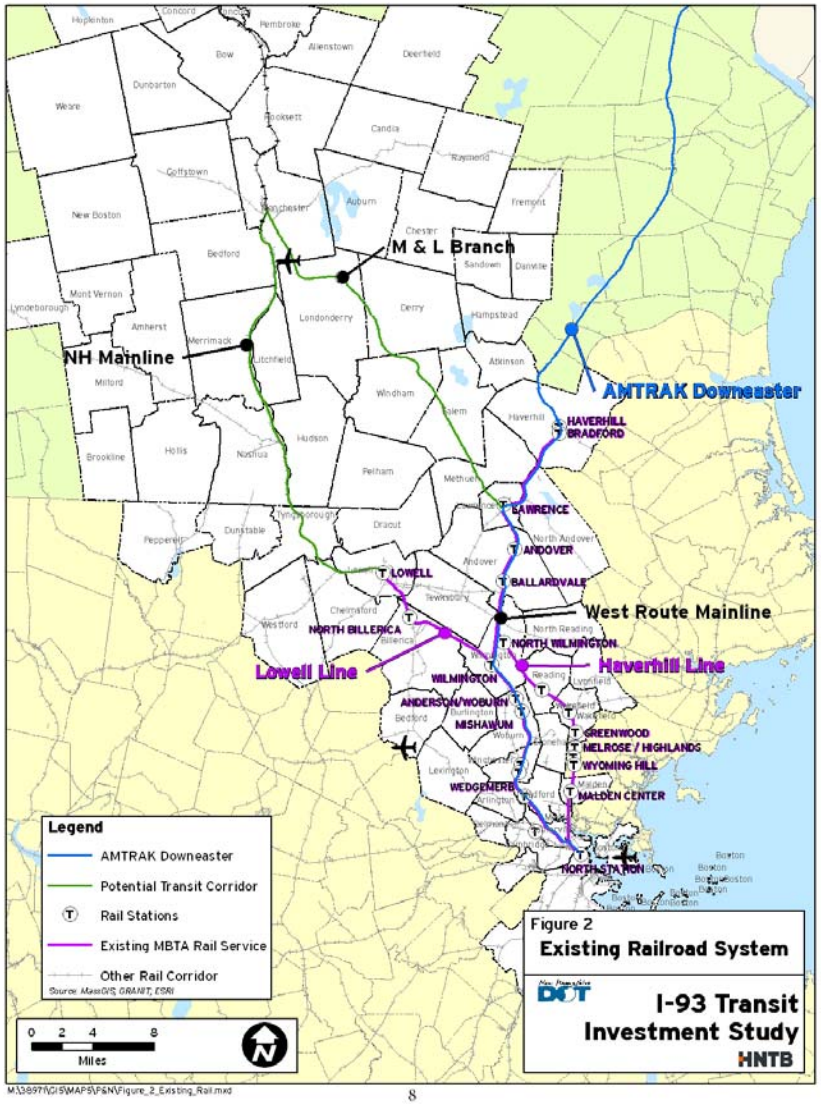
Prospective Railroad Corridors



Eastern Alignment

	Service	Description	Outer Terminal	Inner Terminal	Approx. Length (miles)	Trip Time (Minutes)
E1	Boston Service	Direct service from Manchester to Boston using Wildcat Branch and Lowell Line.	Manchester (Airport)	North Station	50	78
E2	Anderson Service	Service from Manchester to Anderson RTC with cross platform transfer to MBTA Lowell trains using existing station.	Manchester (Airport)	Anderson RTC (North Station with transfer)	51	83
E3	Andover Service	Service from Manchester to Andover with a cross platform transfer to MBTA trains at Andover. Separate station track required to allow for berthing of trains off mainline.	Manchester (Airport)	Andover (North Station with transfer)	53	85-97
E4	Lawrence Service	Service from Manchester to Lawrence with a cross platform transfer to MBTA trains at Lawrence. Separate station track at Lawrence to allow for trains to berth off mainline.	Manchester (Airport)	Lawrence (North Station with transfer)	54	88-100



