Massachusetts Bay Transportation Authority

Rail Modernization: Reading Turnback Track Project

Public Meeting in Reading, MA

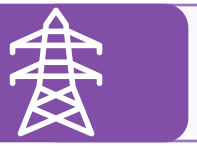
February 25, 2025

Rail Modernization Background

Project Background: Rail Modernization

From extensive stakeholder outreach key outcomes were identified for the transformation of the legacy Commuter Rail into a "Regional Rail" service

Midday and weekend frequency will increase across all lines— including all day service at least every 30 minutes in the inner core



The fleet will continue to modernize and electrify, offering faster, more frequent service, improved reliability, with reduced emissions and noise

Improved access to regional rail stations, including parking, bike storage, and improvements to passenger pick-up and drop-off points

Riders will benefit from integrated fare payment and trip planning, enhancing the experience, reducing uncertainty, and improving communication transparency

The system will be made more user friendly for all riders including improving level boarding

The Regional Rail Modernization Program is about delivering on these promises

Progress with Rail Modernization

Development of turn tracks and other infrastructure necessary part of modernization

1. Started with Visioning exercise in 2019 called Rail Vision. Now updated for
   - Battery technology changes
   - changes in travel since COVID
2. First action was to introduce all day every day service, in 2021 using existing Diesel trains
3. Modernization early actions include turn tracks needed for more frequent service that can be started before electrification
4. Selected approach Battery-Electric trains using sections of wire for charging while moving is being implemented on the Fairmount line using existing Amtrak power supply
5. Intention to deliver new trains and infrastructure on the North side starting with the Newburyport Rockport line which already has a turn track. Haverhill line is connected and could follow soon thereafter.

Rail Modernization

Benefits of Rail Modernization

Future high-frequency decarbonized “Regional” rail service

Regular Service

- Every 15-20 minutes inside of Route 128
- Every 30-60 minutes outside of Route 128
- Same time between trains throughout the day

Serving all types of riders

- Office workers
- Students
- Lab workers
- Sports fans
- Concert Goers
- Shoppers

Updated trains

- Cleaner
- Quieter
- Better amenities
- Electric
- Faster

Inner Core Rail Concept

- Originates from MBTA's 2019 visioning exercise for the future of Commuter Rail
- Service level
  - High frequency bi-directional service
  - 30 minute intervals enabled by trains turning at a mid-point
  - All day service
- Inner Core with turns at:
  - Reading
  - Beverly
  - Anderson/Woburn
  - New Kendal Green
  - Framingham (lower frequency)
  - Readville (all of Fairmount line)

Glossary

- **Turnback Track: a short siding that allows a train to reverse direction without blocking through traffic**
- Layover: a set of tracks where trains are stored between peak periods or overnight; staffed facility with full day activity
- Maintenance Facility: a set of tracks where inspections and maintenance operations occur; a yard is subject to different regulations than turnback tracks and layovers
- Regional Rail: schedule with more frequent service on inner stations and less frequent service on outer stations, with a turnback point separating the frequencies
- Unnecessary Idling: when the locomotive is running but not required for other operational activities; Federal/Massachusetts law limits unnecessary idle time to 30 minutes

