



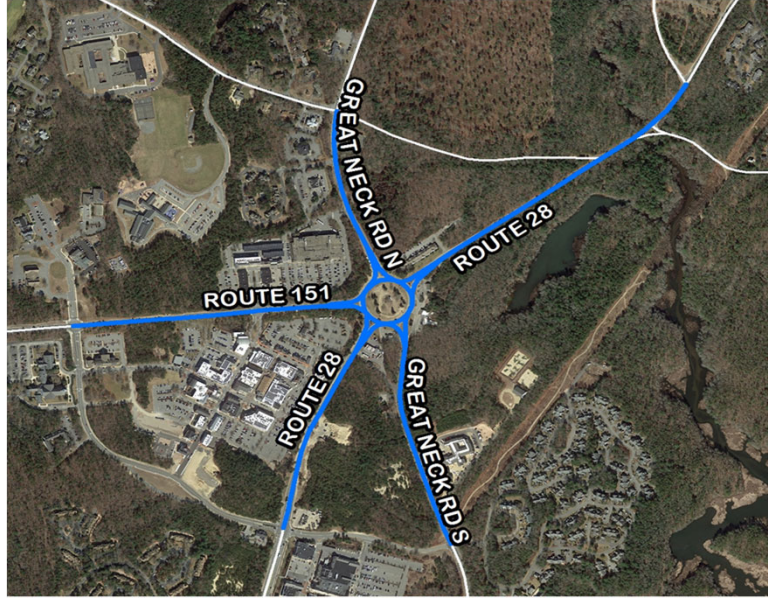
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- Project Overview
- Summary of Listening Session
- Road Safety Audit
- Design Alternatives
- Activity
- Next Steps

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STUDY AREA



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PROJECT GOALS

Improve Safety



Reduce Congestion



Accommodate All Users



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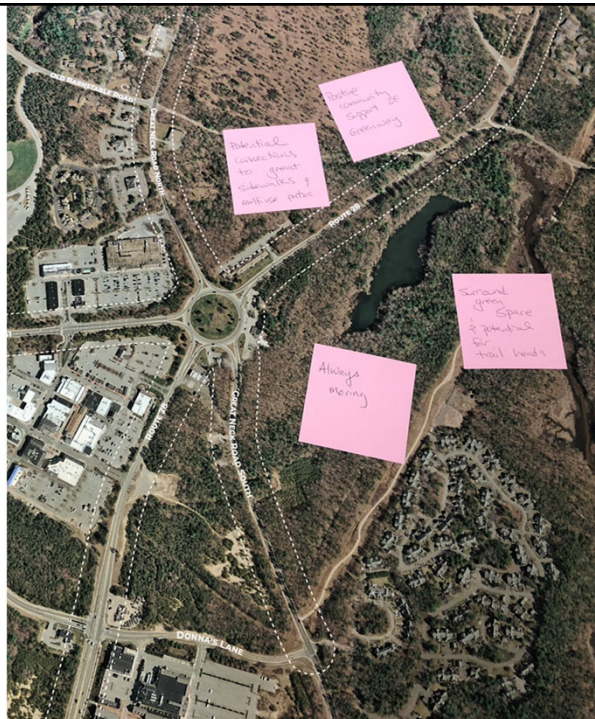
APRIL LISTENING SESSION



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LIKES

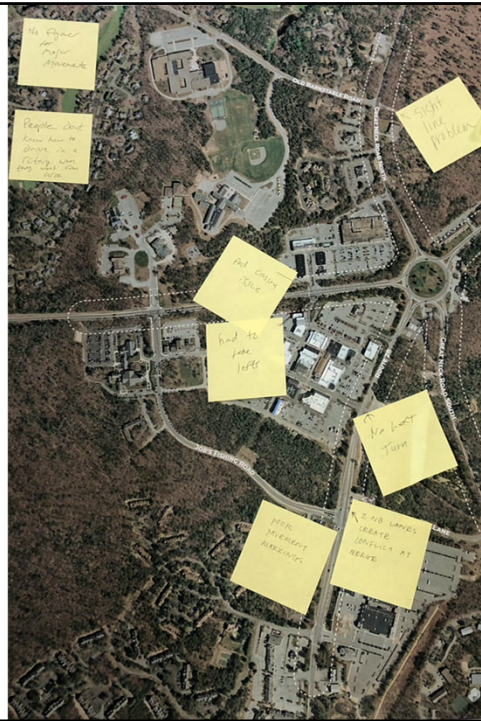
- Multi-use paths
- Bypass roads
- Open space
- Walking paths in Commons
- Holiday Lights
- How Rotary is always Moving
- Rotary Works Well Most of Year
- Rotary over traffic light, easy & efficient



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ISSUES

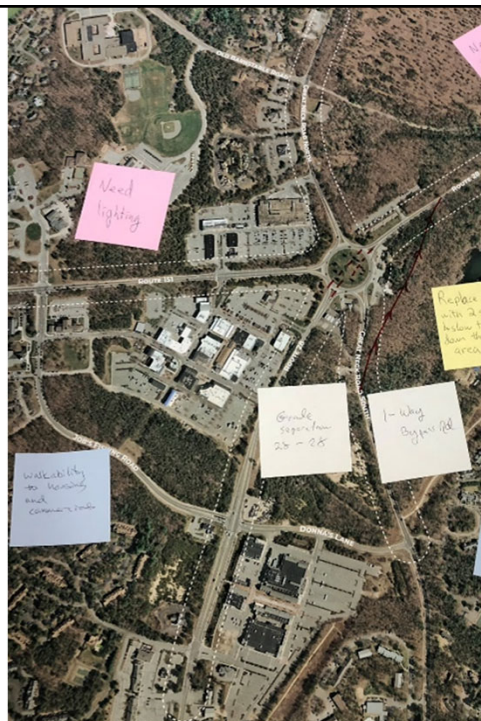
- Challenging for peds/bikes
- Rotary too large/unsure if two lanes
- Additional turn lanes needed
- High speeds
- People don't know how to drive rotary
- Lane merges
- Rotary curb cuts problematic
- Rotary over traffic light, easy & efficient
- Lack of signage and pavement markings



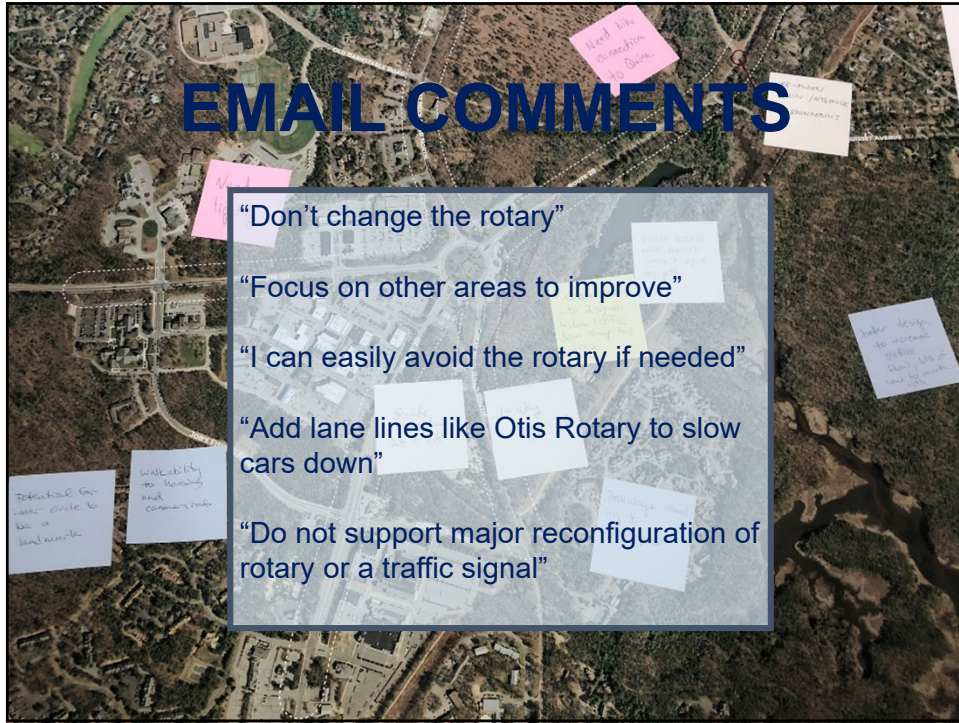
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SUGGESTIONS

