

US Route 3/NH 28 Hooksett 29611 Roadway Improvement Project

Working Group Meeting #5
May 23, 2022
10:00 AM – 11:30 AM



Meeting Agenda

1. Welcome and Introductions
2. Public Information Meeting Recap
3. Public Survey Results
4. Review of Preferred Alternatives
5. Next Steps
6. Meeting Wrap-up

Project Vision Statement

Improve roadway safety, mobility and efficiency to promote safe, convenient and comfortable travel for motorized vehicles, pedestrians and bicyclists.

Project Purpose & Need Statement

The **purpose of the project** is to improve long-term safety, efficiency and mobility on 1.4 miles of the US Route 3/NH 28 corridor between Alice Avenue/West Alice Avenue and NH Route 27/Whitehall Road. These improvements are needed to **address the following issues**:

- **Congestion**; significant intersection back-ups during peak hours, inadequate use of center turning lanes, and address planning needed for long-term transportation operations.
- **Safety**; poor sight distance and conflicts between vehicles, pedestrians and bicyclists at various locations throughout the corridor.
- **Access Management**; poorly defined driveways allowing uncontrolled access to US Route 3/NH 28
- **Bicycle and Pedestrian Facilities**; sidewalk discontinuity limiting pedestrian access and mobility, and insufficient shoulder width to safely accommodate bicyclists.
- **Intersection Improvements**; traffic signals require ADA and equipment upgrades to improve preemption, timing and coordination and promote efficient traffic flow.

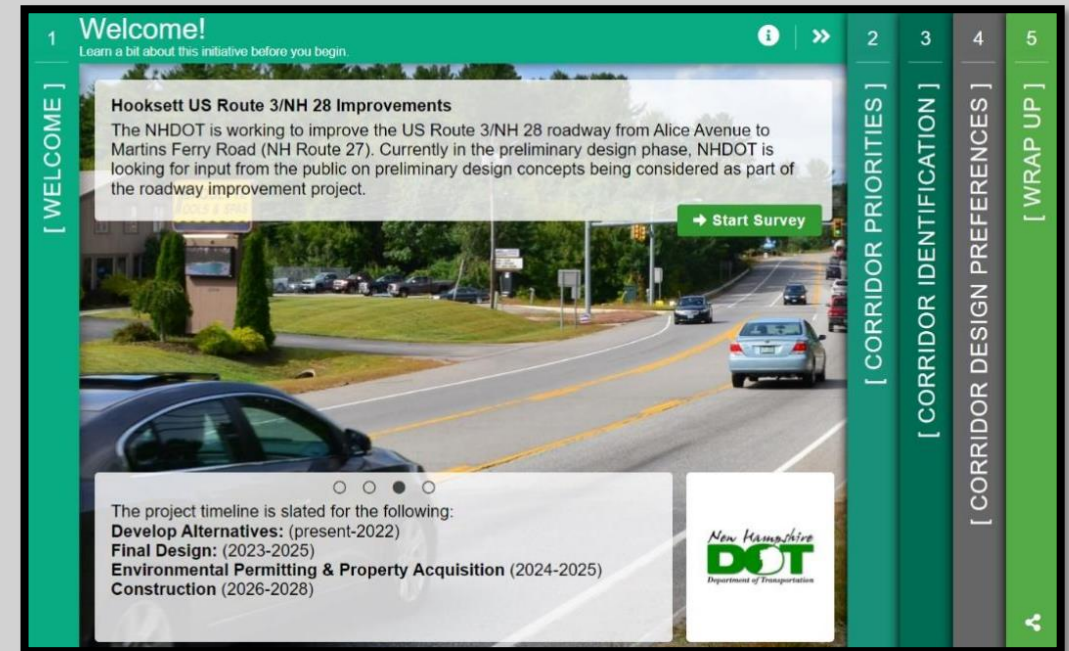
Public Meeting #1

- Public Meeting #1, February 22, 2022, held at the Hooksett Town Council Chambers
 - Approximately 30 attendees in-person
 - 20 attendees online via Zoom
- Project presentation followed by Q&A
 - Many questions for specific properties
 - Mixed feedback on alternatives



