



Center Street Traffic Study

Presented by
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November 1, 2018



Presentation Outline

- Route 6A update
- Center Street Objectives
- Center Street Traffic Study
- Center Street at Homers Dock Stop Control Evaluation
- Center Street Sidewalks (Homers Dock road to Beach Parking)

Route 6A Update

- The Cape Cod Commission Yarmouth Port Route 6A Corridor Streetscape Study Summary Report completed March 2017.
- VHB retained to develop concepts based on the study May 2018.
- Field walk with representatives from Yarmouth on June 21, 2018.
- Survey and base mapping complete - November 2018.
- Develop Concept plans for Route 6A streetscape improvements - December/January 2018-2019.
- Present proposed improvements - Spring 2019.

Center Street Traffic Study Objectives

1. Evaluate speeds along Center Street

- Review existing speed regulations
- Review of speeds following MassDOT Procedures
- Data collection
- Recommendations

2. Evaluate stop control Homers Dock Road

- Review of multiway stop guidance following the Manual on Uniform Traffic Control Devices (MUTCD)
- Sight Distance evaluation
- Traffic Volumes
- Recommendations

Special Speed Regulation

■ What is a Special Speed Regulation?

- Establish regulatory speed limit completed through traffic engineering study
- Adopted by Town, MassDOT and Registry of Motor Vehicles
- Allows for posted speed limits
- Speed zones should be established to increase safety for all road users by setting a reasonable and proper speed that prudent drivers will follow.

■ Special Speed Regulation No. 1088

- Adopted in 1975
- Established two Speed Zones
 - 35 MPH in southern section (blue)
 - 25 MPH in northern section (orange)

■ Revising a Special Speed Regulation

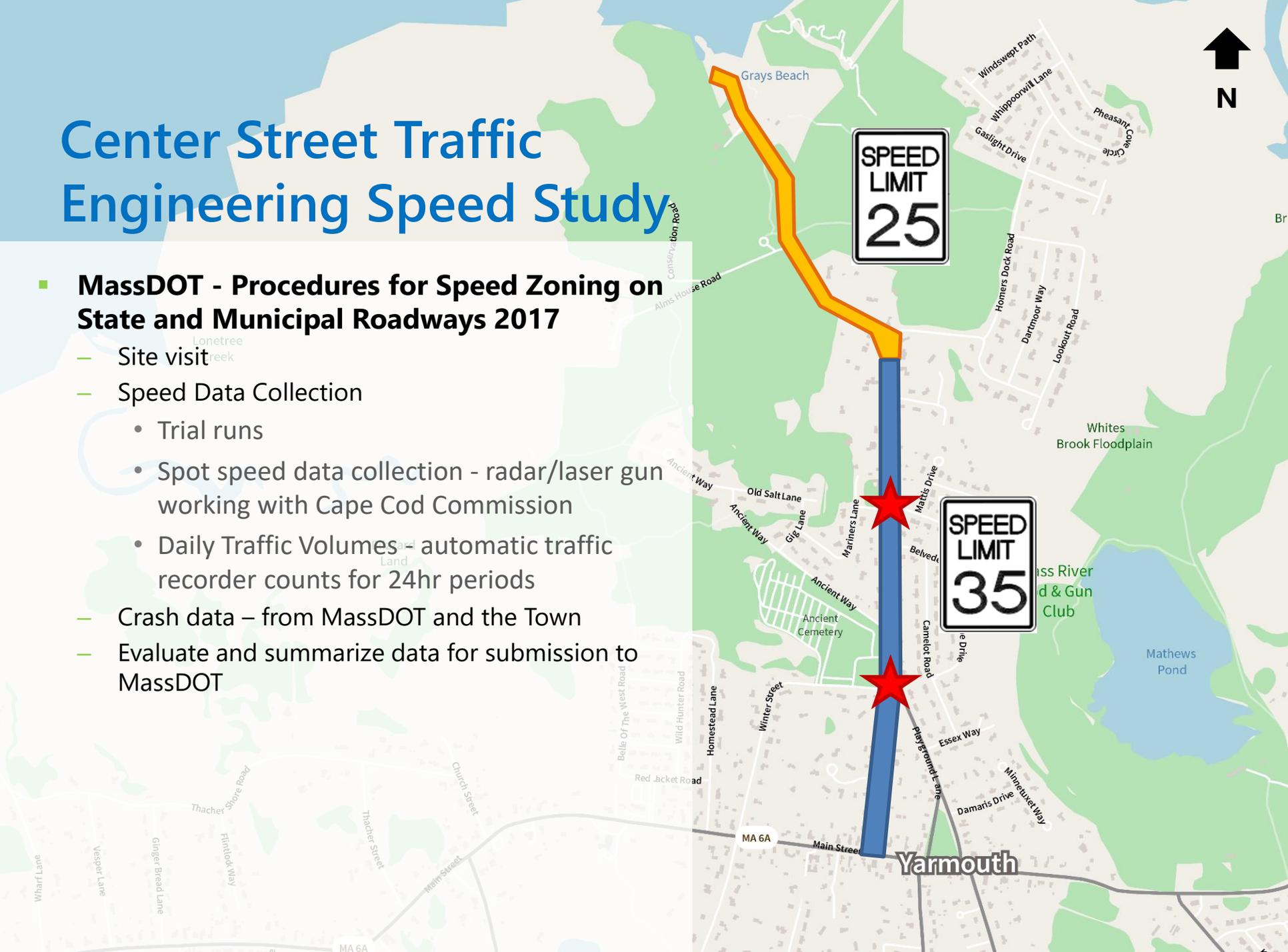
- Requires traffic engineering study
- Review by MassDOT
- Approval by: MassDOT, Town, and Registry of Motor Vehicles
- If applicable prepare amendment to regulation

