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MassDOT Highway Division
Massachusetts Port Authority
Regional Transportation Advisory
Council (nonvoting)
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(nonvoting)
Federal Transit Administration
(nonvoting)

MEMORANDUM

DATE November 5, 2009
TO Town of Wrentham
FROM MPO Staff
RE Community Transportation Technical Assistance Program:
Town of Wrentham

Background

The Community Transportation Technical Assistance Program is a pilot project that provides technical advice on local transportation issues to municipal officials. Members of the Central Transportation Planning Staff (CTPS) and the Metropolitan Area Planning Council (MAPC) jointly staff this program. This Wrentham analysis is the initial study of this program.

Upon the request of the Town of Wrentham, transportation engineers and planners met with Wrentham officials on Friday, October 2, 2009, to learn more about traffic and safety concerns in the downtown and around the Wrentham Common. The site visit began in the Wrentham Town Hall with an initial discussion and overview. Participants then walked through the focus areas and discussed possible short- and long-term alternatives to calm traffic speeds, improve pedestrian access, and minimize traffic conflicts.

Participants: Town of Wrentham – Bill Bauser (MAPC SWAP representative), John McFeeley (Town Administrator), and Irving Priest (DPW Superintendent); MAPC – Jim Gallagher and Mark Racicot; CTPS – Seth Asante and Sean Pfalzer

MPO staff members have analyzed the following Wrentham intersections:

- Route 1A and Common Street
- Routes 1A and 140
- Route 140 and Common Street
- Taunton Street (Route 152), Common Street, and David Brown Way

The staff's findings and its recommendations to the Town of Wrentham for future consideration are presented below.

Intersection of Route 1A and Common Street



This is a wide intersection in the heart of the downtown. Its configuration brings about unnecessary conflicts among motorists and between motorists and pedestrians.

The wide travel lanes in both directions of Route 1A allow motorists to travel at high speeds through the downtown and require pedestrians to walk longer distances to cross the street. It is also difficult for motorists approaching from Common Street to turn left onto Route 1A. Because they have difficulty finding a gap in traffic, they often inch out into Route 1A, stopping one or both lanes of traffic, in order to complete that turning movement.

In addition, there are unrestricted movements of motor vehicles from business driveways, which leads to unsafe turns. Furthermore, most of the business driveways are too wide. The wide driveways create gaps in the sidewalk and allow motorists to travel at higher speeds, consequently reducing pedestrian safety.

Short-Term Alternatives

- Shorten the driveway width of the convenience store and relocate the crosswalk at a ninety-degree angle from the street corner of the pizza restaurant to the sidewalk in front of the convenience store to enhance pedestrian safety and accessibility. Include a median sign or refuge in the crosswalk to allow pedestrians to cross one lane at a time rather than wait for a gap in both lanes of traffic.
- Stripe crosswalks with median signs or refuges from the corner of the Wrentham Common to the south side of Common Street and to the west side of Route 1A to improve access between downtown businesses and the common.

Long-Term Alternative

This alternative would involve the construction of a small roundabout in the center of the Route 1A and Common Street intersection. The roundabout would slow traffic by inhibiting motorists from speeding through the intersection. In addition, it would allow motorists approaching from Common Street to complete turning movements onto Route 1A southbound without having to cross two travel lanes. The roundabout would improve pedestrian safety by providing shorter crosswalks and median refuges and enhance accommodations by facilitating widened sidewalks, benches and trees where possible.

The construction of a roundabout would require the removal of parking spaces on the west side of Route 1A. Business driveways would have to be consolidated to stop motorists from exiting directly into the roundabout. Parking would be encouraged in the rear of businesses located southeast of the roundabout through two-way driveways before and after the roundabout.

Intersection of Routes 1A and 140



This is a busy intersection that experiences some delays, primarily due to the lack of designated left-turn lanes and left-turn signal phases. The widths of the approaches on Route 140 do not accommodate turning lanes. Motorists on the Route 140 southbound approach to Route 1A can bypass the intersection by using Bank Street as a slip lane.

