



Town of Hingham

Route 3A / Summer Street / Rockland Street Pilot Program

- February 15th 2018: Meeting with MassDOT & Hull
- February 26th 2018: Meeting with MassDOT & Cohasset



Agenda

- **Purpose of Road Diet Pilot Program**
- **Collaboration Efforts**
- **Technical Discussions**
 - **Vissim Analysis (Eastbound & Westbound Simulations)**
 - **Capacity Results of Westbound Traffic**
 - **Emergency Apparatus Access**
- **Logistics' Planning**
 - **Responsibilities**
 - **Traffic Management-ITS (Intelligent Transportation Systems), Channelizing Devices & Signage**
 - **Public Safety**
 - **Communication**
 - **Public Outreach**
 - **Proposed Installation Dates / Breakdown**
- **Operational Review**

Purpose of Road Diet Pilot Program

The purpose of Road Diet Pilot Program is to test the viability of a road diet (lane reduction) by validating or invalidating all of the Traffic Engineering modeling and studies that have been completed to date; and to get a sense of public perception.

Also

To collect additional data that measures impacts and informs future dialogue.

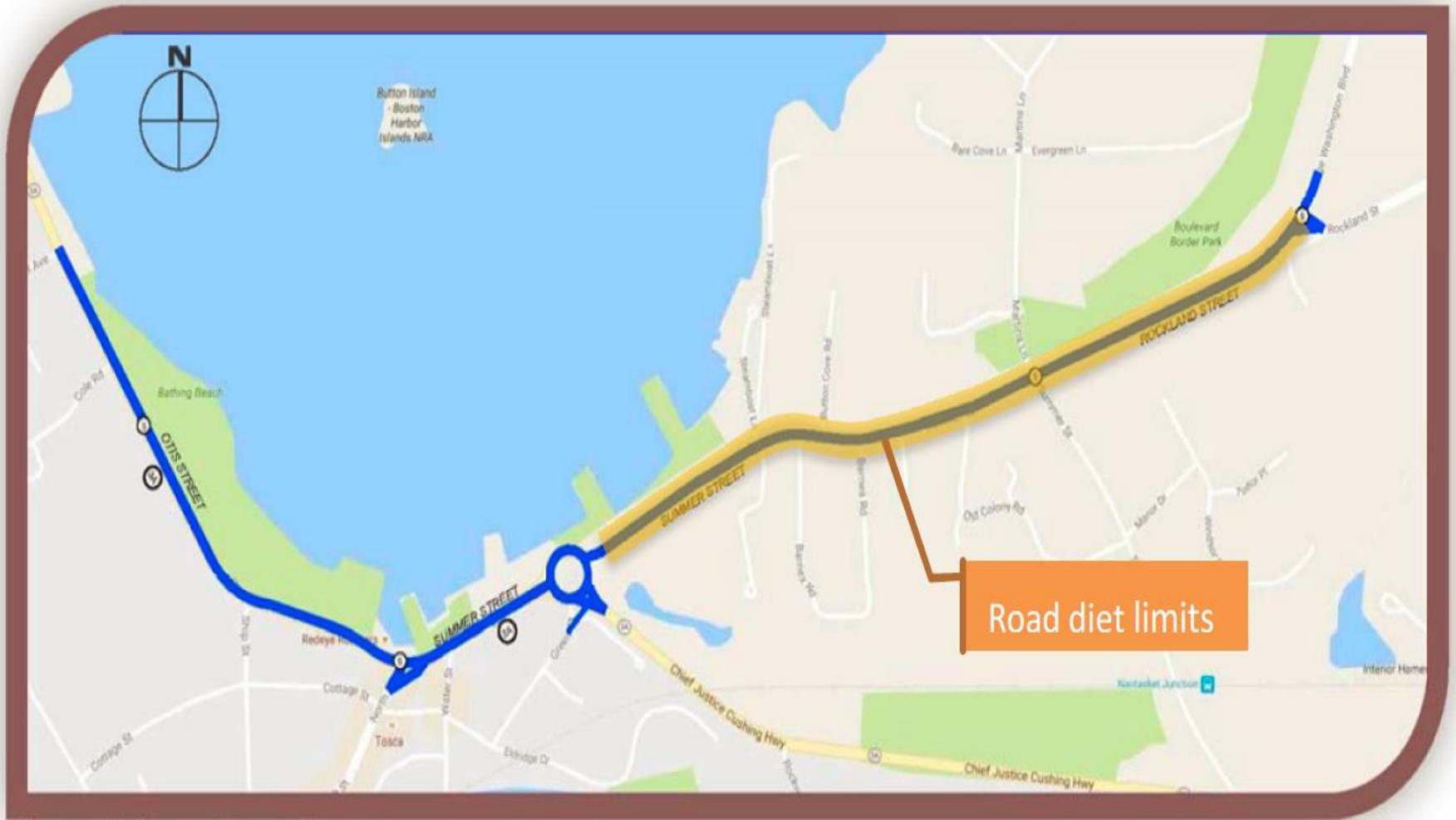
Collaboration Efforts

Results from the Collaboration of 18 plus team members consisting of Community Leaders, Traffic Engineers, Project Mangers, Maintenance & Planners

- **Cohasset, Hull & Hingham**
- **MassDOT**
 - » **Taunton District 5 (Maintenance, Traffic, Project Management, etc.)**
 - » **Boston Office (Traffic, Project Managers, etc.)**
 - » **CTPS (Central Transportation Planning Staff-Authors of the original corridor study)**
- **DCI (Design Consultants Inc.) Engineering firm hired Town of Hingham**
- **Synchro 9 from Trafficware to build the corridor models to evaluate the various alternatives being considered**
- **SIDRA Intersection 7 software to evaluate the roundabout alternatives.**
- **Kittelson & Associates - Engineering firm hired by the MassDOT**
 - » **Vissim Analysis (Traffic modeling software & simulation)**

Technical Discussion

