

IMPLEMENTATION FRAMEWORK

The Town of Natick, in cooperation with the Massachusetts Bay Transportation Authority (MBTA) and the MetroWest Regional Transit Authority (MWRTA) completed a feasibility study to identify a preferred option for improvements to the Natick Center MBTA Commuter Rail Station in Natick, Massachusetts (see Purpose and Need Statement). This project has resulted in a preferred option that is well thought out from the perspectives of meeting local needs and operational considerations of the transit authorities. This Implementation Framework identifies the steps necessary to reach the preferred option, while advancing interim improvements to enhance access in the short, medium and long term.

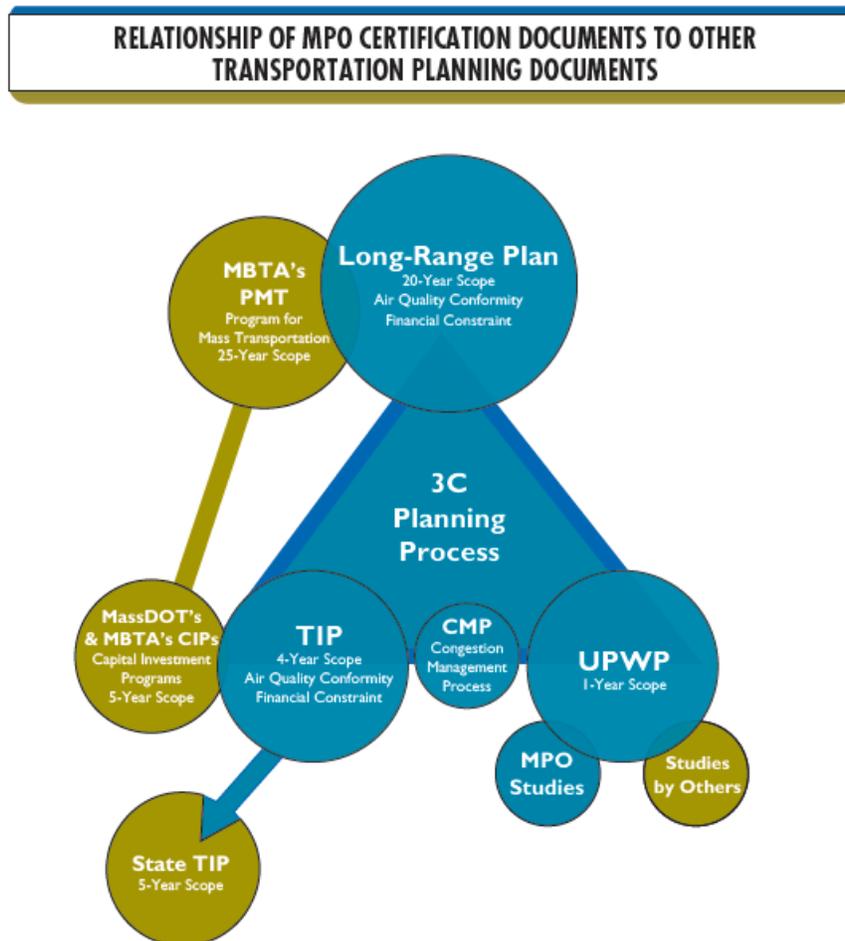
There are three major areas to address through this Implementation Framework:

1. Ongoing collaboration of project parties: Due to the collaborative nature of the feasibility study, the MBTA and MWRTA have been involved in the development of the preferred option. However, ongoing collaboration is essential to the successful implementation of the option that best meets the needs of transit providers and the Town of Natick. Close coordination with the transit agencies may yield quicker results for final design and implementation. Through the feasibility study process, it was noted that MBTA stations with the need for accessibility improvements may be prioritized over other station improvements when limited funds are allocated system-wide.
2. Outreach, public and business support: The Town of Natick initiated this feasibility study to ensure that it was grounded in the vision of the community for Natick Center and a multi-modal transportation station. Continued public outreach is important to maintain enthusiasm and support for station improvements. This foundation will assist in advocacy for support at the state and federal levels.
3. Secure funding: Preliminary, order-of-magnitude cost estimates have been prepared for the design and construction of the MBTA commuter rail station, MWRTA bus station, and associated pedestrian and bicycle improvements to enhance the transit-oriented focus of the proposed transit facilities (see Attachments 1 and 2). There is a wide-range of funding options potentially available to implement the overall preferred option with an incremental approach.



