



# Safety and Operations Analyses of Selected Intersections: FFY 2014

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# Study Objectives

- Select up to four intersections
- Identify and study problems
- Recommend solutions
- Coordinate with municipalities and MassDOT

# Consistent with Visions and Principles

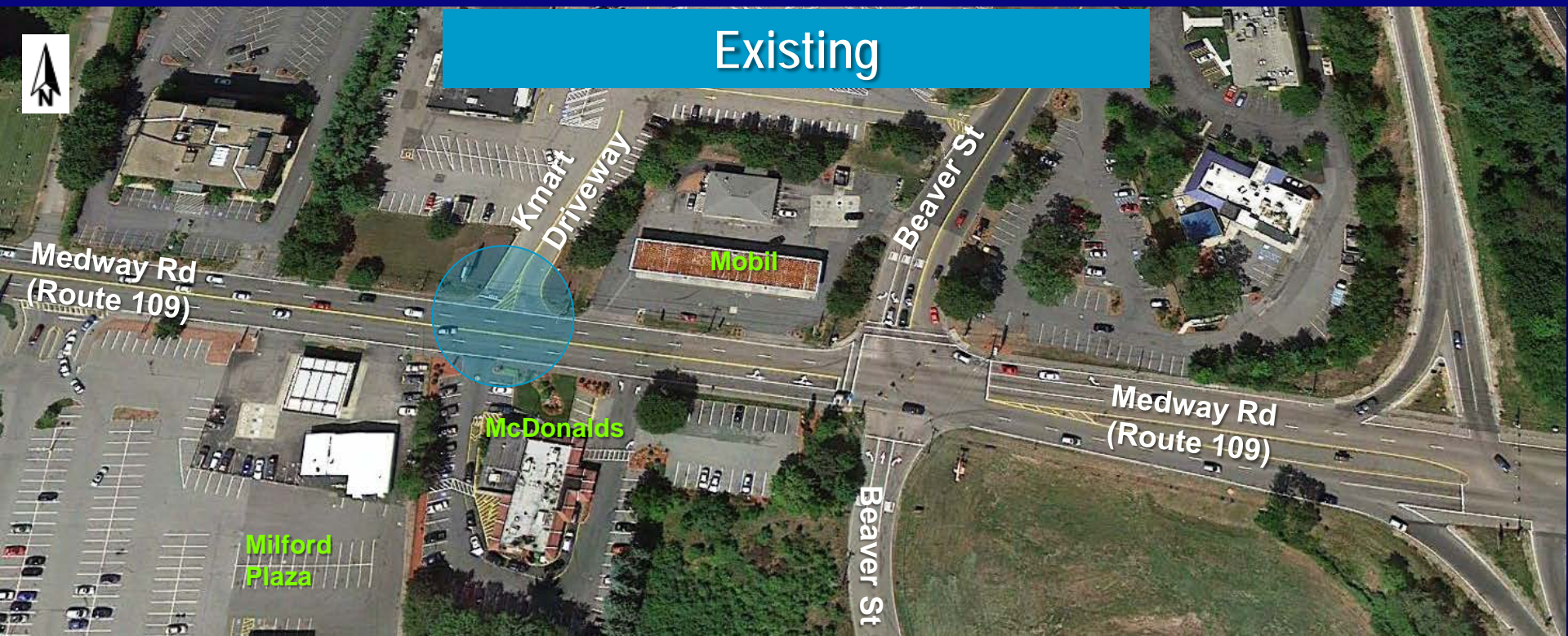


# Selected Intersections

- Milford – Medway Road and Kmart Driveway
- Weymouth – Washington and Broad streets
- Westwood – High Street and Nahatan Street
- Westwood – High Street and Pond Street

