

Route 3/NH 28 Hooksett 29611 Roadway Improvement Project

- Working Group Meeting #3
- Jun 11, 2021
- 9:00 AM – 10:30 AM



Meeting Agenda

1. Overview of 5-lane alternative on Route 3 and its associated impacts
2. Alice Ave intersection
3. Mammoth Rd intersection
 - a) Signalized intersection
 - b) Roundabout
4. Martins Ferry Rd intersection
5. Feedback from working group
6. Next Steps

Route 3 typical section (5-lane alternative)

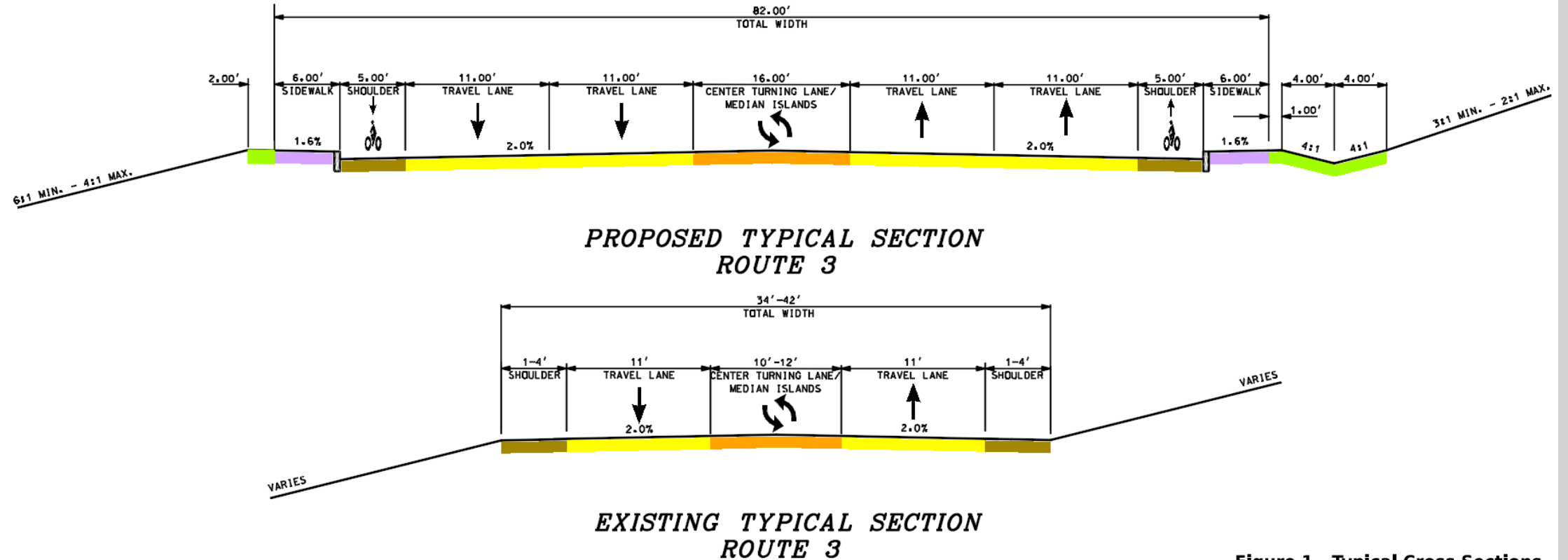


Figure 1 - Typical Cross Sections

Route 3 design methodology (5-lane alternative)