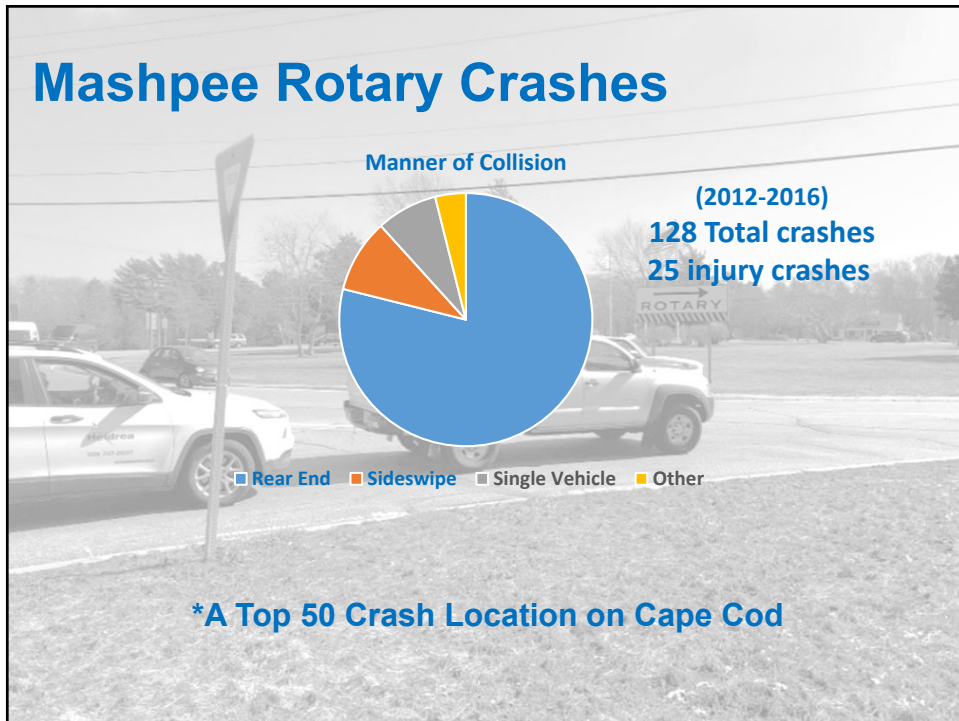
- Smarter signals
- Bike connections & walking paths
- More lighting
- Grade separation
- Traffic signals
- Roundabouts
- More speed signage
- Remove one road from rotary
- Add lane lines in rotary
- Add/lengthen turn lanes at traffic signals



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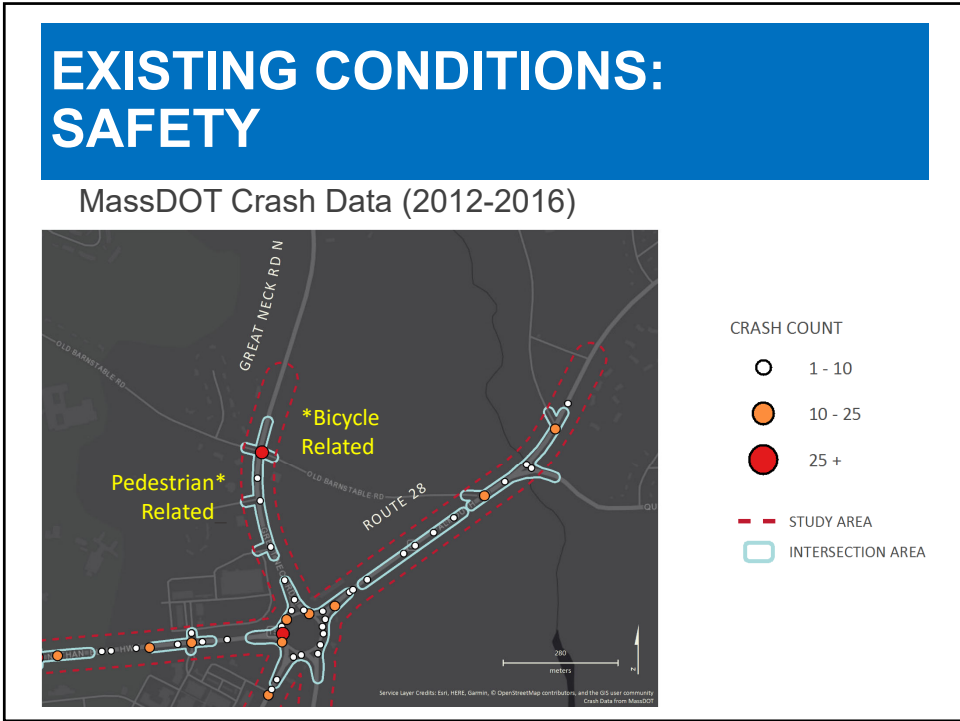


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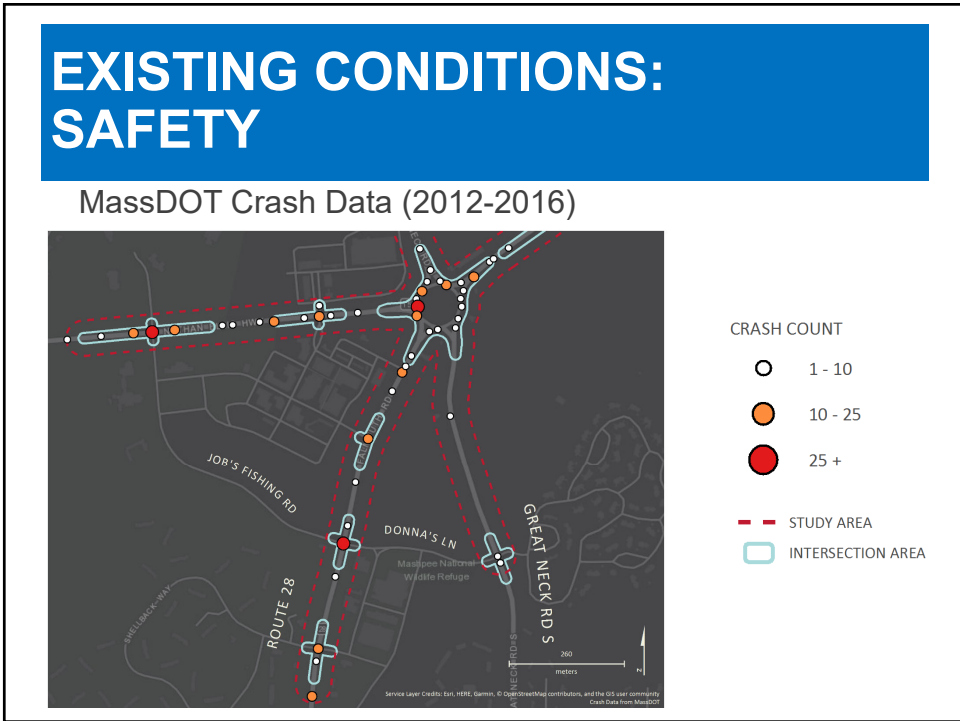
ROADWAY SAFETY AUDIT Recommendations

Short Term	Mid-Term	Long Term
Replace deteriorated "State Law" signs	Re-design splitter islands	Investigate rotary replacement
Add yield striping and a 2 nd "Yield" sign on all approaches	Install wayfinding diagrammatic signage for rotary	Consider redesigning into a two-lane modern roundabout
Install "Reduce Speed Ahead" signs	Retrofit the rotary with lane markings	
Confirm Rt 151 queue detection is working.	Construct a shared use path around rotary	

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CONCEPT DEVELOPMENT

GDGT Georgia Department of Transportation
 Roundabout Analysis Tool
 Multi-Lane
 10/9/2019
 Version 4.1

General & Site Information v.4.1

Analyst: RIN
 Agency/Client: Kirtelson & Associates Inc.
 Date: 6/5/2019
 Project or P#B: 19436.11
 Year, Peak Hour: Proposed Alt 1, Future PM Peak
 County/District: Berkeley
 Intersection: Mashpee Rotary

Volumes

Lane Designation	Entry Legs (FROM)							
	N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
N (1) vph								97
Exit NE (2) vph								
Legs (TO)								
E (3) vph	94				11			
SE (4) vph	140				108			
S (5) vph	41	245			372			
SW (8) vph			65			490		
NW (8) vph								
Entry Volume, vph	274	310	0	0	490	587	0	0

Lane Designation	S1 (5)		S2 (5)		SW1 (8)		SW2 (8)		N1 (1)		N2 (1)		NW1 (8)		NW2 (8)	
	Left-Thru	Right only	Left-Thru	Right-Thru	Left-Thru	Right-Thru	Left-Thru	Right-Thru	Left-Thru	Right-Thru	Left-Thru	Right-Thru	Left-Thru	Right-Thru	Left-Thru	Right-Thru
N (1) vph	169		247		104											
NE (2) vph																
E (3) vph			139	16	298	168	216									
SE (4) vph					61		46									
S (5) vph							46									
SW (8) vph			8													
W (7) vph			69		54											
NW (8) vph																
Entry Volume, vph	245	139	317	359	272	309	0	0								

Alternative 1 Lane Configuration

Alternative 1 roundabout lane configuration allows two lanes to travel between the Route 28 and Route 151 Intersection legs. Increased future peak season traffic volumes are estimated to create over-saturated operating conditions along the northern leg, N Great Neck Road, which leads to long delays for drivers making a left turn maneuver from this leg. However, the overall average intersection control delay is estimated at 29.4 seconds during the AM Peak Hour with average queue lengths not exceeding 300 feet on any of the approaches.

