Massachusetts Bay Transportation Authority

Green Line Track and Signals Replacement – Beaconsfield to Riverside Project

Newton Public Meeting

September 6, 2018

Agenda

1. Introduction
2. MBTA Investment in Newton
3. Project Overview
4. Operations During Construction
5. Work Locations
6. Work Progression
7. Noise
8. Communications Plan
9. Questions

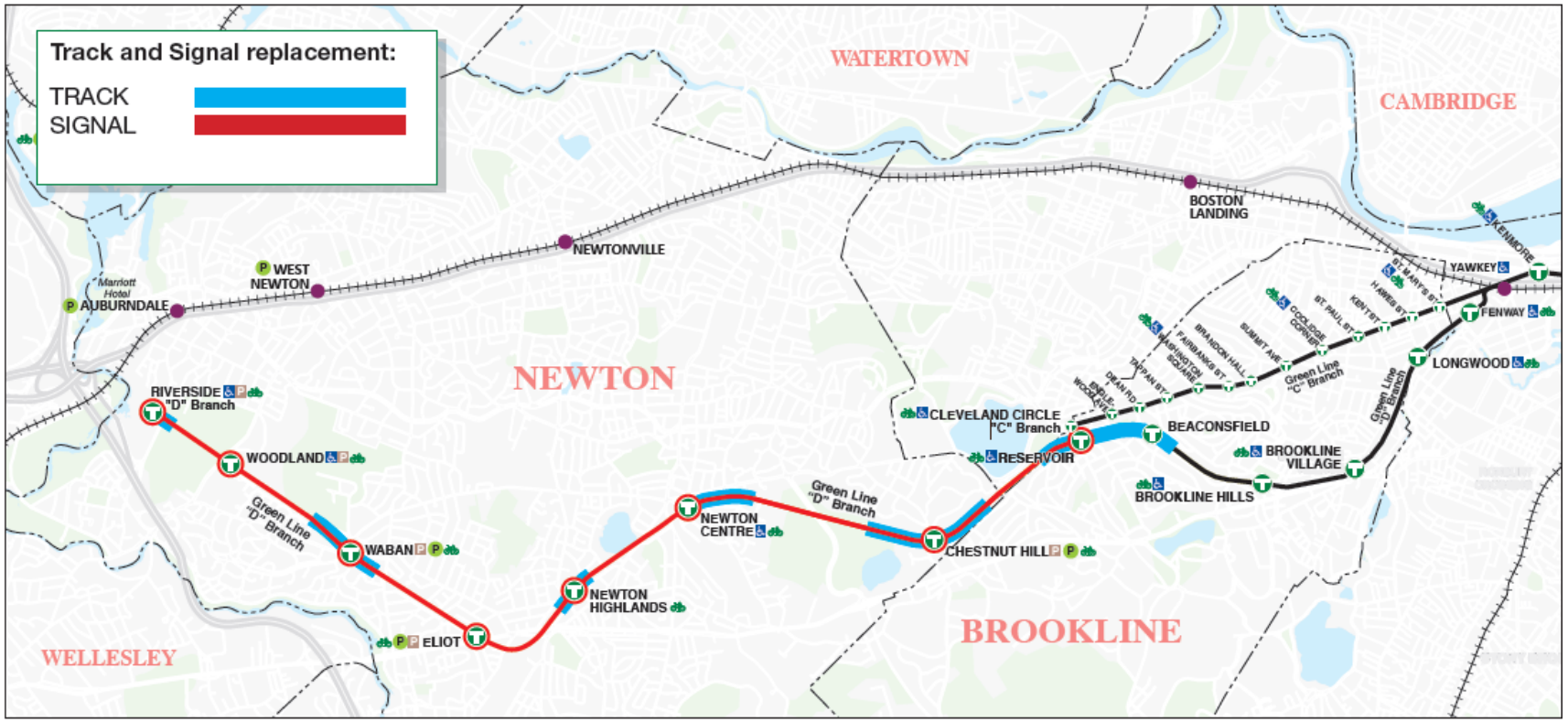
MBTA Investment in Newton

Project	Overall Project Cost
Green Line D-Branch Track and Signal Repl.	$102 M
Newton Commuter Rail Stations	$46 M*
Green Line Train Protection System	$38 M
Newton Highlands Station Accessibility	$15 M
Commuter Rail Positive Train Control	$6 M
Riverside Maintenance Facility Roof Replacement	$3 M
Tree Clearing	$2 M
Event Recorders	$1 M
Total Investment	**$213 M**