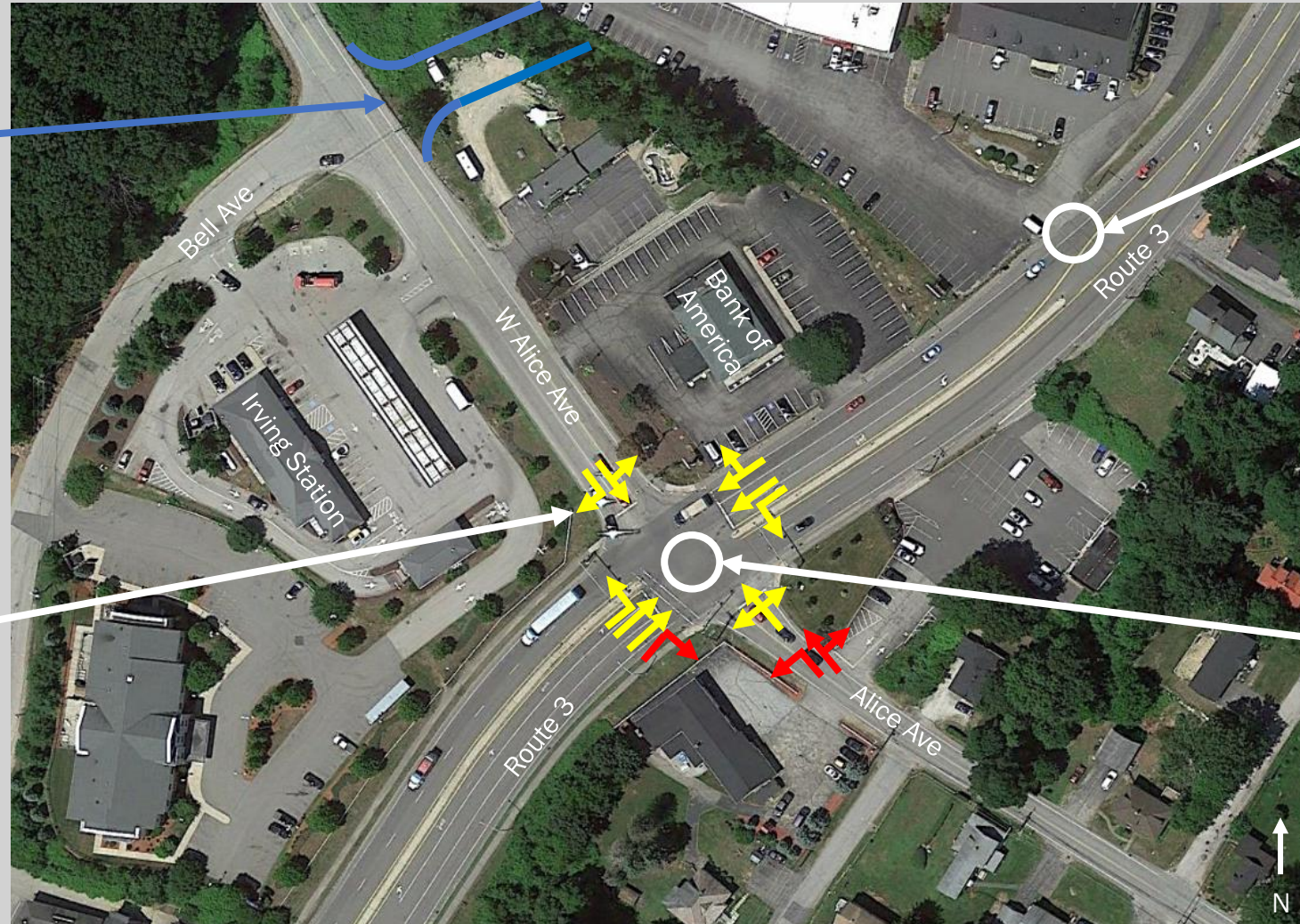
- Our Design Methodology:
 - Applied the 5-lane typical section to the existing roadway centerline
 - Shifted existing alignment from Embassy Ave to Cinemagic
 - Used continuous sidewalks on both sides of Rte 3
 - Provided additional turning lanes at the three signalized intersections
 - Reviewed associated impacts and selected the ones that are more significant for presentation to the WG

Route 3 summary of concerns (5-lane alternative)

- 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 from Embassy Ave to Mammoth Rd due to narrow width between abutting properties
- Significant impacts onto Mill City Flooring north of Cinemagic drive (former Corey's Closet); may require full acquisition
- Approx. 2000 LF of proposed retaining walls
- ROW strip takes on most properties
- Approx. construction cost \$13M (excluding ROW)

Traffic Suggestions Alice Ave

Consider extending Bell Ave to provide alternative access to commercial property



Reconfigure US3 southbound to improve lane use at signal and drive access


Consider access management strategies to address safety issues from Alice Ave to Mammoth Rd