Rotary Leg	N		E		S		SW		W	
	Left-Thru	Right-Thru	Left only	Left-Thru	Left only	Right-Thru	Left-Thru	Right-Thru	Left-Thru	Right-Thru
Entry Flow Rates, vph	415	153	559	514	220	172	341	280	91	481
W/C ratio	1.08	0.34	0.70	0.64	0.34	0.24	0.50	0.37	0.19	0.89
Control Delay, sec/pcu	102.0	14.0	17.7	15.4	10.1	7.8	12.9	9.4	10.3	43.7
Average Queue (ft)	294	15	69	55	15	9	31	18	6	146
95th Percentile Queue (ft)	369	38	148	121	38	24	71	44	18	260

Unit Legend:
 vph = vehicles per hour
 sec/pcu = seconds per passenger car unit
 Assumes a 0.95 Peak Hour Factor and a 1.5 percent heavy vehicles

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Traffic Terms Defined

Rotary vs. Roundabout

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Mashpee Rotary

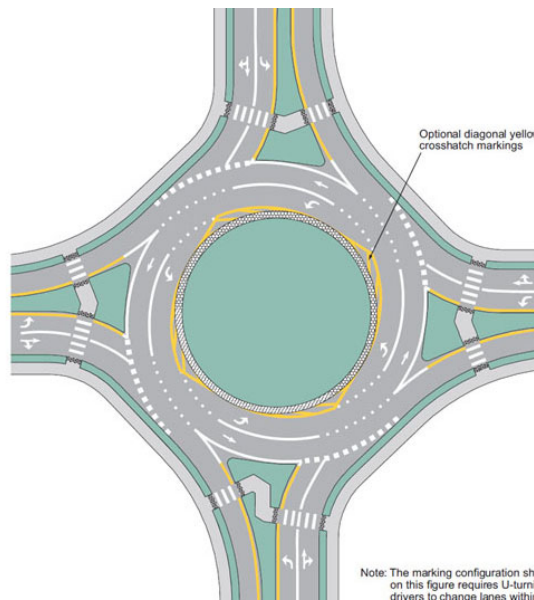
- Large diameter
- Wide circulatory lanes
- No directional striping or signage
- High speed



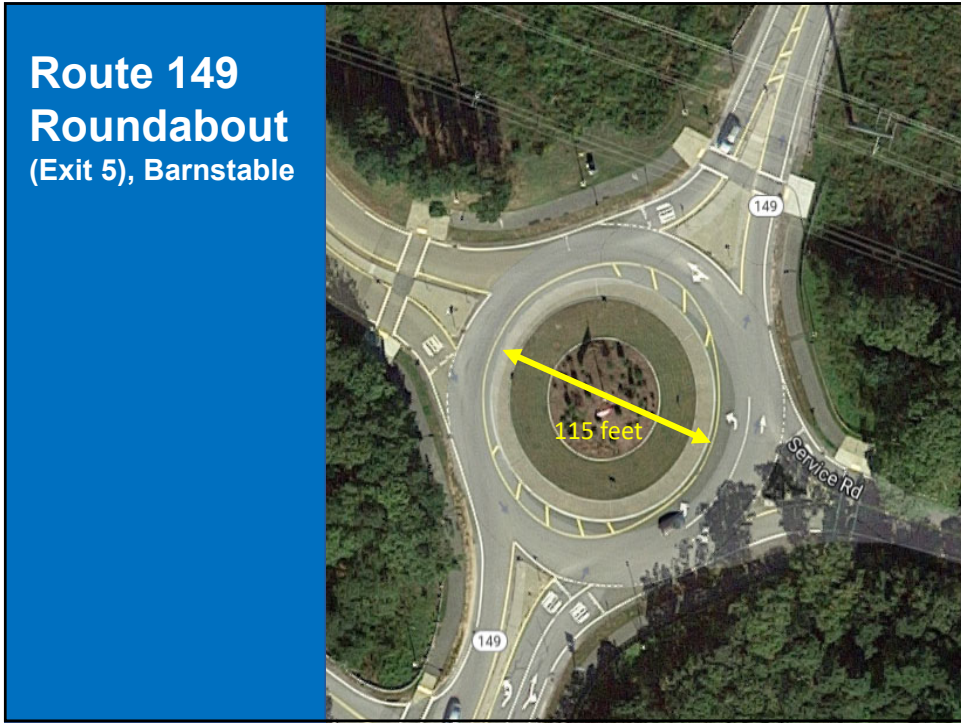
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Roundabout Design

- Smaller diameter
- Lane striping & assignment
- Low speed
- Multi-modal accommodation



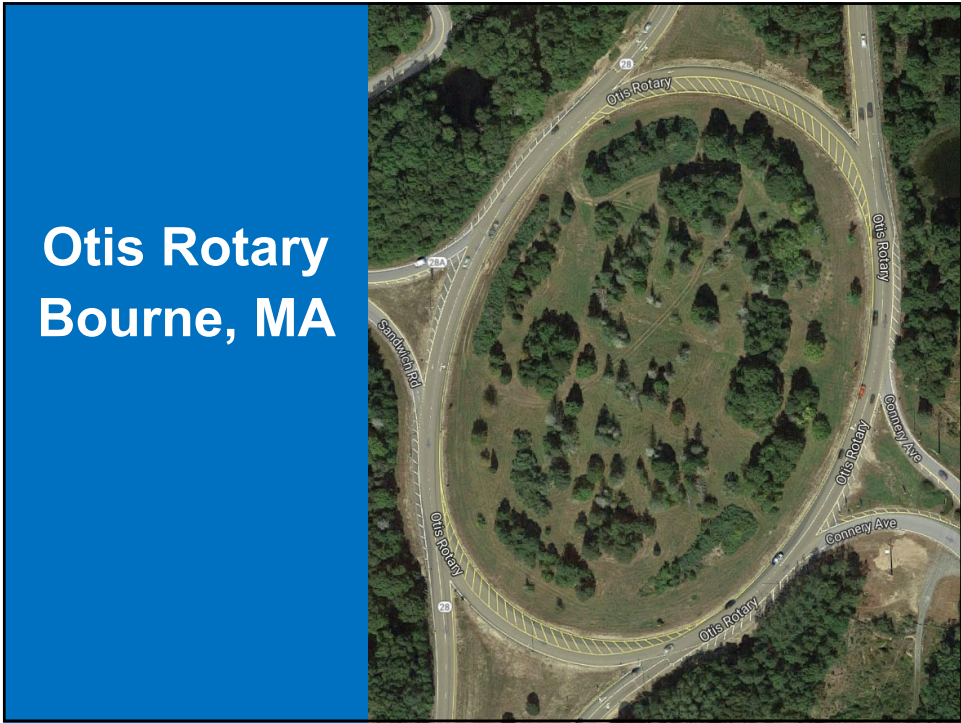
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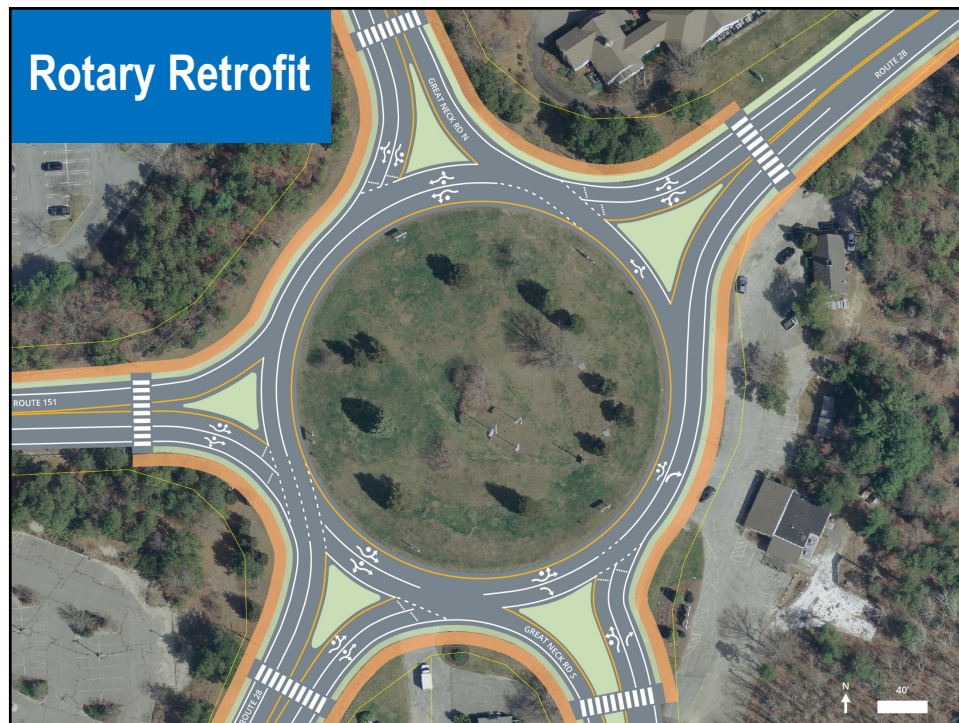