Vissim Analysis – Road Diet Limits



Vissim Simulation Video (Eastbound)

Earthstar Geographics SIO
Image courtesy of USGS
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**Summer St/Rockland St Road Diet:
Build Saturday Mid-day Operations**



Vissim Simulation Video (Westbound)

Earthstar Geographics SIO
Image courtesy of USGS
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Vissim Analysis – Corridor Travel Time Difference

Saturday Mid-day

Table 3: Corridor Travel Time under the Existing and Build Conditions

Segment	Existing VISSIM Travel Time (sec)	Build VISSIM Travel Time (sec)	Percent Difference
Eastbound: From North Street to George Washington Street	135.6	167.0	23.2%
Westbound: From George Washington Street to North Street	143.0	149.8	4.7%

Vissim Analysis – Average Vehicle Delay & LOS

Table 2: Average Vehicle Delay and LOS by Approach and Intersection

Intersection	Control Type	Approach*	EXISTING CONDITIONS (BEFORE ROAD DIET)				BUILD CONDITIONS (AFTER ROAD DIET)			
			Approach Delay(s)	LOS	Int Delay(s)	Int LOS	Approach Delay(s)	LOS	Int Delay(s)	Int LOS
Otis St & Bathing Beach Parking	Signal	EB	13.4	B	12.8	B	12.4	B	12.4	B
		WB	8.8	A			8.8	A		
		SB	26.4	C			26.3	C		
		WB	0.2	A			0.2	A		
		NB	0.0	A			0.0	A		
Summer St & North St	Signal	EB	64.0	E	40.8	D	61.1	E	39.8	D
		WB	19.6	B			19.8	B		
		NB	27.1	C			26.0	C		
Summer St & Water St	TWSC	EB	2.0	A	39.8	E	2.0	A	41.9	E
		WB	22.0	C			20.6	C		
		NB	39.8	E			41.9	E		
Summer St & Green St & CJC Hwy (Route 3A)	Rotary	EB	8.8	A	25.9	D	10.6	B	28.5	D
		WB	15.9	C			12.4	B		
		NE	35.0	E			41.5	E		
		NW	139.7	F			181.7	F		
Summer St & Steamboat Ln	TWSC	EB	0.2	A	0.5	A	10.2	B	10.2	B
		WB	0.5	A			0.7	A		
		SB	-	-			-	-		
Summer St/Rockland St & Martins Ln	Signal	EB	8.9	A	8.9	A	19.3	B	16.4	B
		WB	7.0	A			9.7	A		
		NB	17.0	B			21.4	C		
		SB	18.2	B			25.3	C		
Rockland St & George Washington Blvd	Signal	EB	7.9	A	7.7	A	15.3	B	13.2	B
		WB	5.7	A			7.0	A		
		NB	15.9	B			19.4	B		

* Summer Street is assumed to be running east-west at all intersections.