The use of Bank Street as a slip lane promotes speeding into downtown Wrentham. This is a safety concern both for pedestrians and for motorists reversing out of angled parking spots. Motorists reversing out of angled parking spots are less likely to see pedestrians, bicyclists, or other motorists. In addition, approaching motorists and especially bicyclists, who are usually

closer to the exiting vehicles, cannot see if anyone is in the vehicle until passing it. Lastly, although there is a stop sign at the end of Bank Street, it is positioned beyond the pedestrian crosswalk and too low to be easily noticed. Many motorists do not obey the stop sign.

Short-Term Alternatives

- Reposition the stop sign prior to the pedestrian crosswalk and at a proper height to ensure that it is visible to motorists.
- Remove the crosswalk that traverses Route 1A south of Bank Street to discourage conflict between pedestrian and motorists at this location.
- Change the angle parking on the west side of Route 1A from head-in to back-in to enhance safety for motorists and other roadway users.

(Back-in parking allows greater visibility for the driver to see motor vehicles, pedestrians, and bicyclists when pulling out of the parking space, resulting in fewer crashes. This configuration also allows car doors and trunks to open facing the sidewalk, making it safer for drivers and passengers, especially if some passengers are children. While back-in parking has been in use throughout the country for decades, it has recently received renewed attention. Research done by the staff uncovered several instances of municipalities that are using this technique. In addition, planners who were consulted generally indicated that this technique is seen as having clear safety benefits for bicyclists and pedestrians. And while it is seen to be safer for all users, it is particularly desirable for bicyclists who usually are traveling in the lane directly adjacent to angled parkers. Bicyclists not only have the worst view of the drivers backing out, but also are most vulnerable to injury.)

Long-Term Alternative

This alternative would close off Bank Street to traffic and bring the island (with the flag monument) adjacent to the existing sidewalk. A new right-turn lane would be constructed on the Route 140 southbound approach. The reconfiguration of this turning movement would slow the speed of motorists by requiring them to make a proper right-hand turn at the intersection. It would also enhance the driver's ability to see other roadway users in the downtown. The closure of Bank Street would eliminate one street crossing for pedestrians and allow the restriping of a mid-block crosswalk with medians on Route 1A between the intersection of Routes 140 and 1A and the roundabout.

This alternative would remove most of the existing parking on Bank Street.

Intersection of Route 140 and Common Street

Entering Route 140 southbound from Common Street is difficult due to the angle of the intersection, which requires motorists to look back over their left shoulder to check traffic. In addition, northbound traffic on Route 140 turns onto Common Street at high speeds.

Short-Term Alternative

- Convert the yield to a stop. Place a stop sign at the end of Common Street at Route 140, eliminating the high-speed merging of vehicles.

Long-Term Alternatives

There are three alternatives that involve changes to both the intersection of Route 140 and Common Street and the intersection of Taunton Street (Route 152), Common Street, and David Brown Way. The following descriptions of these alternatives focus on the intersection of Route 140 and Common Street.

Alternative 1: Relocate David Brown Way, which currently bisects the Wrentham Common, further east so that it meets square with Route 140 and directs traffic away from the intersection of Routes 140 and 1A. Close off the connection of Common Street and Route 140, preventing motorists from merging at high speeds between Common Street and Route 140. Instead, motorists would be required to make proper turns at the intersection of Route 140 and the relocated David Brown Way, in order to enhance safety.

Alternative 2: Close off David Brown Way and redirect traffic to the intersection of Common Street and Route 140 or to the intersection of Common Street and Route 1A. Bend Common Street into Route 140 so they meet at a 90-degree angle, and require motorists to stop before turning onto Route 140. This alternative would help reunite the Wrentham Common, but redirecting traffic from David Brown Way has the potential to increase traffic in the downtown.