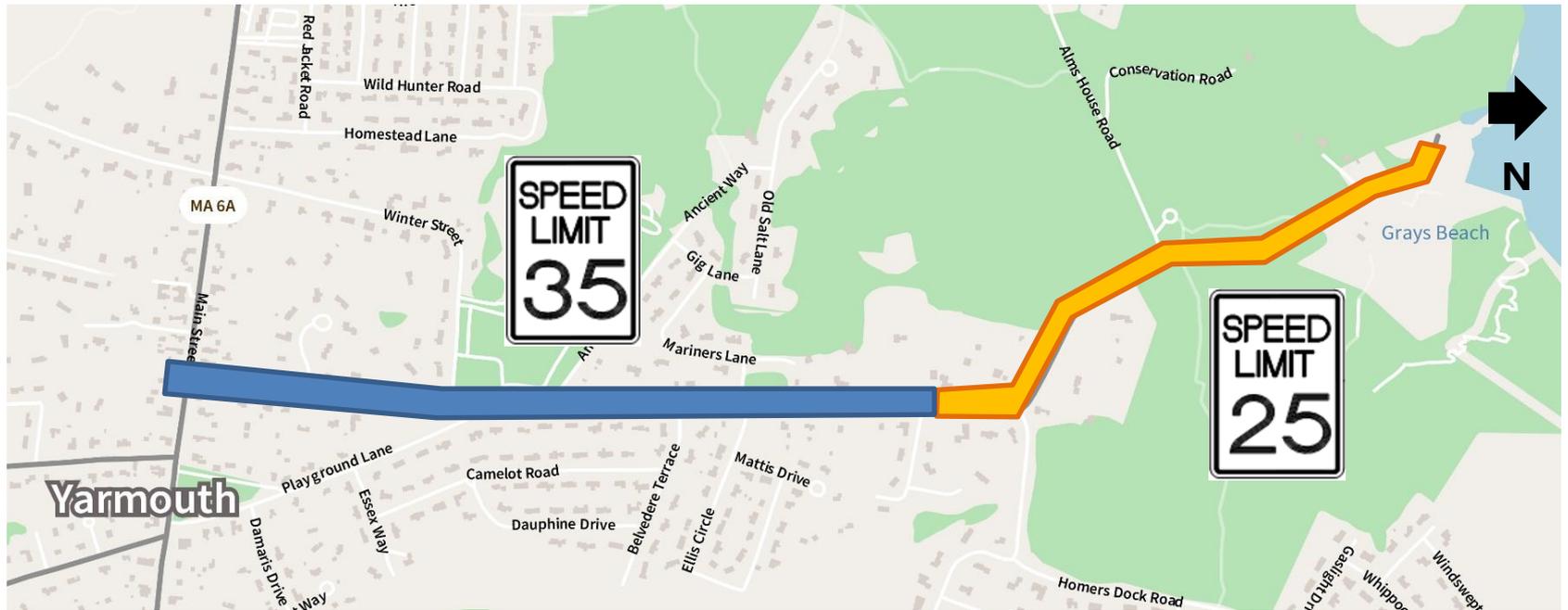


Center Street Traffic Engineering Speed Study

■ MassDOT - Procedures for Speed Zoning on State and Municipal Roadways 2017

- Site visit
- Speed Data Collection
 - Trial runs
 - Spot speed data collection - radar/laser gun working with Cape Cod Commission
 - Daily Traffic Volumes - automatic traffic recorder counts for 24hr periods
- Crash data – from MassDOT and the Town
- Evaluate and summarize data for submission to MassDOT





REPORTED CRASHES 2013-2018 (POLICE CRASH REPORTS)

ANGLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REAR-END	0	0	0	0	0	0	1	0	0	0	0	0	0	0
SIDESWIPE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SINGLE VEHICLE	0	0	0	0	0	0	0	1	1	0	0	0	0	0

SPEED BY BALL BANK INDICATOR, MPH

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SPEED BY TRIAL RUNS, MPH

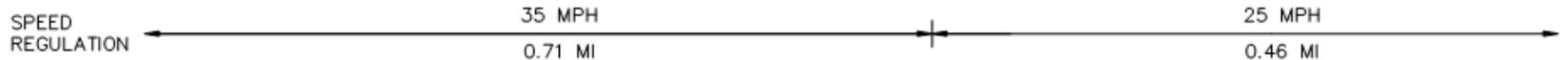