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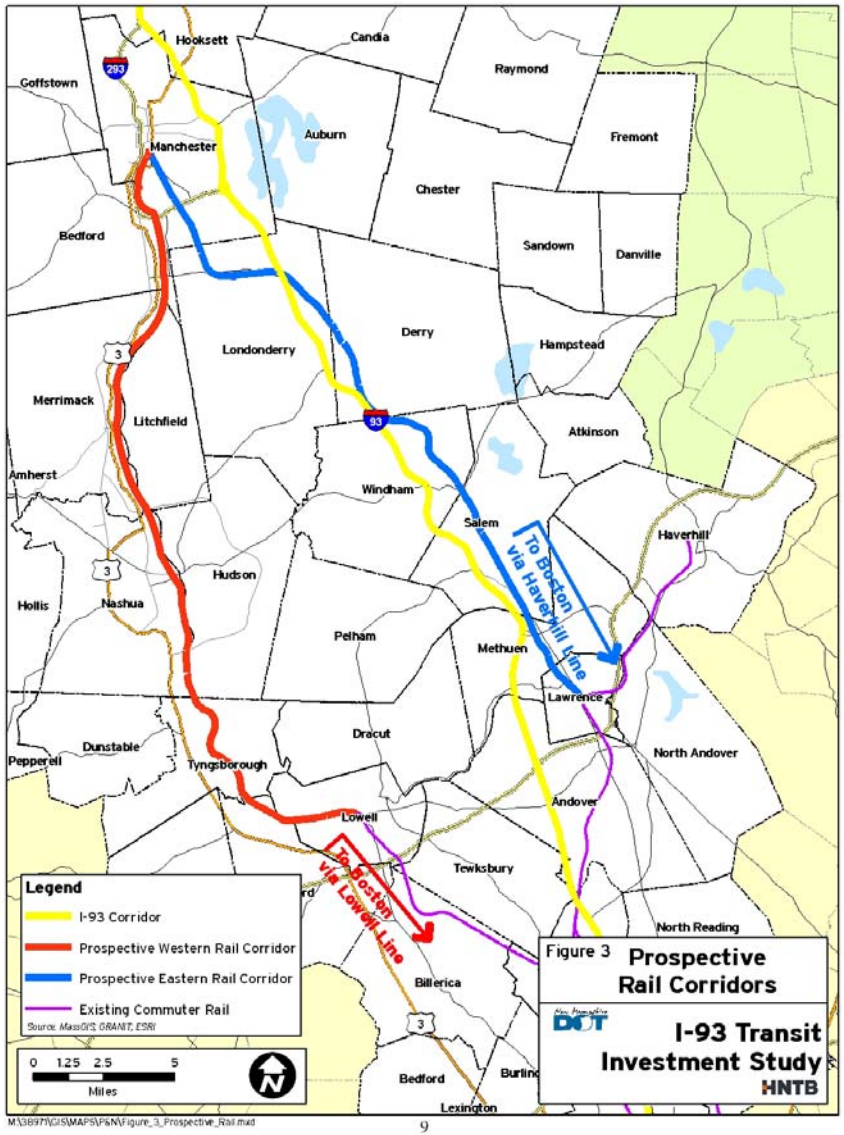