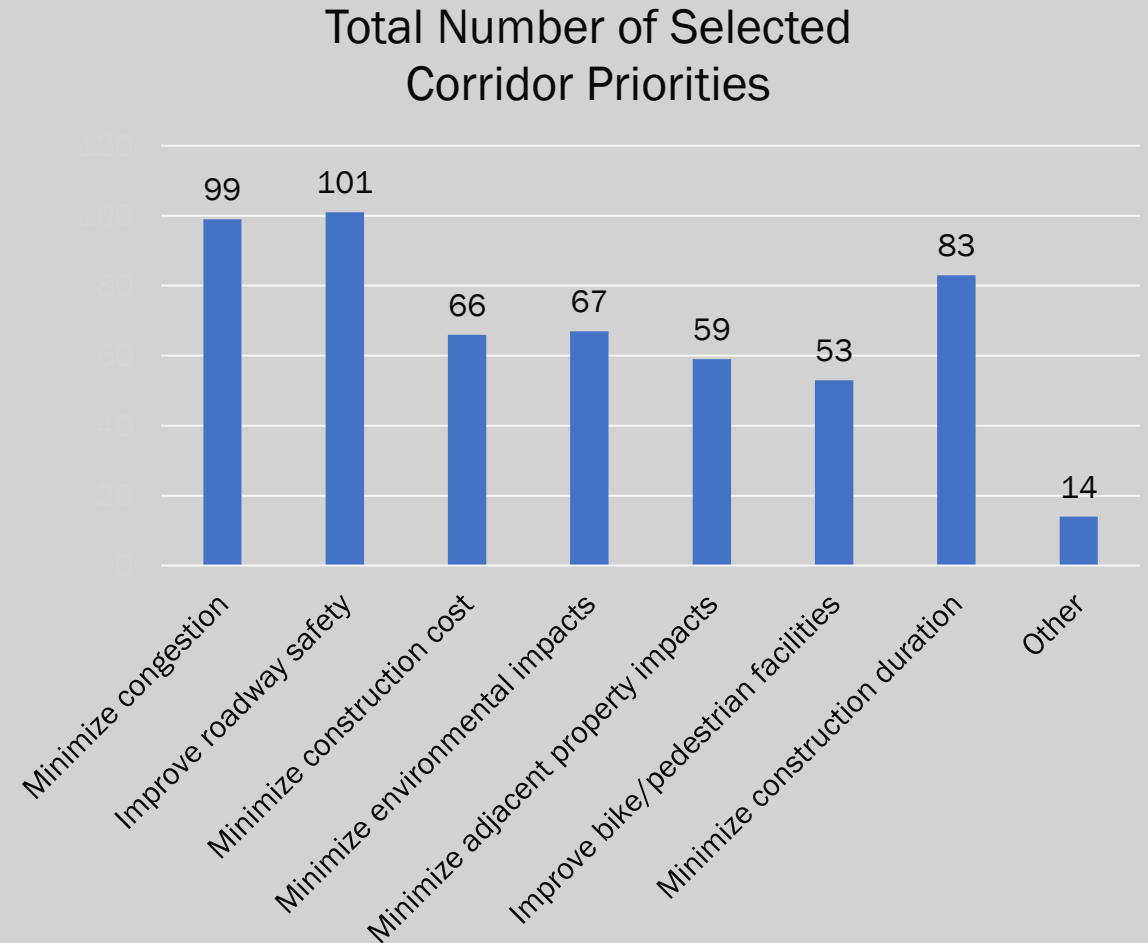
MetroQuest Survey

- Survey open to the public from February 22 to March 25
- 125 surveys completed
- Demographics
 - Average age 45-54 years old
 - 41% of respondents use corridor daily
 - 38% of respondents live in the area

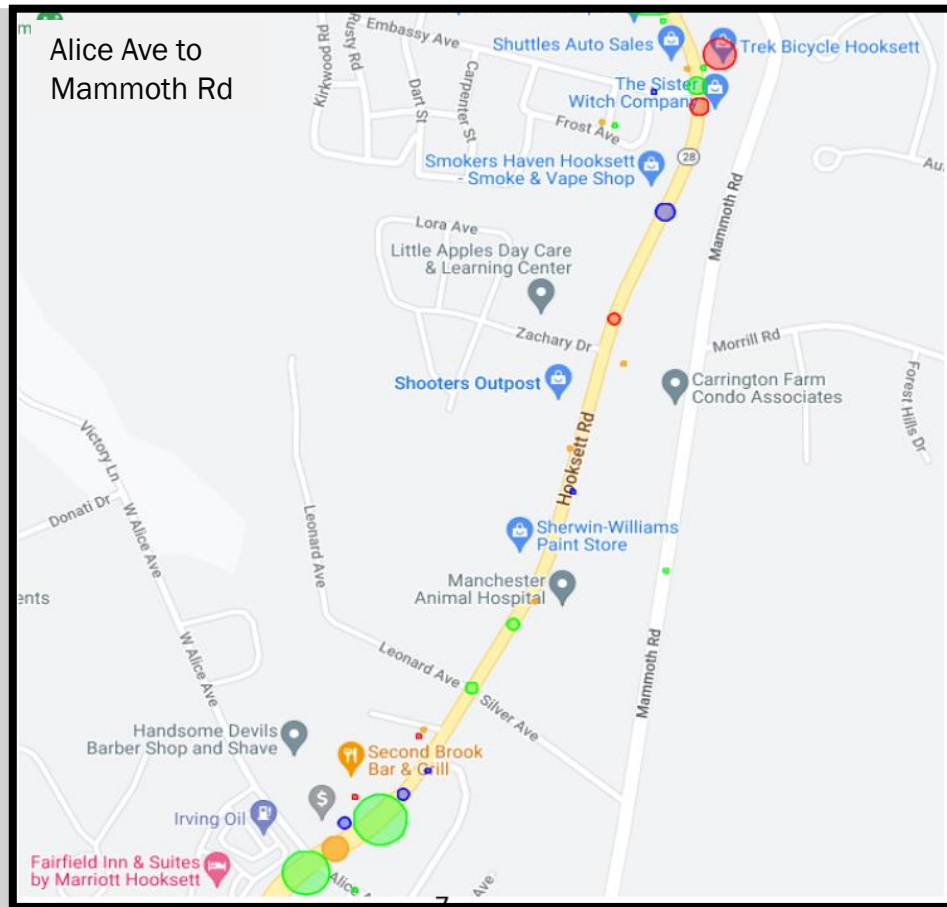


Survey: Corridor Priorities

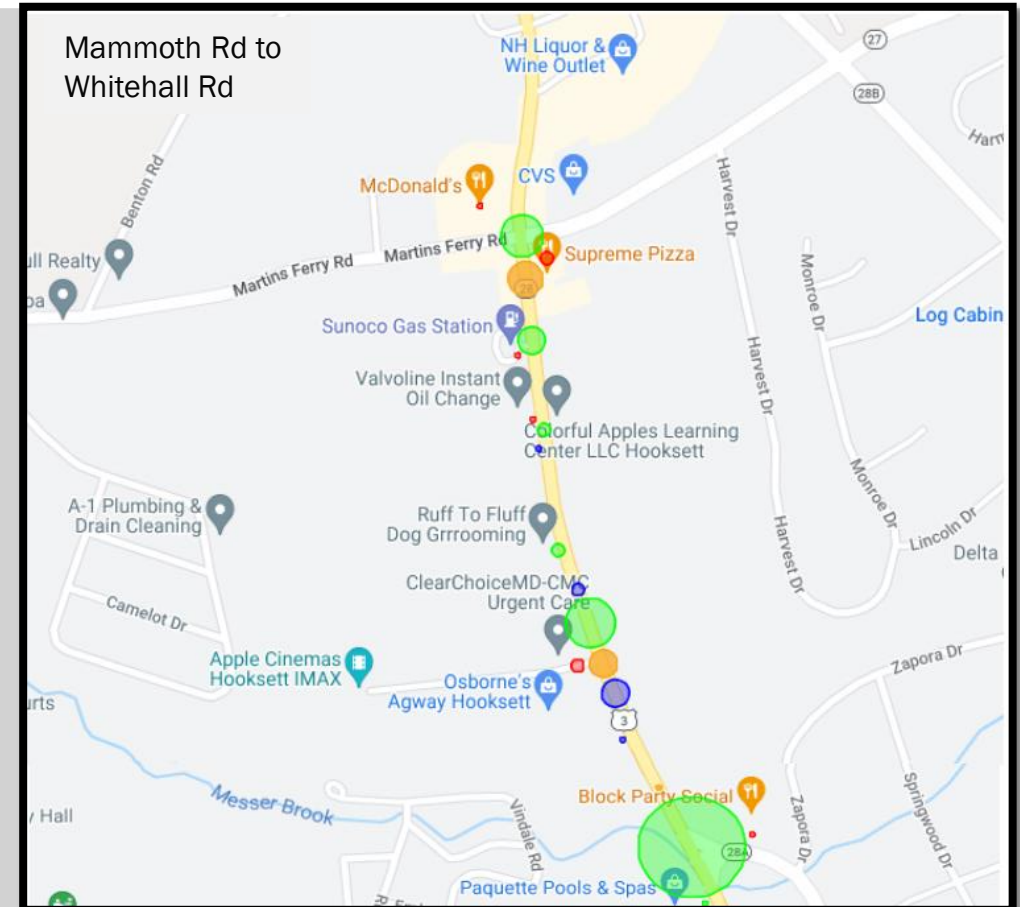
- Top 3 Corridor Priorities
 - Improve Roadway Safety
 - Minimize Congestion
 - Minimize construction duration