SOUTHBOUND	← 36	← 35	← 32	← 34	← 35	← 36	← 35	← 28	← 29	← 29
NORTHBOUND	→ 33	→ 35	→ 35	→ 35	→ 37	→ 37	→ 33	→ 32	→ 35	→ 33

SPEED BY SPOT SPEED (85TH PERCENTILE), MPH

SOUTHBOUND	← 35	← 33
NORTHBOUND	→ 33	→ 34

SPEED BY SPOT SPEED (50TH PERCENTILE), MPH

SOUTHBOUND	← 32	← 29
NORTHBOUND	→ 29	→ 29



Speed
Trial
Runs





REPORTED CRASHES 2013-2018 (POLICE CRASH REPORTS)

ANGLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
REAR-END	0	0	0	0	0	0	1	0	0	0	0	0	0	0
SIDESWIPE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SINGLE VEHICLE	0	0	0	0	0	0	0	1	1	0	0	0	0	0

SPEED BY BALL BANK INDICATOR, MPH

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SPEED BY TRIAL RUNS, MPH

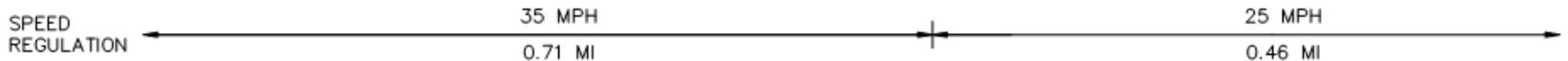
SOUTHBOUND	← 36	← 35	← 32	← 34	← 35	← 36	← 35	← 28	← 29	← 29
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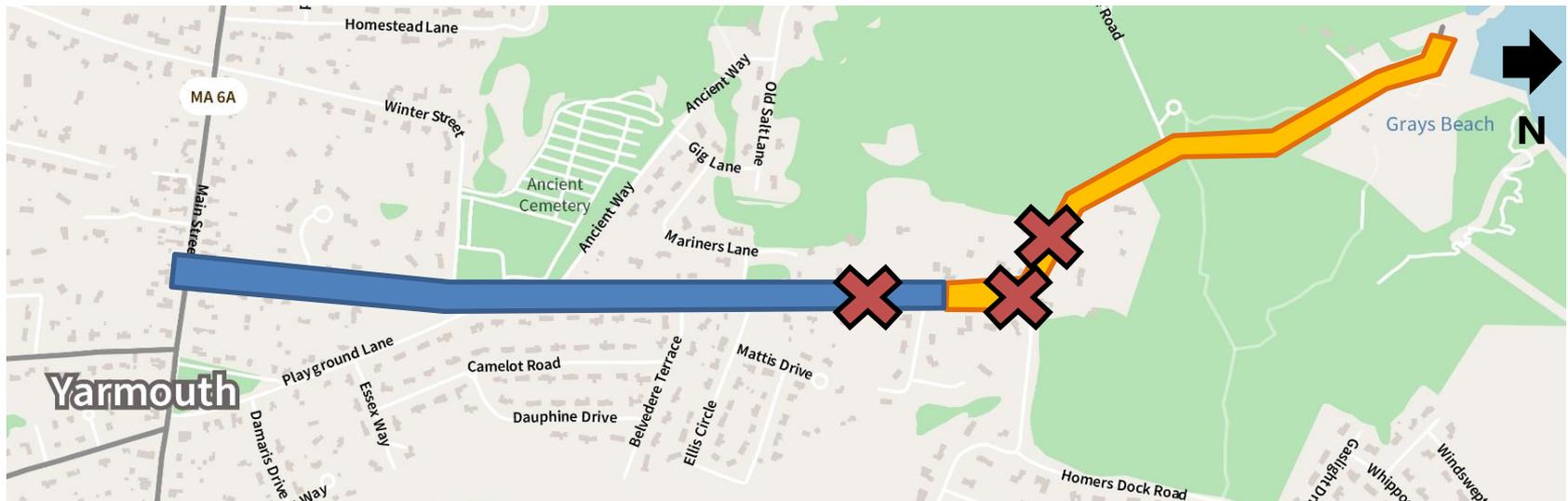