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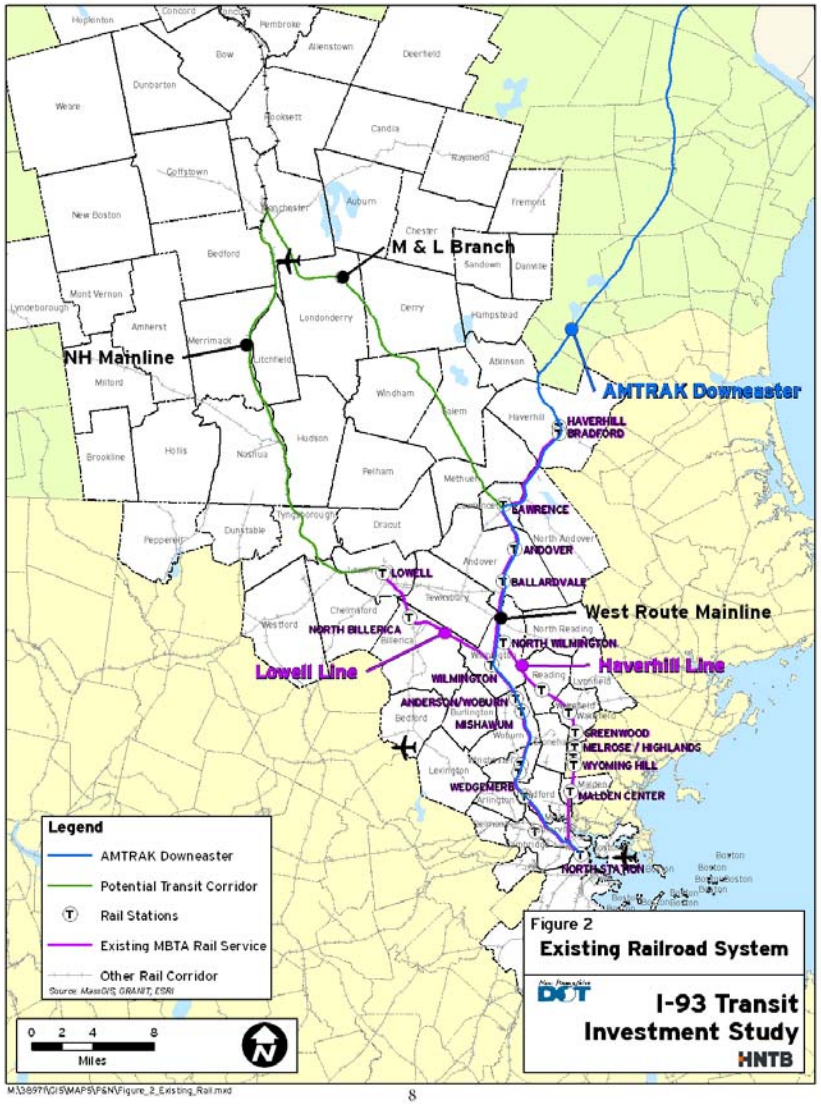
Highway Alignment

	Service	Description	Outer Terminal	Inner Terminal	Approx. Length (miles)	Trip Time (Minutes)
H1	Boston Service	Full service from Manchester to Anderson using the highway ROW and then Lowell Line to North Station.	Manchester (Airport)	North Station	56	80
H2	Anderson Service	Service from Manchester to Anderson RTC with cross platform transfers possible.	Manchester (Airport)	Anderson RTC (North Station with transfer)	56	85
H3	Andover Service	Service from Manchester to Salem on I-93 before accessing M&L to reach Andover. Cross platform transfer to MBTA trains at Andover.	Manchester (Airport)	Andover (North Station with transfer)	57	94-106
H4	Lawrence Service	Service from Manchester to Salem on I-93 before accessing M&L to reach Lawrence. Cross platform transfer to MBTA trains at Lawrence.	Manchester (Airport)	Lawrence (North Station with transfer)	59	99-111



