

Town of Needham
DOWNTOWN IMPROVEMENT PROJECT
Frequently Asked Questions
July 21, 2017
Revised July 28, 2017

What changes have been made to the traffic signals Downtown and why?

The basic change includes the replacement of all traffic signal equipment to meet current laws and regulations, including those for pedestrian signals and handicap accessibility. The changes include:

- adding traffic signals to accommodate the reconfiguration of the geometry of the intersections, including corner reconstruction and lane alignment;
- adding traffic signals to (eventually) accommodate a left turn movement for southbound traffic from Chapel Street to Great Plain Avenue;
- installing compliant traffic signals before the railroad crossing;
- adding pedestrian signals to accommodate new, all-way pedestrian crossings at the Chapel/Chestnut Street and Highland/Dedham Avenue intersections with Great Plain Avenue; and
- modifying traffic signals to require a right turn for right hand lane eastbound traffic on Great Plain Avenue at Dedham Avenue.

Are the traffic signals downtown the final design, or will there be more changes?

The traffic signal installation is not complete. The signals are currently operating partially on timers, and are not working in accordance with the final design. The cameras controlling the “traffic responsive system” are not operational, and the vehicle detection system is not yet installed to tell the computer controlling the intersections that vehicles are present at a particular intersection and/or how many vehicles are approaching an intersection. When construction is completed, the signals will have the ability to adjust green time based on vehicle demand. There are three more major changes that have to be made at the signals at the railroad tracks and on Great Plain Avenue at Chapel/Chestnut Streets. The first is to provide an advance green at the railroad tracks a few seconds before the signal at Chapel/Chestnut Streets turns green. The second is to delay the red light at the railroad tracks for 3 seconds after the red signal at Chapel/Chestnut is activated. Lastly, the railroad pre-emption needs to be adjusted in advance of the train’s reaching the crossing. The last two items cannot be performed until Eversource provides permanent power to the traffic controller box at Chapel Street.

Why is there a traffic signal at the railroad tracks?

An engineering study of traffic operations at the Great Plain Avenue/Chestnut Street/Chapel Street intersection concluded that vehicle queues on Great Plain Avenue eastbound frequently extend to, or beyond, the location of the railroad crossing. The traffic signals have been installed at the railroad crossing to prevent vehicle queues from forming across the tracks. Consideration must be given to the space requirements of large vehicles, such as busses and tractor trailer trucks, not just passenger vehicles. Traffic signals located

next to the railroad tracks were in existence before the Downtown project began, however the signals did not comply with current regulations. Most of the issues with the railroad traffic signals will be resolved when the traffic signal system is fully-functioning.

Why did the previous signals at the railroad tracks allow vehicles to cross before when there was no train?

The previous signals at the railroad tracks did not function according to current regulations. The previous traffic signals were intended to prevent traffic from stopping on the railroad tracks at all times – which they did not achieve.

Why are the signals working when there are no trains coming?

The signals are required to function at all times to provide consistent information to drivers who may or may not be familiar with the area.

Wouldn't common sense dictate not crossing the railroad tracks if there is no space available?

Common sense would dictate that. However, motorists are not always aware of their surroundings and could get trapped between the railroad traffic signal and the intersection traffic signal potentially stranding them on the railroad tracks. Vehicle/train collisions have occurred in the towns of Holbrook, Wakefield, and Belmont in just the past two years.

Why are the signals working on Sundays when there are no trains running?

Although the commuter rail does not currently run on Sundays, unscheduled trains and/or maintenance trains or equipment do use the railway. The railroad traffic signals must account for all instances where a train or equipment may be using the railway.

Why do the traffic signals at the railroad tracks stop traffic when there is room for more cars at the Chestnut St/Chapel St light?

Consideration must be given to the space requirements of large vehicles, such as buses and tractor trailer trucks, not just passenger vehicles. The signals are timed to reduce the chance of a queued vehicle (large or small) from being stopped on the tracks. Once permanent power is provided to the traffic controller box at Chapel Street, some of the proposed adjustments will help allow more traffic to advance to the Chestnut Street/Chapel Street light.

Can the traffic light at the railroad tracks be put on flashing yellow until a train comes?