# Medway Road and Kmart Driveway, Milford

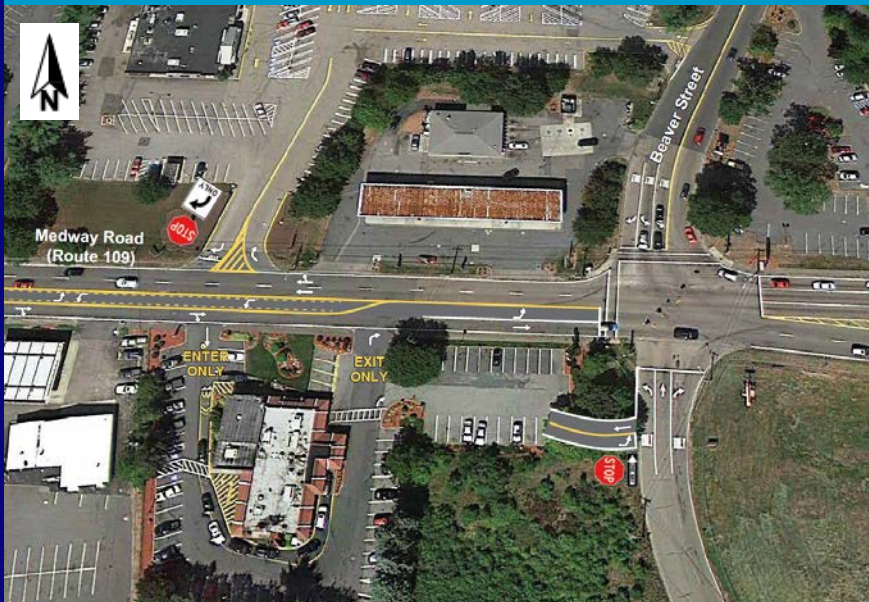
- Poor access to and from businesses
- Lack of turn lanes
- High-crash location



# Medway Road and Kmart Driveway

- Five short- and long-term alternatives
- Reconfigure travel lanes
- Install a roundabout