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Mashpee Rotary Alternatives

- Rotary Retrofit
- Two-Lane Roundabout
- Overpass/Tunnel
- Traffic Signal
 - 3 options

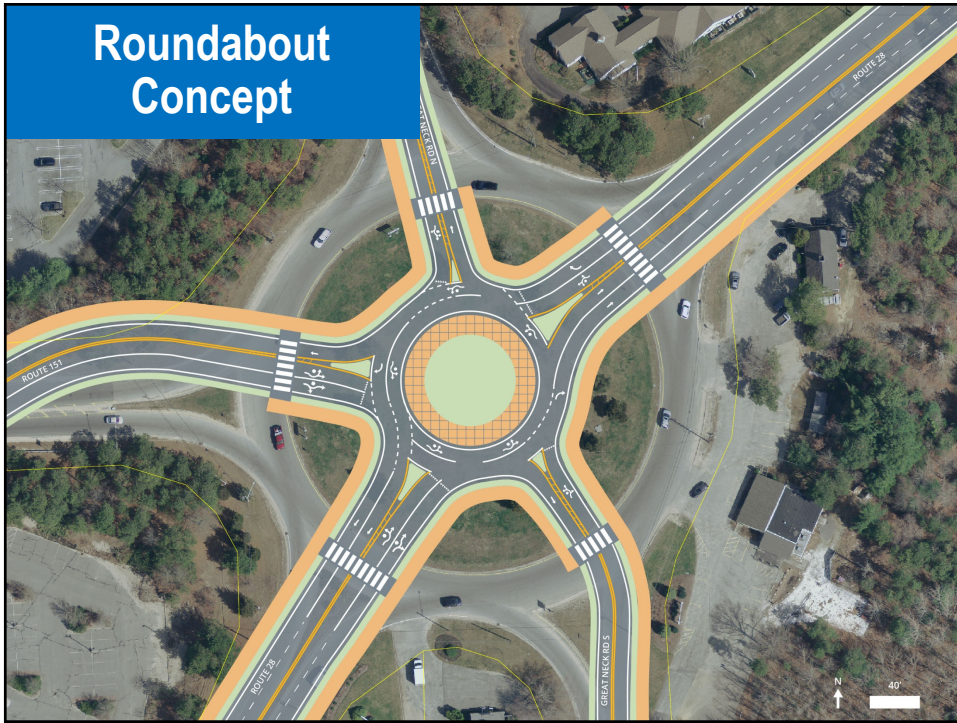
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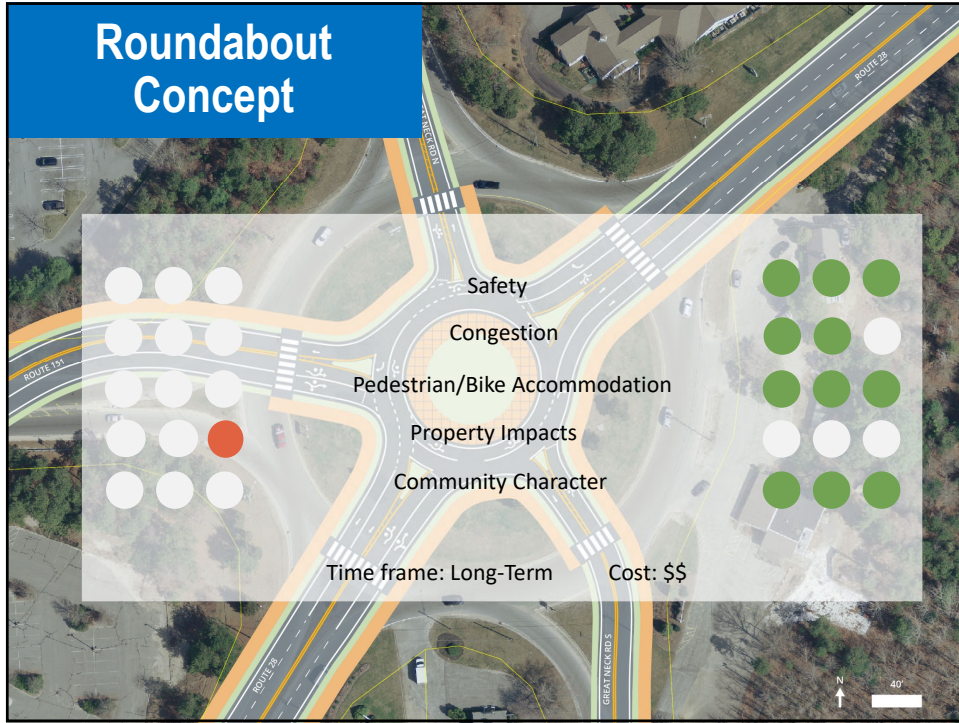
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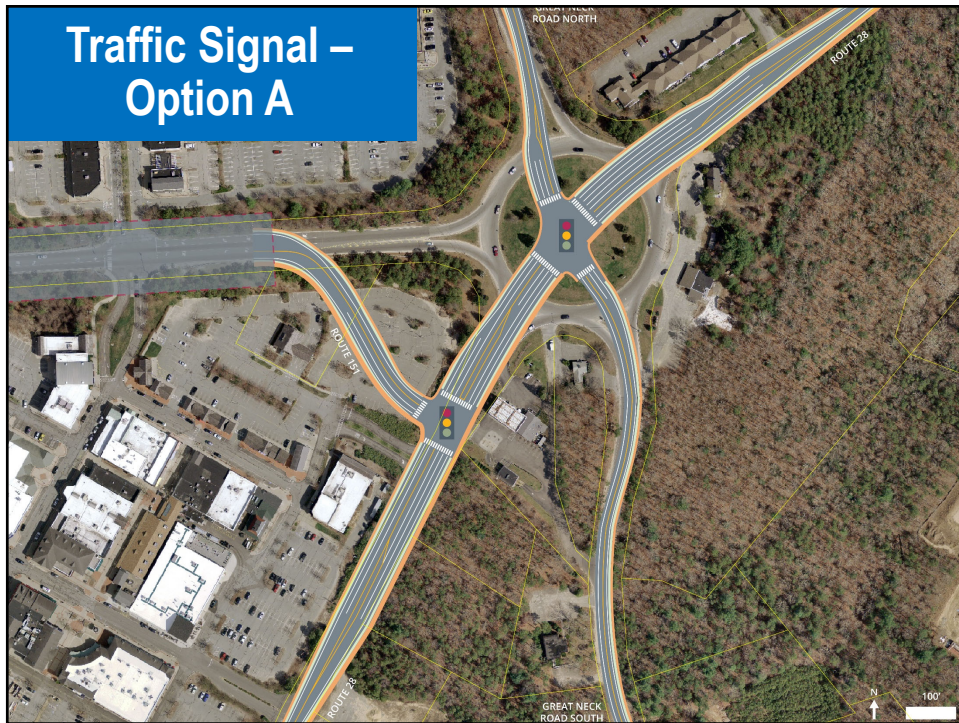
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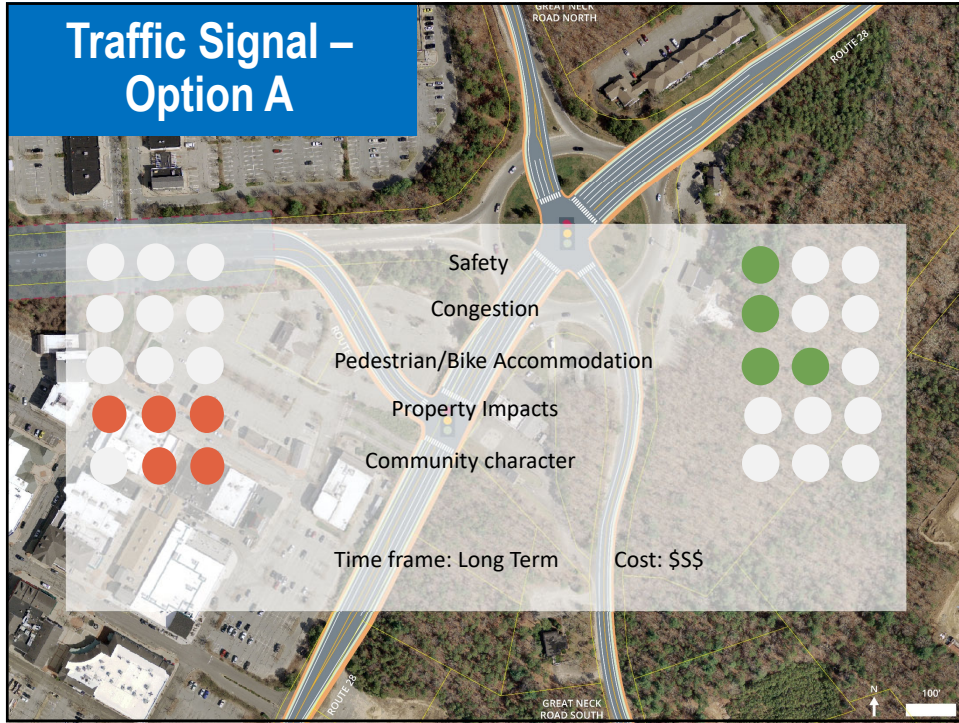