Federal and State Funding

The three focus areas outlined above coalesce into the project development process in Massachusetts. State funding for transportation capital improvements requires that the project be included in regional transportation plans and programs. Natick is in the Boston Region Metropolitan Planning Organization (MPO), which is responsible for conducting the federally required metropolitan transportation-planning for the Boston metropolitan area. The MPO uses this process to develop a vision for the region and then decides how to allocate federal and state transportation funds to programs and projects – roadway, transit, bicycle, and pedestrian – that support that vision. This vision is integral to several certification documents that are used to allot funds through the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). These programs are summarized in the diagram, below, and described at the end of this section.



Source: *The Public Participation Program of the Boston Region Metropolitan Planning Organization*, Updated May 2012.



There are a range of federal and state grants to fund transportation improvements that are available annually, or by special appropriation (see Attachment 3). However, federal and state funding programs typically require that a project be included in the applicable MPO documents.

Local Funding

Local funding may be an option through various economic development initiatives or other planned transportation improvements (such as Chapter 90 funds for roadway improvements). These funds can also be used as a match for grant sources.

Public-Private Partnership

A public-private partnership (PPP) is a contractual arrangement between a public agency (federal, state, or local) and a private sector entity that allow for greater private sector participation in the delivery and financing of transportation projects. Early involvement of the private sector can bring creativity, efficiency, and capital to address complex transportation problems facing State and local governments. FTA and FHWA encourage the consideration of PPP in the development of transportation improvements.

Other Sources

Mechanisms such as Business Improvement Districts, Tax Increment Financing or other dedicated revenue streams can also provide a source of funds for transportation improvements.

List of Acronyms

MBTA SAC: MBTA Station Advisory Committee (Town of Natick)

BoS: Board of Selectmen (Town of Natick)

CDD: Community Development Department (Town of Natick)

DPW: Department of Public Works (Town of Natick)

MWRTA: MetroWest Regional Transit Authority

MBTA: Massachusetts Bay Transit Authority

MassDOT: Massachusetts Department of Transportation

TIP: Transportation Improvement Program

PMT: Program for Mass Transportation

TAP: Transportation Alternatives Program

CMAQ: Congestion Mitigation and Air Quality Improvement Program

PPP: Public-Private Partnership

BID: Business Improvement District



Natick Center MBTA Commuter Rail Station Improvements

Immediate

Action	Estimated Cost	Primary Responsibility	Supporting Responsibility	Funding Source(s)
Designate a Board or Committee to oversee this implementation plan (MBTA Station Implementation Committee).	None	MBTA SAC	BoS	n/a
Provide Purpose and Need Statement to Boston MPO for consideration in RTP/PMT.	None	MBTA SAC	BoS	n/a
Provide Purpose and Need Statement to MBTA & MWRTA for consideration in the TIP.	None	MBTA SAC	BoS	n/a
Work with State and Federal delegation to gain support for the project.	None	MBTA SAC	Bos	n/a
Work with MBTA to provide more bicycle parking.	To be determined with MBTA	MBTA SAC	BoS	n/a
Include project information on Town of Natick website to keep the public and interested stakeholders informed.	Overhead	MBTA Station Implementation Committee	IT/Communication Department	n/a
Work with MassDOT to advocate for Spring Street bridge to be utilized as a pedestrian and bicycle bridge, and access point to commuter rail platform.	None	MBTA SAC	DPW/Town Engineer	n/a