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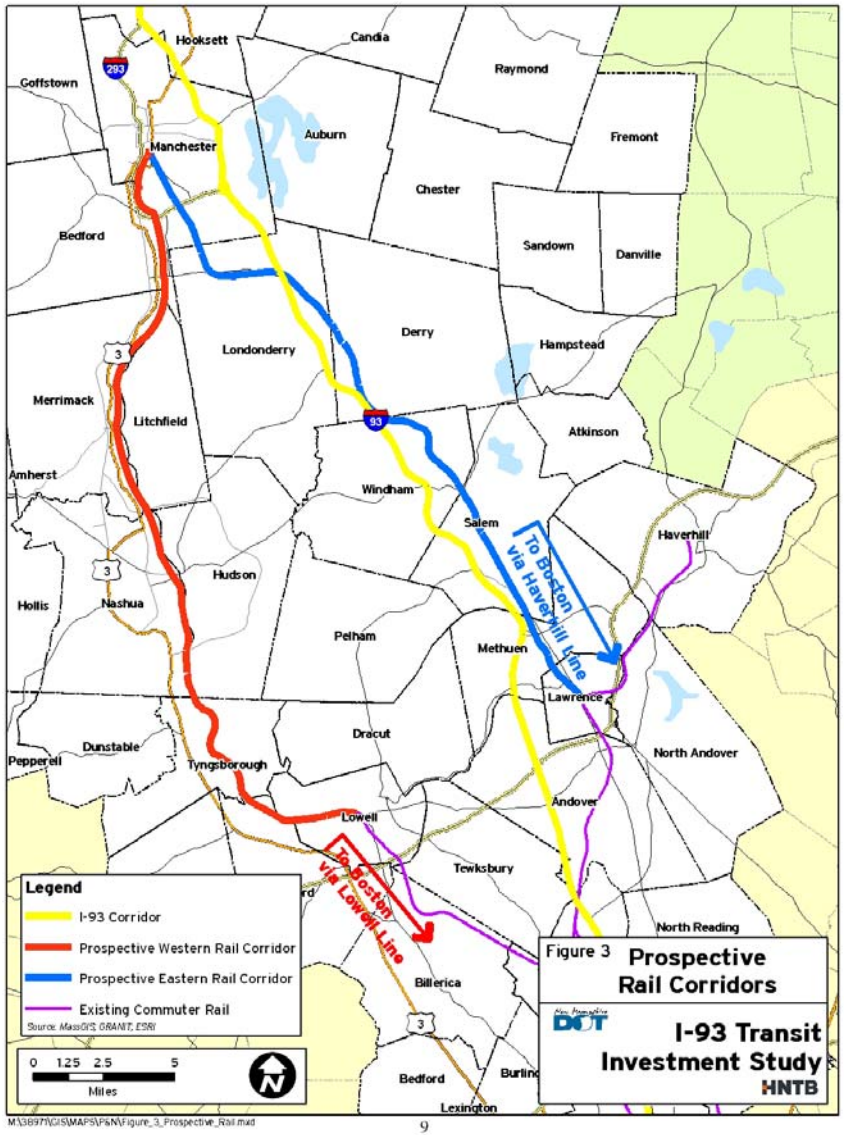

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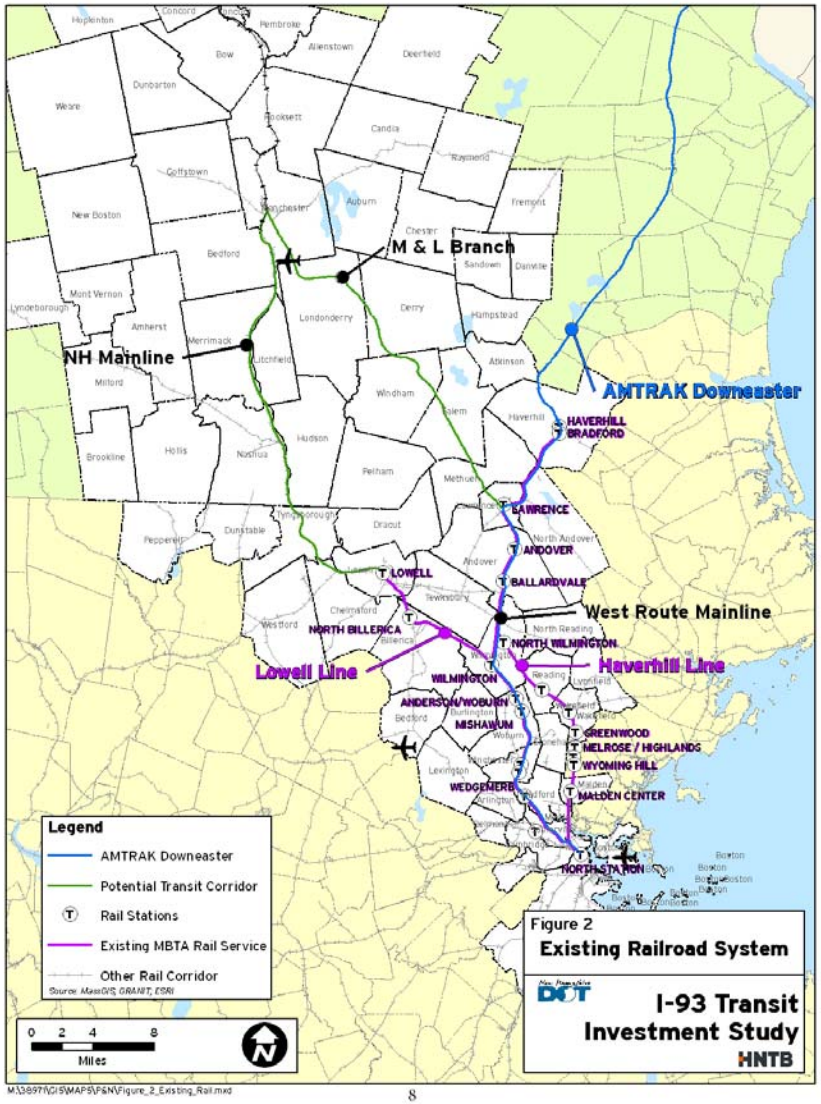
Western Alignment

