US Route 3/NH 28 Hooksett 29611 Roadway Improvements Project

Public Information Meeting #2

October 24, 2023

6:00 PM – 8:00 PM

New Hampshire DOT
Department of Transportation

Meeting Information

- Meeting is being recorded and will be posted on the project website
- Virtual participants are muted

For those joining us via Zoom

- Questions may be entered in the Q&A Window at any time (button appears at the bottom of the screen).
- Questions will be held until the end of the presentation during the Q&A portion.

For those joining us in person

- During the Q&A portion, please raise your hand and a member of our team will alert you when it's your turn to speak.

- Elected officials will have the opportunity to provide comment(s) after the presentation, prior to Q&A.

Welcome and Introductions

David Smith, PE

NHDOT Project Manager

Liviu Sfintescu, PE

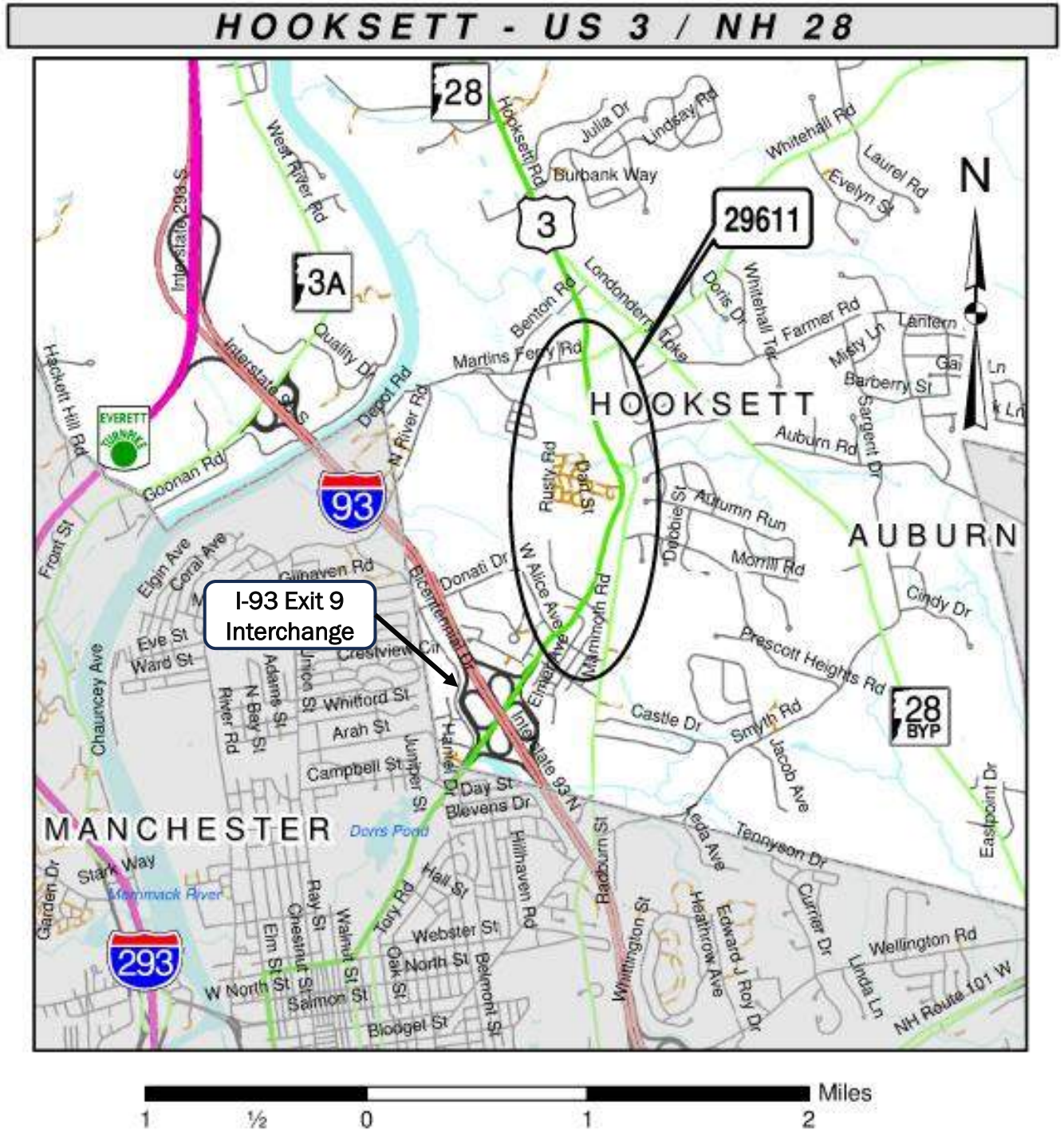
WSP Project Manager

Meeting Agenda

1. Welcome and Introductions
2. Existing Conditions/Project Goals
3. Preferred design alternative
4. Natural/Cultural Resources
5. Gather public feedback to frame design refinements
6. Next Steps

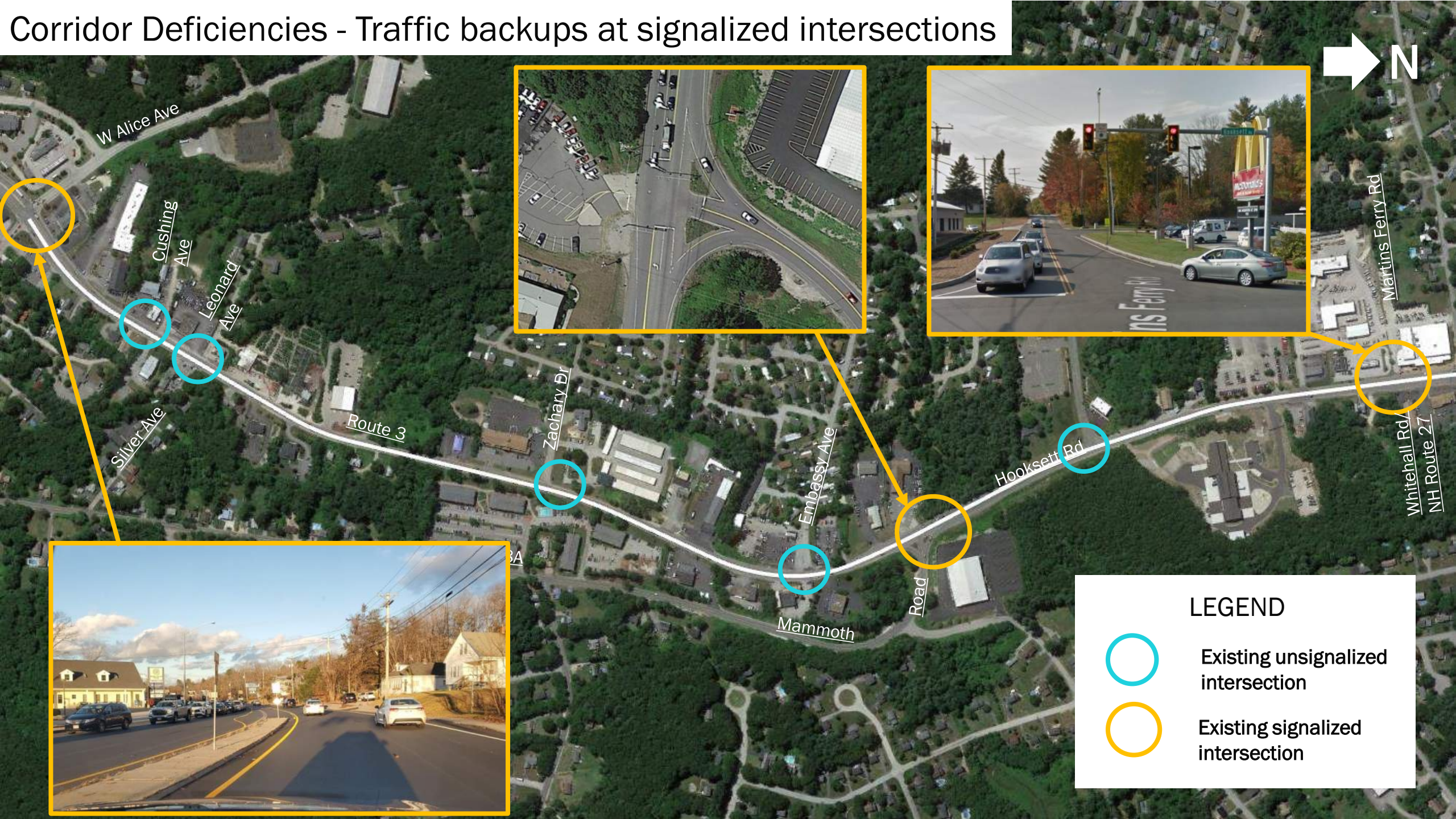
Existing Conditions/Project Goals

Location Map



Corridor Deficiencies - Unsafe business access, narrow shoulders and no sidewalks

Corridor Deficiencies - Traffic backups at signalized intersections



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 3/NH 28 corridor between Alice Avenue/West Alice Avenue and Martins Ferry Road/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 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.*

Project Development Process

Step 1
- Develop and evaluate improvement alternatives

Step 2
- Identify impacted natural and cultural resources

Step 3
- Refine design alternatives

Step 4
- Select proposed action

Step 5
- Prepare environmental document for proposed action

Step 6
- Public Hearing (Spring 2024)

Project Development Process (cont.)