*Represents overall project cost. Current amount funded in FY19-FY23 is $20 M

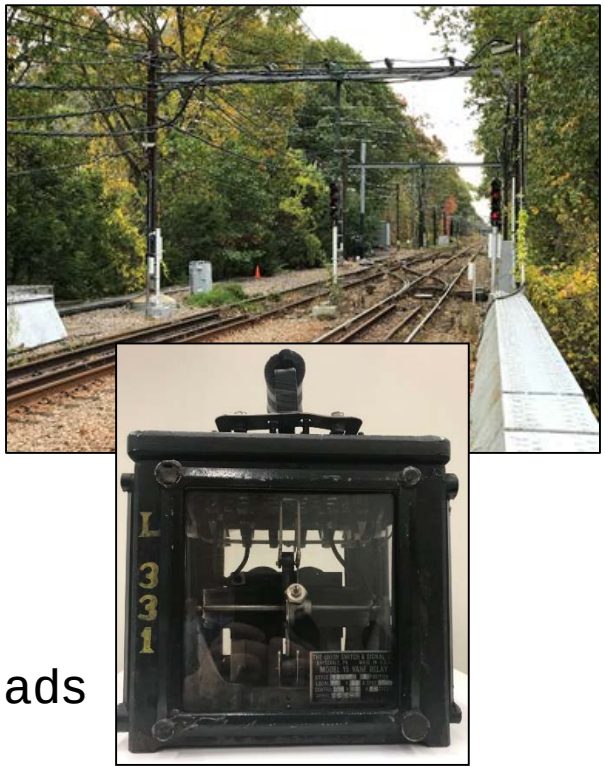
Project Location

- Track replacement at 6 Sections between Beaconsfield and Riverside
  - 5 Sections in Newton, 1 Section in Brookline
- Signal replacement full length between Reservoir and Riverside



Project Overview

- Modernize Signal System Infrastructure between Riverside and Reservoir
- Centralize Signal System Equipment for easier access and maintenance
- Upgrade Track-side Signal Infrastructure
  - Signals (replace WWI era components)
  - Track Switch Machines
  - Cables
  - Cable hanging system
- Provide redundant power supply system
- New 25,000 LF of mainline track
- Upgrade crossovers and track switches
- Reconstruct pedestrian crossings and truck pads



Project Benefits

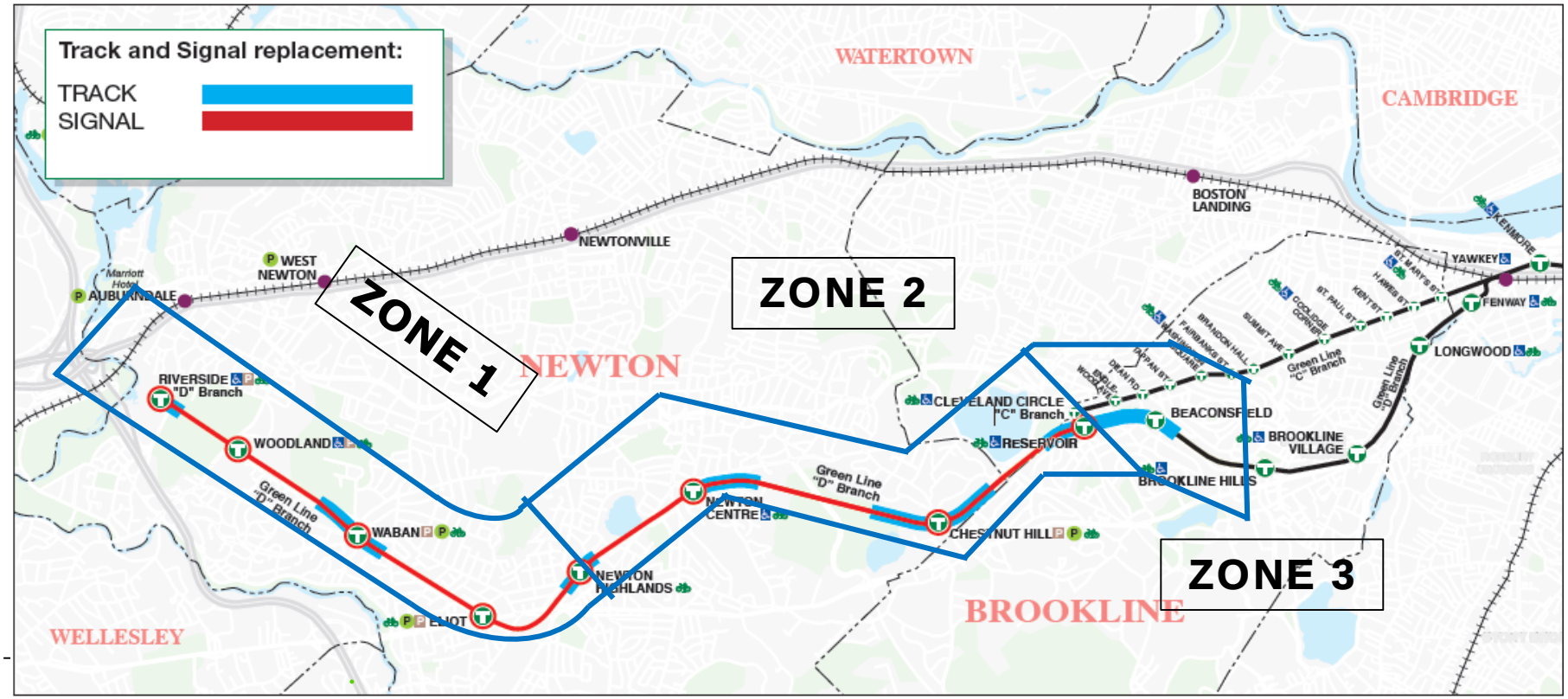
- Modern signal system will result in fewer delays
- Fewer signal related delays will increase reliability of Green Line operations
- Centralized Instrument Houses at stations will result in workers spending less time traveling to equipment and isolating problems
- New track will enhance safety
- Speed restrictions due to existing track conditions will be removed on the “D” Branch

Construction Timeline and Estimated Cost

- Construction Advertisement: May 2018
- Contractor Notice to Proceed: July 2018
- Contract Duration: 30 Months
- Construction Begins: Fall 2018
- Substantial Completion: October 2020
- Final Completion: December 2020
- Estimated Construction Cost: $74M