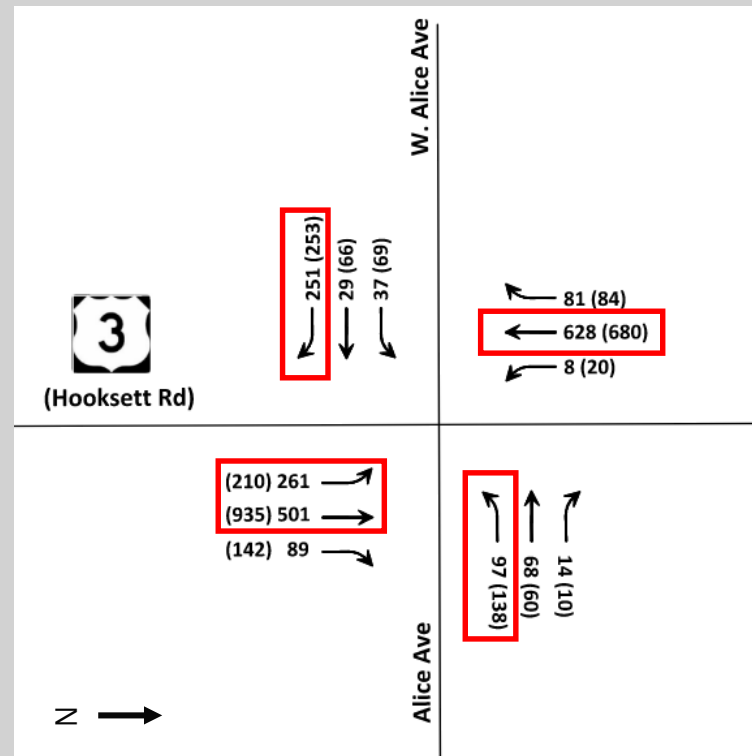
Optimize Signal Timing

LEGEND:
Yellow = Existing lane configuration
Red = Suggested lane modification

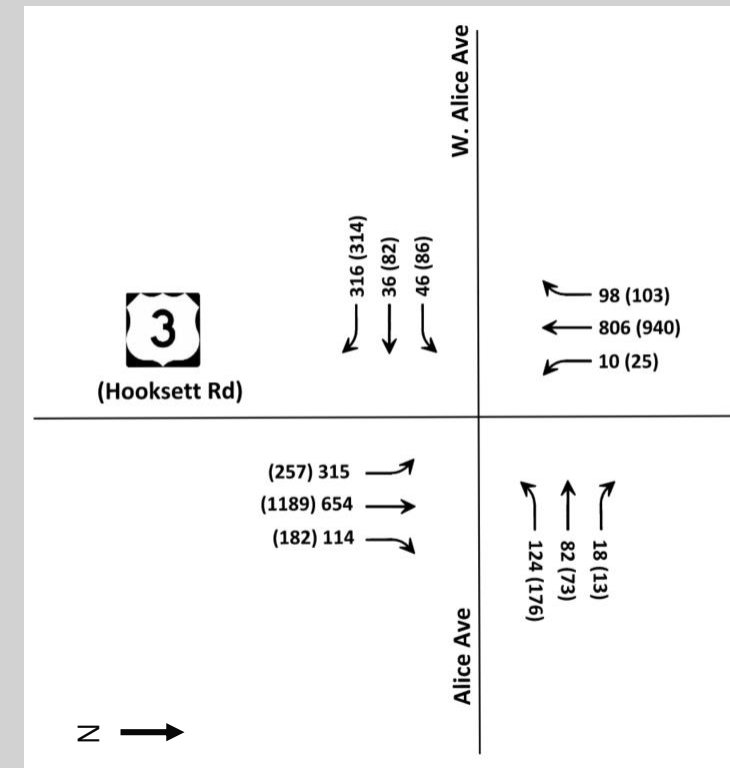
Traffic Volumes – Alice Ave

- Traffic counts completed September 2020
- Existing traffic volumes have been adjusted to account for COVID/SNHU online classes
- Existing conditions traffic model developed January 2021