Survey: Corridor Concerns



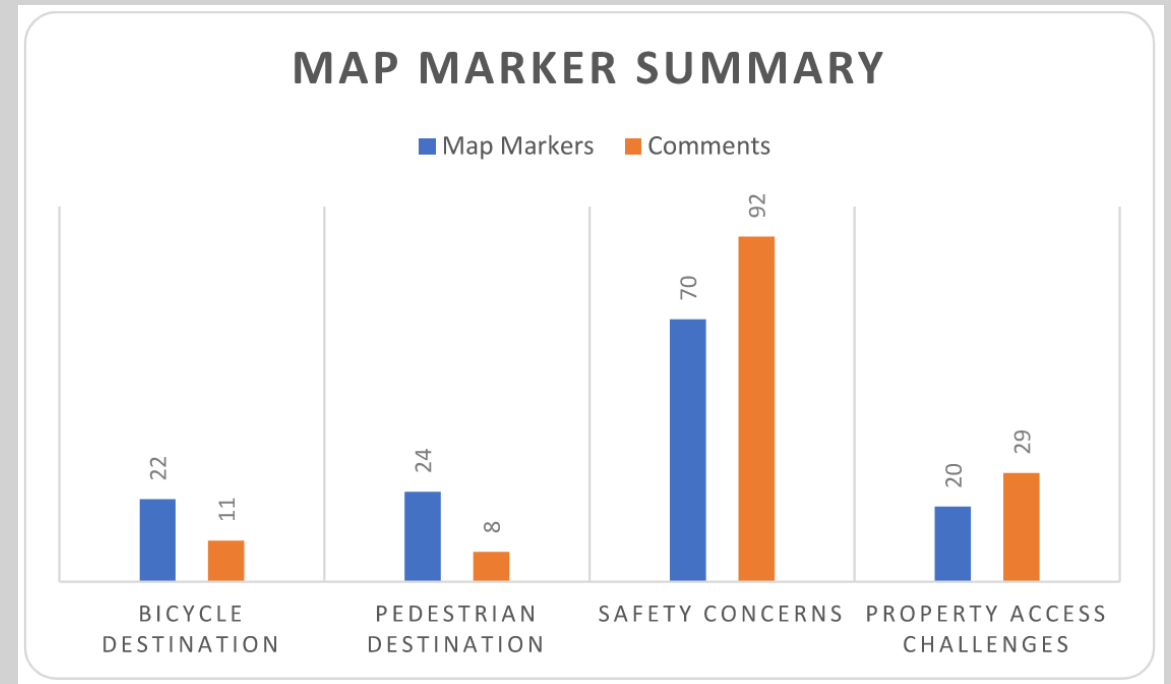
- Bicycle Destinations
- Safety Concerns



- Pedestrian Destinations
- Property Access Challenges

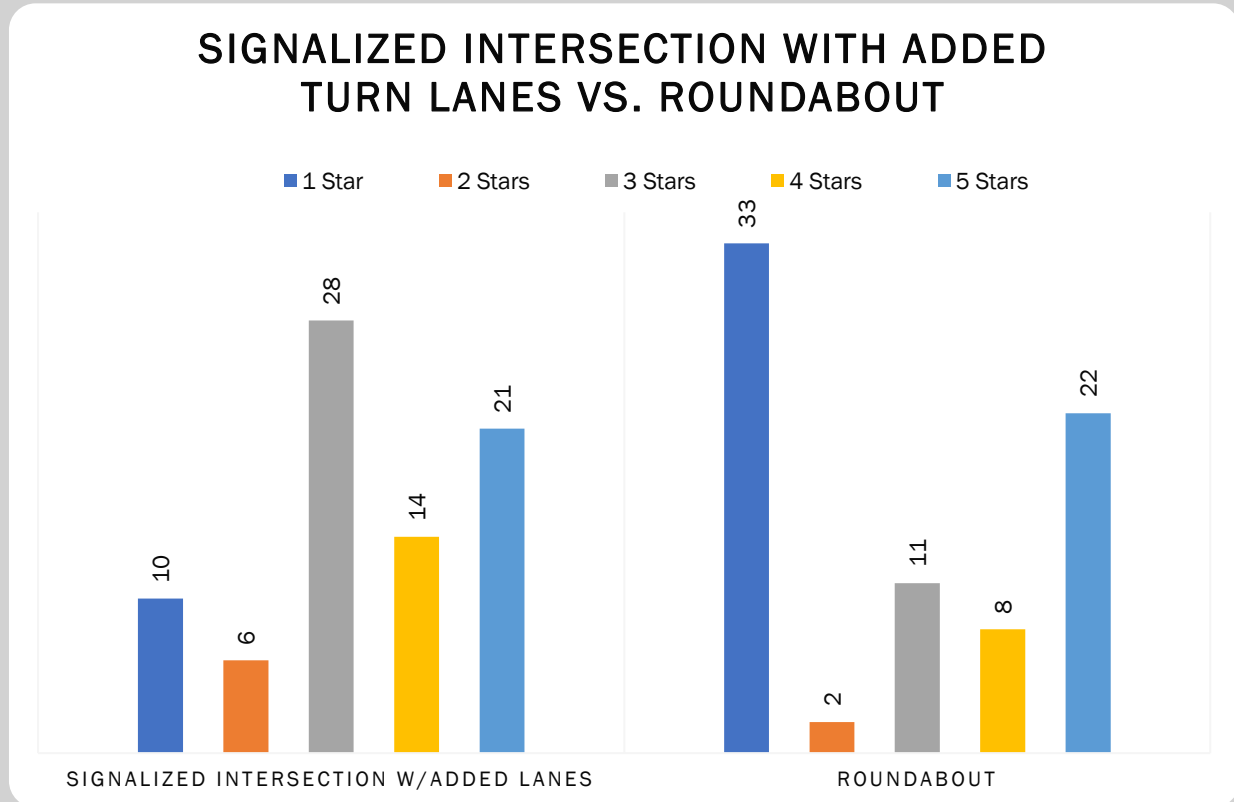
Survey: Corridor Concerns (cont.)