	Service	Description	Outer Terminal	Inner Terminal	Approx. Length (miles)	Trip Time (Minutes)
W1	Boston Service	Full service between Manchester and Boston using NHML, serving Merrimack, Nashua, Lowell, and Anderson stations.	Manchester (Airport)	North Station	56	75
W2	Anderson Service	Service from Manchester to Anderson RTC with cross platform transfer at Anderson station.	Manchester (Airport)	Anderson RTC (North Station with transfer)	56	80
W3	Lowell Service	Service from Manchester to Lowell with cross platform transfer in Lowell.	Manchester (Airport)	Lowell (North Station with transfer)	56	84-91



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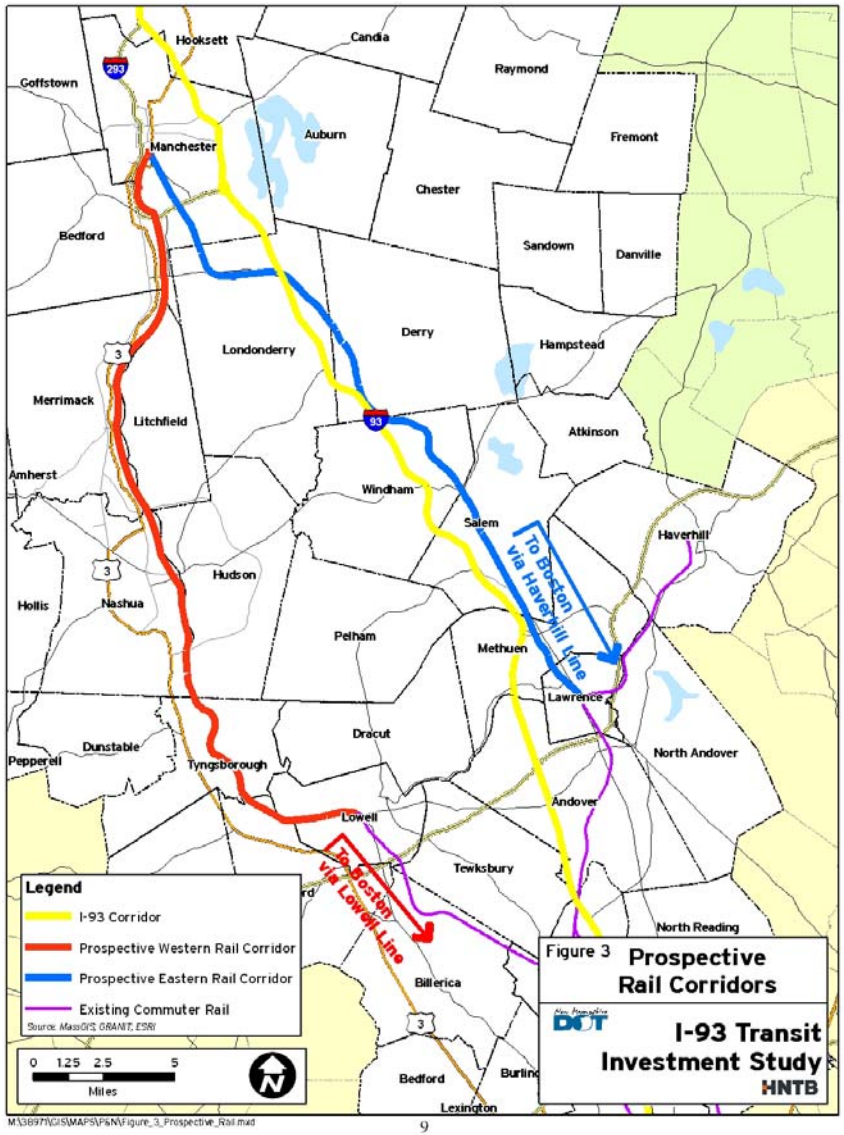