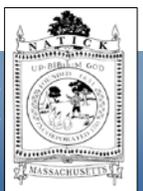
Short-Term

Action	Estimated Cost	Primary Responsibility	Supporting Responsibility	Funding Source(s)
Work with the MBTA to provide improvements for passenger safety and convenience until the long-term solution can be implemented.	Unknown	MBTA SAC	MBTA	To be determined
Secure funding for design of streetscape improvements on North Avenue that strengthen the connection between MWRTA bus service and MBTA Commuter Rail services.	\$104,000	MBTA Implementation Committee	CDD, DPW	MassWorks FTA funding thru MWRTA TAP Town funds
Secure funding for design of streetscape improvements on Middlesex Avenue and South Avenue to improve connections from the heart of Natick Center	\$29,000 (Middlesex Ave) \$70,000 (South Ave) \$20,000	MBTA Implementation Committee	CDD, DPW	MassWorks FTA funding thru MWRTA TAP Town funds



Natick Center MBTA Commuter Rail Station Improvements

and town-controlled parking lots.	(Main/Middlesex/South gateway)			
Secure funding for design of Cochituate and Spring Streets to improve connections from the growing residential area north of the station.	\$53,000 (does not include pedestrian bridge)	MBTA Implementation Committee	CDD, DPW	MassWorks FTA funding thru MWRTA TAP Town funds
Determine the street-grade connection from the Cochituate Rail Trail (CRT) to access points for the Natick Center Station.	Unknown	MBTA Implementation Committee	CDD, CRT Committee	CMAQ TAP
Explore options for air-rights development that support the future vision for the Natick Center Station and the surrounding neighborhood.	Unknown	CDD	BoS	PPP
Explore air-rights busway development to enhance access to bus transit and connection to station.	\$22 million construction estimate*	MWRTA	CDD; MBTA	MWRTA; PPP
Explore the creation of a business improvement district (BID) for funding streetscape improvement projects.	Unknown	BoS	CDD	PPP
Retain Spring Street bridge for pedestrian and bicyclist access, and access to commuter rail platform.	Unknown	MBTA Implementation Committee	CDD	MassWorks FTA funding thru MWRTA TAP CMAQ Town funds
Coordinate North Main Street design plans with design for Cochituate Street and North Avenue.	None	MassDOT	DPW, CDD	n/a
Coordinate design for drainage improvements at the existing station with the future plans for an upgraded station.	Unknown	MBTA	BoS	MBTA
Secure funding for design and permitting of upgraded station.	\$6.2 million*	MBTA Implementation Committee	BoS	MBTA, FTA; Grants to be identified



Natick Center MBTA Commuter Rail Station Improvements

Medium-Term

Action	Estimated Cost	Primary Responsibility	Supporting Responsibility	Funding Source(s)
Conduct and complete environmental permitting and design for upgraded station	(included in costs above)	CDD; MBTA Implementation Committee		n/a
Construct streetscape improvements <ul style="list-style-type: none"> • Cochituate/Spring Streets (\$210,000) • Middlesex Avenue (\$115,000) • South Avenue (\$280,000) • North Avenue (\$415,000) • Main Street Gateway (\$80,000) 	\$1.1 million*	DPW		(see short-term)

Long-Term

Action	Estimated Cost	Primary Responsibility	Supporting Responsibility	Funding Source(s)
Secure funding for upgraded station (pedestrian plaza option – air rights busway estimated to more than double cost)	\$20 million	CDD, MBTA Station Implementation Committee	BoS	FTA through MBTA; TIGER
Bid and construct upgraded station.	(included in cost estimate above)	CDD		n/a

*Based on order of magnitude cost estimates for planning purposes, pending final design



Overview of Boston MPO process for Certification Documents for Federal and State Funding

The Long-Range Transportation Plan (LRTP) guides investment in the transportation system of the Boston metropolitan region over at least the next 20 years. The MPO develops a new LRTP every four years, so that it will be responsive to the region's continuously evolving needs. The current LRTP is entitled *Paths to a Sustainable Region*. It was adopted by the MPO on September 22, 2011, and was approved by the FTA and the FHWA on November 30, 2011.