Capacity Results

WB direction Summarized

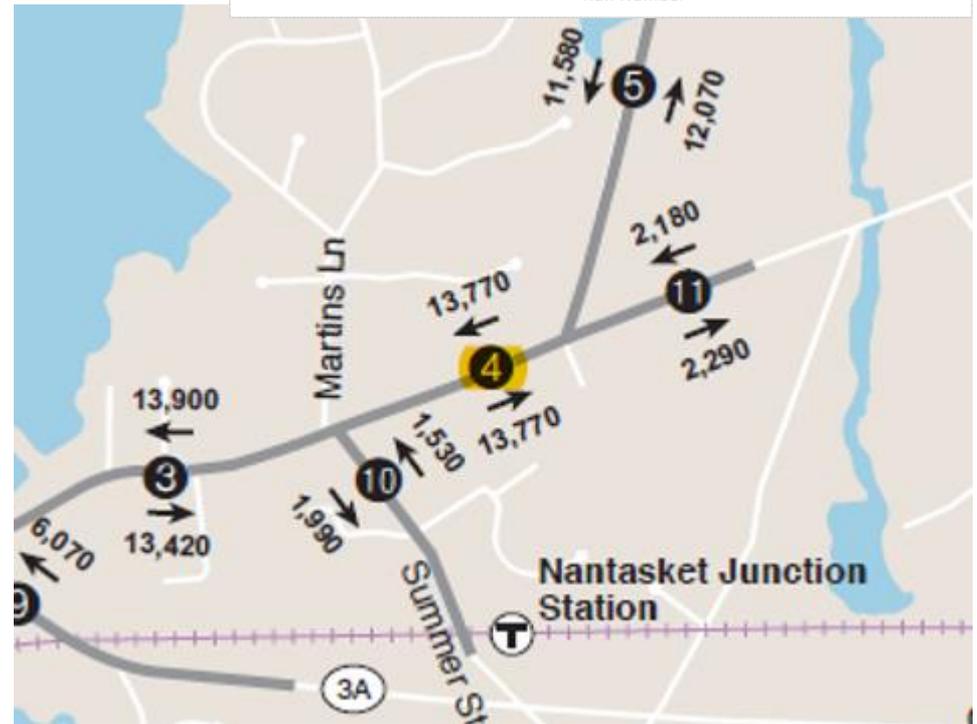
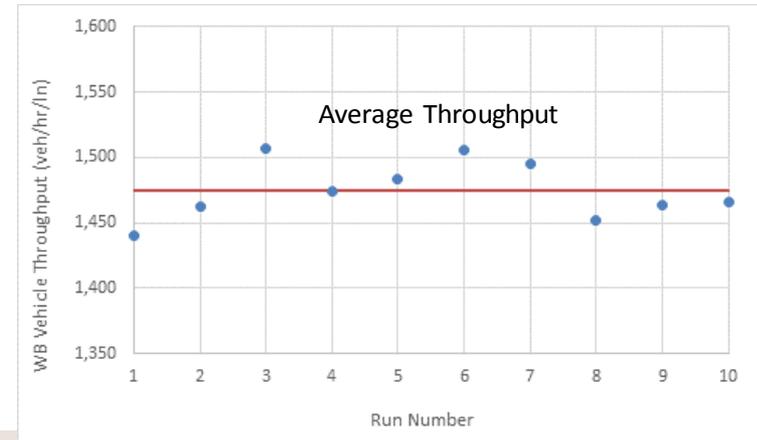
Scenario when all beach traffic were to hit the George Washington Blvd and Rockland intersection at once