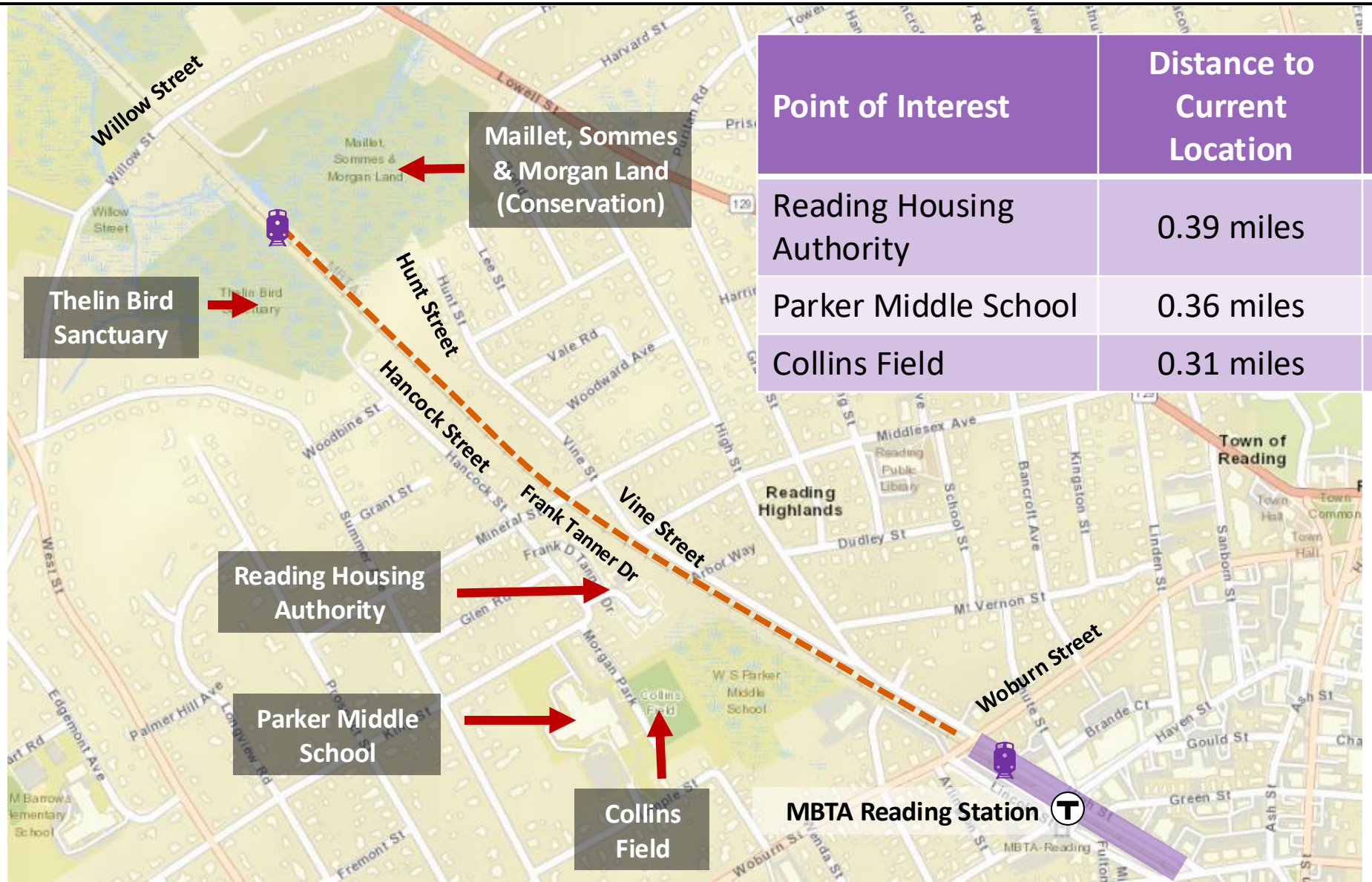
Project Concept & Site

Turnback Track Operational Concept

- Reading turn every 30 minutes during weekdays
  - Fewer in evening and weekends
  - Commuter Rail Service typically runs 5 am to 12 am
  - 30-minute service proposed to run between 5:30 am and 7:30 pm
  - No storage overnight; Not staffed
  - Turnback track would only be used for inner-core turn trains (every-other train)
- Alternates with Haverhill train
  - Total of 14 trains turn on a weekday (5:30 am to 7:30 pm)
- Procedure in 30 minutes or less:
  - Pull into Station & unload
  - Move to Turnback track
  - Crew changes ends
  - Haverhill train passes
  - Brake tests
  - Move to station 5 minutes before time to load

- Current service 45 min frequency
- Waits at station when making turn
  - Total of 8 per day