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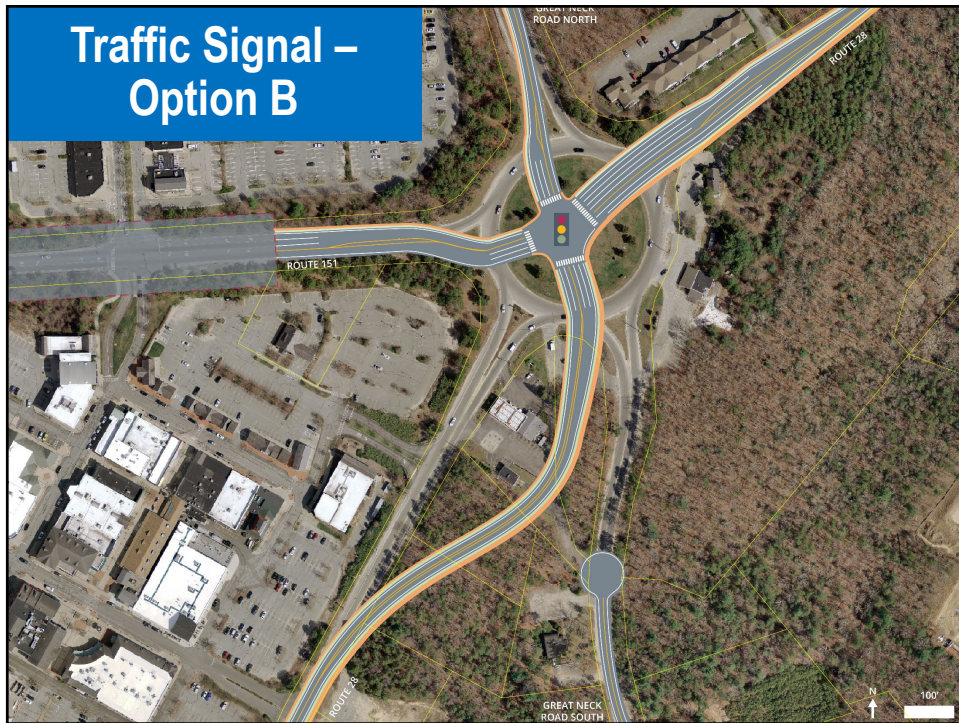
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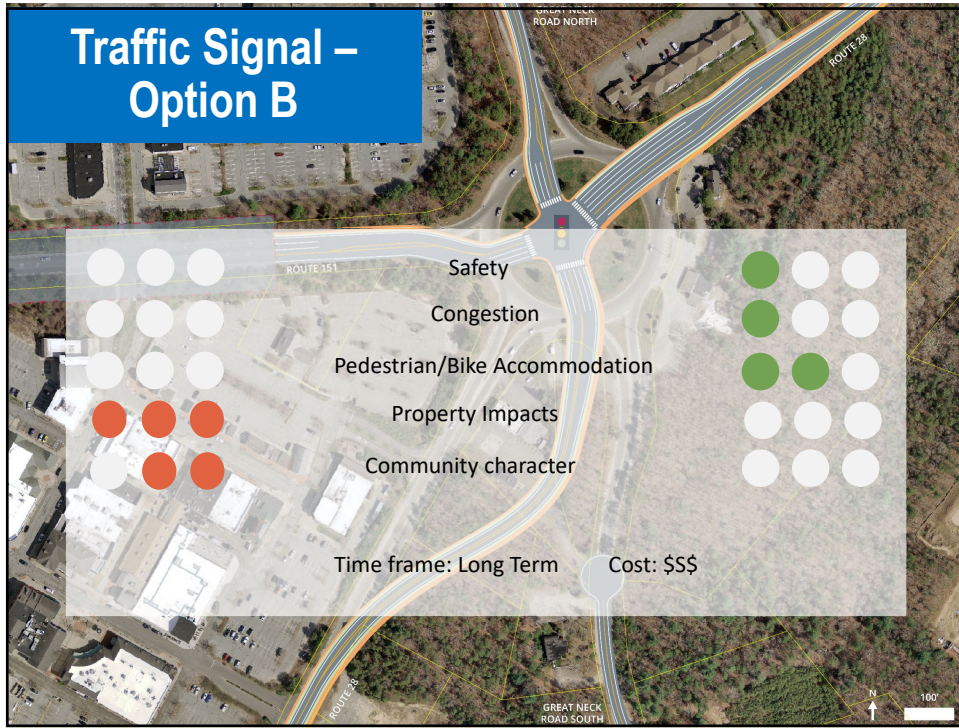
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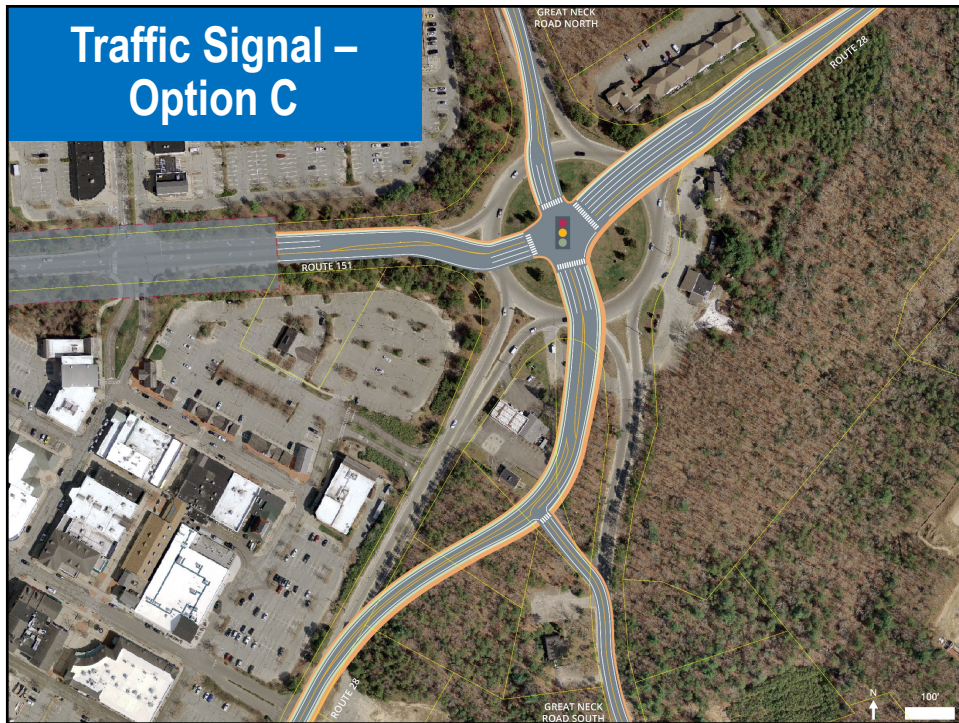
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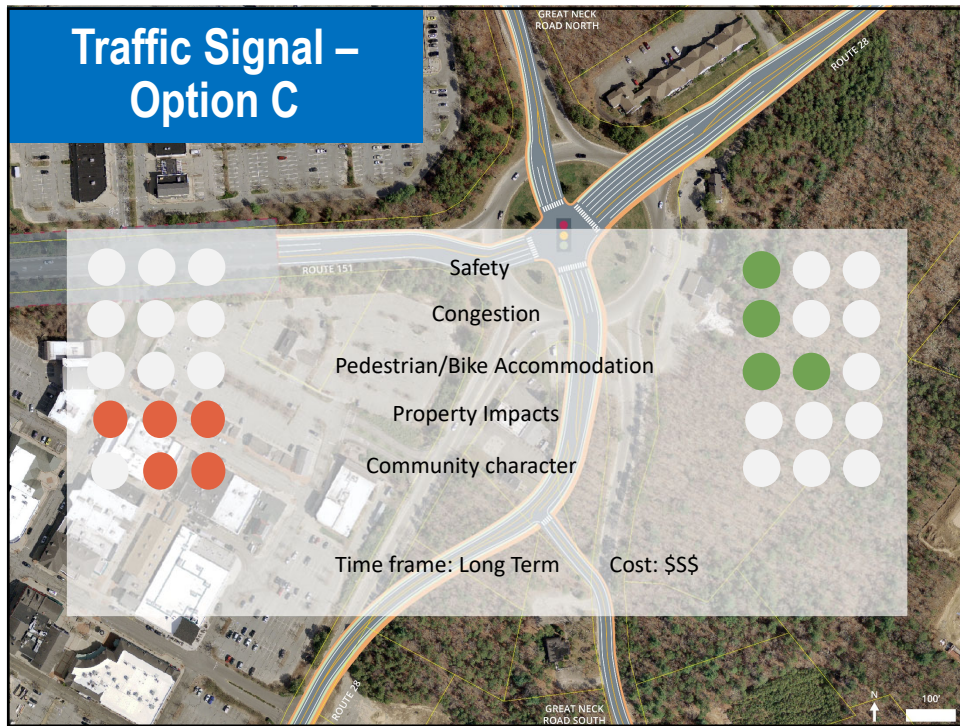
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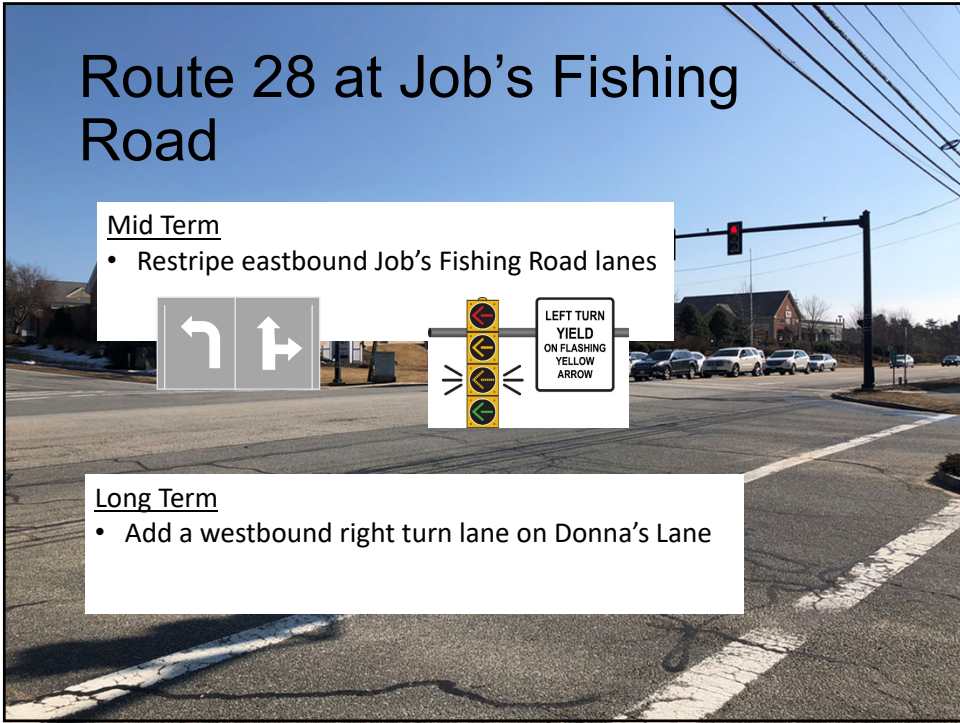