## Add turn lanes

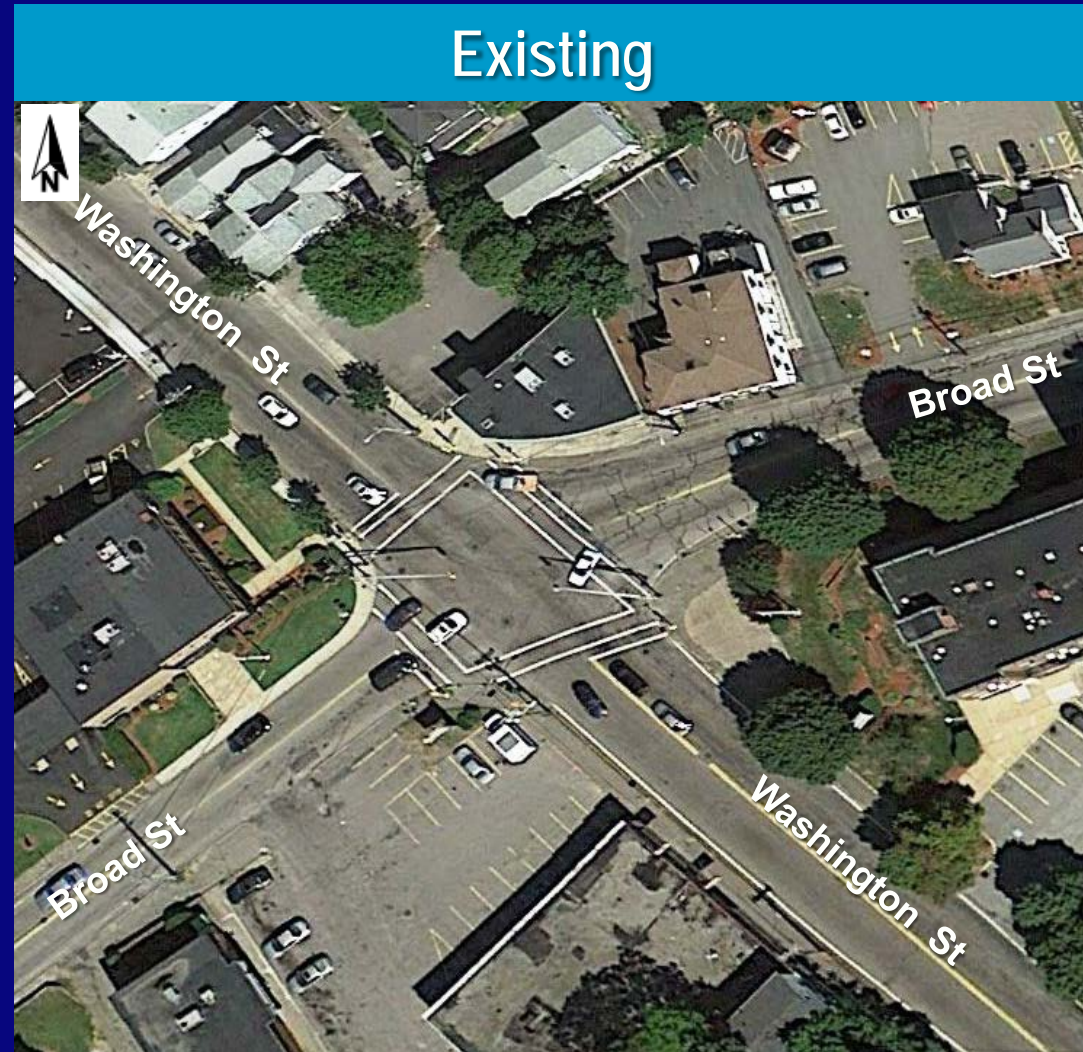


## Roundabout



# Washington Street and Broad Street, Weymouth

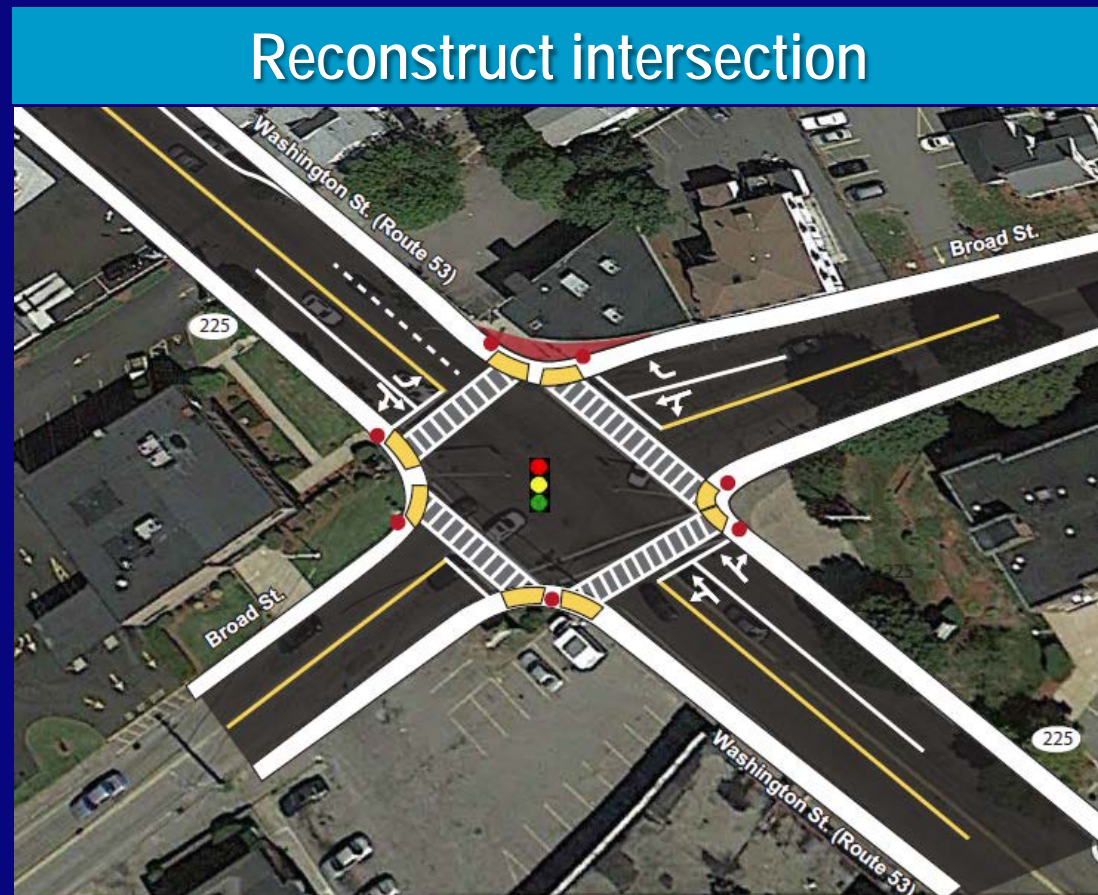
- Pedestrian safety
- High-crash location
- Outdated signal equipment
- Congestion