Flashing signals cannot be used during periods when a train is not approaching the crossing. The tracks must be cleared prior to the train's arrival at the crossing. A flashing signal would not provide a reliable guarantee that the tracks are clear of vehicles.

Can anything be done to remove or modify the signal?

The signals have been mandated by the Commonwealth to comply with Federal transportation safety requirements, and because a study of traffic operations has shown that the vehicle queue along Great Plain Avenue frequently extends beyond the railroad

crossing. Nonetheless, once the project is substantially complete, the Board of Selectmen intends to undertake an evaluation of the range of options to reduce motorist frustration.

Will the pedestrian crosswalk be reinstated near the railroad tracks?

No. The railroad traffic signals cannot support a pedestrian crossing and there is insufficient space to install a fully signalized pedestrian crossing at the railroad track location. With the installation of the new (mandated) signal, which does not stop westbound traffic, the crosswalk was deemed to be unsafe. Moreover, the crosswalk was not compliant with the American's with Disabilities Act, which prohibits the reconstruction of a crosswalk to terminate at a driveway opening.

Can a crosswalk across Great Plain Avenue be added at Garden Street?

A four-way crosswalk is proposed at the Maple Street/Glendon Road/Great Plain Avenue intersection in Phase II of the Downtown Project. Currently, there is a crosswalk crossing three of the sides of the intersection. The crosswalk at the Maple Street crossing would have to be removed in order to construct a crosswalk at the Garden Street intersection because it would be too close to the Garden Street crosswalk and would interfere with traffic flow. A crosswalk at the Garden Street location would also result in the loss of three on-street parking spaces. A description of each proposed phase of the project is set forth below.

How many trees and what types will be planted in the street and on the Common?

Please see attached plan for proposed tree locations and tree types.

How many parking spaces have been removed as a result of the downtown improvement Project?

No parking spaces will be lost overall in the Downtown Project. Some spaces will be relocated from one location to another depending on roadway design requirements. Please see attached plan for parking space locations.

What is the purpose of the granite structures installed at several intersections?

The granite structures are raised planters and will incorporate a bench seat for pedestrians along one side of the planter. Access to additional seating has been identified as an important criteria for age-friendly communities.

What is the timing for the pedestrian crossing; it seems too long?

The timing for the pedestrian crossing is based on a 3 feet per second walking speed. The typical range is 2.5 feet per second to 4 feet per second. Older pedestrians, very young pedestrians, and people with disabilities generally tend to walk at slower speeds, while moderately aged pedestrians without health issues walk at faster speeds.

What remains in Phase 1?

The remaining work in Phase 1 includes the completion of the crosswalk boxes, repair of a raised planter at Dedham Avenue, removal of the concrete street light poles, construction of the remaining sidewalk panels, restoration of permanent power to the traffic control system, completion of the traffic control system, adjustments to the traffic signal timing

(including the railroad track signals), final street paving, pavement markings, installation of traffic loop detectors, street tree installation, removal of the small electrical shed on the Town Common, and final landscaping.

What is the schedule for the pavers?

The work to install pavers in the crosswalk boxes began on July 16th and is expected to be completed during the week of August 13th.

What are the other phases?

There are currently five phases in the Downtown Improvement Plan. The first Phase is on Great Plain Avenue from Dedham Ave to just prior to the railroad tracks. Phase IA involves the reconstruction of the railroad crossing on Great Plain Ave. The second Phase includes Great Plain Avenue from the railroad tracks to Linden Street. The third Phase includes Great Plain Avenue from Dedham Avenue to Warren Street. The fourth Phase includes Highland Avenue and Chapel Street between the intersection of May Street/Chapel Street/Highland Avenue and Great Plain Avenue. The fifth Phase involves Chestnut Street between Great Plain Avenue and School Street (this phase may be extended to Oak Street). All future phases are subject to funding availability.

What is the general schedule for the future phases?

Phase I is expected to be substantially complete in September 2017

Phase IA is planned for July 2018 to July 2019 (assuming that grant funding is approved)

Phase II is planned for July 2020 to July 2021

Phase III is planned for July 2023 to July 2024

Phase IV is planned for July 2026 to July 2027

Phase V is planned for July 2029 to July 2030