**SPOT
SPEED
DATA**



Crash Data - Review

- Crash Records reviewed from Town of Yarmouth Police Department and the MassDOT crash database.
 - 3 crashes were reported in the most recent 5 years (2013-2018)
 - No Injury's – property damage only
 - All 3 crashes involved 1 driver
 - 2 collisions with objects off the road
 - 1 crash was speed related (reckless driving)
 - 1 rear-end collision with a parked car



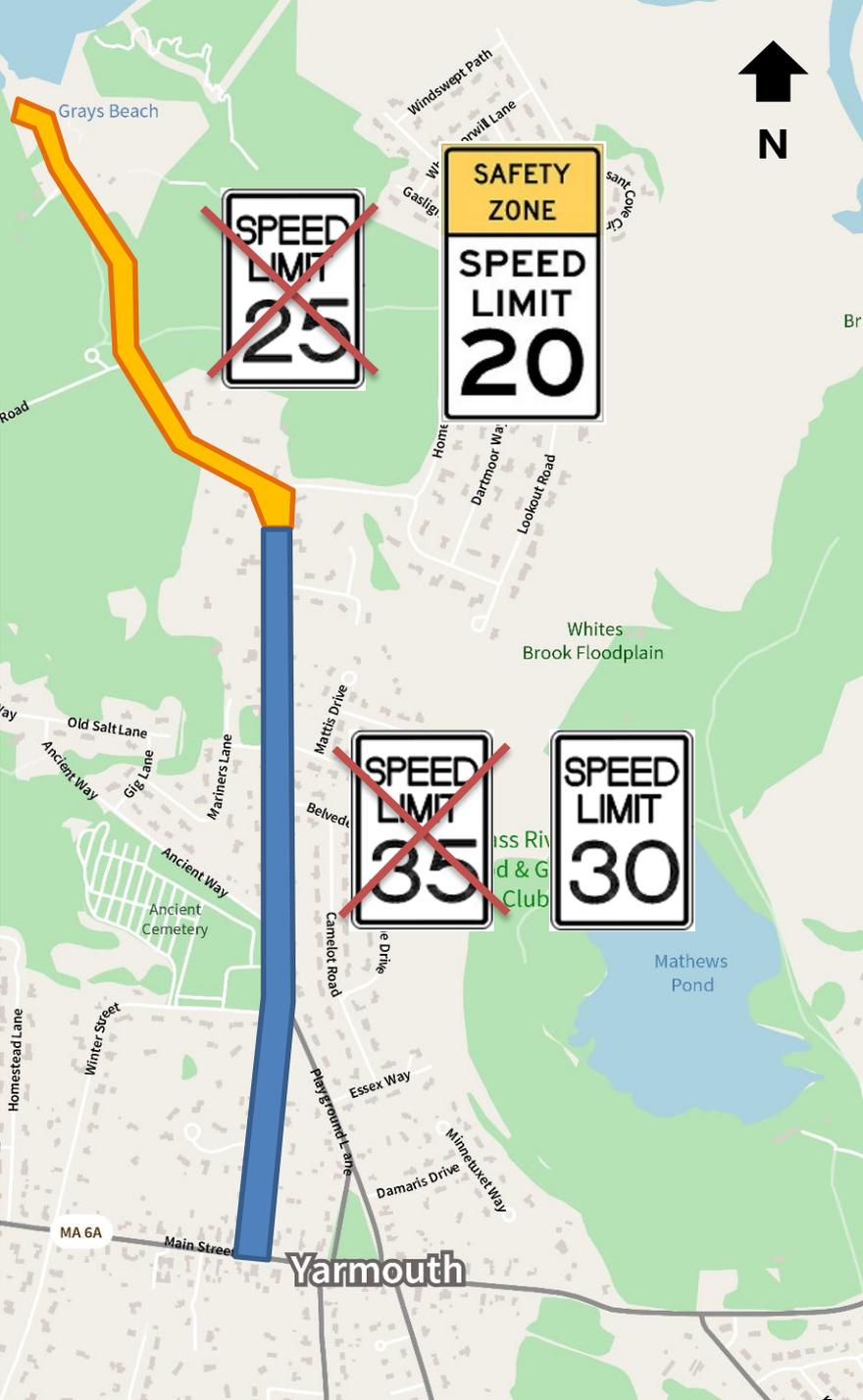
Safe Speed Range

- Upper Limit = 95th Percentile Speed
 - Ranges 36 to 38 MPH
- Lower Limit = 85th Percentile speed – 7 MPH
 - Ranges 26 to 28 MPH

Roadway Segment	Posted Speed	Upper Limit	Lower Limit
Center Street, Northbound			
at Old Church Street	35	36	26
at Ellis Circle	35	37	26
Center Street, Southbound			