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Local Intersections

- Route 28 at Job’s Fishing Rd/Donna’s Ln
- Great Neck Road North at Old Barnstable Road
- Great Neck Road South at Donna’s Ln
- Route 28 at Meetinghouse Road
- Route 28 at Quinaquisset Avenue

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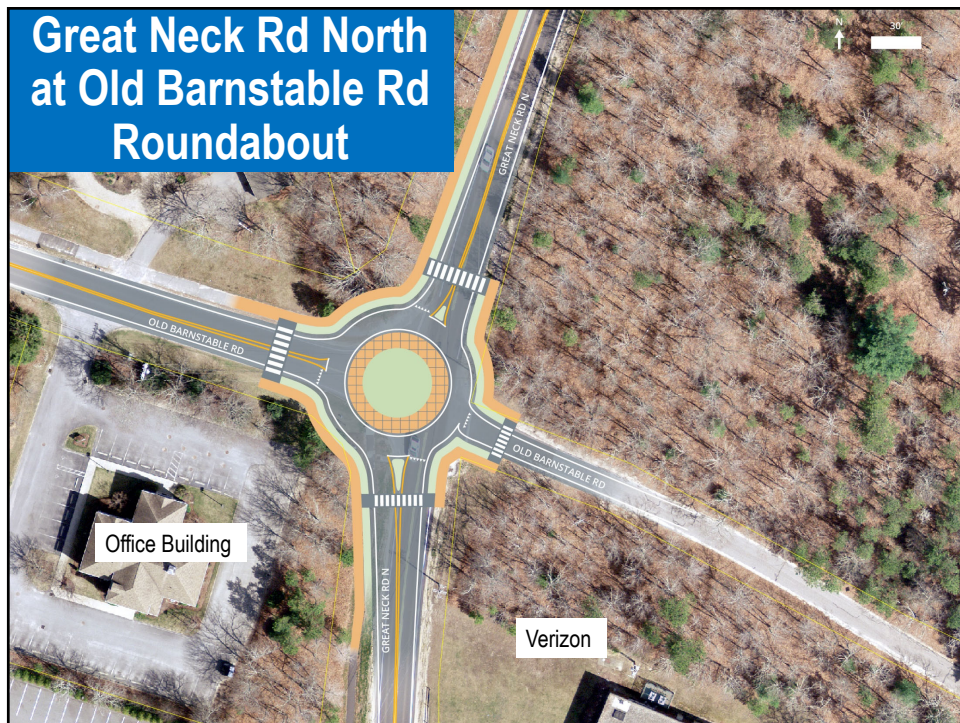
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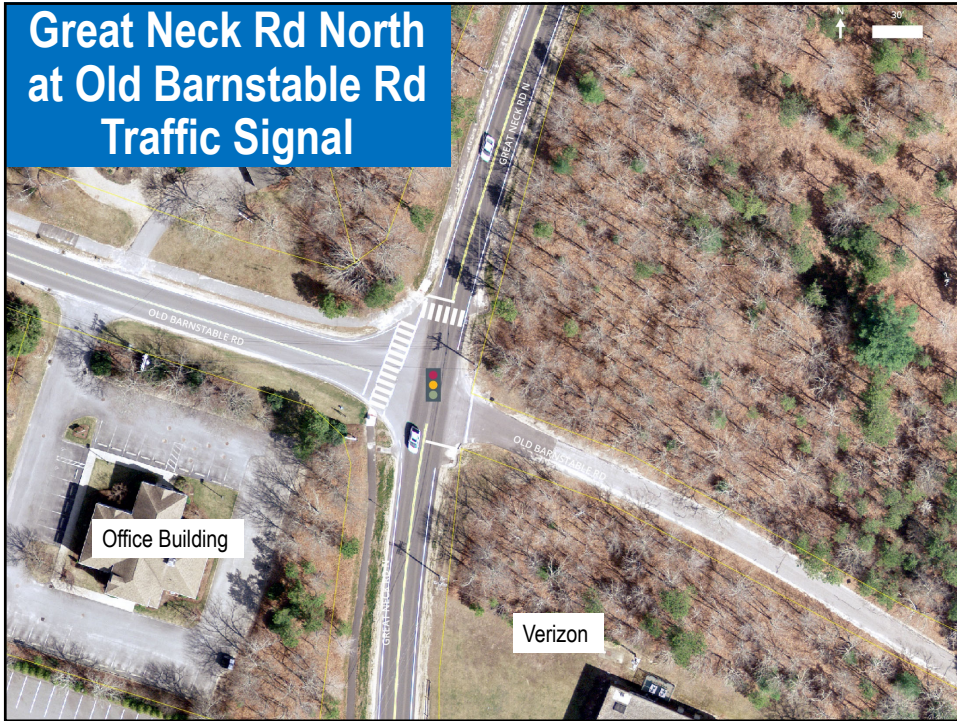
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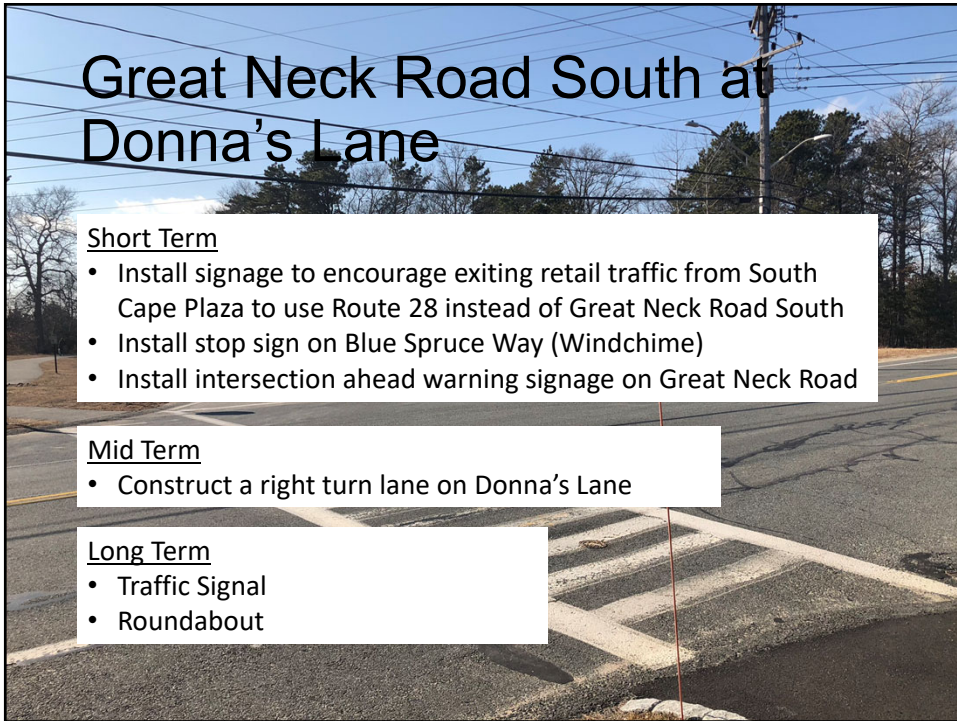