Bus Diversions By Zone

Weeknights (9:00 pm to end of service) and Weekends
(bus service will replace regular service during weekend diversions)



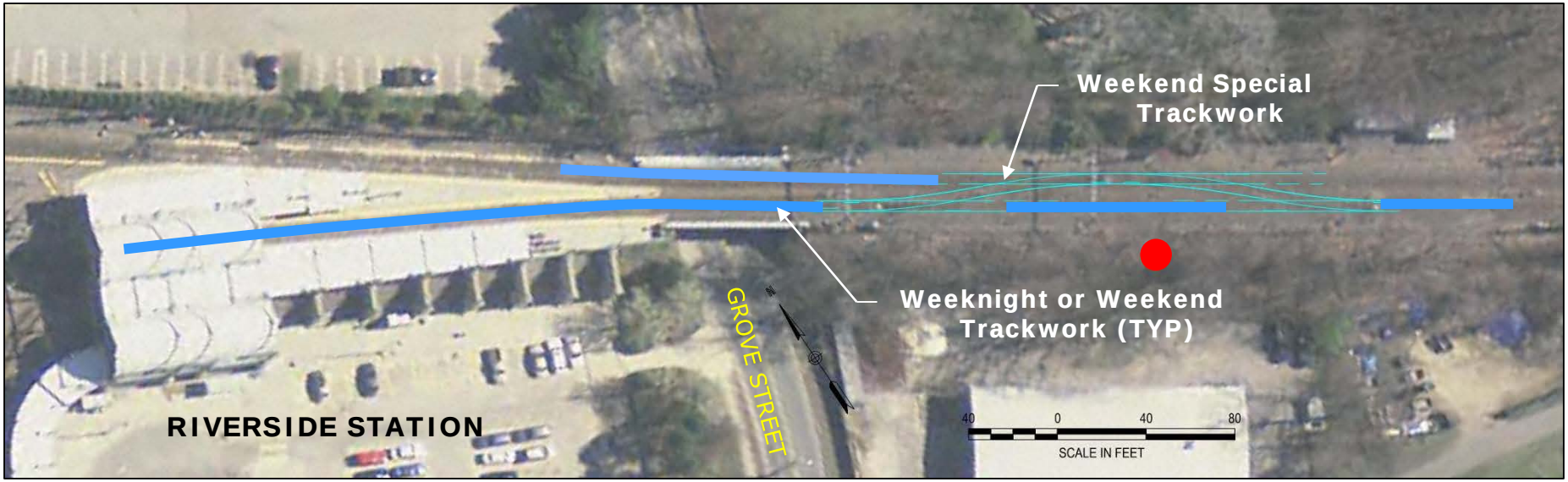
Operations During Construction

- Green Line D Branch will provide regular service except as noted below.
- Sunday through Thursday certain sections of the Green Line will be closed between 9:00 pm and close of regular service except as noted bellow (<u>one zone at a time</u>) (actual start date dependent on the contractor's schedule)
  - Fall, 2018 to Dec. 28 in 2018
  - April 9 to Dec. 28 in 2019
  - April 9 to Dec. 28 in 2020
  - During Red Sox home games, special events and holidays, Sunday through Thursday evening service will end at 11 pm (except in 2018 when regular service will run during Red Sox home games)
- There are 15 planned weekend diversions specific to this project
  - 14 weekends of service outages (9 pm Friday to 5 am Monday)
  - 1 long weekend of service outage (9 pm Friday to 5 am Tuesday)
  - 3 of the 15 weekends will require busing between Riverside and Reservoir
- Bus service will replace regular service during weeknight and weekend diversions
  - A maximum of 14 vehicles are required
  - Planned headways are 8 minutes
  - Customers should anticipate their trip being up to 15 minutes longer

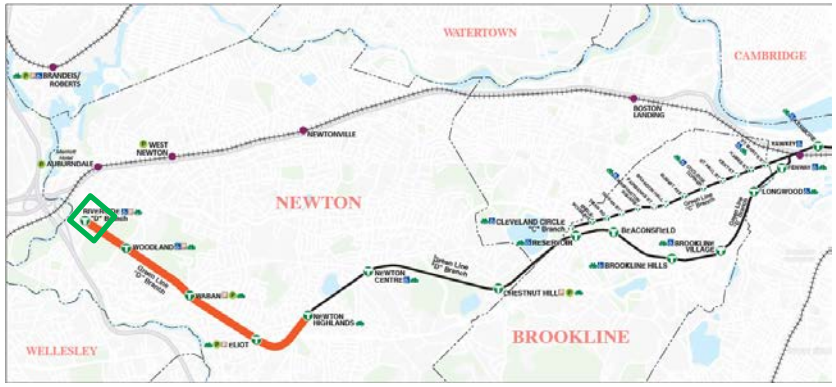
Contractor's Schedule/Work Plan and Customer Notification

- Contractor NTP was issued July 23, 2018
- Contractor initial 90 day schedule was submitted on August 2nd and indicates that work will begin on the weekend of October 6th in Zone 3 in Brookline
- Construction is expected to begin in Zone 1 in Newton in November
- Contractors full baseline schedule must be submitted within 45 days of NTP (by Sept. 13th)
- Prior to start of construction, customer notification to include:
  - Flyers regarding upcoming diversions distributed to
    - Abutters
    - Adjacent businesses
    - Green Line Station Platforms
  - Vehicle Notification
    - Post flyers in vehicles
    - Make on board announcements