Step 7
- Final design (2024-2026)

Step 8
- Environmental permitting (2025-2026)

Step 9
- Right of Way Acquisition (2025-2026)

Step 10
- Construction (2027-2029)

Preferred Design Alternative

Project Working Group

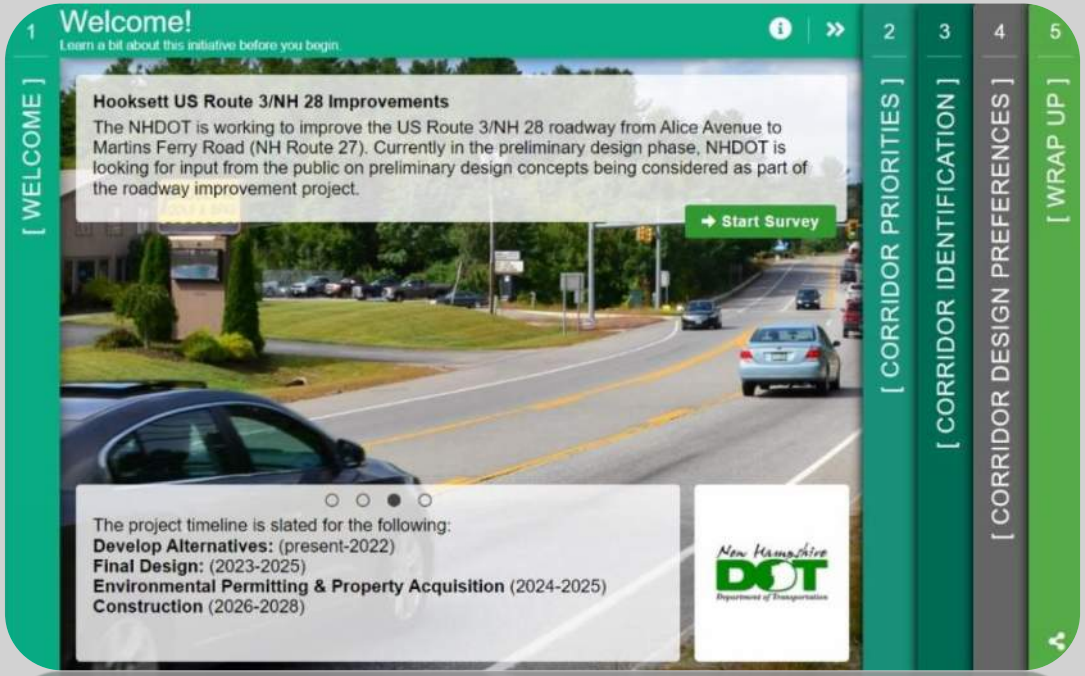
- Comprised of town officials, emergency services, regional planning association, and others

- Six Working Group meetings (November 2020 - January 2023)
  - Developed the Project Vision, the Purpose and Need Statement, and reviewed the Public Involvement Plan
  - Provided insight to corridor issues
  - Contributed to the selection of the preferred alternative

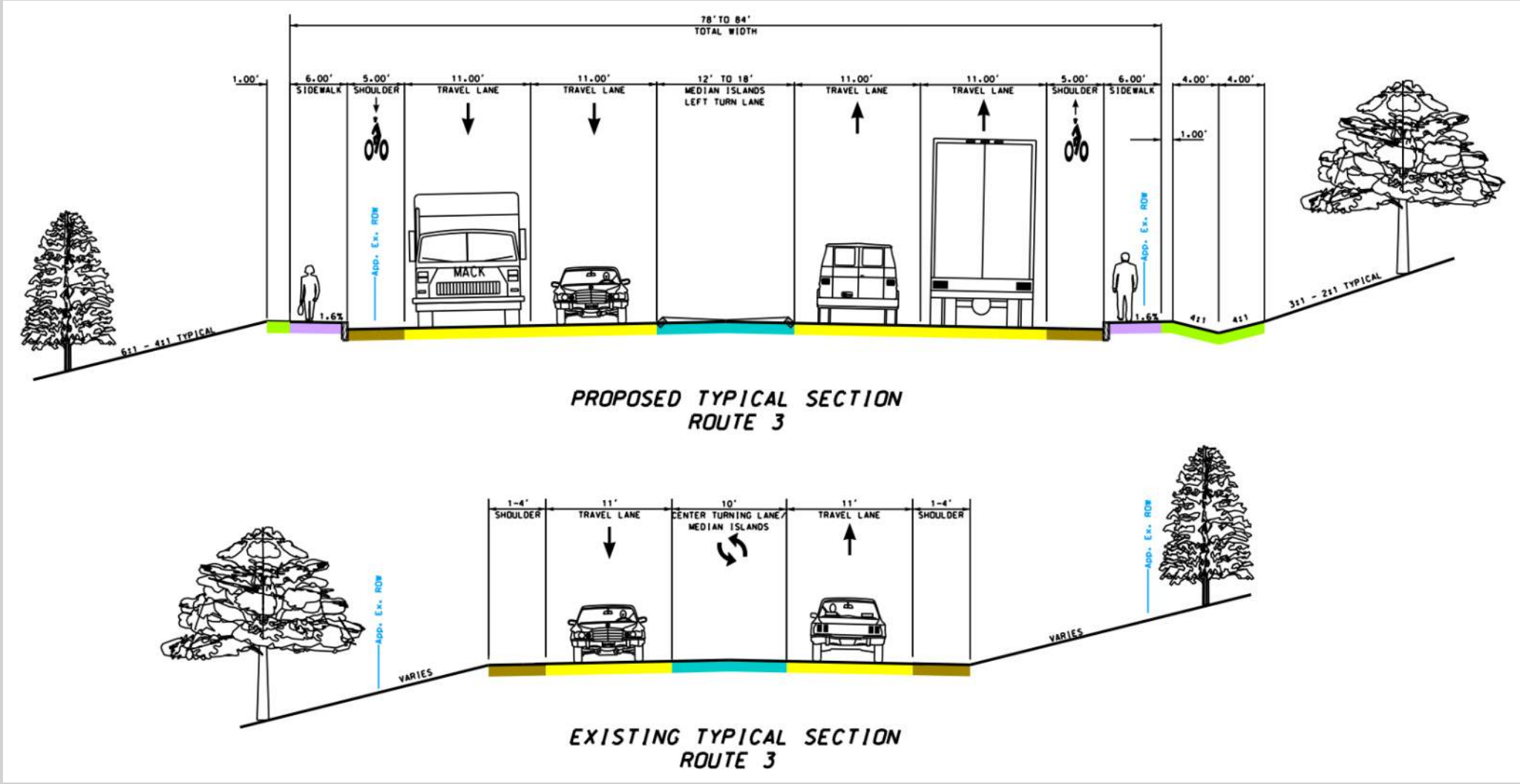
Working Group Member	Organization
Captain Jake Robie	Hooksett Police Department
Joseph Stalker	Hooksett Emergency Services (Police/Fire/Rescue)
Andre Garron	Town Administrator
David Boutin	Hooksett Town Council
Lawrence Yassanye	Southern New Hampshire University (SNHU)
Bruce A. Thomas, PE	Community Development/ Town Engineer
Nate Miller	Southern NH Planning Commission (SNHPC)
Superintendent Bill Rearick	Hooksett School District
Richard Radwanski	NHDOT District 5 Engineer

Public Input on the Preferred Alternative

- Public Informational Meeting #1
  February 2022
- MetroQuest Survey
  February 25th to March 22nd, 2022
- Open House
  June 2023



US 3 Typical Section



Corridor Improvement Plans

Project Highlights

- Widen roadway to two lanes in each direction to increase traffic capacity
- Add raised median islands to improve safety with dedicated left-turn lanes at openings
- Add 6’ sidewalks along both sides of the roadway for pedestrian safety
- Widen shoulders to 5’ for bicycle safety
- Improve signals at Alice Avenue and Martins Ferry intersections
- Convert Mammoth Road intersection to 2-lane roundabout to improve capacity and safety
- Construct approx. 2,100 LF of retaining walls to minimize impacts
- Acquire, at a minimum, ROW strips on most properties along corridor
- Cost of construction approx. $16M (excluding ROW)

Why Construct a Raised Median?

- Safety
  - Reduces pedestrian crashes at cross walks by 46%, especially for roads with greater than 15,000 ADT[1].
  - Allows pedestrians to cross one direction of traffic at a time.
  - Assists with speed control by creating a visual cue to motorists regarding preferred speeds.
  - Reduces motor vehicles crashes by 15% or more by limiting left turn conflicts[2].
- Driver experience
  - More predictable and efficient motorist experience
  - Improved “thru times”/reduced congestion
- Aesthetics
  - Provides landscaping opportunities (less pavement/more green).

[1] Federal Highway Administration, Highway Safety Manual, Knowledge Base, update to NCHRP 17-27 (November 2009)

[2] U.S. Department of Transportation, Federal Highway Administration, Desktop Reference for Crash Reduction Factors, FHWA-SA-07-015 (Washington, DC, September 2007).