Alternative 3: Narrow David Brown Way and make it one-way, only accessible for motorists heading south to Common Street. Bend Common Street into Route 140 so they meet at a 90-degree-angle, and require motorists to stop before turning onto Route 140. This alternative would redirect northbound traffic on Taunton Street (Route 152) to the intersection of Common Street and Route 140 or to the intersection of Common Street and Route 1A, potentially increasing traffic in the downtown.

Note: Alternatives 2 and 3 must be designed to accommodate school buses approaching Route 140 from Common Street. In addition, all alternatives would need to be coordinated with the Taunton Street (Route 152) project to ensure the proper alignment of the Taunton Street (Route 152), Common Street, and David Brown Way intersection.¹

¹The Taunton Street (Route 152) project consists of roadway reconstruction, widening, and sidewalk installation from Common Street near Route 1A southerly for approximately 0.8 miles. Its design status is 25% submitted, and it is included in the Transportation Improvement Program's Universe of Projects List.

Intersection of Taunton Street (Route 152), Common Street, and David Brown Way



This intersection is wide, with the north and south approaches unaligned, which makes the crossing of Common Street between David Brown Way and Taunton Street (Route 152) difficult.

The crosswalks at this intersection are unnecessarily long and poorly placed in the intersection, increasing the exposure of pedestrians to motor-vehicle traffic.

Short-Term Alternatives

- Relocate the pedestrian crossings so that they are perpendicular to the streets, thereby reducing their lengths.
- Construct a curb extension on the northwest corner and an island by the southeast corner of the intersection to further reduce the length of pedestrian crossings.
- Construct a mid-block crossing on David Brown Way to provide pedestrian access from one part of the Wrentham Common to the other.

Long-Term Alternatives

There are three alternatives that involve changes to both the intersection of Taunton Street (Route 152), Common Street, and David Brown Way and the intersection of Route 140 and Common Street. The following descriptions of these alternatives focus on the former intersection.

Alternative 1: Relocate David Brown Way, which currently bisects the Wrentham Common, further east so that it meets square with Route 140 and directs traffic away from the intersection

of Routes 140 and 1A. Bend Taunton Street (Route 152) into Common Street so they meet at a 90-degree-angle. This alternative would help channel traffic and shorten pedestrian crossings.