Riverside Station



Signal work will be performed the full length of the Newton project limits



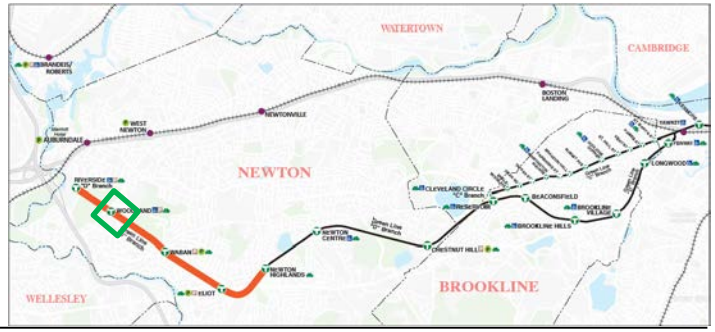
Legend:

Trackwork:

Signal House Install:

Woodland Station

Signal work will be performed the full length of the Newton project limits

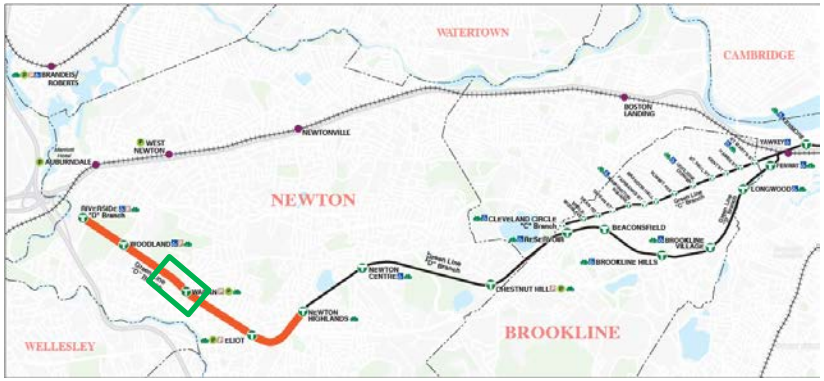


Legend:

Signal House Install:

Waban Station

Signal work will be performed the full length of the Newton project limits



Legend:

Trackwork:

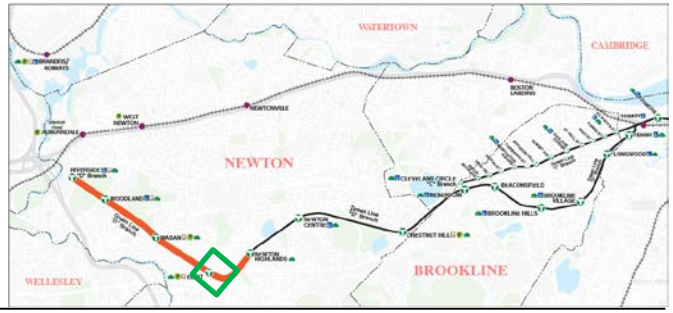
Signal House Install:

Eliot Station

Signal work will be performed the full length of the Newton project limits

Legend:

Signal House Install:



Newton Highlands Station

Signal work will be performed the full length of the Newton project limits

Legend:

Trackwork:

Signal House Install:

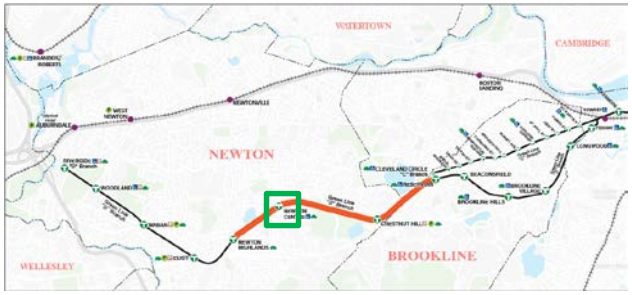
Newton Centre Station

Signal work will be performed the full length of the Newton project limits

Legend:

Trackwork:

Signal House Install:



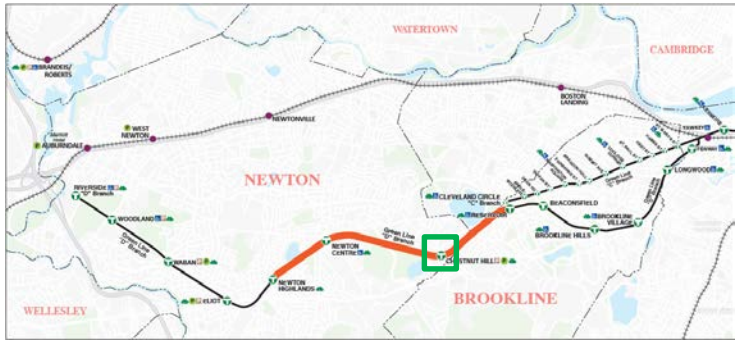
Chestnut Hill Station

Signal work will be performed the full length of the Newton project limits

Legend:

Trackwork:

Signal House Install:



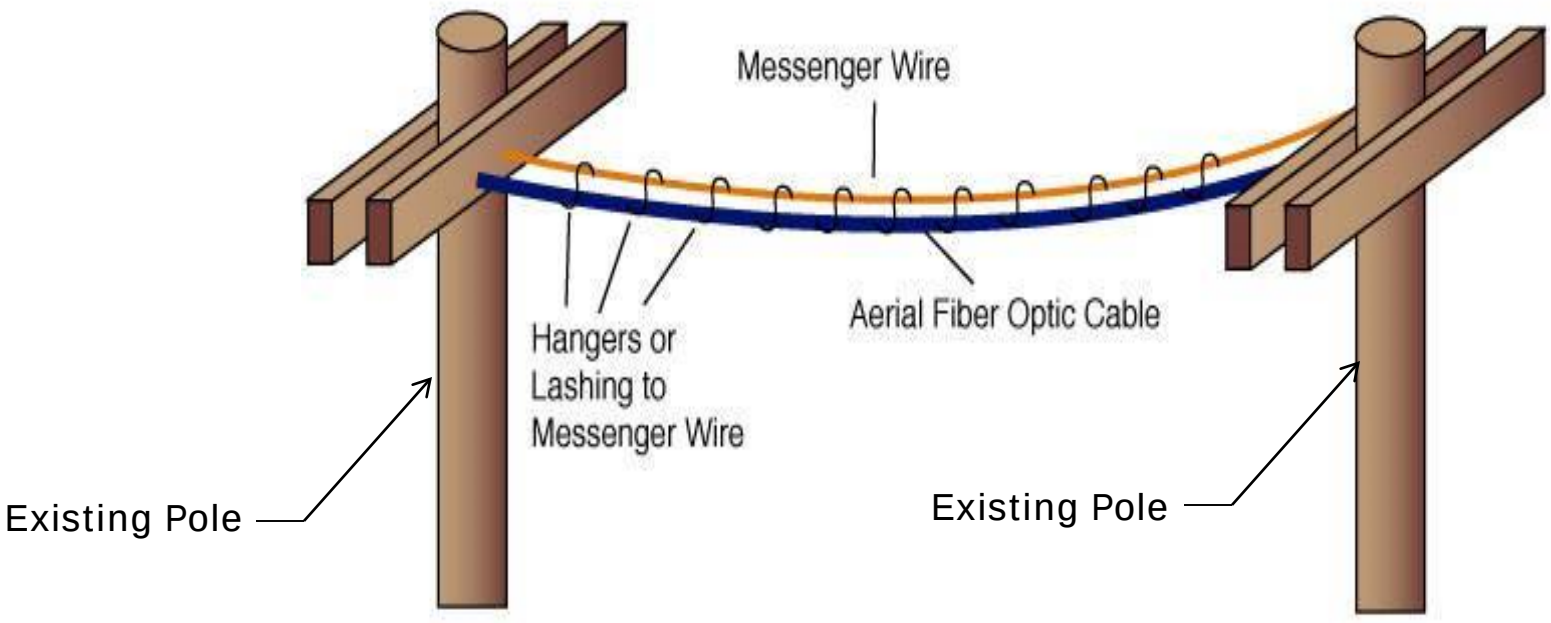
Weeknight Work (Early Access) – General Timeline

- 9:00 pm normal service ends and bus diversion begins
- Make Safe and Mobilize
  - MBTA Power Department shuts down power on D-Branch
  - MBTA Power Department grounds catenary in work zone
  - Contractor mobilizes to truckpad nearest to the worksite
  - Contractor receives all clear to begin work
- 12:30 am bus diversion ends at close of normal service
- Contractor completes work and demobilizes from work zone
- MBTA Power Department restores power
- 5:00 am normal service resumes

Signal Work Progression

- Install new messenger wire and cable tray
- Run fiber optic line in cable tray
- Dig trenches for conduit that will run from catenary pole to new equipment location
- Dig and install new foundation
- Install new trackside equipment
- Pull cable through conduit to new equipment
- Cut, splice and terminate new cable to new equipment
- Test and commission new signal equipment houses and track-side equipment
- Demo and remove existing track-side equipment

Install New Messenger Wire and Cable Tray



- Messenger wire will be installed pole to pole with cable tray hooked and hung from the messenger wire.
- Fiber optic cable to be placed in the cable tray.

Dig Trenches for Conduit and New Foundations

- Trenches will be dug for cable conduit that will run under ground.

Pulling Cable Through Conduit

- After the trenches are dug and the conduit is placed, the cables will be pulled through the conduit and brought to the new equipment

Installation and Demolition New Wayside Signal Equipment

- New track-side equipment will be installed and existing removed

Trackwork Progression

- Cut rails
- Remove existing track panel
- Remove existing ballast
- Install track panel
- Place new ballast
- Tamp track