Business Impacts of the Raised Median

Destination Businesses

- Doctor or dentist offices (in fact most offices), major retailers, insurance agencies, sit-down restaurants, etc.
- Customer typically planning trips in advance
- Unsafe access or congested highways may intimidate customers

Drive-By Businesses

- Convenience stores, gas stations, or fast-food restaurants
- Critical issues are *visibility, signage, and convenient access*

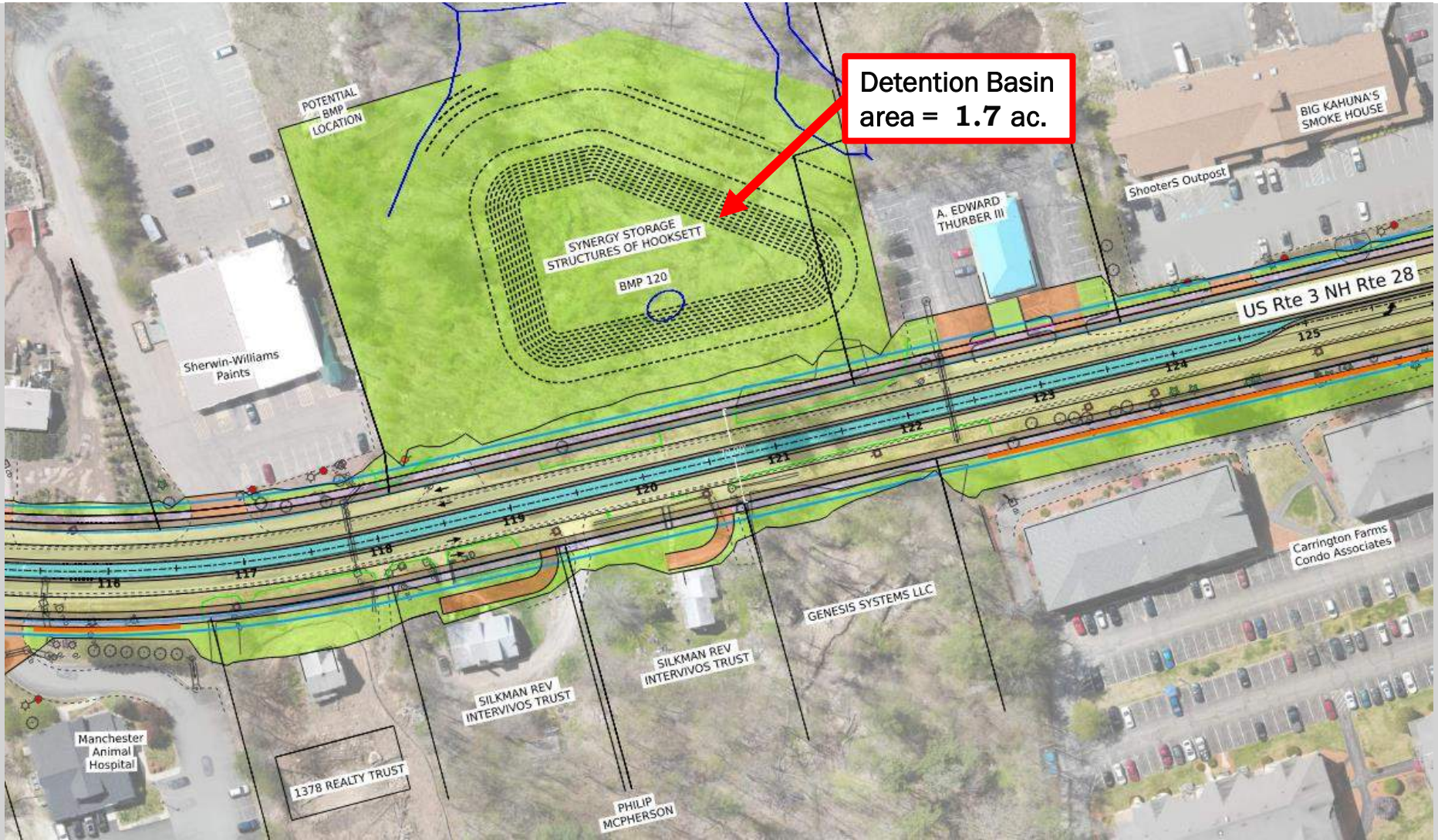
Roadways using well designed access management techniques typically:

- Reduce congestion/delays
- Can accommodate more traffic -> better business exposure; more convenient shopping experience
- Generate an increase in property values

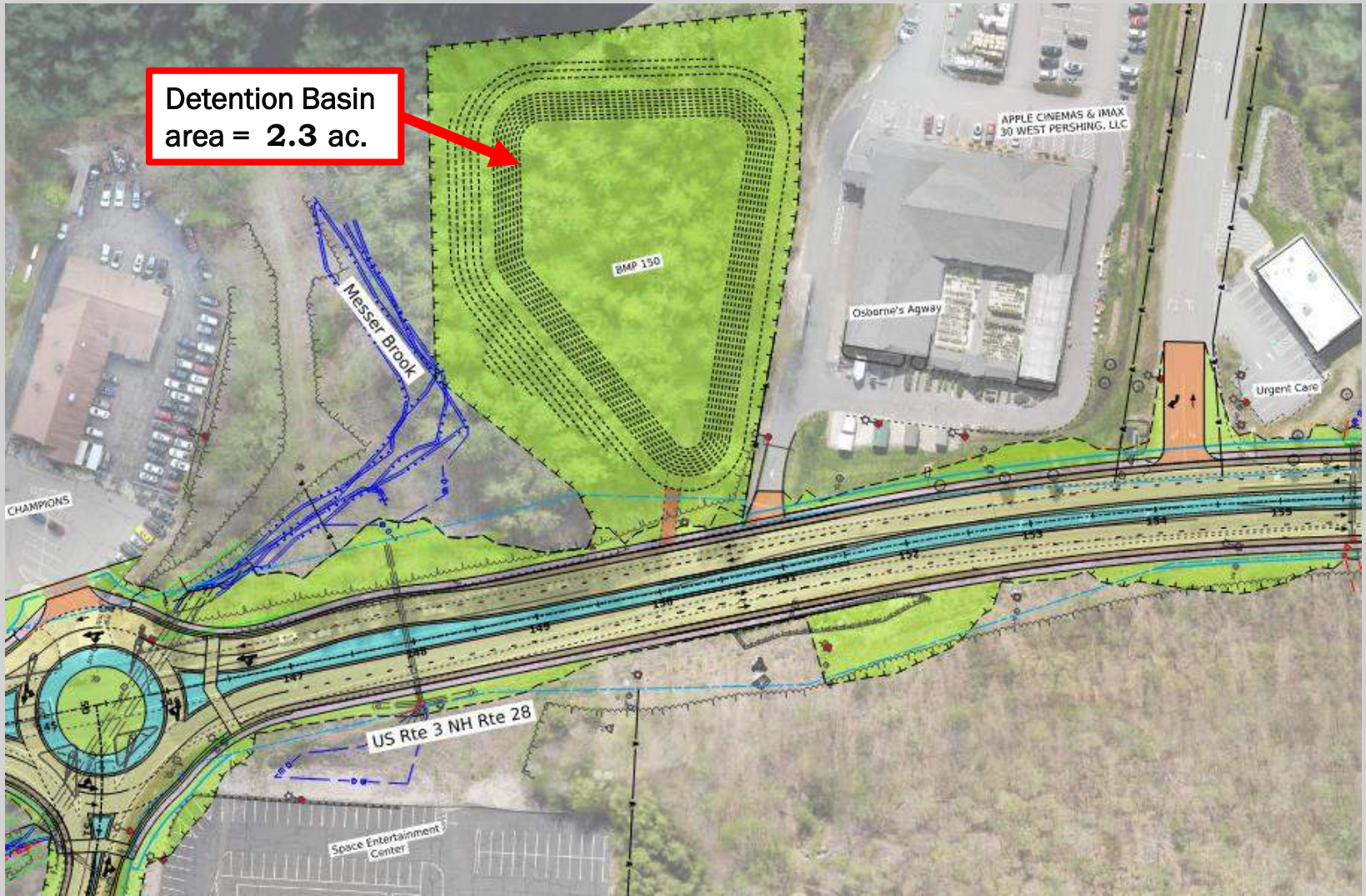
Water Quality Measures

- The preferred alternative proposes to widen the existing roadway, increasing the overall impervious surface area of the project.
- To capture and treat the stormwater runoff, the project proposes 4 Best Management Practice (BMP) sites along the corridor.
- BMPs filter out roadway sediment and pollutants including heavy metals, road salt and petroleum products. BMPs also manage the volume and rate of discharge into nearby water bodies.