 The red boxes highlight the predominant traffic movements

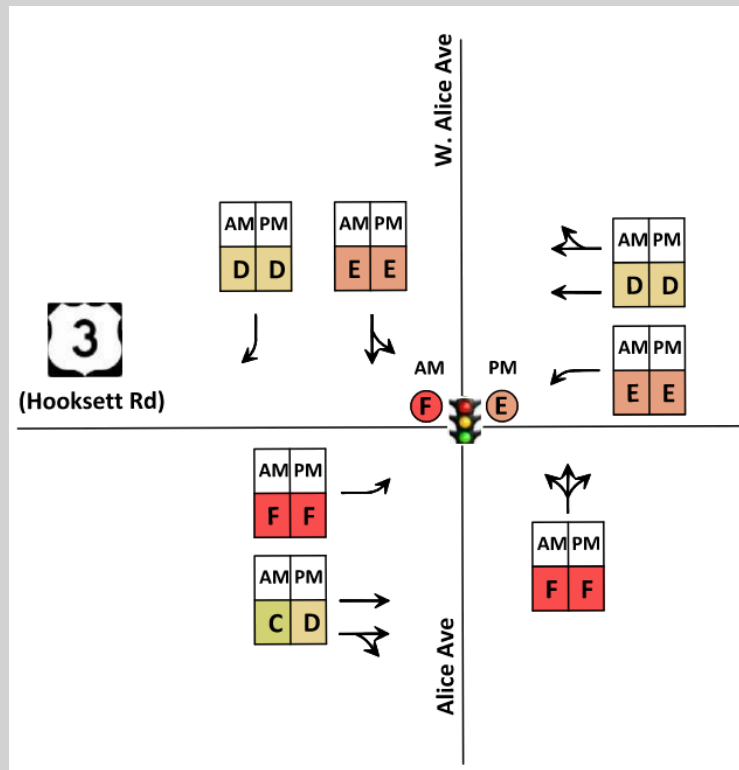


Existing Hourly Volumes
AM (PM)

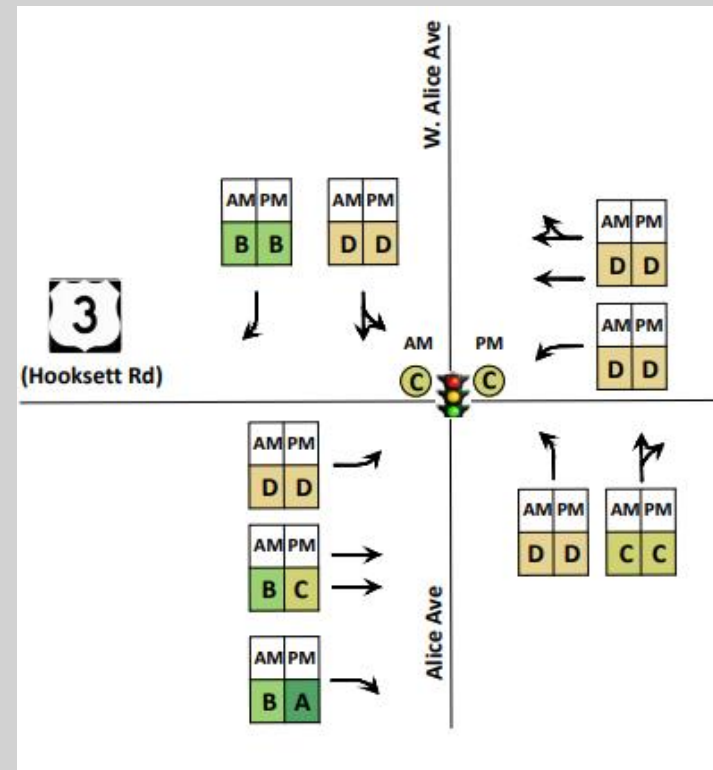


Projected Hourly Volumes (2045)
AM (PM)

Level of Service (LOS) – Alice Ave



Existing LOS (2020)