Methodology:

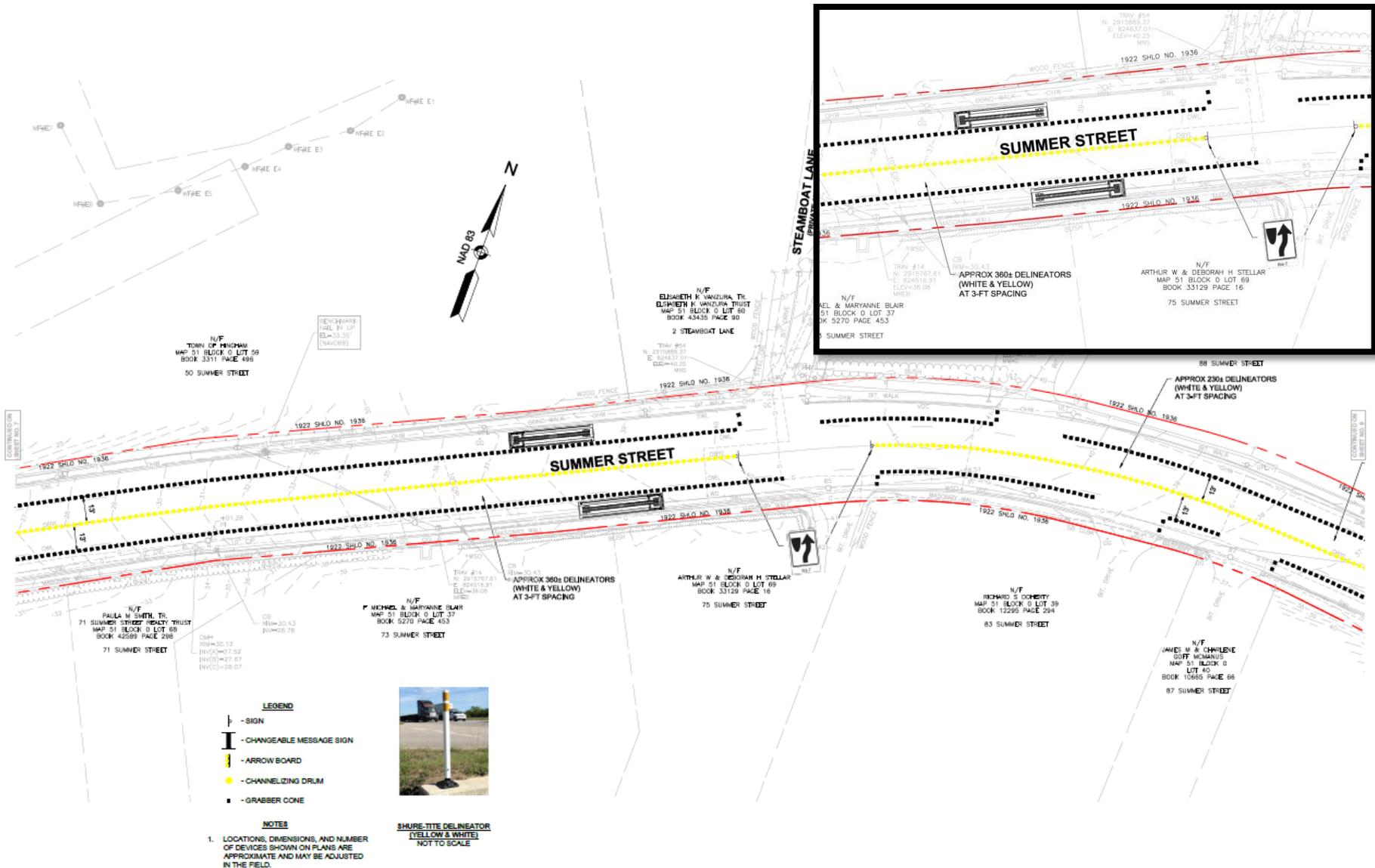
- Obtain the throughput traffic point right after Rockland Street/GW Blvd intersection (please see below)
- WB traffic entering the network was increased to generate oversaturated conditions throughout the simulation
- The data collection point shown below was used to get the total number of vehicles that were able to go through the road diet section.