- 136 markers placed
- Safety was the primary focus
- 140 comments
 - Additional/Continuous sidewalks preferred
 - Bicycle lanes on both sides of the road preferred



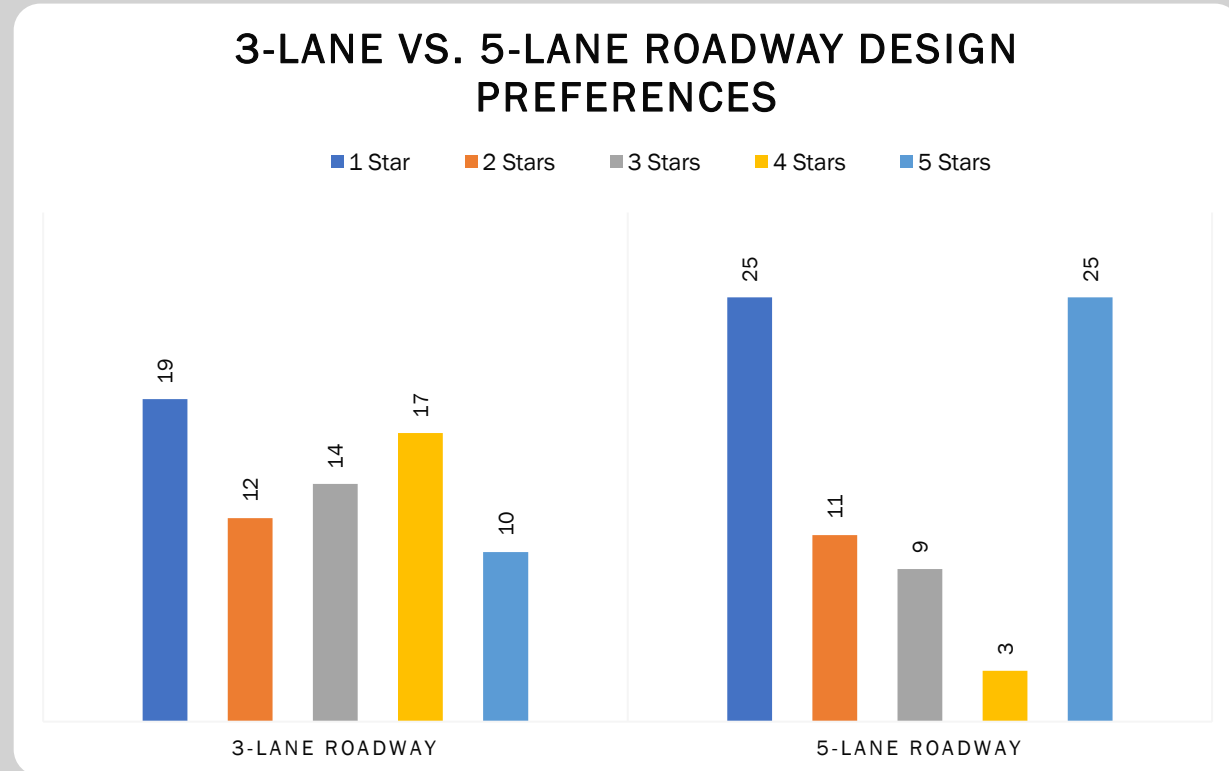
Survey: Mammoth Road Intersection

- Signal with added turn lanes favored over roundabout
- Comment Summary
 - Roundabout poses user challenges
 - Bike/pedestrian facilities need with a roundabout
 - Like the gateway factor with the roundabout



Survey: 3-Lane vs. 5-Lane Roadway

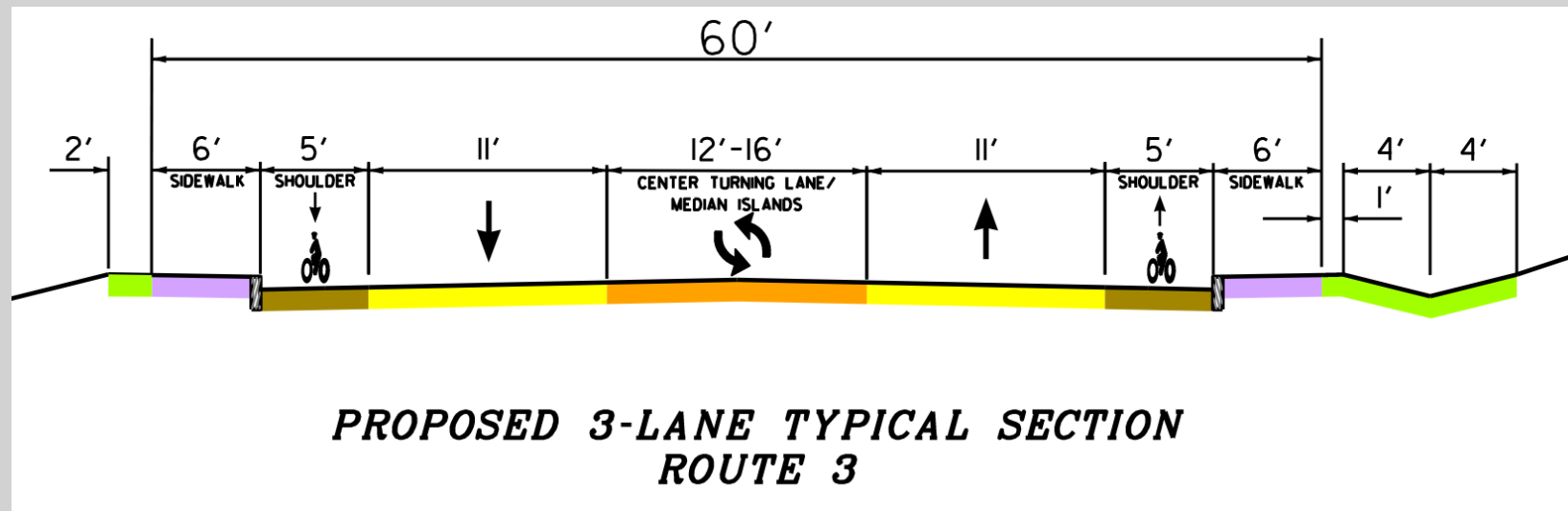
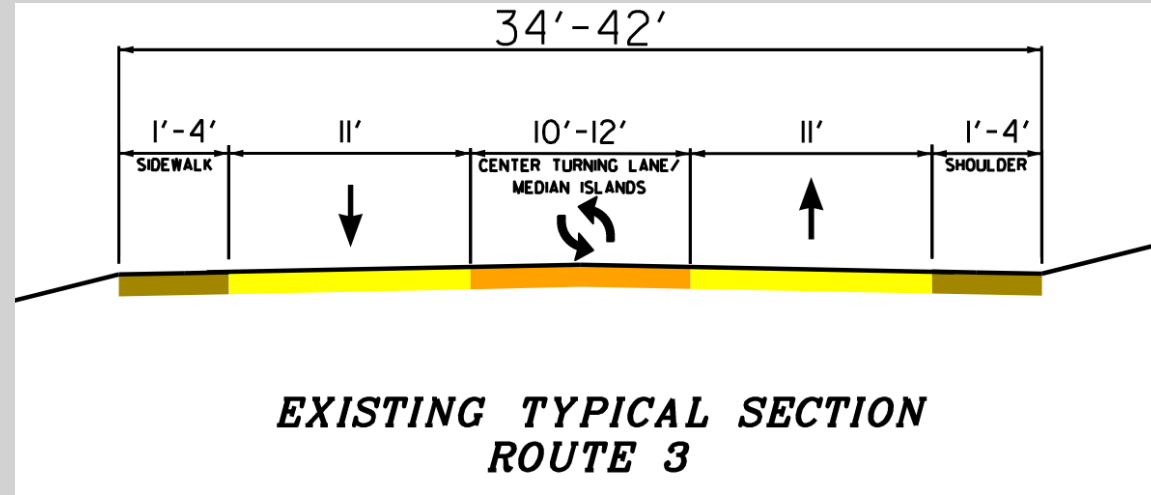
- 3-Lane and 5-Lane options favored equally
- 3-Lane Comment Summary
 - May not alleviate congestion
 - Will this improve safety?
 - Protected bike lanes preferred
- 5-Lane Comment Summary
 - Looks like bike/pedestrian terror
 - Alleviates congestion
 - Matches Route 3 past Whitehall Road