Projected LOS (2045) – w intersection modifications

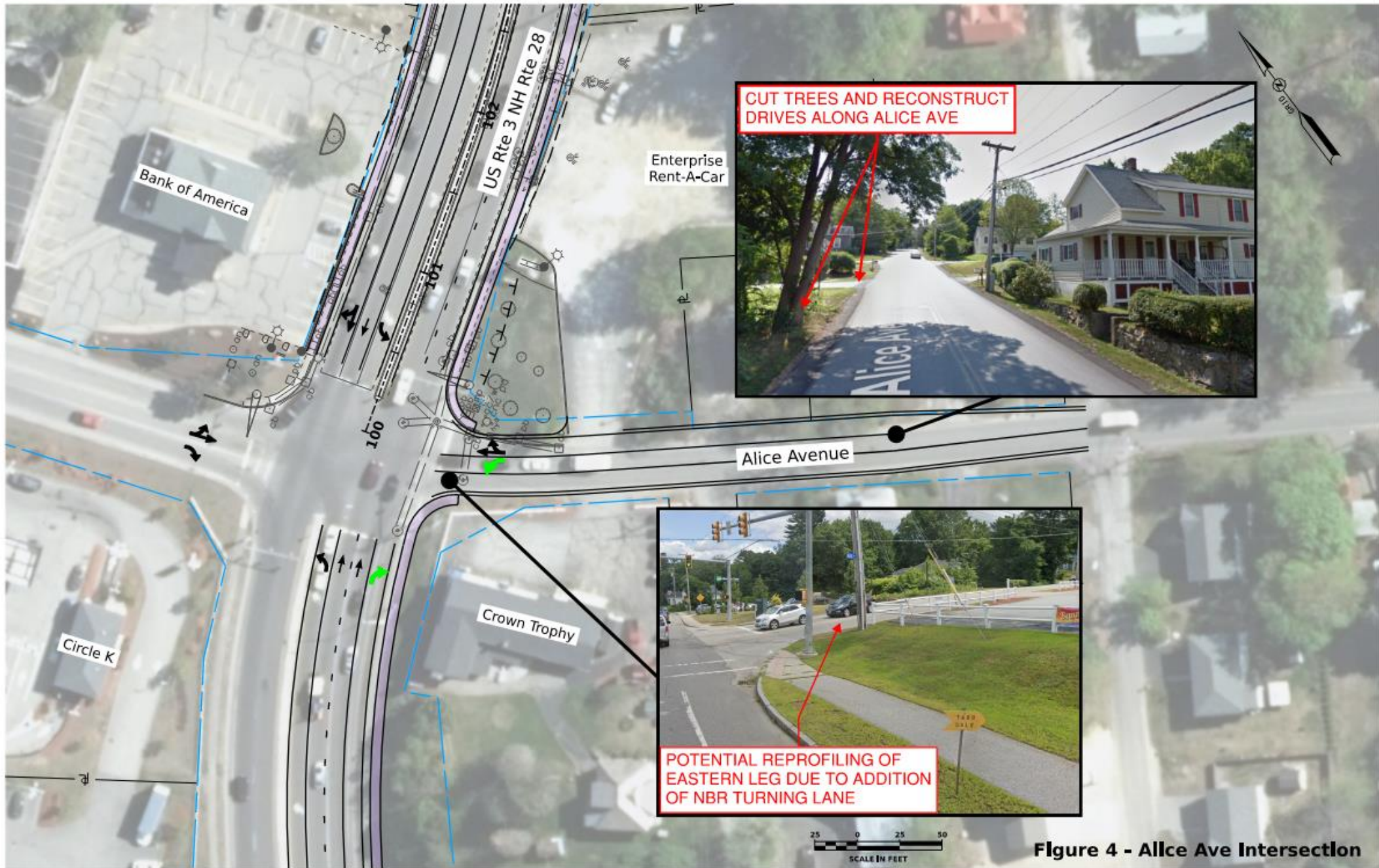


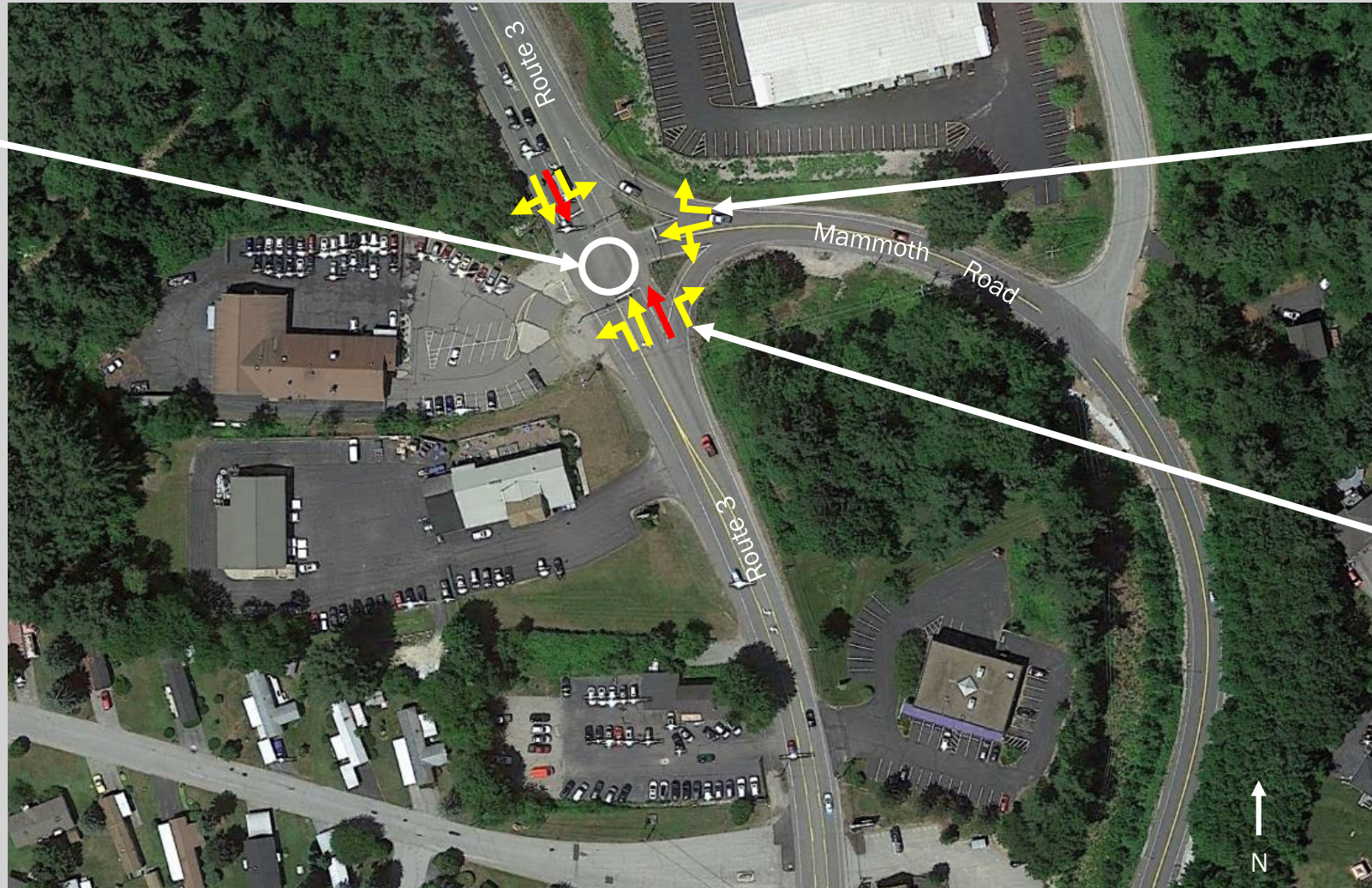
Figure 4 - Alice Ave Intersection