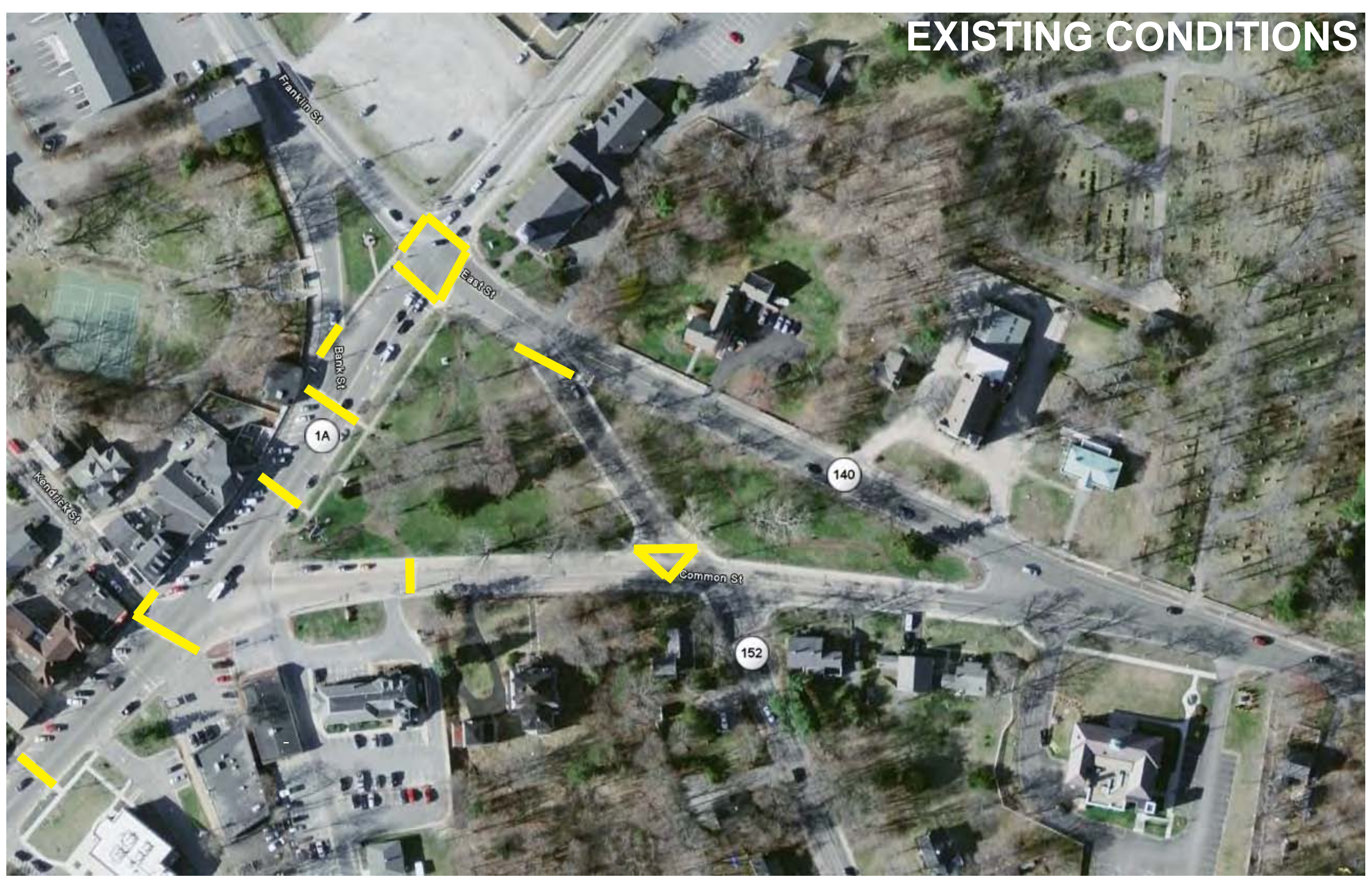
Alternative 2: Close off David Brown Way and redirect traffic to the intersection of Common Street and Route 140 or to the intersection of Common Street and Route 1A. Bend Taunton Street (Route 152) into Common Street so they meet at a 90-degree angle. This alternative would eliminate one vehicular approach and shorten pedestrian crossings as well as reunite the Wrentham Common. Redirecting traffic from David Brown Way has the potential to increase traffic in the downtown.

Alternative 3: Narrow David Brown Way and make it one-way, only accessible for motorists heading south to Common Street. This alternative would channel traffic and shorten pedestrian crossings.

Note: All alternatives would need to be coordinated with the Taunton Street (Route 152) project to ensure the proper alignment of the Taunton Street (Route 152), Common Street, and David Brown Way intersection.²

²The Taunton Street (Route 152) project consists of roadway reconstruction, widening, and sidewalk installation from Common Street near Route 1A southerly for approximately 0.8 miles. Its design status is 25% submitted, and it is included in the Transportation Improvement Program's Universe of Projects List.