Simulation Results:

- 10 simulation run
- WB throughput around **1,450** vehicles per hour per lane.



Emergency Apparatus Access



Logistics' Planning

Responsibilities

MassDOT District 5

- Providing ITS Equipment (Radar, Bluetooth, & Camera's)
- Providing Shur-Flex Surface Mounted Delineators for Yellow Centerline & White Edge Line
- Providing Variable Message Boards
- Data collection
- Establish threshold limits (acceptable traffic delays/queuing/LOS operation)

Town of Hingham DPW/Engineering

- Provide labor to set-up/breakdown of the SHUR-Flex Delineators and removal of posts only in case of an emergency
- Provide traffic signage throughout corridor per TMP plan
- Provide arrow boards where two lanes merge into one
- Data collection

Transportation Measuring Equipment

ITS (Intelligent Transportation Equipment)

- Bluetooth Readers - Collect origin/destination and travel time samples
(MassDOT looking at mounting these on the PTZ or Radar Trailers)
- Microwave Radar - Collects volumes, vehicle classification, and speeds
(Where we use the microwave radar, we do not need to collect tube counts)
- PTZ Cameras - Monitor traffic in certain locations



Microwave
Radar



PTZ Camera

SHUR-FLEX Surface Mount Delineator



FEATURES AND BENEFITS

- durable system results in limited maintenance and fewer change-outs to save time and money
- can be bolted or epoxied to the road surface
- surface mount can be installed on vertical slopes up to 30 degrees
- simple, non-mechanical self-righting system
- uses the proven SHUR-FLEX® Square to Round Insert
- easy installation and post replacement—lessens the exposure of traffic and other dangerous situations to field personnel



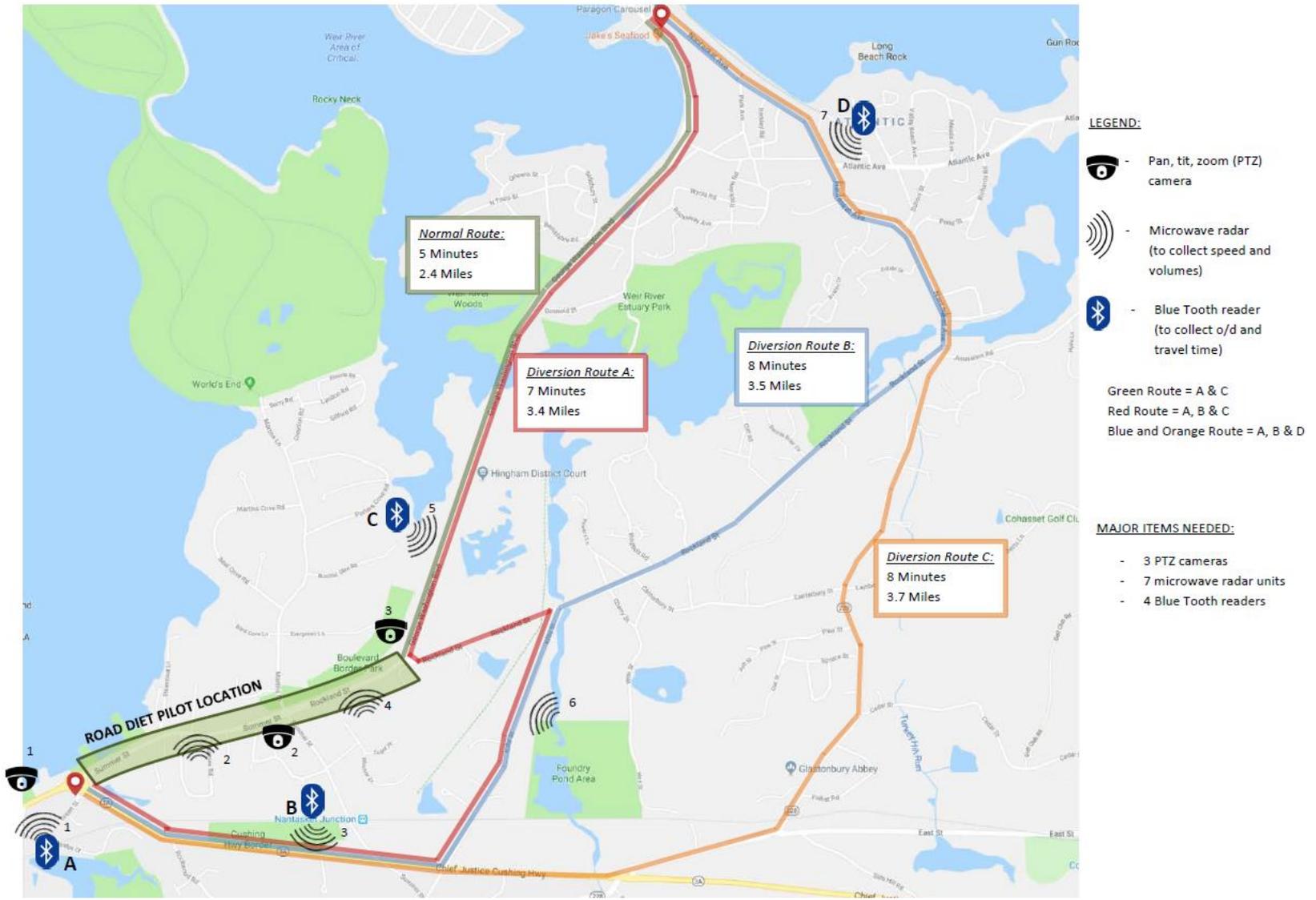
Delineators (channelizing device)