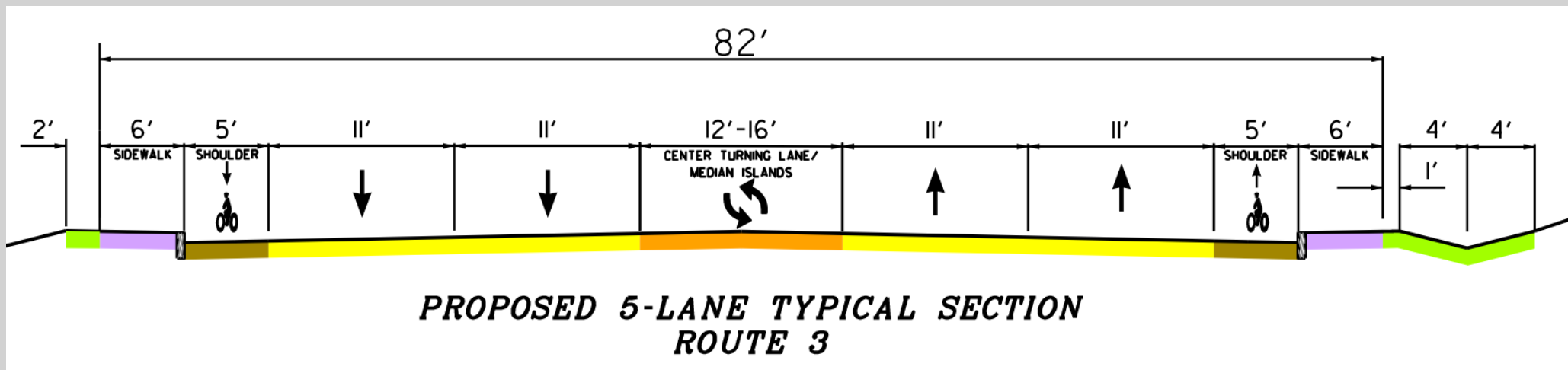
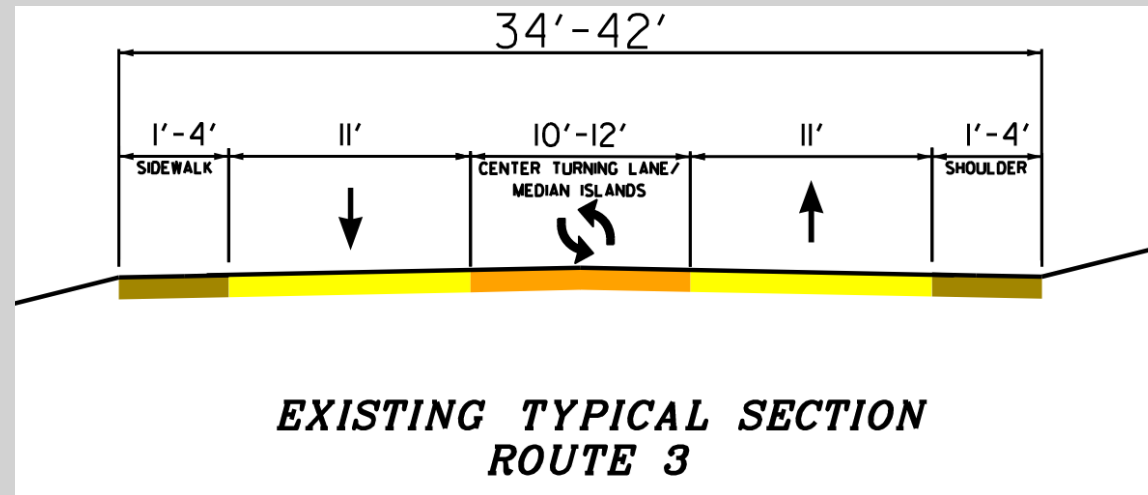
Route 3 Design Alternatives















Route 3 typical sections (3-Lane)



Route 3 typical sections (5-Lane)



3-lane vs 5-lane comparison

	3-Lane	5-Lane	Remarks
TRAFFIC OPERATIONS			3L – higher vehicle density, lower speeds, more comfort for non-motorized users 5L – vehicle centric corridor promoting higher speeds and more fluid traffic
Intersections			Intersection improvements will address most traffic back-ups
Segments			3L – Greater congestion than 5L with lower speeds 5L – Minimal congestion through the design year (2045)
SAFETY			
Speed			5L – higher operating speeds than 3L due to more fluid traffic
Left-turns			5L – more difficult left turns across two lanes of traffic as compared to 3L
BIKE/PED. FACILITIES			3L – lower vehicle speeds, more comfort for bikes, shorter Rte 3 crossings for pedestrians
ACCESS MANAGEMENT			Both options will include consolidated business access points that increase consistency with driver turning

3-lane vs 5-lane comparison (continued)

	3-Lane	5-Lane	Remarks
ROW IMPACTS	●	●	3L – significant impacts around intersections; 5L – significant impacts along entire corridor.
Mitigation Potential	●	●	3L – potential for mitigating severe ROW impacts 5L – full acquisitions may be required for properties severely impacted
Parking	●	●	5L – more business parking loss
Driveways	●	●	5L – more drives that will not be serviceable
ENVIRONMENTAL IMPACTS	●	●	5L – more water quality measures (such as detention basins) to meet environmental requirements; more trees to be removed
UTILITIES	●	●	5L – slightly more utility relocation work
CONSTRUCTION COST	●	●	3L – approx. \$10M +/- (to be refined) 5L – approx. \$14M +/- (to be refined)