The Transportation Improvement Program (TIP), provides for transportation improvement projects expected to be implemented during the following four-year period. The TIP must be consistent with the LRTP, and a transportation improvement project must be listed in the TIP before it can be implemented using federal funds. The TIP is updated annually, with the most recent TIP being for federal fiscal years (FFYs) 2014–17. It was adopted by the MPO on June 25, 2013, and subsequently approved by the FHWA and FTA.

The Program for Mass Transportation (PMT) is the MBTA's long-range capital planning document, which defines a 25-year vision for public transportation in eastern Massachusetts. The MBTA's enabling legislation requires the Authority to update the PMT every five years and to implement the policies and priorities outlined in it through the annual Capital Investment Program (CIP). The PMT also defines the universe of transit projects that can be drawn on for inclusion in the Boston MPO's LRTP and TIP. In addition to supporting regional planning, the PMT provides input to the statewide, multimodal, long-range transportation plan developed by the Massachusetts Department of Transportation.

The MBTA's Capital Investment Program (CIP) is a rolling five-year plan, which outlines current infrastructure needs and details planned investments. It is used to implement the PMT. The CIP focuses mainly on improvements and upgrades to vehicles, stations, tracks, signals, power systems, bridges, tunnels, and maintenance facilities, which increase safety and system reliability. Also included are initiatives to enhance customer service and accessibility improvements that will benefit all riders.

Federal funds available to MWRTA through the FTA are programmed for use in MWRTA's Capital Plan. Federal regulations under the Moving Ahead for Progress in the 21st Century (MAP-21) increase the emphasis on maintaining transit assets in a State



Natick Center MBTA Commuter Rail Station Improvements

of Good Repair (Section 5337), as well as Transit Capital Investments (Section 5309). MWRTA must address current assets in its Capital Plan before undertaking additional transit enhancements. A portion of MWRTA's Capital Plan can be used for transit enhancements, now known as "associated transit improvements" under MAP-21. These include projects such as pedestrian and bicycle facilities that are physically or functionally related to transit facilities.



**Attachment 1:
NATICK CENTER MBTA COMMUTER RAIL STATION**

**ORDER OF MAGNITUDE ESTIMATE OF PROBABLE COST FOR COMMUTER RAIL
STATION IMPROVEMENTS**

Prepared by:

URS Corporation

**NATICK CENTER MBTA COMMUTER RAIL STATION
ORDER OF MAGNITUDE ESTIMATE OF PROBABLE COST**

May 21, 2014

This Order of Magnitude probable cost has been estimated for a potential new commuter rail passenger station at Natick Center.

The Items of Work that are included are:

- Full High Level Center Platform with shelters, elevator, stairs and ramps;
- Pedestrian deck over the commuter rail Right-of-Way (ROW)
- Special trackwork for trains to crossover from one side of the platform to the other;
- Two (2) new tracks including rail, ties, ballast, subballast, sub drainage and signal conduit;
- Signals and signal house;
- MBCR construction services.

The Items of Work that are currently not included are:

- Bus Deck over commuter rail Right-of-Way located south of North Avenue between the Main Street Bridge and Washington Street Bridge.

Item costs were estimated based upon recent construction projects for the Wachusett Extension including Littleton Station, Wachusett Station and the Knowledge Corridor.

The estimated costs of these Items of Work are:

○ Demolition, Existing Platform and Retaining Walls and Track	\$386,050
○ 12,000 feet of Track	\$3,240,000
○ Track Installation	\$540,000
○ #20 Turnouts for Crossover	\$500,000
○ Turnout Installation	\$300,000
○ 890 foot Full High Level Center Platform, Ramps and Stairs	\$3,500,000
○ One (1) Elevator	\$750,000
○ Retaining Wall and Pedestrian Deck over ROW (Option 1) with Commuter Rail Platform Canopy	\$4,869,900
○ Signal House	\$500,000
○ MBCR Flagging	\$500,000
○ MBCR Signal Crew	\$200,000

In addition to the construction costs there will be soft costs for design contingency, engineering, program management of general engineering consultant, construction management and inspection and Owner's Management Costs.