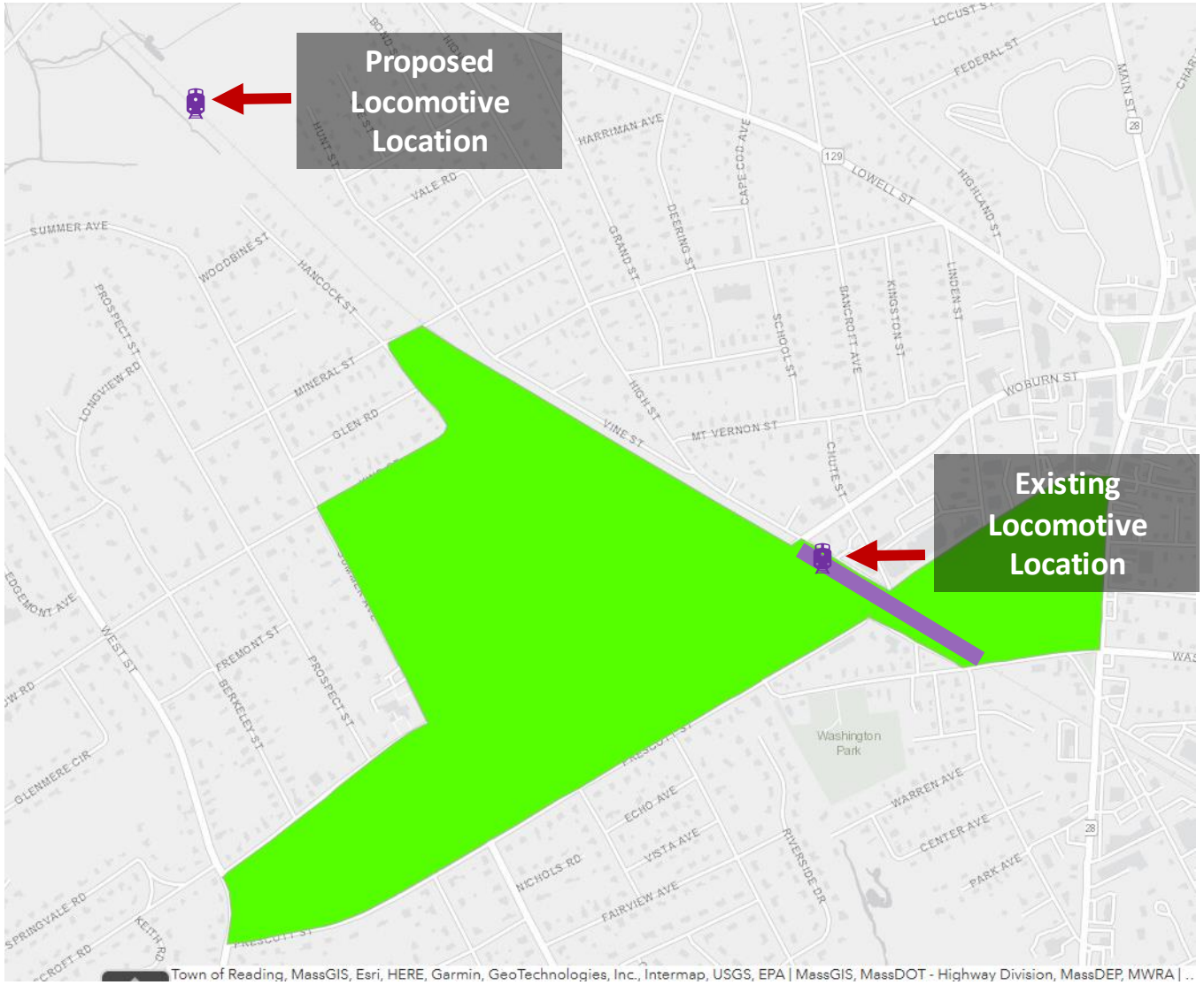
Project Site Map



Point of Interest	Distance to Current Location	Distance to Proposed Location
Reading Housing Authority	0.39 miles	0.40 miles
Parker Middle School	0.36 miles	0.50 miles
Collins Field	0.31 miles	0.51 miles

Environmental Justice Community

- Economic …



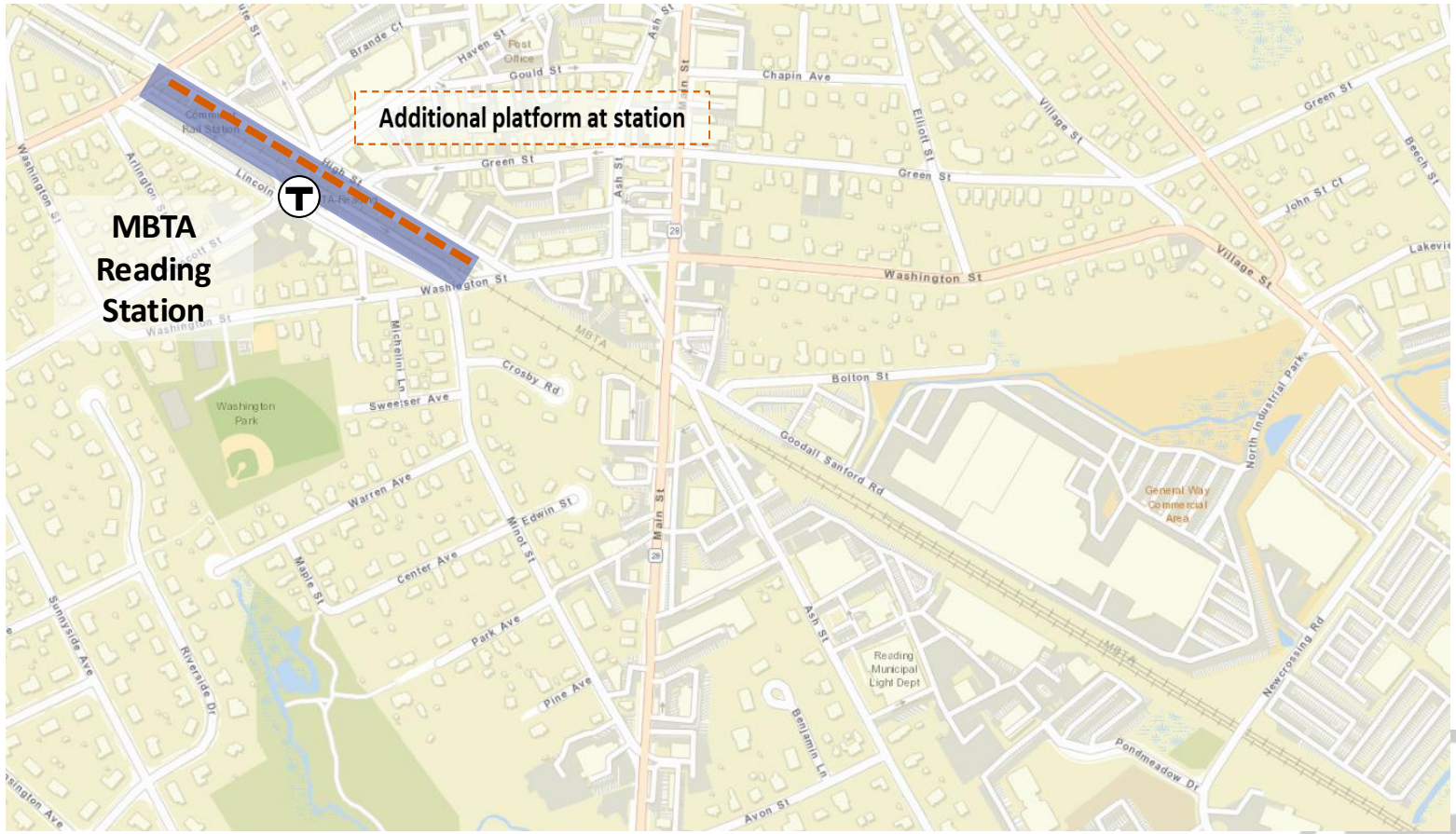
Site Selection

- The line north of Reading Depot station was historically double track until the former freight railroad owner removed one track
- Turnback Track is a planned to utilize that historic second track bed next to the current main line, inside existing MBTA property
- Extends 4,500 ft between Woburn Street and Willow Street.
- Need for 4,500 ft is based on train speed, maximum train length, braking curves, sight lines, and track geometry
- Proposed location is further from the more densely populated areas of Town
- Project planned to take 12 months to complete
- Other considered sites: at Reading Station/Woburn Street, DPW site, Hancock Street site