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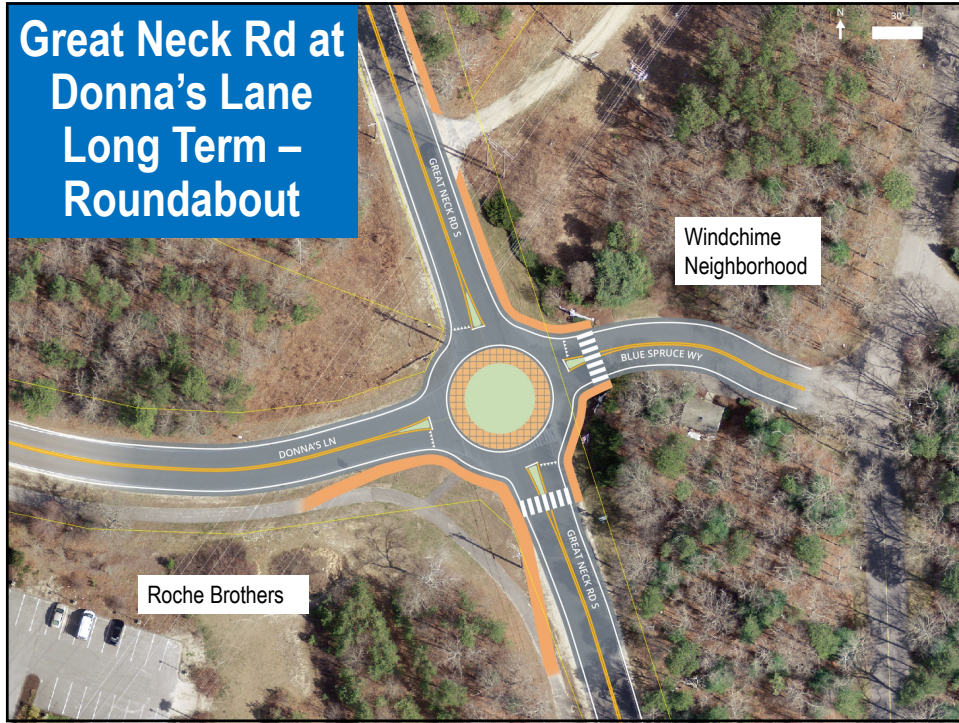
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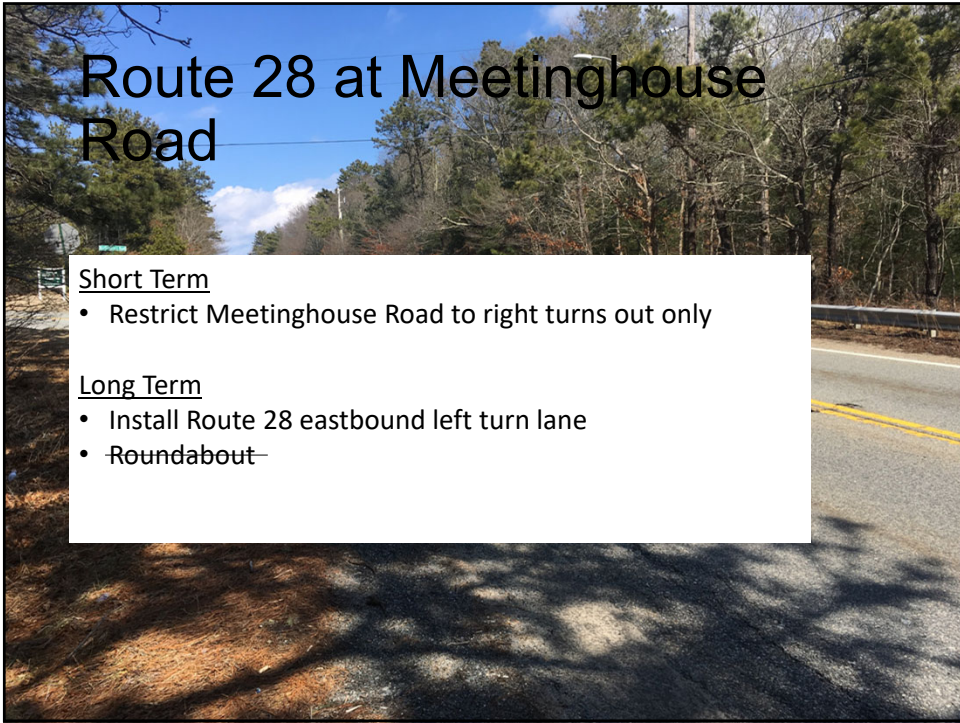
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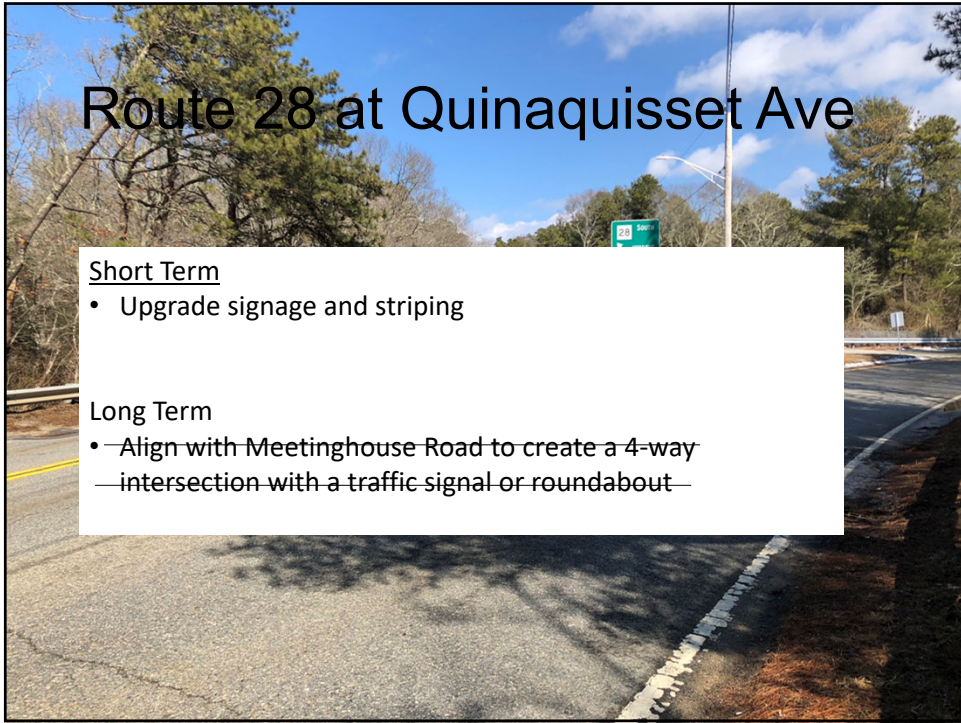
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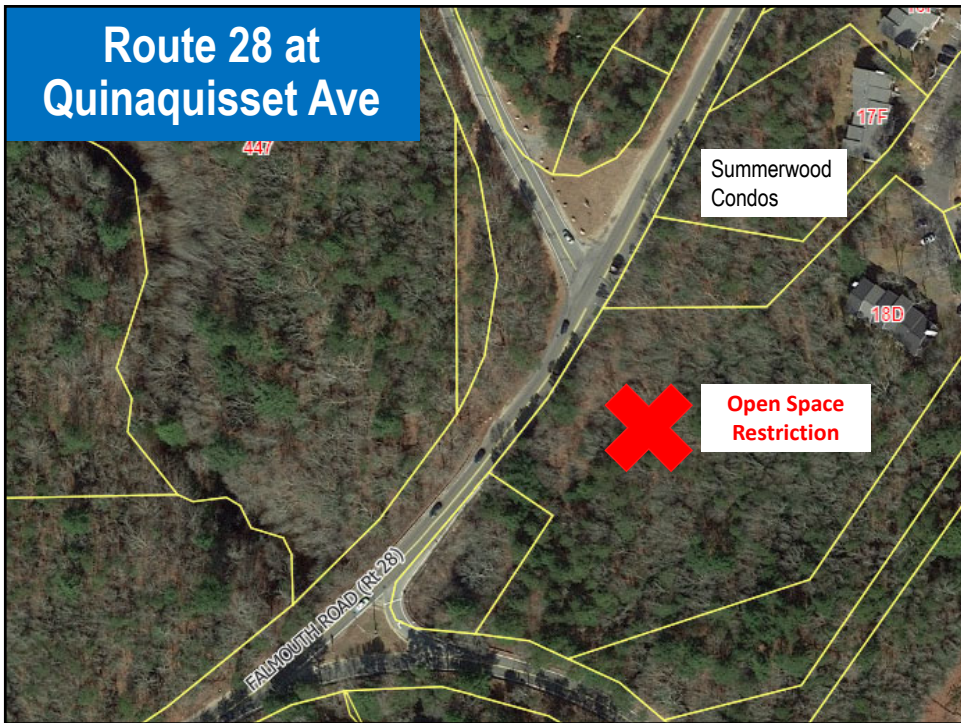
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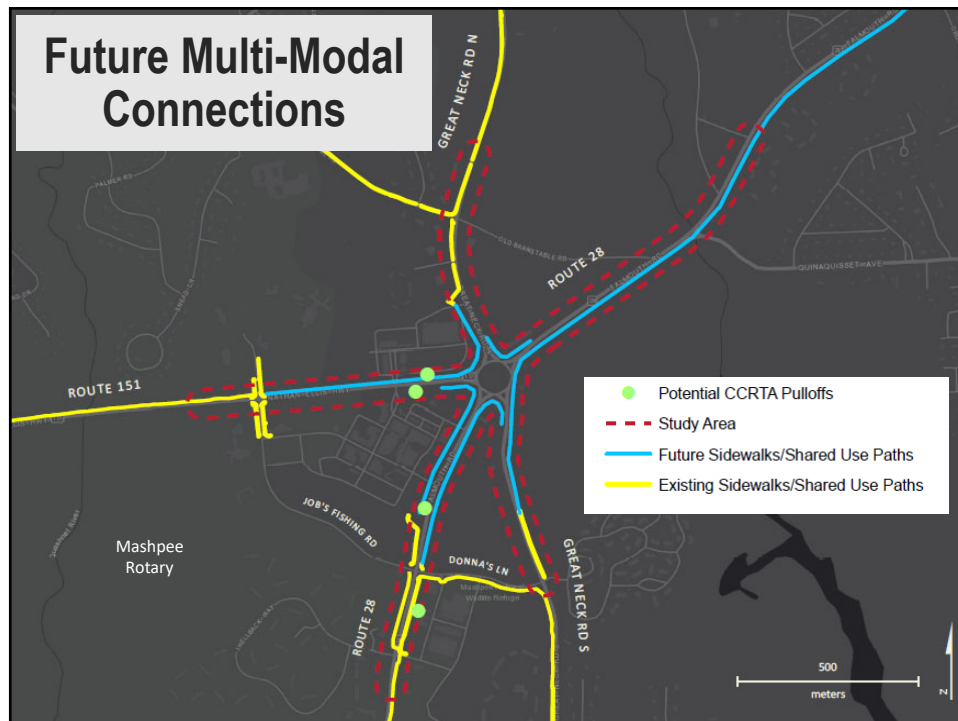
Multi-Modal Accommodations