3-lane project examples



Forest Ave. – Portland, ME



Manchester St. - Concord

5-lane project examples



US Route 3 – Bedford



High St. – Somersworth



NH Route 101 – Bedford

Corridor Identity

5-lane - “a route to drive through”



- Commuter route
- Promotes vehicular traffic flow
- Higher speeds
- Lower potential for use by pedestrians and bikes

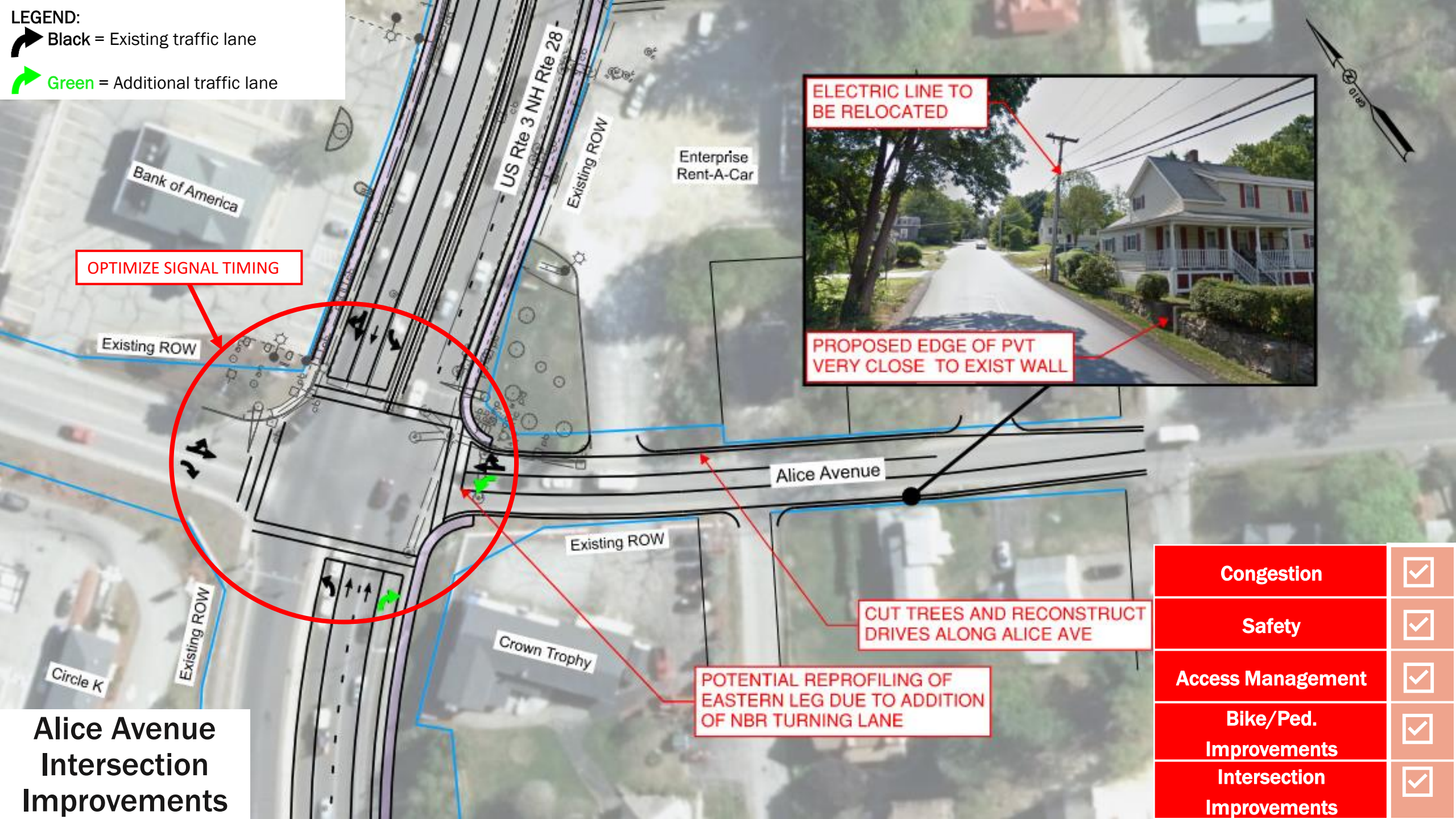
3-lane - “a place to be”

- Local route
- Balances needs of all modes of transportation
- Lower speeds
- Lower stress on pedestrians and bikes