at Old Church Street	35	38	28
at Ellis Circle	35	36	26

Recommendations and Next Steps

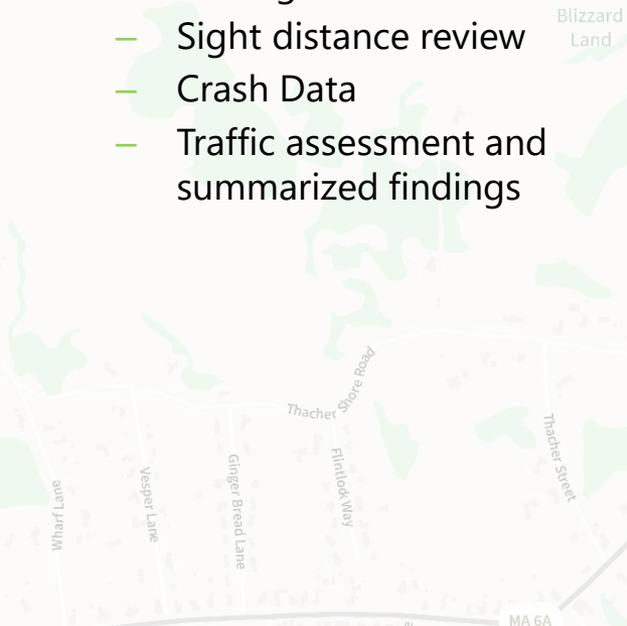
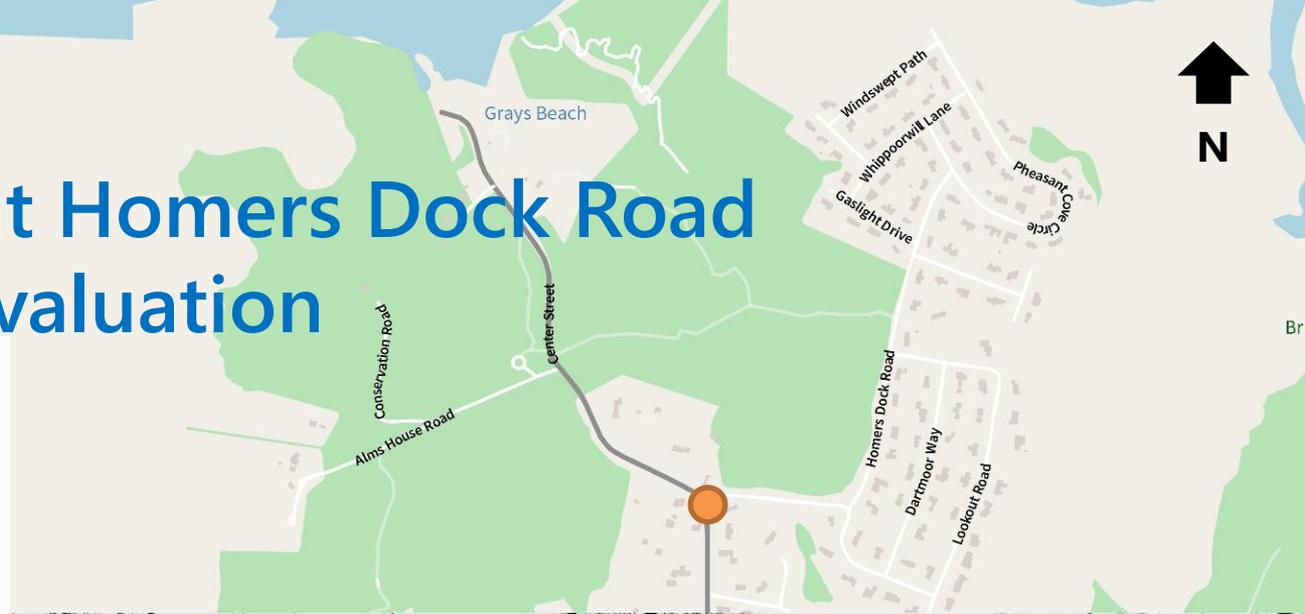
- **Submit Traffic Engineering Study for MassDOT Review**
 - Recommend reducing the southern speed zone (blue) from 35 MPH to 30 MPH
 - Recommend reducing the northern speed zone (orange) from 25 MPH to 20 MPH "Safety Zone"
- **If MassDOT agrees with recommendations:**
 - Amendment to the existing special speed regulation will be developed
 - Town will enact new regulation with approval from MassDOT and the Registry of Motor Vehicles.
 - New speed limit signs will be posted and MassDOT will verify conformance
- **If MassDOT does NOT agree with recommendations:**
 - Evaluate traffic calming measures