Alternatives Review

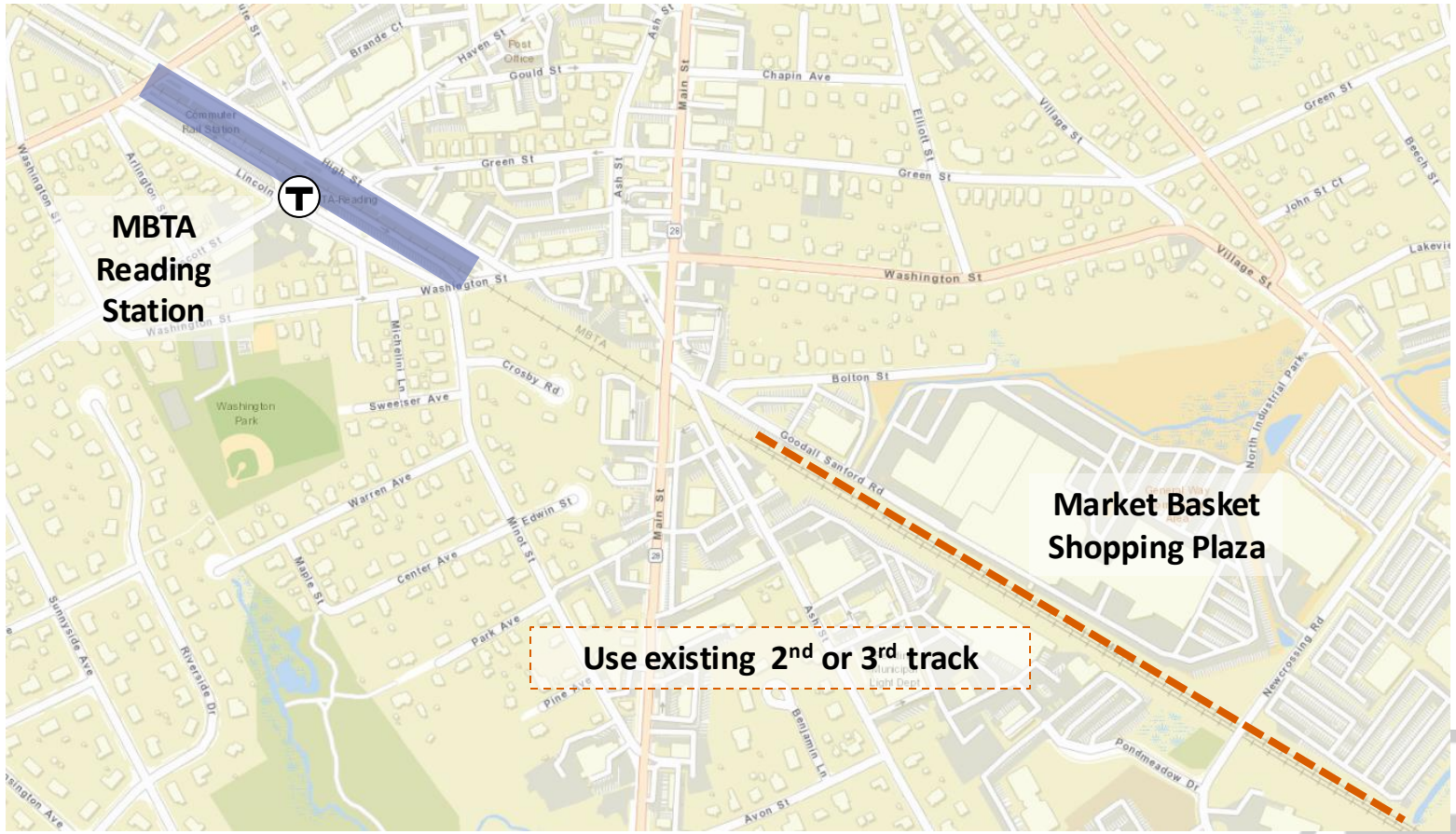
Alternatives: at Reading Station

- Having trains turn around at Reading Station would require a second platform
- This work would require a full rebuild of Reading Station, which is unfunded
- This would delay the 30 min service to approx. 10 years after funding secured
- Current turnback plan would be immediate solution until MBTA can rebuild station