# Washington Street and Broad Street Weymouth

## Reconstruct intersection

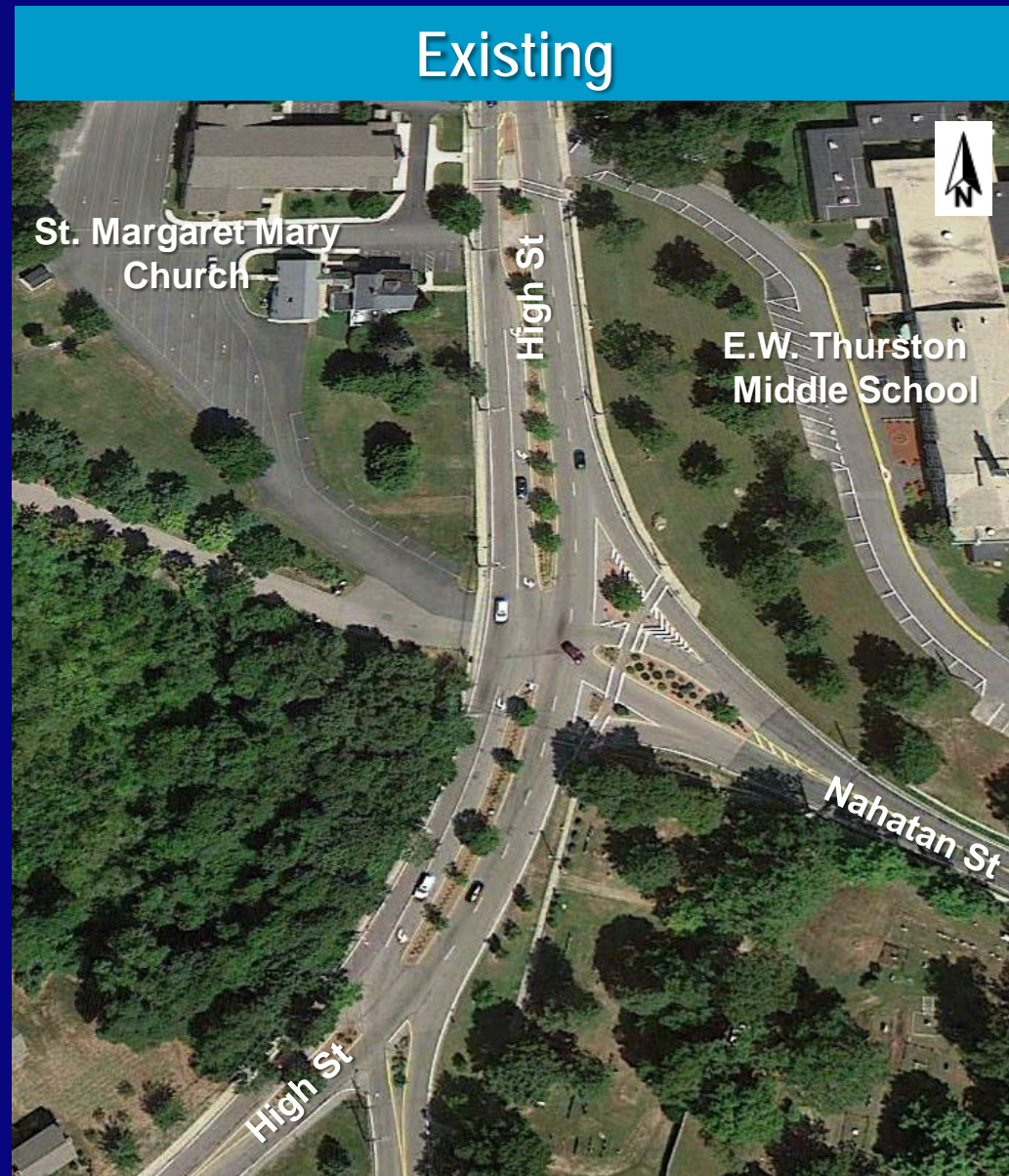
- Improve safety for pedestrians and bicyclists
- Reconfigure travel lanes
- Upgrade signal equipment