Signalized Intersections Improvement Alternatives



LEGEND:
 Black = Existing traffic lane
 Green = Additional traffic lane



OPTIMIZE SIGNAL TIMING

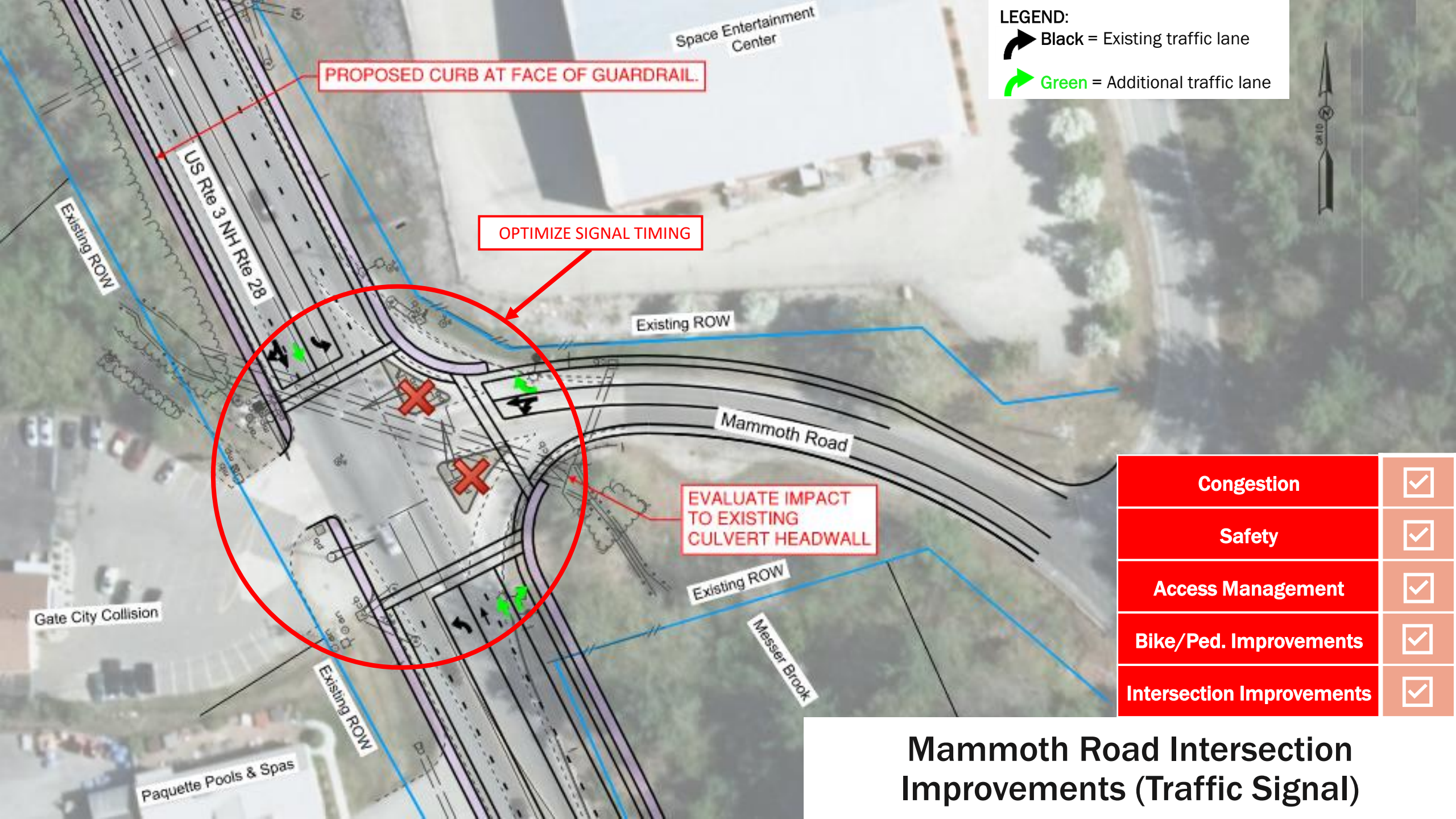
PROPOSED EDGE OF PVT VERY CLOSE TO EXIST WALL

CUT TREES AND RECONSTRUCT DRIVES ALONG ALICE AVE

POTENTIAL REPROFILING OF EASTERN LEG DUE TO ADDITION OF NBR TURNING LANE

Alice Avenue Intersection Improvements

Congestion	<input checked="" type="checkbox"/>
Safety	<input checked="" type="checkbox"/>
Access Management	<input checked="" type="checkbox"/>
Bike/Ped. Improvements	<input checked="" type="checkbox"/>
Intersection Improvements	<input checked="" type="checkbox"/>



LEGEND:
Black = Existing traffic lane
Green = Additional traffic lane

PROPOSED CURB AT FACE OF GUARDRAIL.

OPTIMIZE SIGNAL TIMING

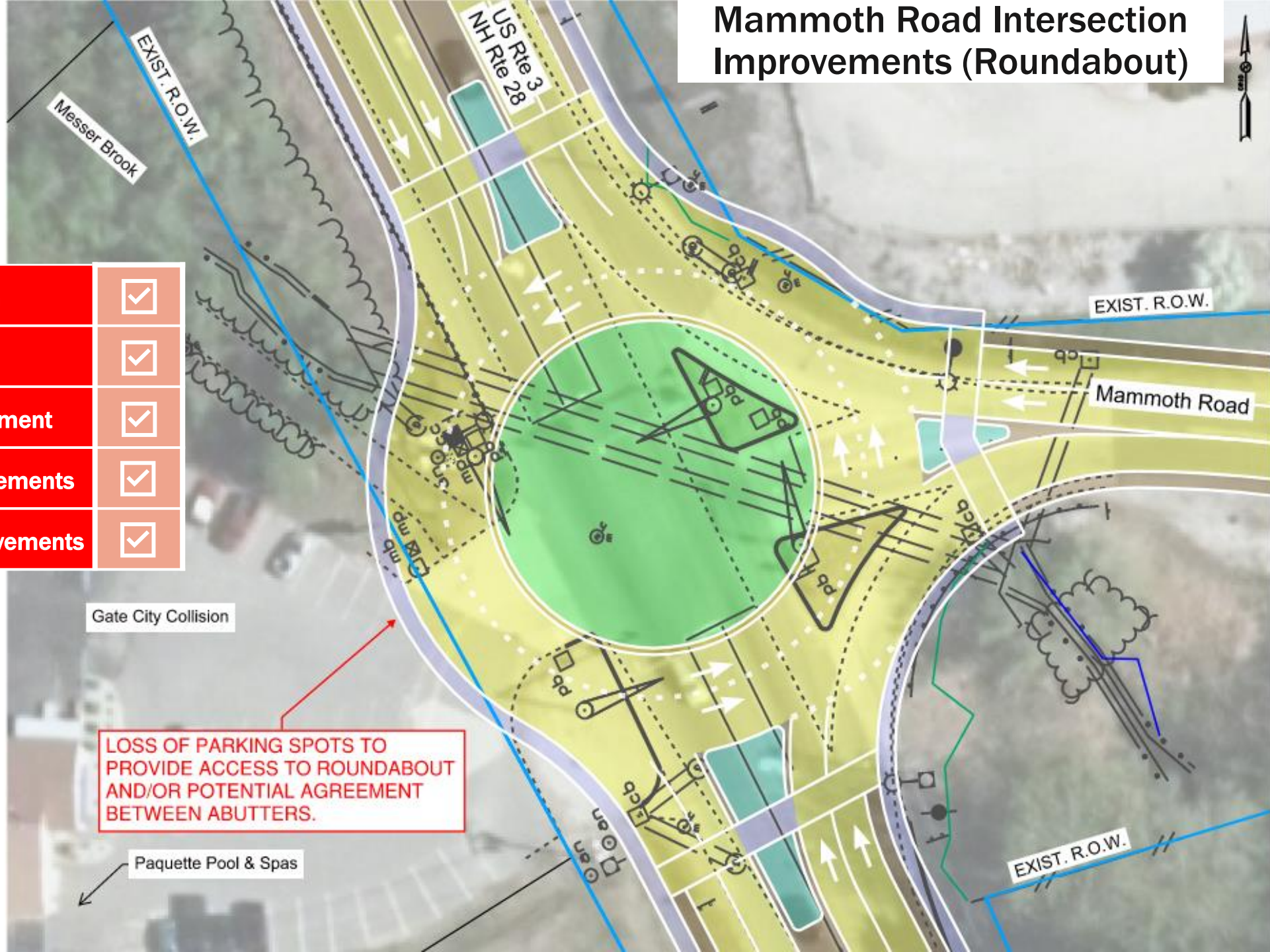
EVALUATE IMPACT TO EXISTING CULVERT HEADWALL

Congestion	<input checked="" type="checkbox"/>
Safety	<input checked="" type="checkbox"/>
Access Management	<input checked="" type="checkbox"/>
Bike/Ped. Improvements	<input checked="" type="checkbox"/>
Intersection Improvements	<input checked="" type="checkbox"/>

Mammoth Road Intersection Improvements (Traffic Signal)

Mammoth Road Intersection Improvements (Roundabout)

Congestion	✓
Safety	✓
Access Management	✓
Bike/Ped. Improvements	✓
Intersection Improvements	✓





















Gate City Collision

LOSS OF PARKING SPOTS TO PROVIDE ACCESS TO ROUNDABOUT AND/OR POTENTIAL AGREEMENT BETWEEN ABUTTERS.