The total order of magnitude estimate of probable cost including design contingency (30% of the construction sub-total) and soft costs (31% of the construction total) is \$26 million. This includes the cost of the pedestrian platform over the commuter rail right-of-way.

Item Description	Quantity	Unit	Unit Cost	Total Cost	Comment
NATICK CENTER MBTA COMMUTER RAIL STATION					
Demolition existing track	12000	TF	\$28.00	\$336,000.00	
Demolition existing low platforms	16000	SF	\$2.00	\$32,000.00	
Demolition existing Ret Walls South Platform	6400	SF	\$2.00	\$12,800.00	
Demolition existing South high Platform and roof	1750	SF	\$3.00	\$5,250.00	
Full High Level Center Platform	1	EA	\$3,500,000.00	\$3,500,000.00	Includes stairs and ramps
#20 Turnout	2	EA	\$250,000.00	\$500,000.00	
Track - 132 RE Rail	12000	TF	\$270.00	\$3,240,000.00	Includes rail, sub drainage, subballast, ballast, ties, signal conduit
MBCR Flagging	1	LS	\$500,000.00	\$500,000.00	
MBCR Signal Crew	1	LS	\$200,000.00	\$200,000.00	
Track Installation	12000	TF	\$45.00	\$540,000.00	Install rail only
Turnout Installation	2	EA	\$150,000.00	\$300,000.00	
Signal House	1	LS	\$500,000.00	\$500,000.00	
Retaining Walls and Pedestrian Deck (Option 1)	1	LS	\$4,869,900.00	\$4,869,900.00	
Elevator	1	EA	\$750,000.00	\$750,000.00	
Construction Sub-Total				\$15,285,950.00	No contingency
Design Contingency				\$4,585,785.00	30% of Construction Sub-Total
Construction Total				\$19,871,735.00	
Soft Costs				\$6,160,237.85	31% soft costs on Construction Total
Total Estimate				\$26,031,972.85	<i>* Includes Pedestrian Deck (Option 1) over ROW.</i>
Retaining Walls and Pedestrian Deck (Option 1)					
15" Reinforced Concrete Deck	6000	SF	\$ 750.00	\$ 4,500,000.00	
Substructure/Foundation	150	LF	\$ 18.00	\$ 2,700.00	
Concrete Retaining Wall	2700	SF	\$ 36.00	\$ 97,200.00	
Platform Canopy	18000	SF	\$ 15.00	\$ 270,000.00	
Sub-Total Retaining Walls & Ped Deck (Option 1)				\$ 4,869,900.00	
Retaining Walls and Bus Deck (Option 2)					
15" Reinforced Concrete Deck	22400	SF	\$ 750.00	\$ 16,800,000.00	
Substructure/Foundation	700	LF	\$ 18.00	\$ 12,600.00	
Concrete Retaining Wall	12600	SF	\$ 36.00	\$ 453,600.00	
15" Reinforced Concrete Deck	6000	SF	\$ 750.00	\$ 4,500,000.00	
Platform Canopy	12800	SF	\$ 15.00	\$ 192,000.00	
Sub-Total Retaining Walls & Bus Deck (Option 2)				\$ 21,958,200.00	
Littleton					
				\$9,250,000.00	inc parking lot & retaining walls
Full High Center Platform	800	LF		\$0.00	inc ramp
#20 Turnout	2	EA	\$200,000.00	\$400,000.00	
Track - 132 RE Rail	2000	TF	\$200.00	\$400,000.00	inc rail, sub drainage, sub ballast, ballast, ties, signal conduit
MBCR Flagging	1	LS	\$500,000.00	\$500,000.00	
MBCR Signal Crew	1	LS		\$0.00	
Track Installation	2000	TF	\$450.00	\$900,000.00	install rail only
Turnout Installation	2	EA	\$150,000.00	\$300,000.00	
				\$2,500,000.00	
Knowledge Corridor					
				\$0.00	
Full High Center Platform		LF		\$0.00	
#20 Turnout		EA		\$0.00	
Track - 132 RE Rail	4700	TF	\$0.00	\$0.00	MBTA supplied
MBCR Flagging		LS		\$0.00	
MBCR Signal Crew	1	LS	\$200,000.00	\$200,000.00	
Track Installation	4700	TF	\$200.00	\$940,000.00	inc sub drainage, sub ballast, ballast, ties, signal conduit
Turnout Installation		EA		\$0.00	
Signal House	1	LS	\$500,000.00	\$500,000.00	
MWRRI High Speed Rail					
HSR on Existing Roadbed		Mile	\$1,421,000.00		
Install CTC System Double Track		Mile	\$429,000.00		
Install PTC System		Mile	\$282,000.00		
Signals for Turnout		EA	\$573,000.00		
#20 Turnout Timber		EA	\$177,000.00		
New Terminal Station		EA	\$2,863,000.00		