Cut Rails

- Contractor determines work limits and cuts rails

Remove Existing Track Panel

- Remove existing track panel and move offsite for dismantling

Remove Existing Ballast

- Dig 6” below proposed bottom of tie to remove ballast

Install Track Panel

- Install and connect new track panel

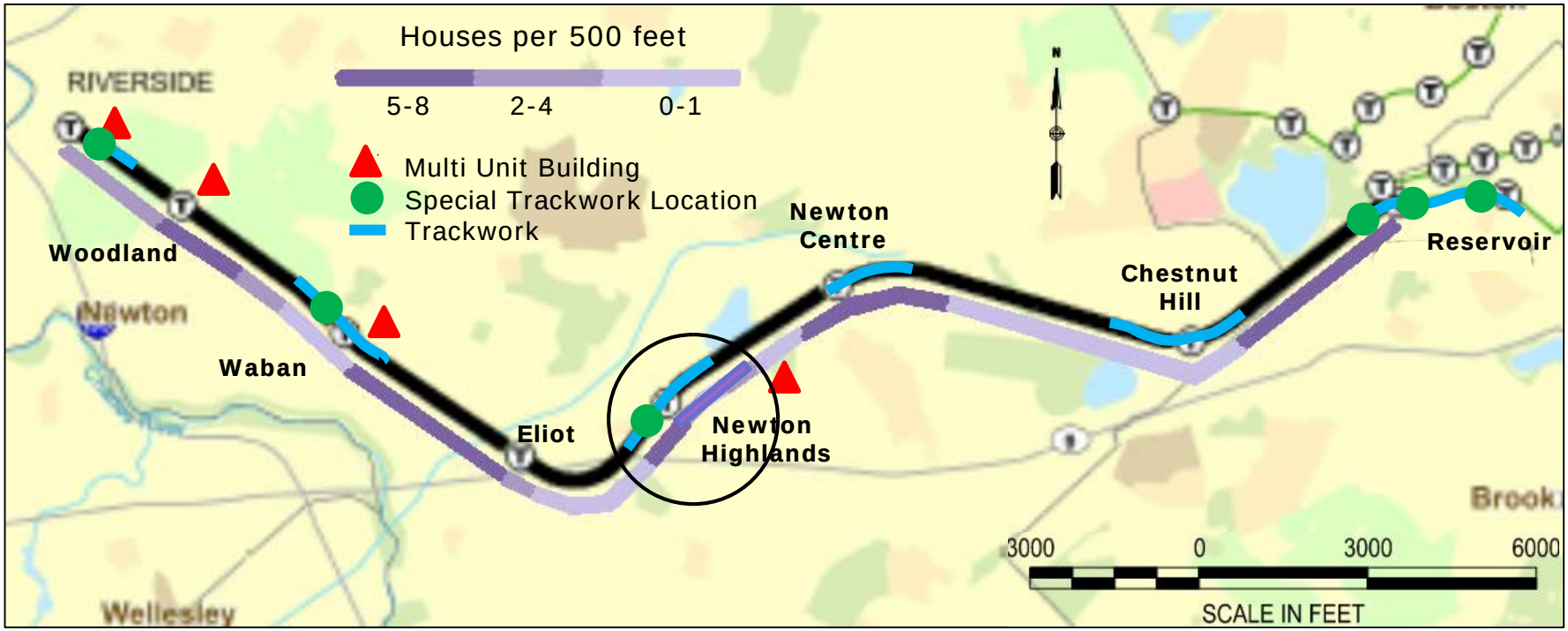
Place New Ballast

Tamp Ballast

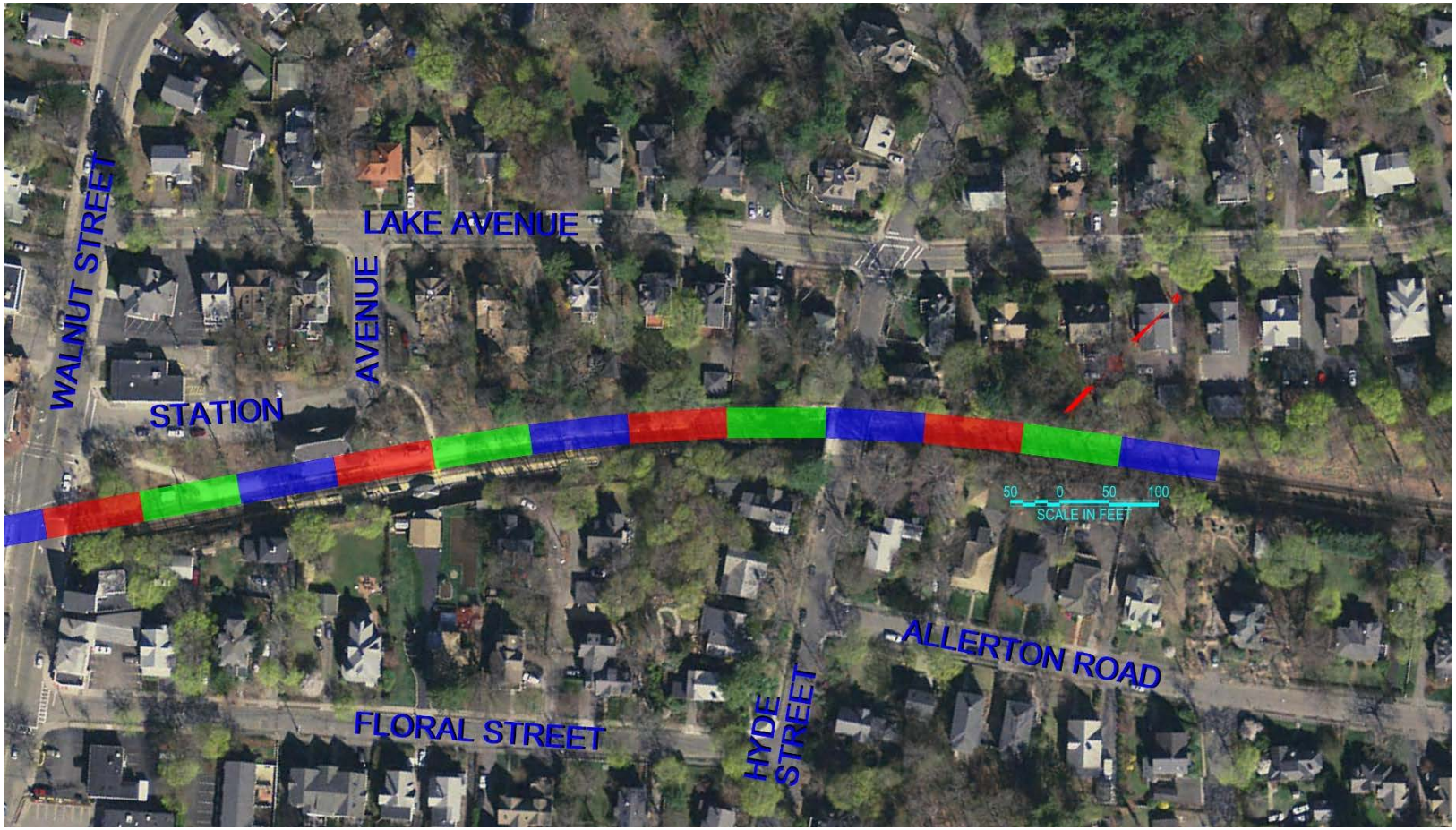
- Tamp ballast and set track to proper grade