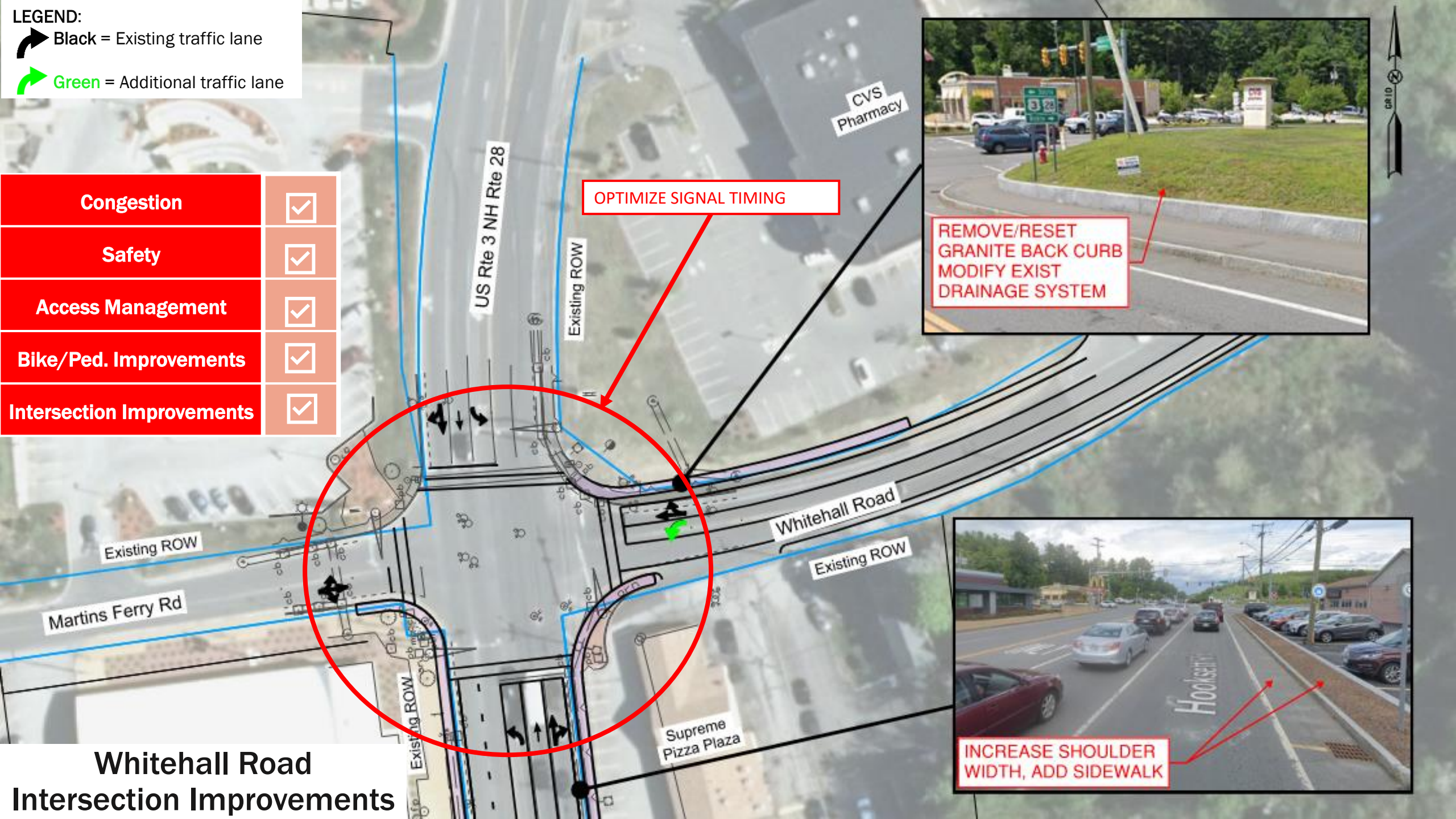
Paquette Pool & Spas

Mammoth Road Intersection Comparison (Roundabout vs. Traffic Signal)

	Two-lane Roundabout	Signalized Intersection	Remarks
Traffic Operations			Roundabout promotes slightly better traffic flow and lower corridor speeds
Safety			# of crashes /year for roundabout typically up to 50% lower than signalized intersection; crashes are also less severe
ROW Impacts			Roundabout has more ROW impacts due to larger footprint
Environmental Impacts			Roundabout may have larger impact on existing Messer Brook culvert
Aesthetics			Roundabout provides opportunity for corridor landscaping
Maintenance Cost			Roundabout requires less maintenance than signalized intersection
Construction Cost			Roundabout may have a higher construction cost
Bike/Ped. Facilities			Roundabout may require a period when users get used to non-signalized intersection operations

LEGEND:
 Black = Existing traffic lane
 Green = Additional traffic lane

Congestion	<input checked="" type="checkbox"/>
Safety	<input checked="" type="checkbox"/>
Access Management	<input checked="" type="checkbox"/>
Bike/Ped. Improvements	<input checked="" type="checkbox"/>
Intersection Improvements	<input checked="" type="checkbox"/>



OPTIMIZE SIGNAL TIMING

REMOVE/RESET
GRANITE BACK CURB
MODIFY EXIST
DRAINAGE SYSTEM



INCREASE SHOULDER
WIDTH, ADD SIDEWALK

Whitehall Road Intersection Improvements

Next steps

- Determine Town and Working Group preferences
- Select preferred alternatives
 - 3 vs, 5-lane
 - Signalized vs. Roundabout at Mammoth Road
- Refine design alternatives
- Public Information Meeting #2
- Working Group Meeting #6

Thank you!

Contact information:

Tobey Reynolds, P.E.

Tobey.L.Reynolds@dot.nh.gov

603-271-7421