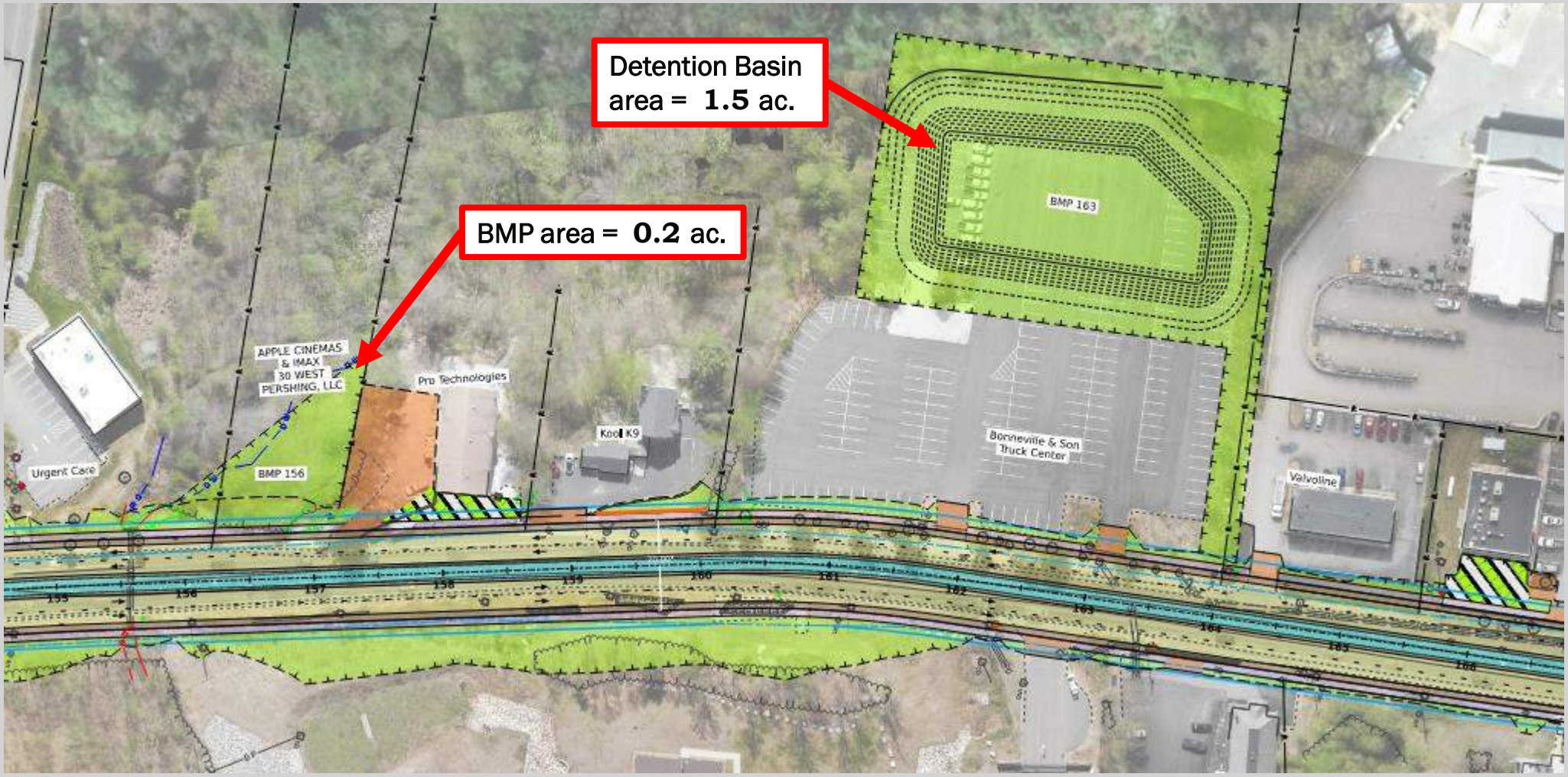
BMP #1 – North of Sherwin Williams



BMP #2 – South of Agway

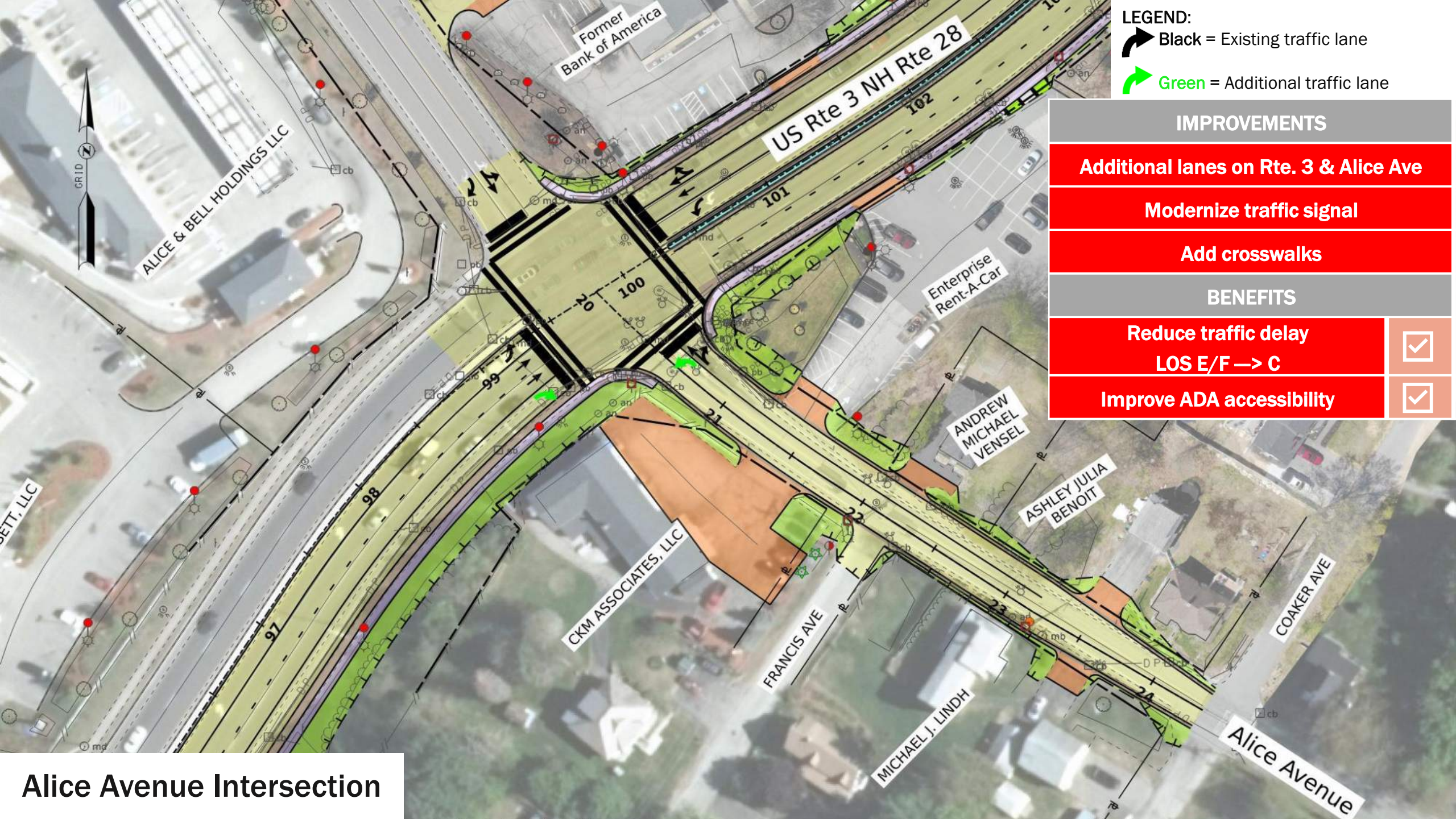


BMPs #3 and #4 – North of Urgent Care and Bonneville & Son parking



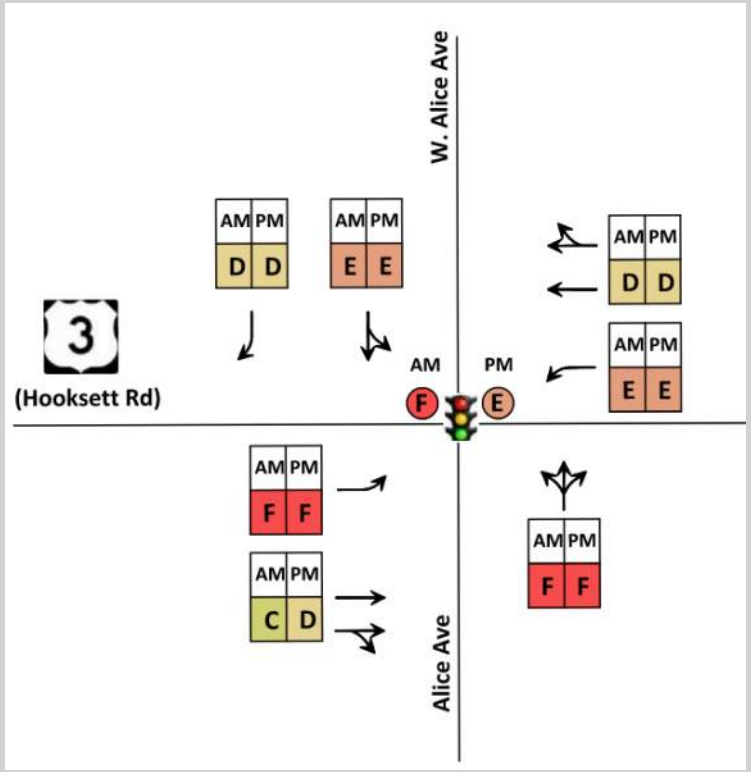
Major Intersection Improvements

Alice Avenue Intersection
Existing Condition

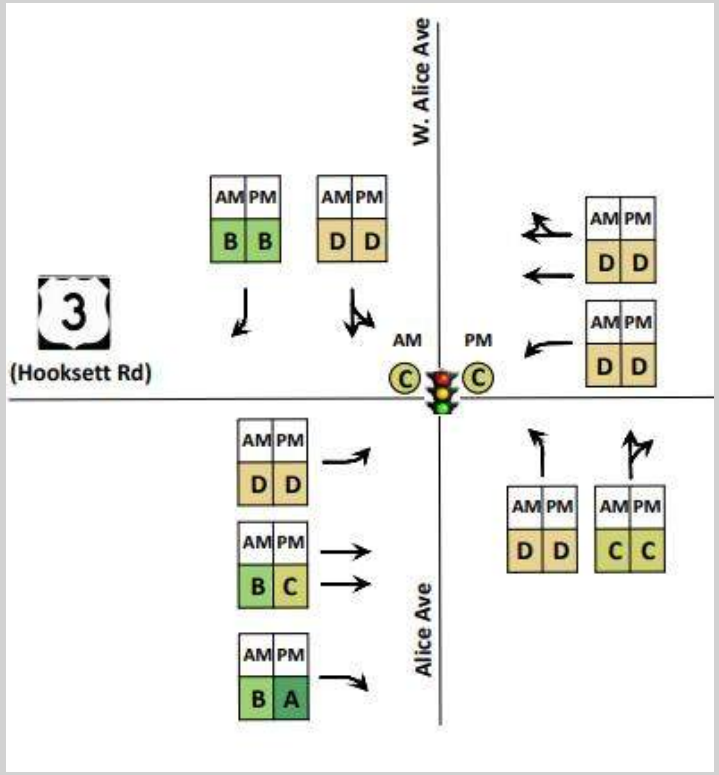


Alice Avenue Intersection

Alice Avenue
Level of Service (LOS)