Special Trackwork (Weekend)

Residential Density (City of Newton)

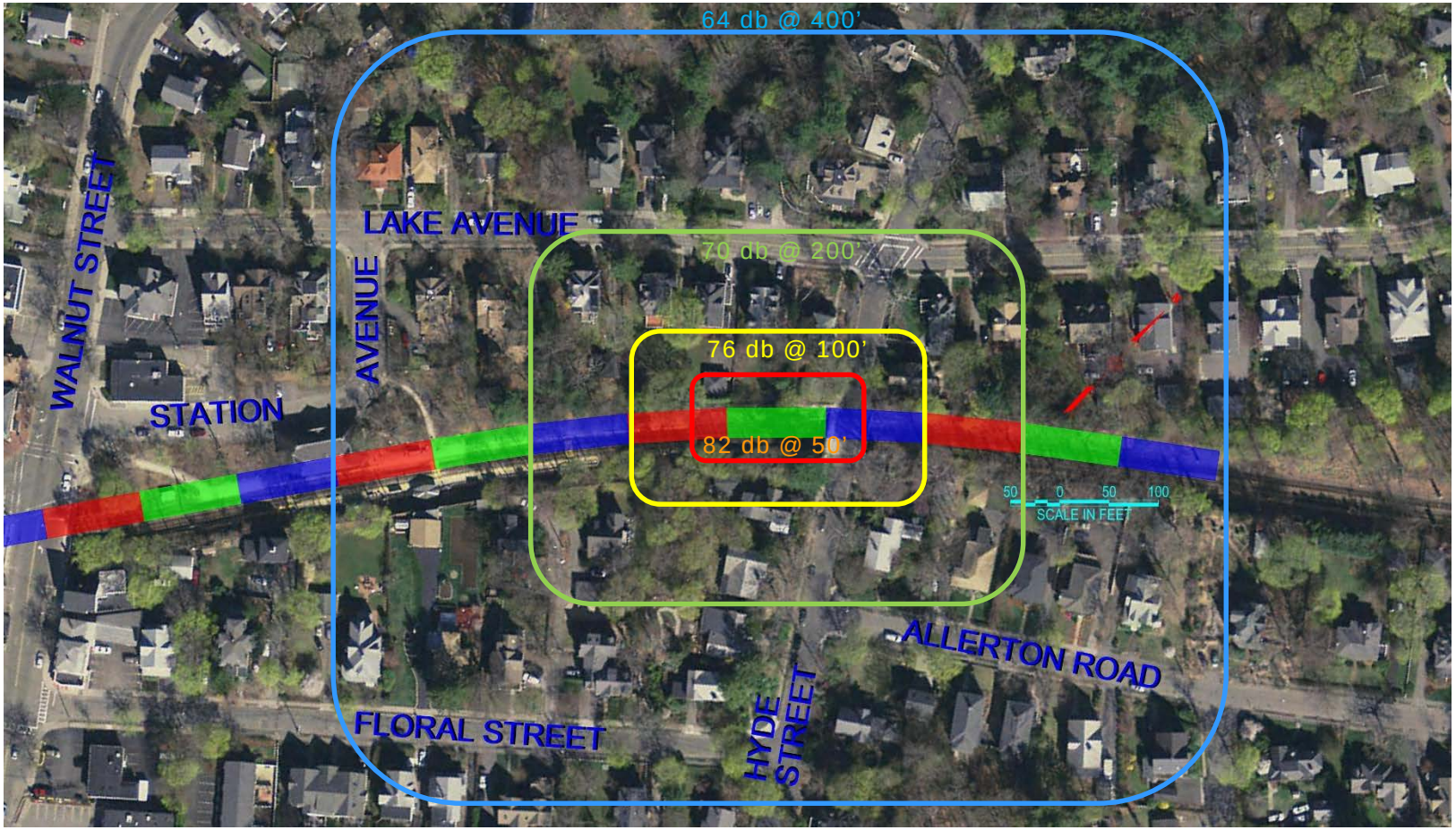


Expected Trackwork (100 LF track segments)



Newton Highlands is one of the densest residential areas near the track
Each colored block represents 100 LF of trackwork

Expected Trackwork (Unmitigated Maximum Noise Level)