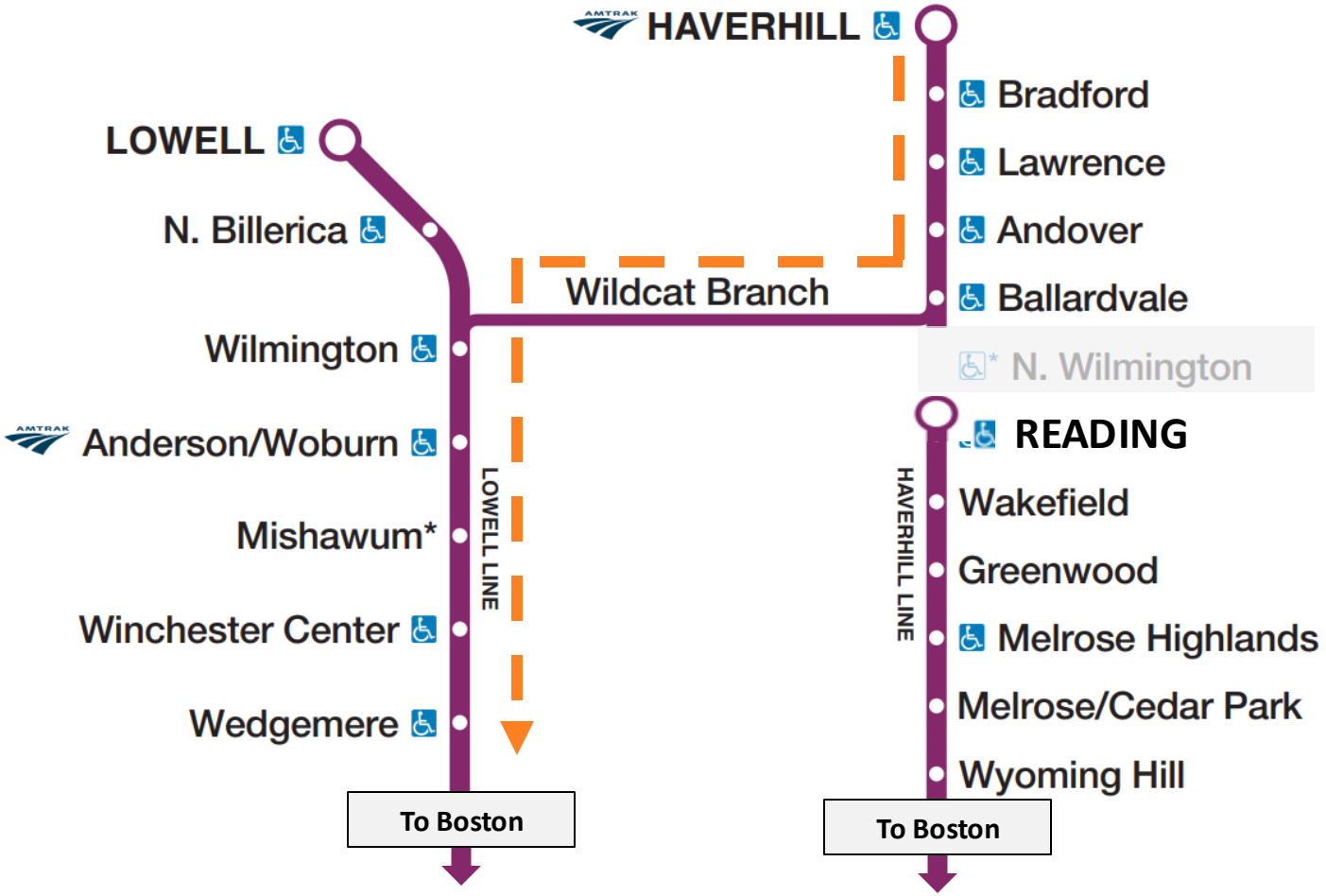
Alternatives: South of Reading Station

- Using current tracks south of the station behind the Market Basket Shopping Plaza does not meet operational needs
- Operational order:
  - Unload passengers at Reading Station
  - Perform turn procedure
  - Drive to turn track
  - Perform turn 2nd procedure
  - Allow Haverhill Train to pass
  - Drive to Reading Station
  - Perform 3rd turn procedure
  - Board passengers
- Turning the trains at this location would preclude 30-minute service for Reading Station because the time it takes for 3 turn procedures would push frequency back up to 40 minutes