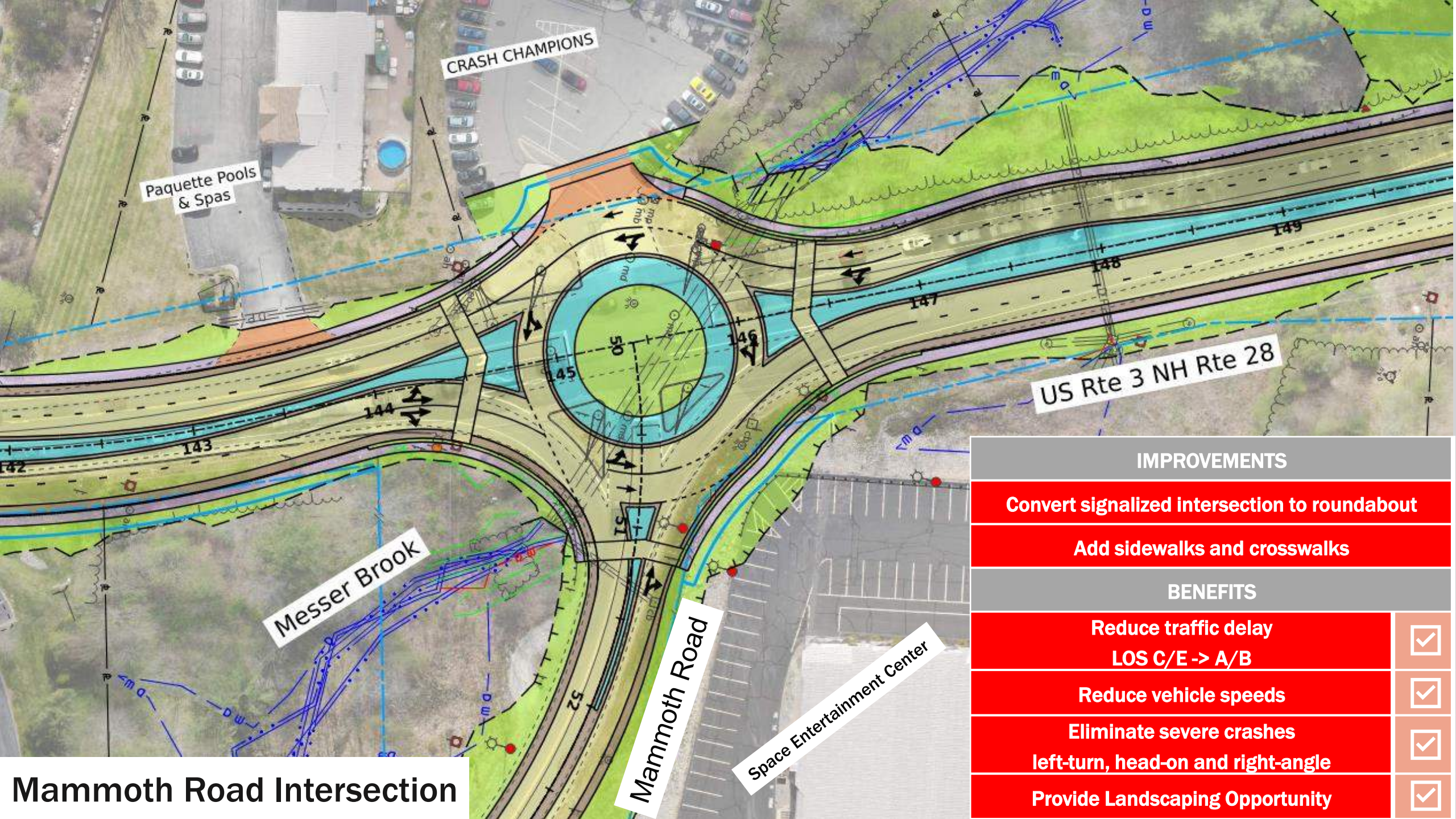


Existing LOS (2020)



Projected LOS (2045) – with intersection modifications

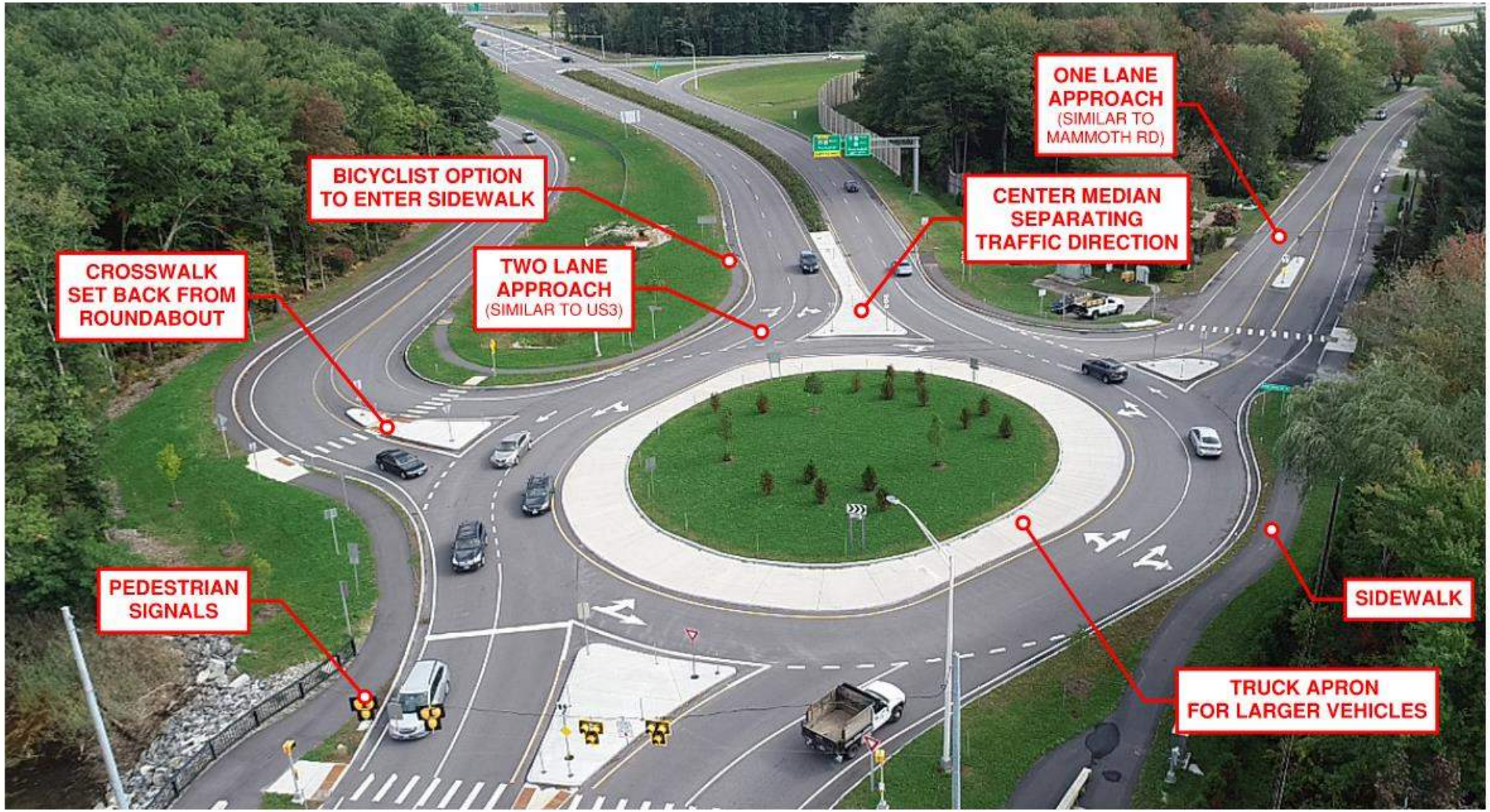
Mammoth Road Intersection
Existing Condition