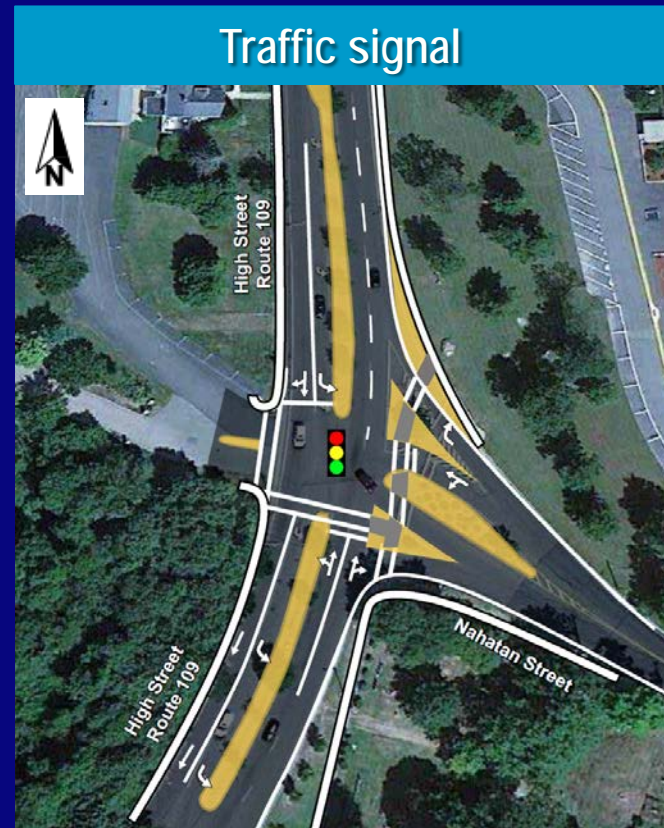
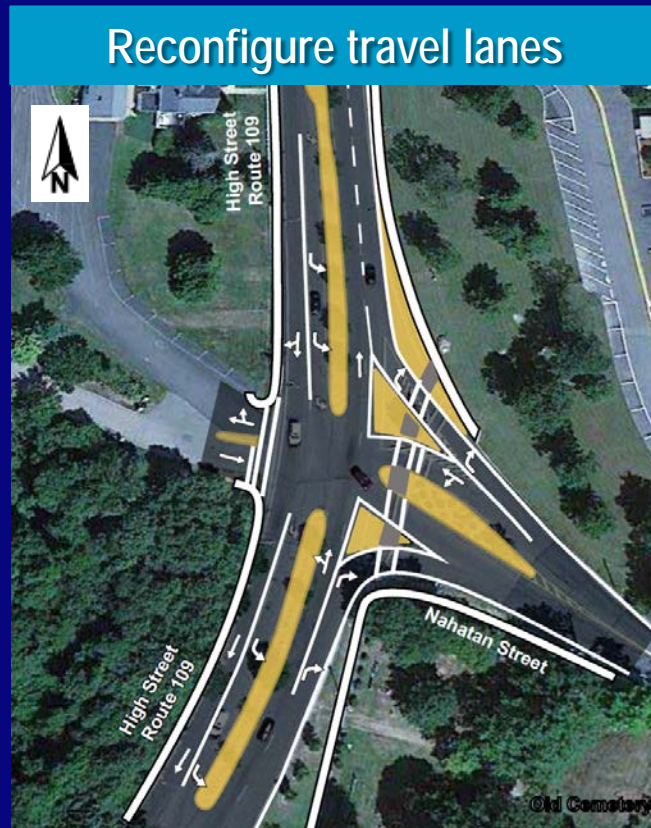
# High Street and Nahatan Street, Westwood