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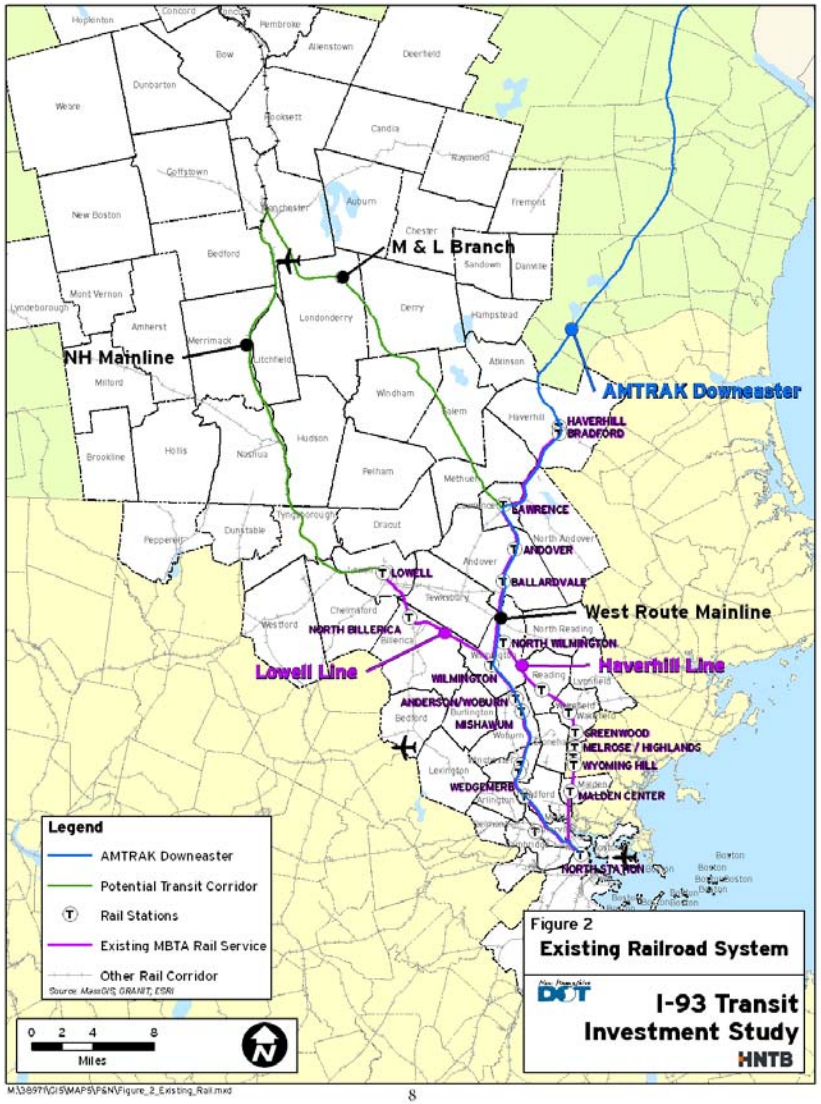
Bus Rapid Transit