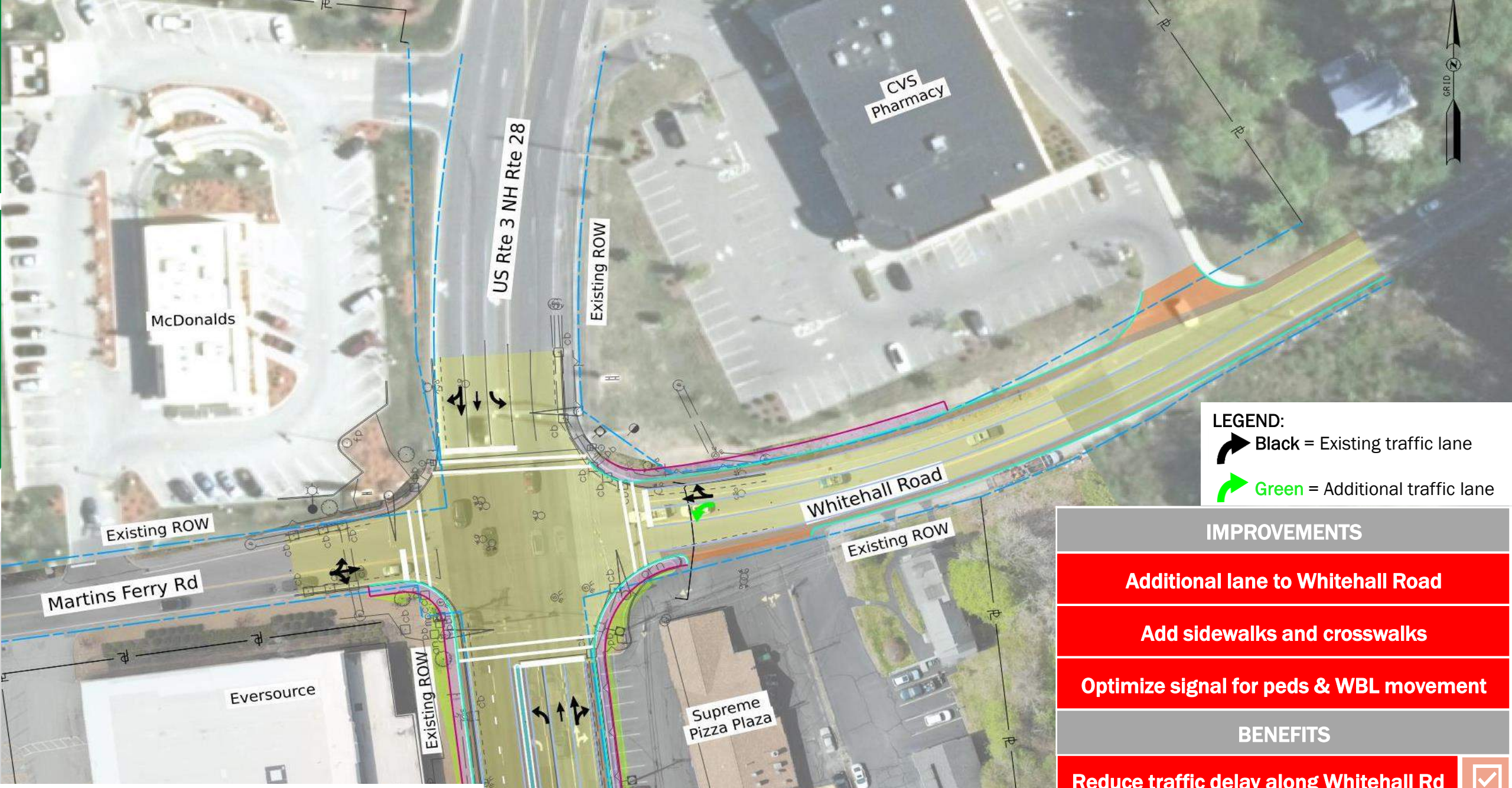
Mammoth Road Intersection

IMPROVEMENTS	
Convert signalized intersection to roundabout	
Add sidewalks and crosswalks	
BENEFITS	
Reduce traffic delay LOS C/E -> A/B	☑
Reduce vehicle speeds	☑
Eliminate severe crashes left-turn, head-on and right-angle	☑
Provide Landscaping Opportunity	☑

2 -Lane Roundabout – US 4 at Boston Harbor Rd. in Dover, NH



Martins Ferry / Whitehall Road Intersection Existing Condition

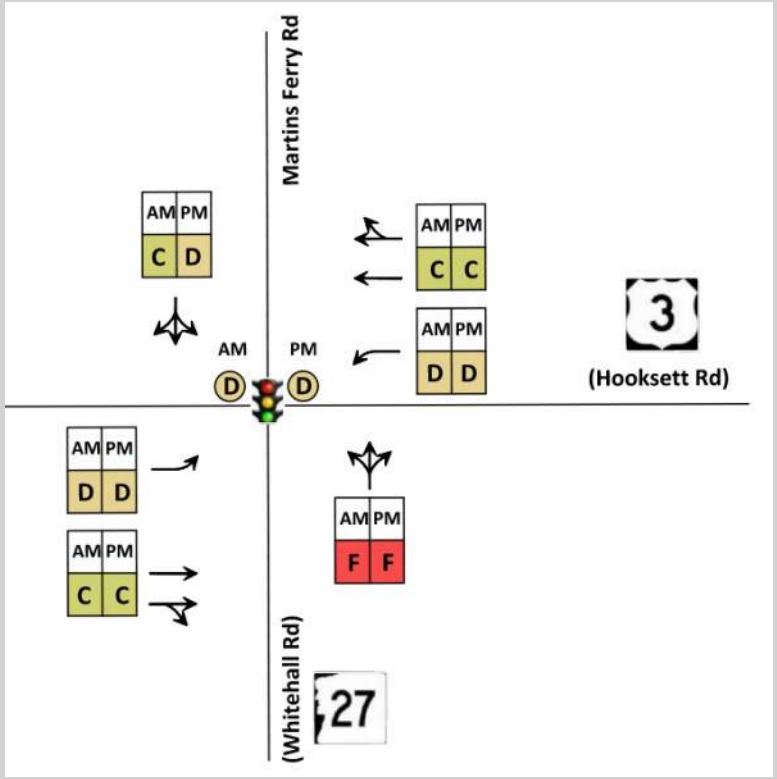


Whitehall Road Intersection

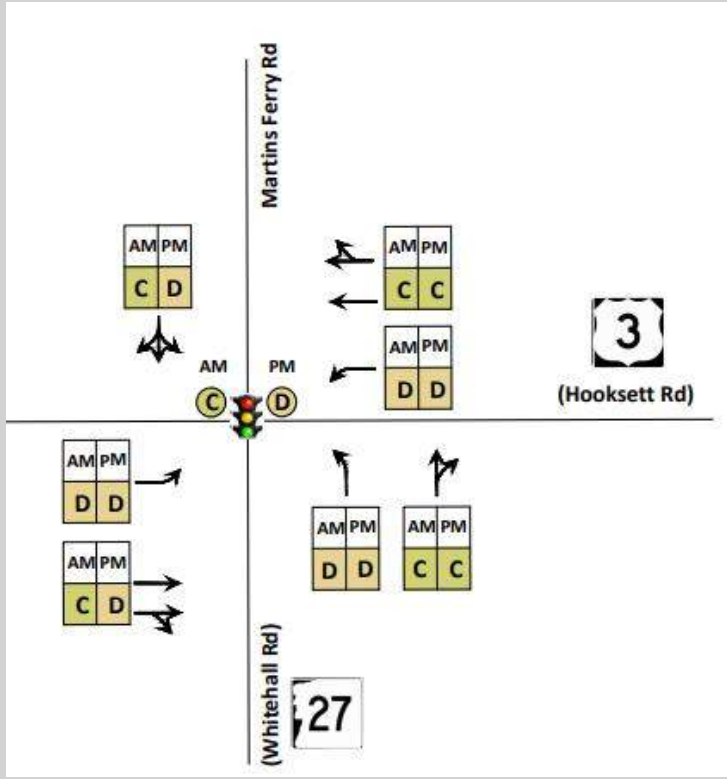
IMPROVEMENTS
Additional lane to Whitehall Road
Add sidewalks and crosswalks
Optimize signal for peds & WBL movement

BENEFITS	
Reduce traffic delay along Whitehall Rd	☑
Improve ADA accessibility	☑

Martins Ferry / Whitehall Rd Level of Service (LOS)



Existing LOS (2020)



Projected LOS (2045) – with intersection modifications

Natural and Cultural Resources

Natural Resources

- Potential presence of:
  - Northern long-eared bat – Threatened
  - Small whorled pogonia – Threatened
  - Bald Eagle – Eagle Act
- No critical wildlife or vegetation habitats
- Messer Brook stream crossing

Cultural Resources

- Archeology field investigations are complete – no significant findings
- Two historic properties may be impacted by the project:
- 1105 Hooksett Rd (former schoolhouse on Brace Ave)
- 1253 Hooksett Rd (stone house across from Sunoco)

Cultural Resources (cont'd)

Information or concerns?

- Contact the project team or the NHDOT Bureau of Environment

Want to be more formally involved?

- Request to participate in historic resource review as a consulting party under Section 106 of the National Historic Preservation Act by contacting Jamie Sikora at FHWA: Jamie.Sikora@fhwa.dot.gov

Want more info?

- Visit https://mm.nh.gov/files/uploads/dot/remote-docs/2011-section-106-consulting-party-process-in-nh.pdf

Share your feedback

- Q&A during tonight's public meeting
- In-person attendees – following the presentation, the team will take questions from the room. Attendees can also complete a comment card available at the registration table.
- Virtual attendees – enter questions and comments in the Zoom Q&A box.
- Visit the project webpage: https://www.dot.nh.gov/projects-plans-and-programs/project-center/hooksett-29611

Next Steps

- Refine preferred design alternative based on comments
- Public Hearing
  - Spring 2024
  - Anticipated Goal: Present the preferred alternative and the draft environmental document

Thank you!