kizola
Impact 1



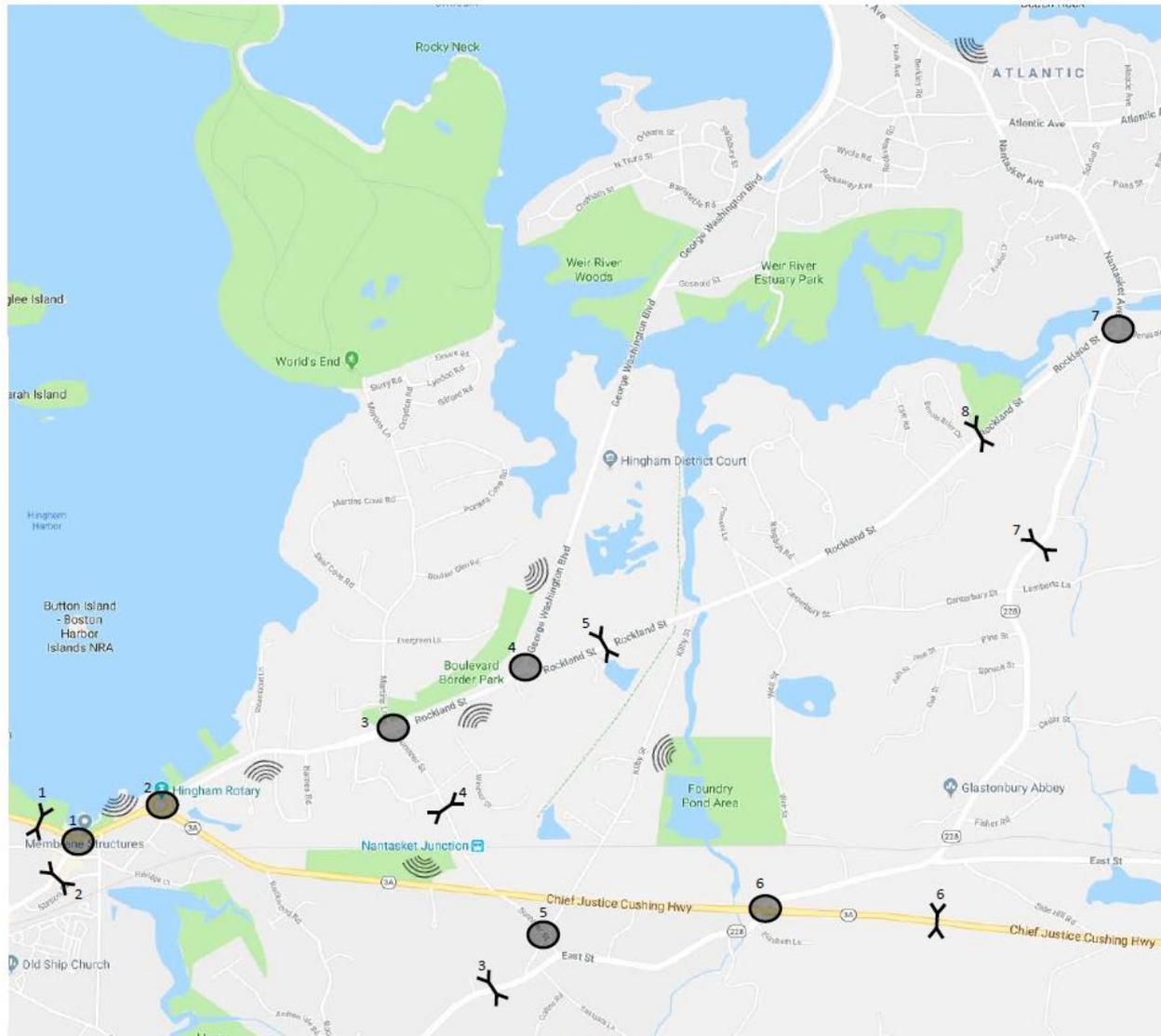
Traffic Counter Locations

Hingham, Summer Street and Rockland Street Road Diet Pilot ITS Plan



Traffic Counter Locations

Hingham, Summer Street and Rockland Street Road Diet Pilot TMC and ATR Data Collection Plan



LEGEND:

-  - Microwave radar (from ITS plan)
-  - ATR
-  - TMC

Public Safety

Public Safety

- On November 20, 2017 and January 17, 2018 - Hingham safety personnel meet with Hull and Cohasset safety personal.
- Consensus - All safety officials, from all three towns, continue to work together.

Communication Procedure

1) If MassDOT requests road diet to be broken down due to results, the following steps should occur.

Step #1

MassDOT contacts Hingham Engineering



Traffic Returns back to normal operation

Step #2

Hingham Engineering will send out traffic contractor or DPW personnel to remove white edge line posts only. Base of stanchions stay installed.

2) If an emergency in the corridor requires road diet to be broken down, the following steps should occur.

Step #1

Contact Hingham Police/Fire



Traffic Returns back to normal operation

Step #3

Hingham Engineering will send out traffic contractor or DPW personnel to remove white edge line posts only immediately. Base of stanchions stay installed.

Step #2