	Service	Description	Outer Terminal	Inner Terminal	Approx. Length (miles)	Trip Time (Minutes)
B1A	Highway Alignment: Transit ROW	Direct service from Manchester to Boston using I-93 using planned transit ROW to state line.	Manchester (Airport)	Boston	56	80
B1B	Highway Alignment: No Transit ROW	Direct service from Manchester to Boston using I-93 without planned transit ROW to state line.	Manchester (Airport)	Boston	56	95
B2	Eastern Alignment	Direct service from Manchester to Boston using M&L Branch and I-93.	Manchester (Airport)	Boston	50	65
B3	Western Alignment	Direct service from Manchester to Boston using Route 3, Route 128 and I-93	Manchester (Airport)	Boston	61	105



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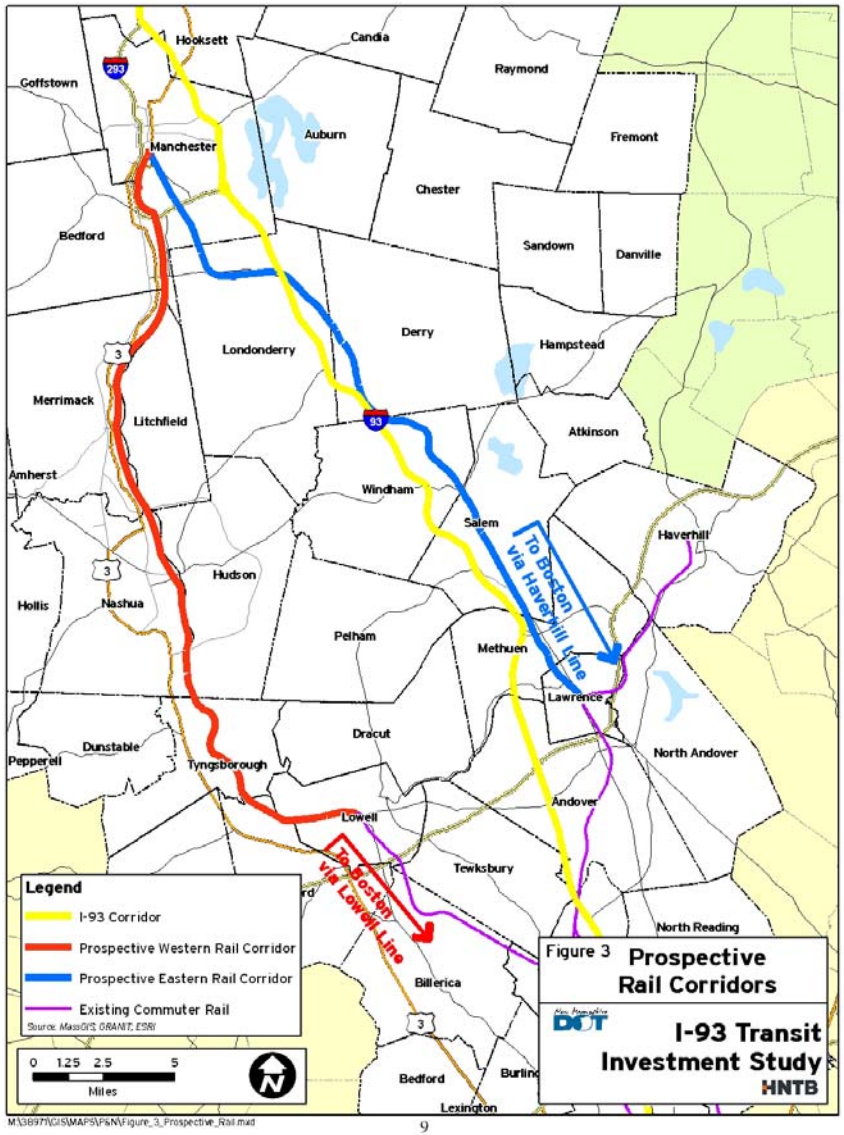

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