Center Street at Homers Dock Road Stop Control Evaluation

■ Center Street and Homers Dock Road

- Review of multiway stop guidance following Manual on Uniform Traffic Control Devices (MUTCD 2009)
- Traffic counts - 12-hour turning movement counts
- Sight distance review
- Crash Data
- Traffic assessment and summarized findings



Stop Control Evaluation - Findings

- **MUTCD 2009 Guidance for Multi-way Stops Requires:**
 - Minimum traffic volumes of 300 vehicles per hour for 8 hours of the day
 - Did not meet (178 vehicles in peak hour)
 - Minimum vehicular, pedestrian and bicycle volumes of 200 units per hour for 8 hours and minor-street delay of 30 seconds per vehicle during highest hour
 - Did not meet (182 units in peak hour and delay <10 seconds)
 - Minimum of 5 crashes reported in a 12-month period
 - Did not meet (1 crash observed in the last 5 years)

- **Sight Distance Review**
 - Stopping sight distance (minimum of 250' feet required)
 - Meets minimum distance (over 500' measured)
 - Intersection sight distance (Minimum 390' looking right and 335' looking left)
 - Meets minimum distance (over 500' measured)

Stop Control Evaluation - Summary

- Does not meet minimum requirements per the MUTCD 2009 to add stop control along Center Street
- Sight Distance is adequate
- Currently no crash data concern
- Recommend adding/replacing existing signs with curve warning with intersection sign in the southbound
- Speed Reduction will help with intersection operations



Proposed Sidewalk on Center Street (Homers Dock Road to beach parking)

- **Conducted survey work along Center (both sides)**
- **Developed a conceptual sidewalk plan**
- **Met with Conservation Commission (August 16, 2018)**
 - Does not support hardened sidewalk within wetlands jurisdiction area
 - Does not support wholesale shoulder improvement
- **Discussed other options with Conservation Agent**
 - Improve the shoulder within the road right-of-way provided there is no widening and no impacts to the wetland during and post construction.
 - The width of the improved area will be limited as the wetland is in close proximity to the road (3 feet +/-).
 - Raising the elevation of the shoulder with fill and grasses/stone where it has become compacted or washed out (Stabilized Stonedust).
 - Will require filing a Request for Determination of Applicability (RDA)

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Offices located throughout the east coast