EXISTING CONDITIONS



Franklin St

East St

Bank St

1A

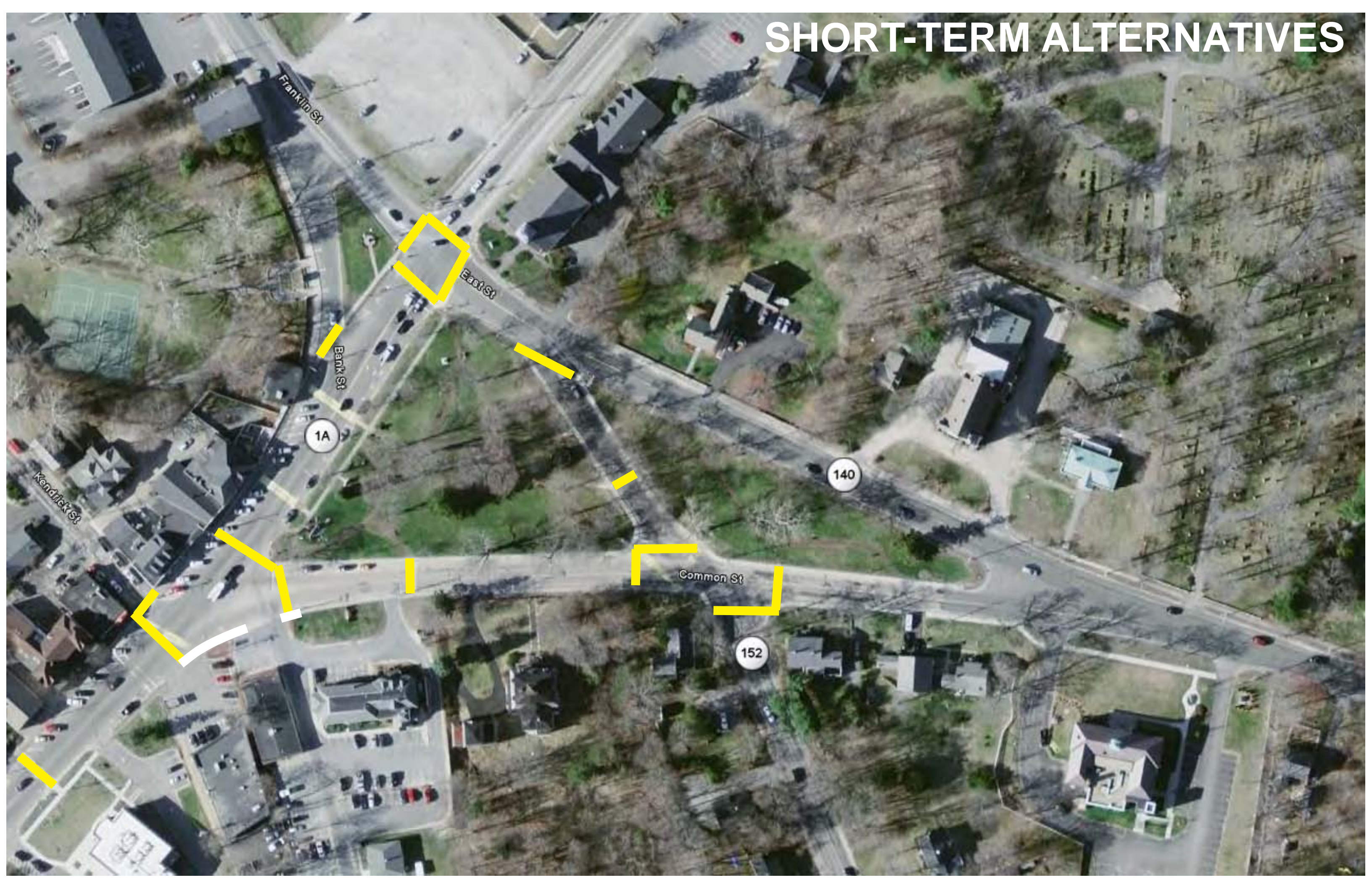
Kendrick St

140

Common St

152

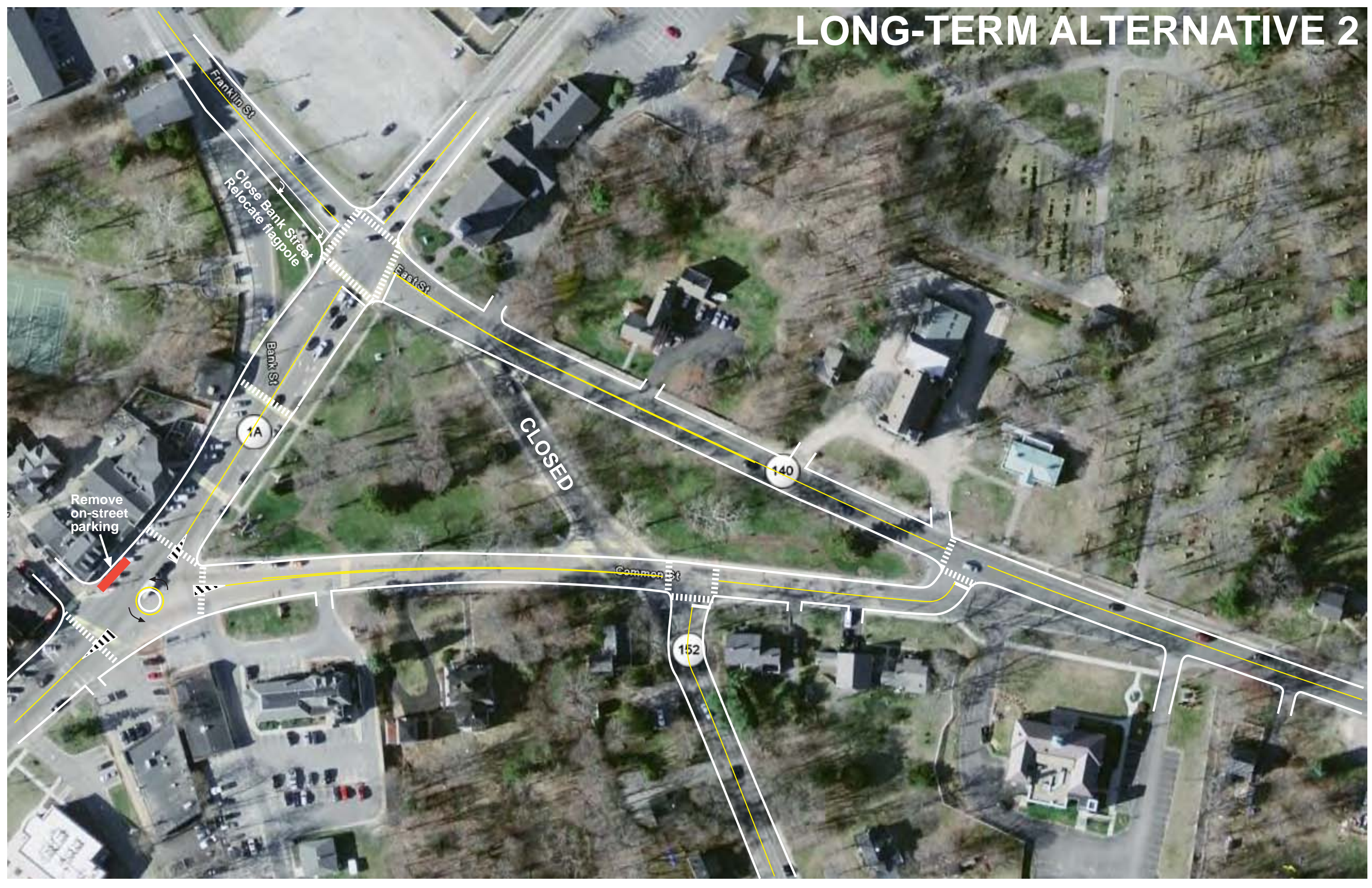
SHORT-TERM ALTERNATIVES



LONG-TERM ALTERNATIVE 1



LONG-TERM ALTERNATIVE 2



Franklin St

Close Bank Street
Relocate flagpole

Bank St

East St

CLOSED

Remove
on-street
parking

Common St

1A

140

152

LONG-TERM ALTERNATIVE 3



Franklin St

Close Bank Street
Relocate flagpole

Bank St

East St

Common St

Remove
on-street
parking

1A

140

152