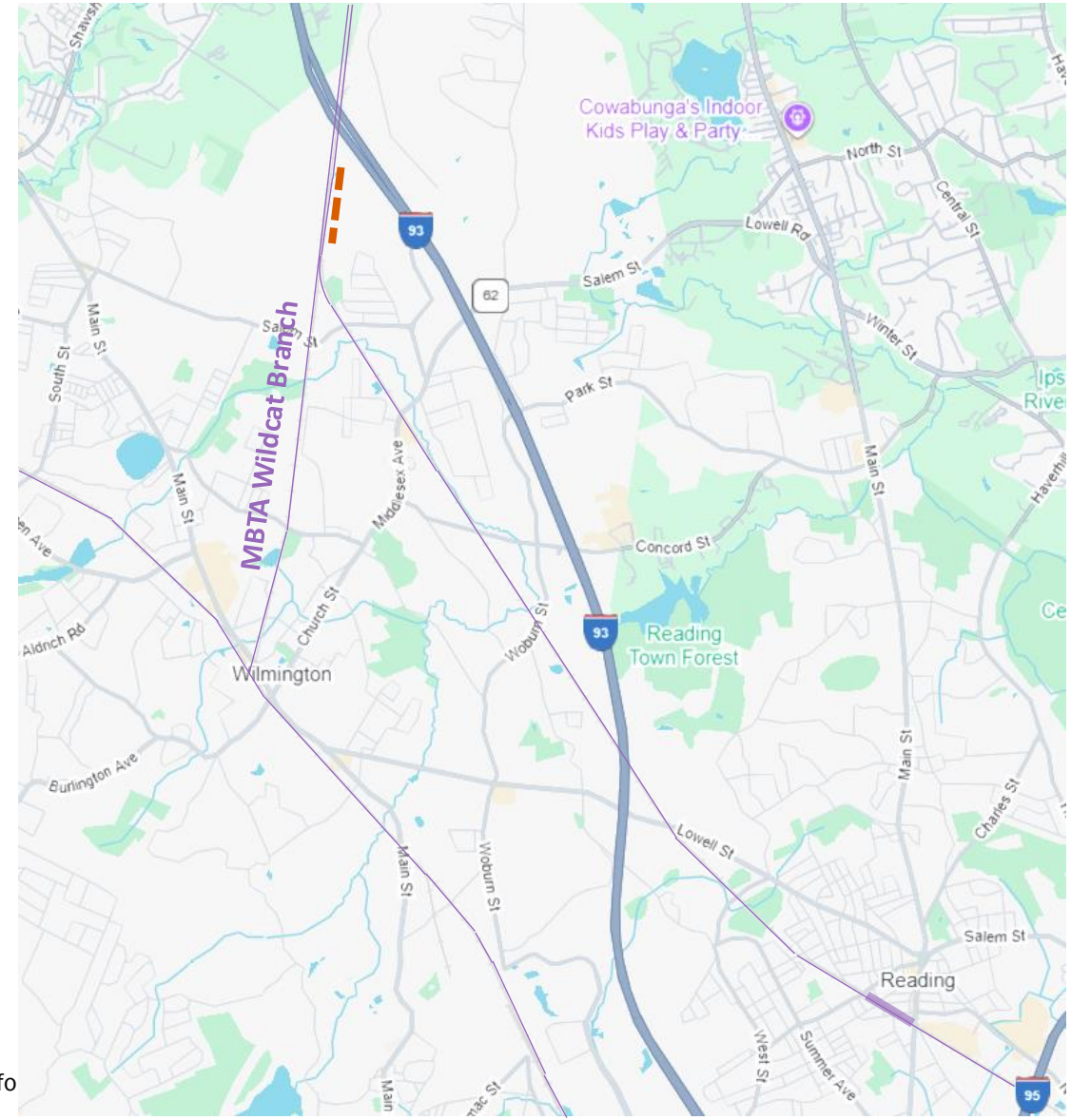
Alternatives: Haverhill Line to Wildcat Branch

- All trains servicing Reading would need to turn in Reading
- North Wilmington would be eliminated
- Outbound service would be eliminated
- The Wildcat Branch is single track with Amtrak and freight service and does not have the capacity for Commuter Rail service during peak periods