Contact information:

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Project Manager, NHDOT
David.S.Smith@dot.nh.gov
603-271-2165

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Roll Plots Review

- Addition of median along Route 3:
  - Limit left turn conflicts to reduce crashes
  - Assist with speed control
  - Reduces pedestrian crashes at cross walks by 46%, especially for roads with greater than 15,000 ADT.
  - Provide pedestrian refuge where mid-block crossings may be provided
  - Openings provided at selected locations (major side streets)
- Proposed roundabout at Mammoth Rd to facilitate U-turns
- Sidewalks and bike lanes on both sides of Route 3 for increased multimodal connectivity, access to all destinations on both sides of the road, and for additional traffic calming

Mammoth Road Intersection Comparison (Roundabout vs. Traffic Signal)

	Improvement	Remarks
Traffic Operations		Roundabout promotes slightly better traffic flow than signalized intersections
Safety		
Reduces speeds		Due to horizontal deflection of vehicle when navigating roundabout
Reduces crash severity	37% & 51%	Crash reduction for All Crashes and Injury Crashes, respectively due to eliminating left-turn, head-on, and right-angle collisions
Pedestrians		Less average delay for roundabouts than for signalized intersections
Bicycles		

Crash History

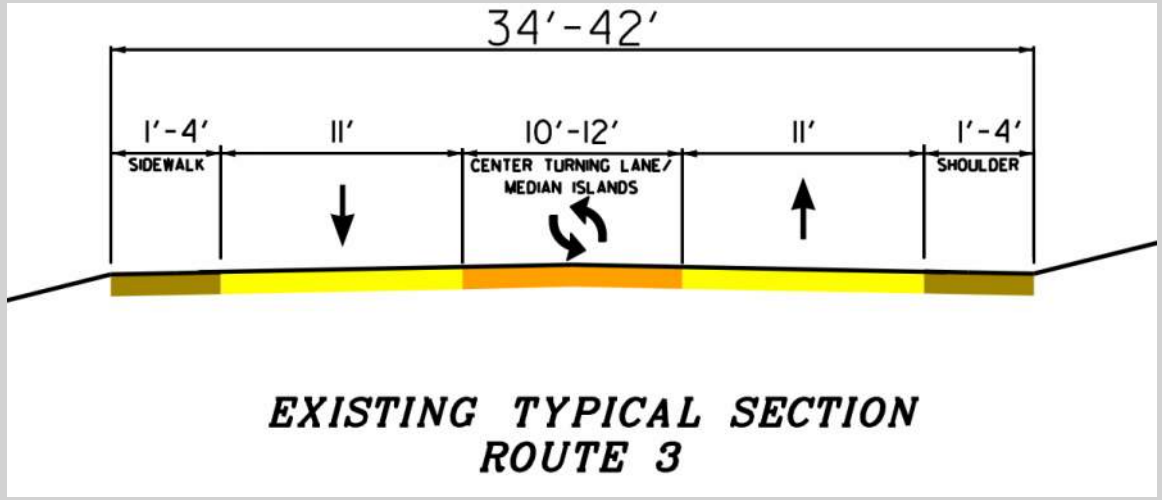
- Crash data shows prevalence of crashes in the southern portion of the corridor where there is more development
- Fatal pedestrian crash in the area of Silver Ave in Feb 2020
- Leading cause of crashes is “driver distraction”; rear-end collisions is also a common trend

Median Openings

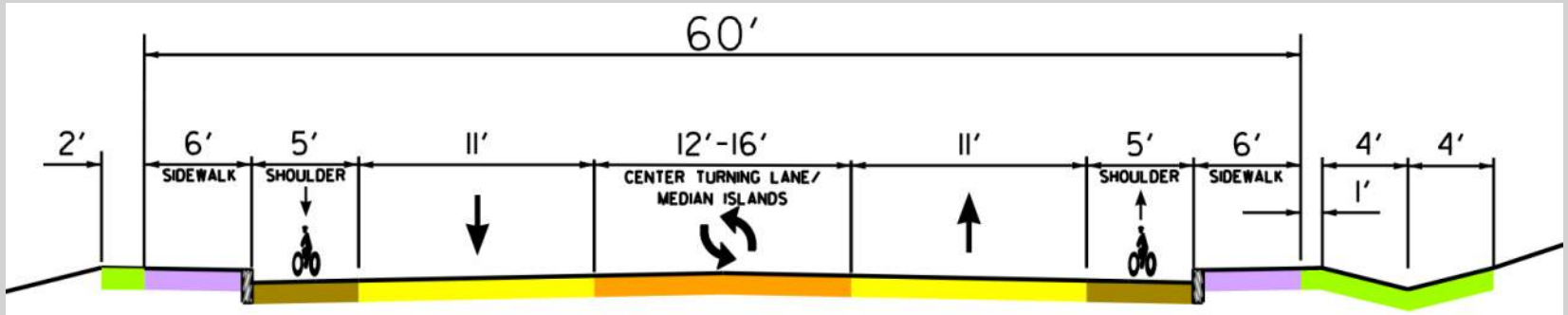
2. Preparation of PPT presentation

- Add a few slides to emphasize the BMPs locations.
- Explain how the median makes the corridor safer.
- Add a snip it of the Dover roundabout with annotation specific to our project site.
- WSP to develop draft of PPT and send to NHDOT for review.

Route 3 typical sections (3-Lane)



EXISTING TYPICAL SECTION
ROUTE 3



PROPOSED 3-LANE TYPICAL SECTION
ROUTE 3

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)*

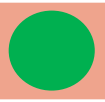
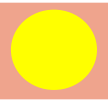
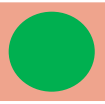
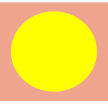
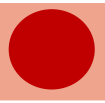
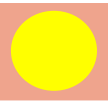
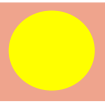
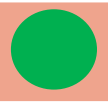
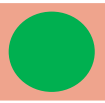
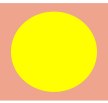
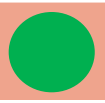
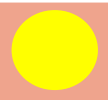
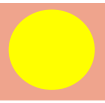
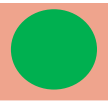
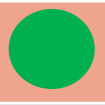
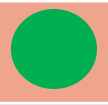
	3-Lane	5-Lane	Remarks
ROW IMPACTS			3L – significant impacts around intersections; 5L – significant impacts along entire corridor.
Mitigation Potential			3L – potential for mitigating severe ROW impacts 5L – full acquisitions may be required for properties severely impacted
Parking			5L – more business 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

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

Corridor Identity

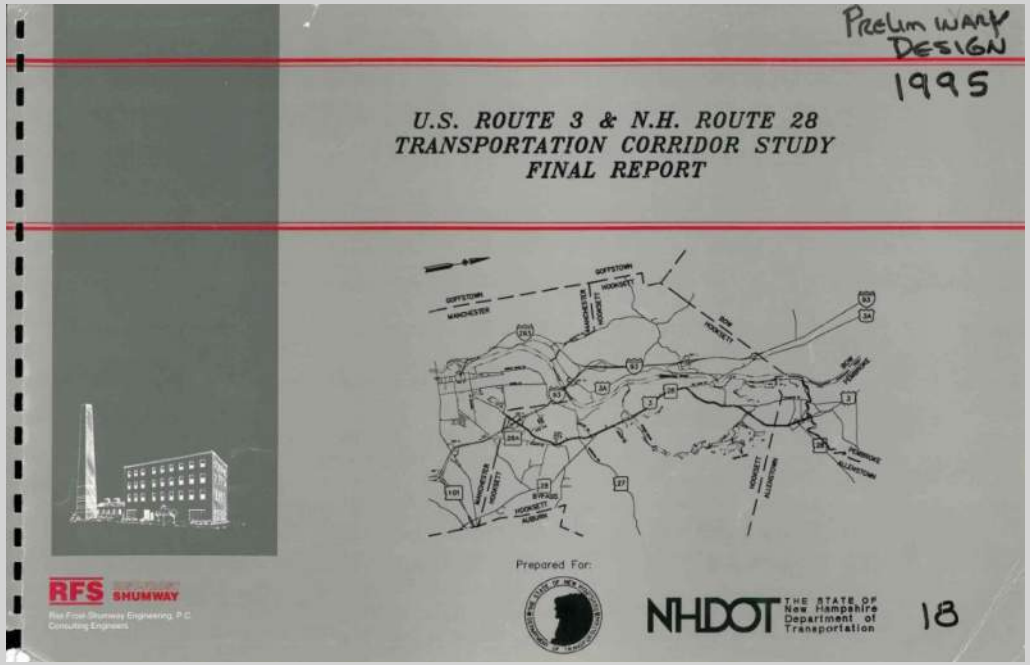
5-lane - “*a route to drive through*”