- High-crash location
- Traffic operations
- Pedestrian safety



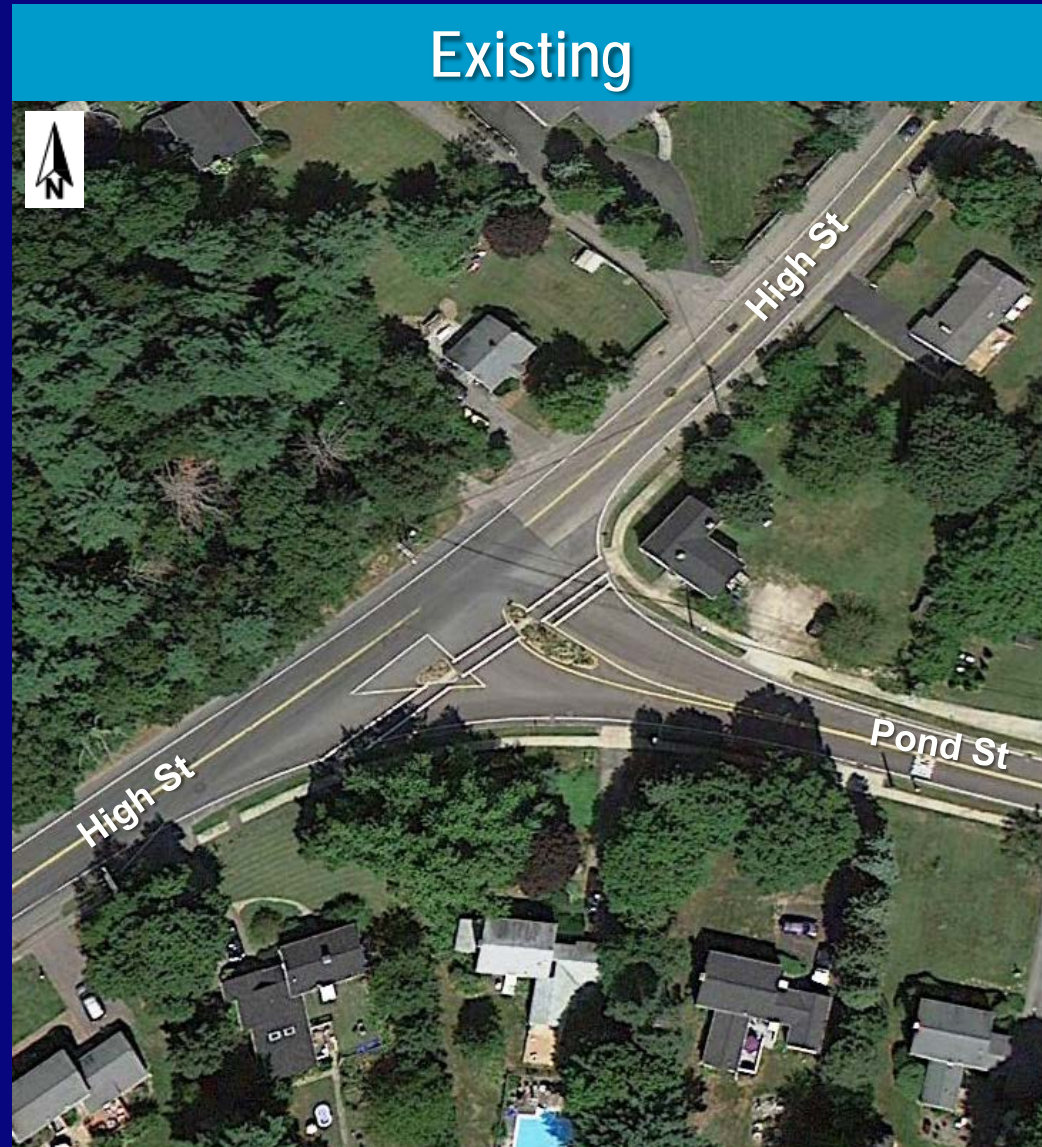
# High Street and Nahatan Street

- Six short- and long-term alternatives
- Reconfigure travel lanes and improve visibility
- Install traffic signal or consider a roundabout



# High Street and Pond Street, Westwood

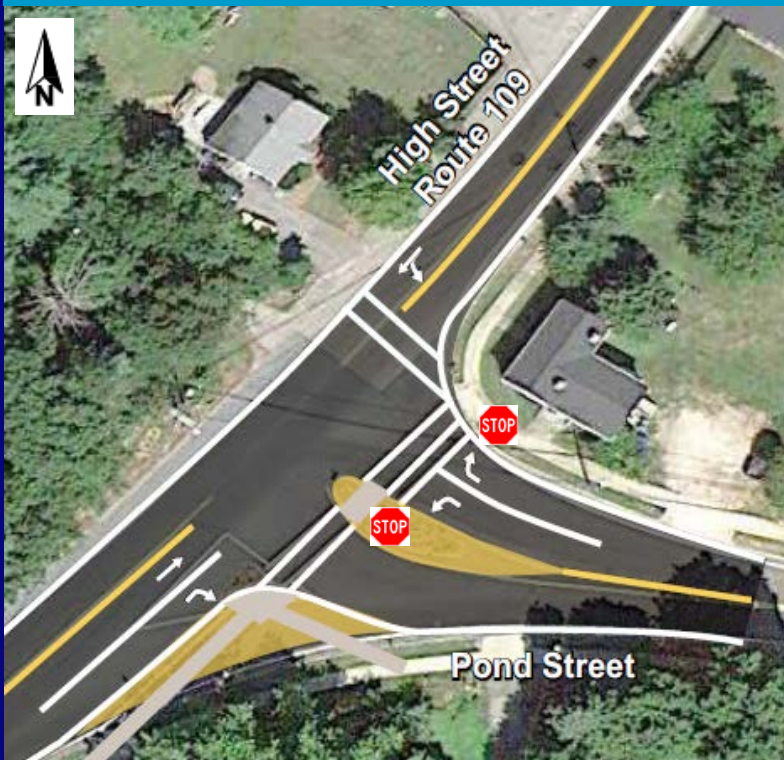
- Pedestrian safety
- Long crosswalk
- Speeding



# High Street and Pond Street

- Three short- and long-term alternatives
- Make geometric improvements
- Install a new traffic signal

Geometric improvements



Traffic signal



# Resulting Benefits – Safety

## Crash reduction factors

- Increase intersection visibility – 35 to 40%
- Shorten crosswalk distance – positive
- Install traffic signal – up to 70%
- Convert signal to roundabout – 30 to 70%
- Convert unsignalized to roundabout – 30 to 80%
- Add two-way left-turn lane – 25 to 46%
- Add a left-turn lane – 30 to 44%
- Reconstruct intersection – up to 80%

Source: Crash Modification Factors Clearinghouse



# Resulting Benefits – Operations

## Congestion reduction

- Medway Road and Kmart Driveway, Milford:  
Roundabout alternative – 8,000 vehicle-hours of delay reduction per year
- High Street at Nahatan Street, Westwood:  
Traffic signal alternative – 2,600 vehicle-hours of delay reduction per year
- Washington Street and Broad Street, Weymouth:  
Reconstruction – 600 vehicle-hours of delay reduction per year

# Steps to Implementation

- Short-term improvements
- Long-term improvements
- Design by municipality
- Construction funding

Thank you!

Questions and comments?