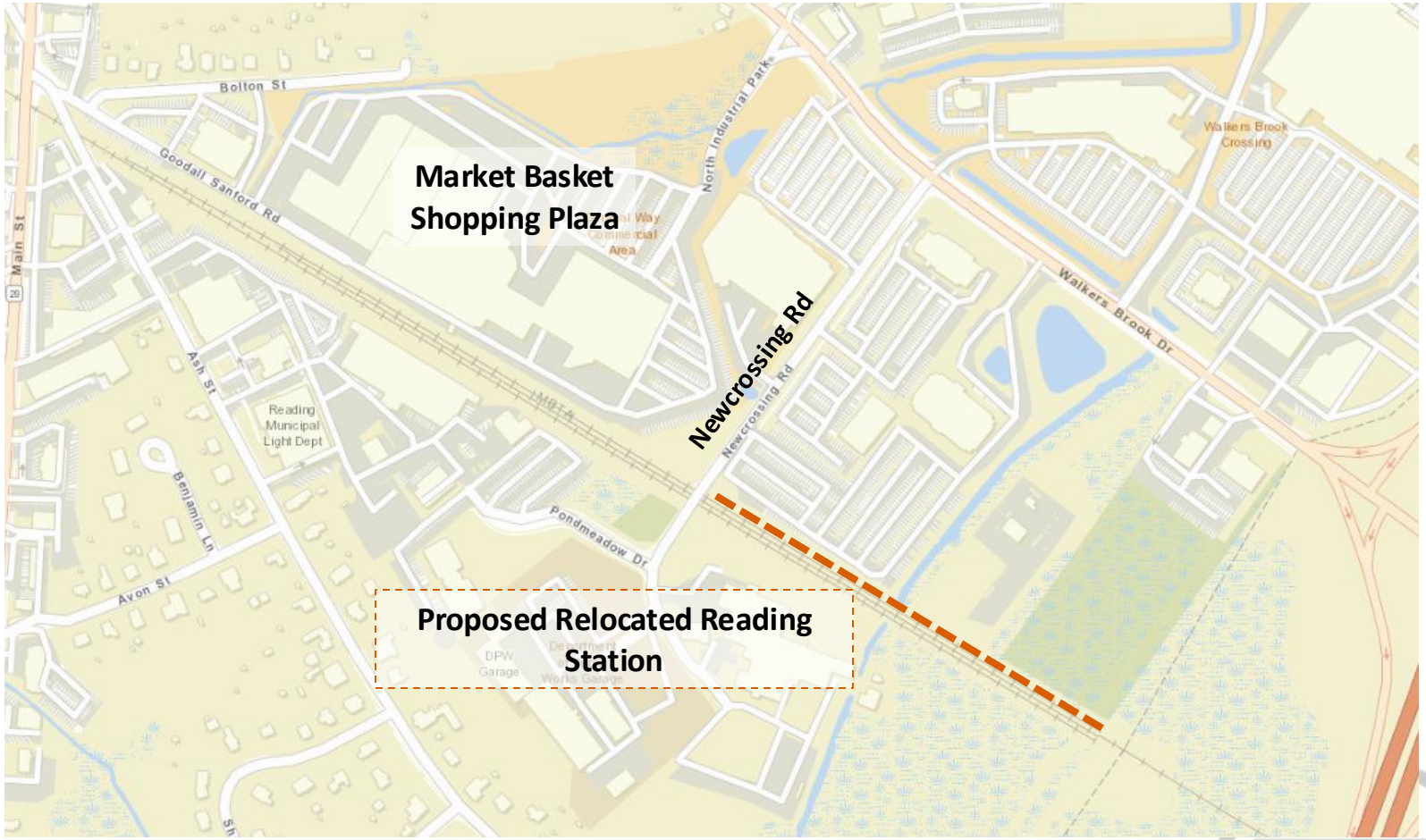
Alternatives: Near Wildcat Branch

- Turn track would be located too far from Reading Station to allow for target turn times
- Single track operations creates congestion on the line which would limit the frequency of operations
- Turnback track location would also be in wetlands buffer zone



Alternatives: Move Station South

- This would delay the 30 min service to approx. 10 years after funding secured
- Moves the station away from riders that currently walk or use micromobility to access the station
- Requires additional analysis for environmental permitting and land acquisition
- Current turnback plan would be immediate solution until MBTA can rebuild station

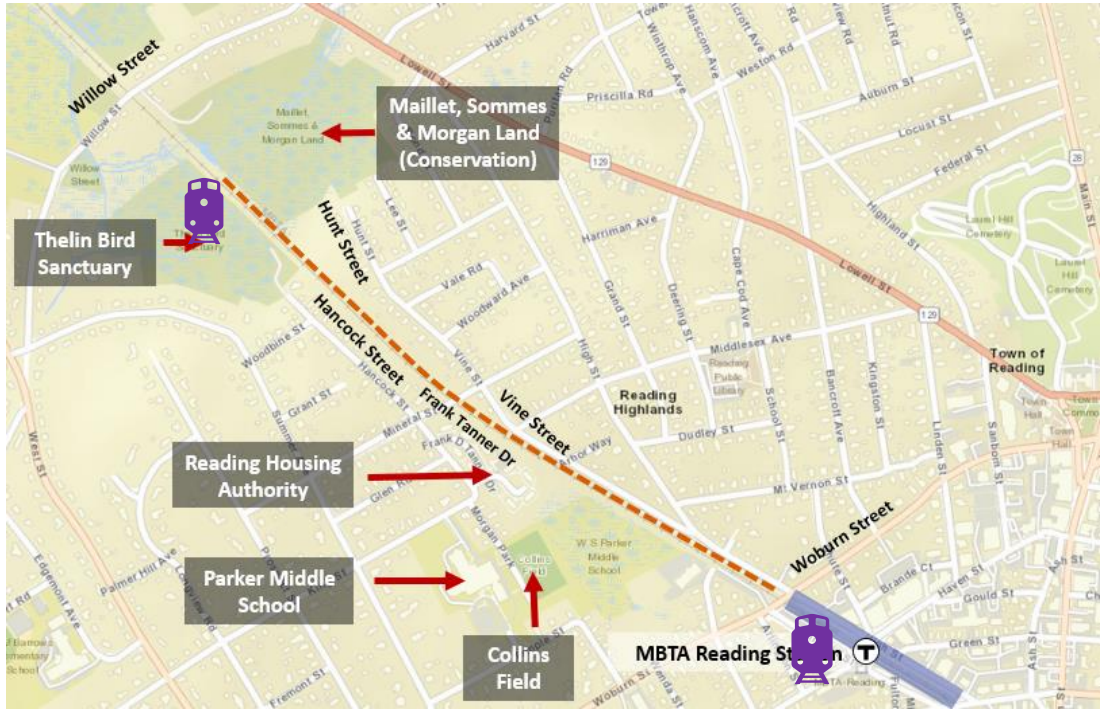


Project by the Numbers:

Daily Operations, Crossings & Line Ridership

Environmental Concern: Locomotive Idling

- Currently Commuter Rail train engines idle at Reading Station.
- Proposed Location would be at northern end of new turnback track.



	# of Trips	Frequency of Trips	Total Turn Time
Current Operations	8	45 minutes	150 minutes
Proposed Operations	14	30 minutes	420 minutes

Current Environmental Permitting

- Wetlands Protection Act (WPA)
  - Notice of intent submitted to Conservation Commission, first meeting held on 12/11/2024 - MassDEP file #270-0792
  - Abutter Notification was sent to abutters within 100-ft of the project site
  - 1,057-feet of turnback track is within buffer zone to Bordering Vegetated Wetland (BVW)
  - Project limits of work are outside of Riverfront Area

At this time, we will be withdrawing our Notice of Intent from the Conservation Commission and will be re-filing at a later time

2012 Wetlands Protection Act Statutory Change for Abutter Notification

Changes to the Wetlands Protection Act (WPA) under Chapter 238 of the Acts of 2012 (An Act relative to infrastructure investment, enhanced competitiveness and economic growth in the Commonwealth) include revisions to Abutter Notification (Section 49):

- Existing abutter provisions continue to apply to most projects, including all inland (non-LUW)
  1. Lots Less than 50 acres
  2. Linear shaped projects less than 1,000 feet.
- New abutter notice provisions apply only to abutters within 100 feet of the project site on:
  1. Land Under Water bodies or Waterways
  2. Lots 50 acres or more
  3. Linear shaped projects 1,000 feet or longer
- Abutter - preserves 10.05(7)(a) appeal rights of "any owner of land abutting the land on which the work is to be done".