- Add multi-use path around rotary
- Connect sidewalk and shared use path gaps within study area
- Upgrade traffic signals with pedestrian ADA (i.e. Route 28 and Orchard Road)



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Future Multi-Modal Connections



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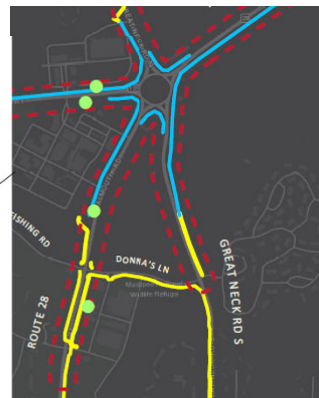
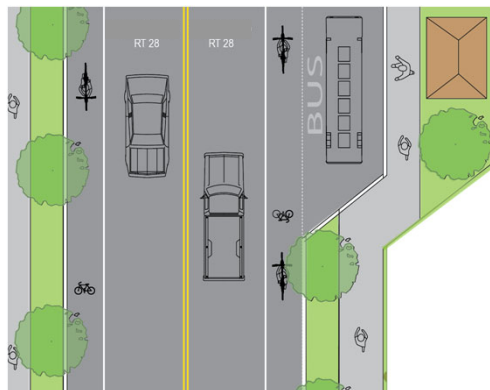
TRANSIT

- Consideration of small multi-modal center (long term)
- Consideration of small local circulator route (i.e. trolley)
- Review CCRTA routing (for regional efficiency)
- Identify areas for bus pull-offs (short term)



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TRANSIT



- Potential CCRTA Pulloffs
- - - Study Area
- Future Sidewalks/Shared Use Paths
- Existing Sidewalks/Shared Use Paths

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ALTERNATIVES FEEDBACK

- Which concepts do you **LIKE** and why?
- Which concepts do you **DISLIKE** and why?
- Do the concepts fit within the character and address the **ISSUES**?
- Any concepts that are not shown and should be considered?

Please write on the boards and provide your feedback.

- Rotary Upgrades
- Local Intersections
- Rotary Replacement
- Multi-Modal Improvements

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Middleborough Rotary Retrofit

NEXT STEPS

- Public Comments – Open until December 20th
- Revise Concepts and Finalize Recommendations
- Draft and Final Report – Early 2020
- Work with MassDOT and Town to implement short and mid-term recommendations (1-5 years)
- Plan for long-term changes (5+ years) – would involve additional public input

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THANK YOU

For more information,
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