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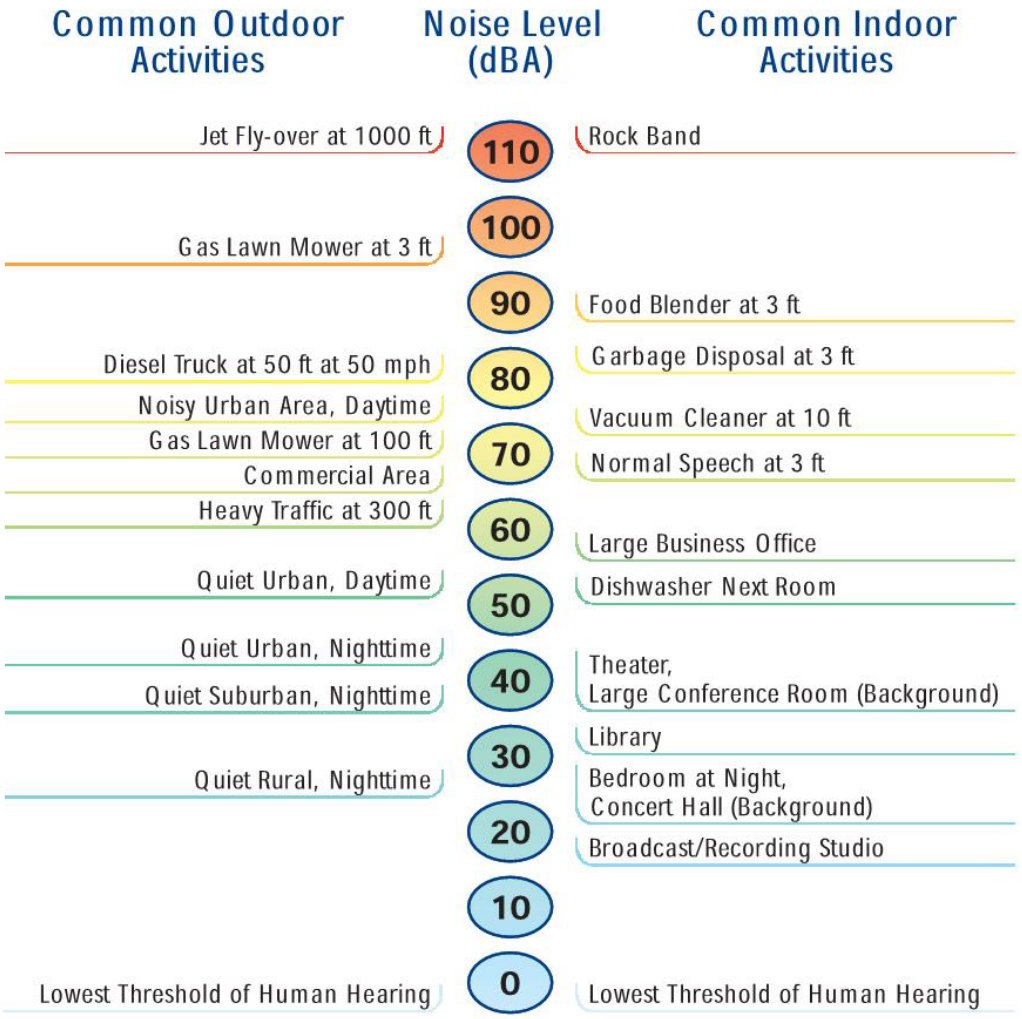
Each colored block represents 100 LF of trackwork

Loudness Comparison Chart (dBA)



Noise Generating Work Activities (Weeknight Trackwork)

Work Activity	Activity Duration	Noise Level	Type of Noise	Can Noise be Suppressed
Cut rails	Short	Loud	Sharp and Intermittent	No
Remove existing track panel	Medium	Medium	Heavy Machinery	Yes
Remove existing ballast	Medium	Medium	Heavy Machinery	Yes
Install track panel	Medium	Medium	Heavy Machinery	Yes
Place new ballast	Short	Medium	Heavy Machinery	Yes
Tamp track	Medium	Loud	Rumbling	No

Typical Noise Mitigation Measures

- Use self adjusting backup alarms
- Limit truck and equipment idling
- Equip compressors with silencers on intake lines
- Equip gas or oil operated equipment with silencers or mufflers on intake and exhaust lines
- Line dumping bins, hoppers, and trucks with sound-deadening material
- Use noise blanket and shielding where possible
- Assemble track panels offsite
- Access and delivery to work site through MBTA ROW

Contractor Requirements (Noise Control)

- Contractor to submit Noise Control and Monitoring Plan to the MBTA for review and approval 60 days prior to starting work. Will include:
  - Identification of equipment that can and cannot be operated with sound suppression
  - Means of sound suppressing equipment and other noise
  - Approach to monthly noise monitoring
  - Hotline number and management of the hotline
- Implementation of sound suppression on applicable equipment
- Monthly monitoring
- Receive and respond to hotline calls

Communications Plan (Newton)

Public Briefings and Meetings

- City Council briefing June 25th
- One public meeting prior to construction (September 6th)
- Periodic project briefings

Project Website and City of Newton Website

- Regular construction updates
- Copies of presentations
- Listing of upcoming meetings
- Register to be on project email distribution list

Email Advisories

- Regular construction updates emailed to distribution list (generally weekly once construction begins)

Communications Plan (Newton)

Media Advisories and Social Media

- Issue periodic media advisories to promote the project and advise the public of the ongoing work
- Tweet notifications and post T-alerts

Coordination with City of Newton

- Provide weekly construction updates
- Quarterly reports to the City Council

In-Person Notifications

- Distribute flyers regarding construction work as it progresses (abutters, adjacent businesses, Green Line Station Platforms)

Communications Plan

Signage

- Provide bus diversion wayfinding signage
- Provide bus diversion pick up/drop off location signage

Project Hotline

- Establish a 24/7 hotline for taking calls

Questions?