Hingham Police/Fire contacts Hingham Engineering

Public Outreach

- MassDOT recommended modeling advertisement of the Road Diet similar to the Fore River Bridge project. Anecdotally this project was a success with no significant complaints.



<http://www.massdotprojectsforeriverbridge.info/>

- Possible public meeting on March 27, 2018 at Sons of Italy in Hingham to discuss project.
- Develop a “Public Outreach Plan”: We recognize that community participation is a critical component of the planning process. **PRESS INQUIRIES AND MEDIA, MEETING NOTIFICATION AND CONTACTS LISTS, WEB AND SOCIAL MEDIA**

Proposed Installation Dates / Breakdown

- Set-up of ITS Equipment / Data Collection Equipment:
Approx. April 19 - 23, 2018 *(One month prior to start of road diet per MassDOT)*
- Set-up of Variable Message Boards:
Approx. May 3 - 7, 2018
- Set-up of traffic control/ Start of Road Diet:
Approx. May 17 - 21, 2018
- Anticipated Completion of Road Diet:
Approx. July 30, 2018

Operational Review

- Evaluate Data
 - Share and disseminate collected data
 - Create summary memo's
 - Compare the results to the modeling (Synchro, Sidra & Vissim)
- We will seek to get a sense of public perception
- This data collected will provide MassDOT with a level of performance
- It will inform the thought process and disposition going forward

Questions – Thoughts?