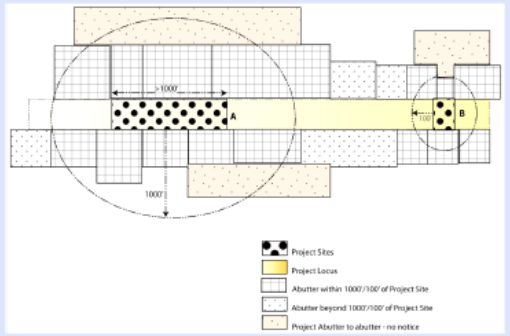
New Proposed Regulatory Definitions and Illustrated Examples

Linear-shaped Project for purposes of 310 CMR 10.05(4) means a project that is substantially longer than it is wide and is a project for the construction, reconstruction, or substantial enlargement of facilities that will be used in the service of the public to provide electric, gas, sewer, water, telephone, telegraph and other communication services, a project by a public agency or authority for the construction, reconstruction, expansion, repair or maintenance of public roads, bike paths, or other paths for pedestrians, or public railways.

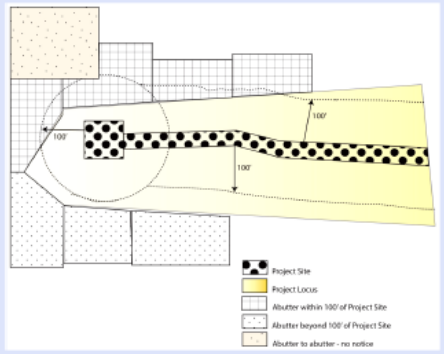
Project Locus means the lot on which an applicant proposes to perform an activity subject to regulation under M.G.L. c. 131, § 40.

Project Site means the area within the Project Locus that comprises the limit of work for activities, including but not limited to, dredging, excavating, filling, grading, the erection, reconstruction or expansion of a building or structure, the driving of pilings, the construction or improvement of roads or other ways, and the installation of drainage, stormwater treatment, environmentally sensitive site design practices, sewage and water systems.

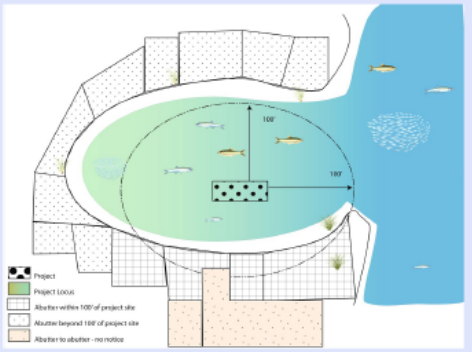
Linear Shaped Projects



Projects on Lots > 50 Acres



Projects on Land Under Water



Link to Mass.gov: https://www.mass.gov/doc/factsheet-2012-wetlands-protection-act-statutory-change-for-abutter-notification/download

Project Scope

- Erosion controls installed during construction to prevent sedimentation
- Top 6-inches of existing ballast to be removed and removed off site (will include removal of any invasive plant encountered)
- New ballast brought in (clean material)
- New conduit/signal installation from existing signals box, conduit installed underground within ballasted area
- Above ground propane tank (*secondary source of heating*) installed outside of WPA jurisdictional areas to heat switches during cold weather
- Stockpiling locations most likely not needed for used/new ballast; wood ties would not be stored in large quantities; majority of rail onsite
  - Stockpiling outside of WPA jurisdictional areas, if needed. BMPs will be used.
- Track-pan installed (length of locomotive)

Other Environmental Information/Questions

- Massachusetts Environmental Policy Act (MEPA)
  - Per 301 CMR 11.03 Review Thresholds, the project does not exceed any MEPA thresholds
- Other environmental permitting
  - A due diligence review of other environmental permits and reviews was conducted, and no other permits are deemed necessary for this project based on current scope of work

Culvert information – Reading, MA

- 30" stone Box culvert, MP 12.97
- ~150 yards from west of Willow Street
- Will be cleaned this Spring
- Routinely inspected every 1-3 years
  - Last inspection 1/9/2023

Haverhill Line Ridership

		February 2025	AM Peak (5am to 10am)	Midday (10am to 3:30pm)	PM Peak (3:30pm to 7:30pm)	Evening (7:30pm to 12am)
Inbound	On	**225**	139	56	26	4
	Off	**22**	9	4	0	6
Outbound	On	**160**	89	69	2	0
	Off	**371**	6	34	319	12

- Ridership counts are based on a single day of observations
- Reports boardings and alightings at Reading Station only
- Strong commuter pattern (AM and PM peak)
- Fairmount Line realized 18% increase in ridership within 5 months of implementing 30 min service

Railroad Crossings

- Busy MBTA railroad crossings are common throughout the system - Framingham Station on the Worcester Line, as an example, has 3-4 trains per hour plus freight and Amtrak
- MBTA operations works with local police and fire department on any municipal safety concerns
- Gate closing times are based on FRA regulations
- Approximate crossing time impact: 45 seconds

Weekday Railroad Crossings

	Willow St.	Woburn St.	Washington St.	Main St.
Current Operations	26	43	43	43
Proposed Operations*	24	48	48	48

*Conceptual schedule only

Contact Us

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www.mbta.com/projects/regional-rail-modernization-program

Photo credit: Wikipedia