Wachusett				\$11,000,000.00	
parking lots				\$2,000,000.00	
track work				\$2,500,000.00	
retaining walls				\$2,600,000.00	
platforms				\$3,900,000.00	
				\$11,000,000.00	

Natick Center MBTA Commuter Rail Station Improvements

**Order-of-Magnitude Preliminary Cost Estimates
Streetscape and Gateway Improvements**

Cochituate Street and Spring Street

			Construction	Design
Curb & Sidewalk	1300 LF	\$140,000		
Full Depth Pavement	270 SY	\$45,000		
Street Trees	200 LF	\$22,500		
		\$207,500	SAY \$ 210,000 *	\$ 52,500.00

Middlesex Avenue

Curb & Sidewalk	600 LF	\$65,000		
Street Trees	100 LF	\$11,250		
Gateway - Small	1 LS	\$37,500		
		\$113,750	SAY \$ 115,000	\$ 28,750.00

South Avenue and Public Safety Connection

Curb & Sidewalk	1300 LF	\$140,000		
Street Trees	900 LF	\$101,250		
Gateway - Small	1 LS	\$37,500		
		\$278,750	SAY \$ 280,000	\$ 70,000.00

Station Access and Amenities along North Avenue

Air Rights Plaza	850 SY	\$127,500		
Pick-up/Drop-off	675 SY	\$67,500		
Street Trees	600 LF	\$67,500		
Station Amenities	1 LS	\$75,000		
Gateway - Small	2 LS	\$75,000		
		\$412,500	SAY \$ 415,000	\$ 103,750.00

Improvements at Main/Middlesex/South

Gateway - Large	1 LS	\$75,000		
		\$75,000	SAY \$ 80,000	\$ 20,000.00

CONSTRUCTION TOTAL* \$ 1,100,000

DESIGN TOTAL \$ 222,500**

* Cost does not include Pedestrian Bridge on Spring Street

**For planning purposes, design costs assumed to be 25% of estimated construction costs.

Natick Center Commuter Rail Funding Avenues for Improvements

Federal

TIGER (Transportation Investment Generating Economic Recovery)

- Trails to transit connections
- Other transportation linked to economic development

FTA (Federal Transit Administration)

- MBTA
- MWRTA

Discretionary Funds

- Associated Transit Improvements (Transportation Enhancements)
- Enhanced Mobility of Seniors and People with Disabilities (Section 5310)
- National Research and Technology for public transportation (Section 5312)
- State of Good Repair (Section 5337)
- Transit Capital Investment (Section 5309)

State

MassDOT

CMAQ (Congestion Mitigation and Air Quality Improvement)

- Non-single occupancy vehicle travel to improve air quality
 - Potential CRT funding source
 - Pedestrian improvements
 - Bicycle improvements

TAP (Transportation Alternatives Program)

- On & off-road pedestrian/bicycle facilities
- Non-driver access to public transportation
- Enhanced mobility
- Community improvement

MassWorks

Infrastructure Program

- Improve infrastructure and create development-ready sites that will spur business expansion.

Local

PPP (Public-Private Partnerships)

- Elevator access to transit
- Air rights development

Development Mitigation

- Reduced parking requirements for pedestrian & bicycle infrastructure
- Landscaping & streetscape improvements

BID (Business Improvement District)

- Streetscape improvement and beautification