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

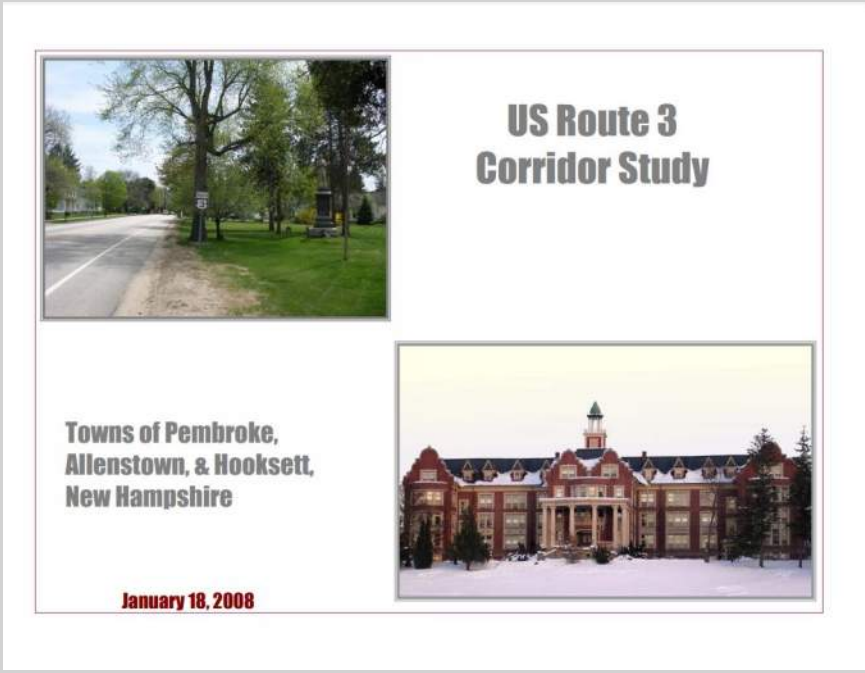
3-lane - “*a place to be*”

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

Previous Corridor Studies

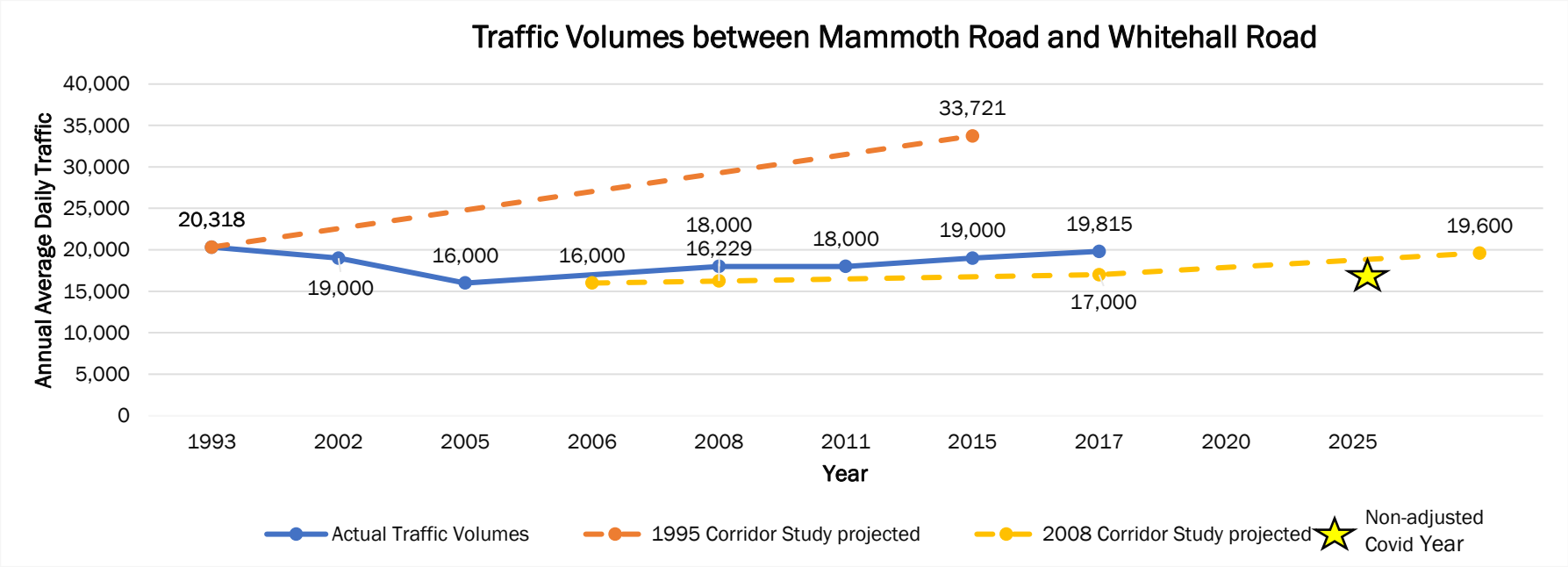


- Consider increasing capacity of corridor by widening to 5-lane section
- Consider pursuing extension of regular public transit routes between higher-density parts of Hooksett and the City of Manchester
- Improve corridor safety



- Consider expansion of Rte. 3 Corridor Performance Zoning District to other portions of the corridor
- Consider extending MTA public transit into Hooksett
- Consider creation of US Rte. 3 Mixed Use Corridor Zone

Corridor Traffic Growth



- Toll plaza in Hooksett renovated to open road tolling (ORT) in 2013
- College Park drive constructed in 2005
- SNHU growth and new access to Rte. 3 via Victory Ln.


Location Map
W Alice Ave
Cushing Ave
Leonard Ave
Silver Ave
Route 3
Zachary Dr
Embassy Ave
Hooksett Rd
Martins Ferry Rd
SOUTHERN SEGMENT
NH Route 28A
NORTHERN SEGMENT
Mammoth Rd
Whitehall Rd
W
N
S
E

Public Transportation in Hooksett

Green DASH

- MTA bus service to SNHU (bus route 5) and Hackett Hill/Walmart (bus route 11)
- No service on Route 3 within the project limits
- Consideration for extending service from Manchester along Route 3 in previous studies

Hooksett Shuttle

Pedestrian/Bicycle Facilities

EXISTING CONDITION

- Narrow shoulders on both sides of Route 3
- Short sections of sidewalk north of Alice Ave
- No sidewalks elsewhere

POTENTIAL COMMUNITY BENEFITS

- Link residential & commercial areas
- Link transit stops
- Improve circulation by providing an alternative to driving

Mammoth Rd (Roundabout vs. Signalized Intersection)

		Two-lane Roundabout	Signalized Intersection	Remarks
Level of Service (LOS)	AM Peak	A	B	
	PM Peak	B	C	
Safety				# of crashes /year for roundabout typically up to 50% lower than signalized intersection
ROW Impacts				Roundabout has severe ROW impacts to the Gate City Collision property
Environmental Impacts				Roundabout requires reconstructing of existing headwalls at Messer Brook + possible extension of existing culvert
Aesthetics				Roundabout provides opportunity for beautification of corridor
Maintenance				Roundabout experiences less maintenance than signalized intersection
Cost				

Corridor Deficiencies - Uncontrolled business access, narrow shoulders and no sidewalks

Project Development Process (cont.)

Step 7
- Final design (2024-2026)

Step 8
- Environmental permitting (2025-2026)

Step 9
- Right of Way Acquisition (2025-2026)

Step 10
- Advertising (2027-2028)

Step 11
- Construction (2027-2029)

Summary of Significant Impacts

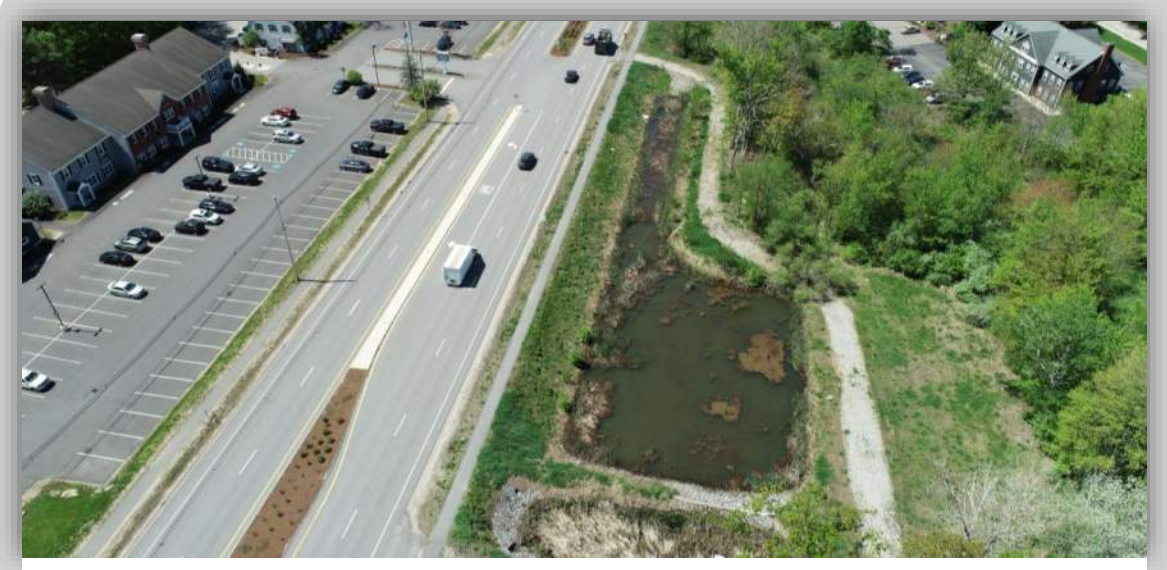
- 15 +/- parking spaces lost at Chantilly restaurant; may require full acquisition
- Parking loss at other locations such as Portland Glass and Hooksett Family Eyecare
- Significant impacts in the area of Embassy Ave due to narrow right-of-way
- Significant impacts onto Pro Technologies north of Cinemagic drive; may require full acquisition
- Approx. 2000 LF of proposed retaining walls
- ROW strip takes on most properties
- Approx. construction cost $13M (excluding ROW)

Similar Projects

NH Route 101 – Bedford

US Route 3 – Bedford

Similar Projects (cont'd)



Best Management Practice
NH Route 101 - Bedford

Landscaped Median
NH Route 101 – Bedford

Major Intersections Improvements

US 3 Typical Section