Traffic Suggestions Mammoth Rd

Optimize Signal Timing

Increase RT lane storage

Increase RT lane storage

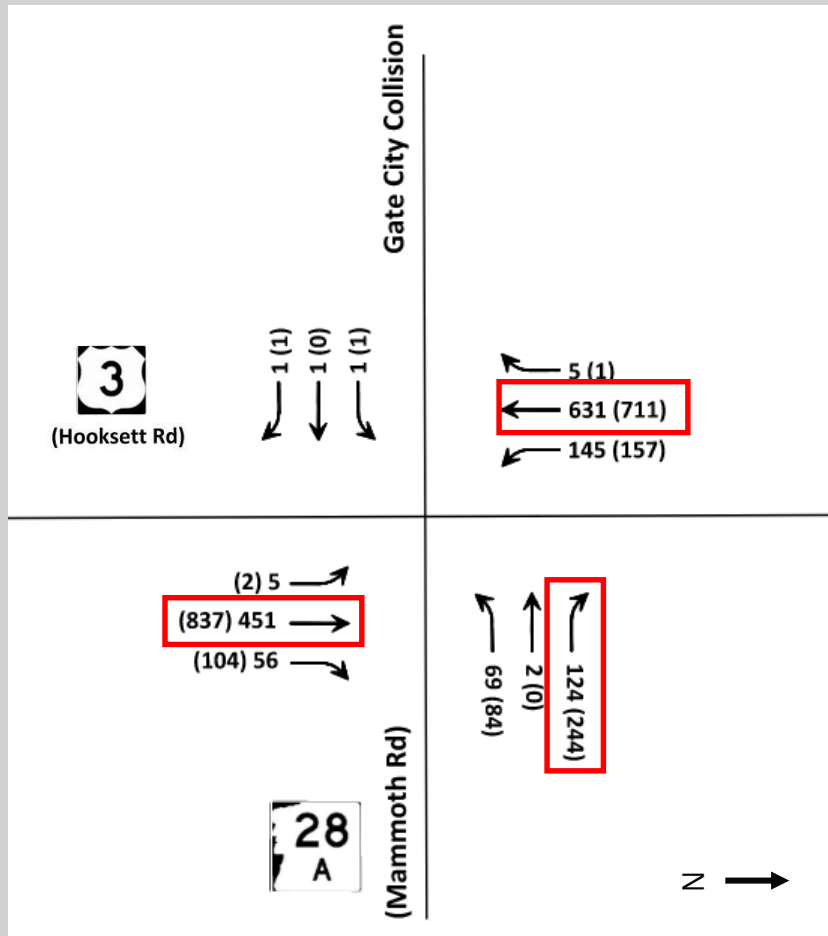


LEGEND:

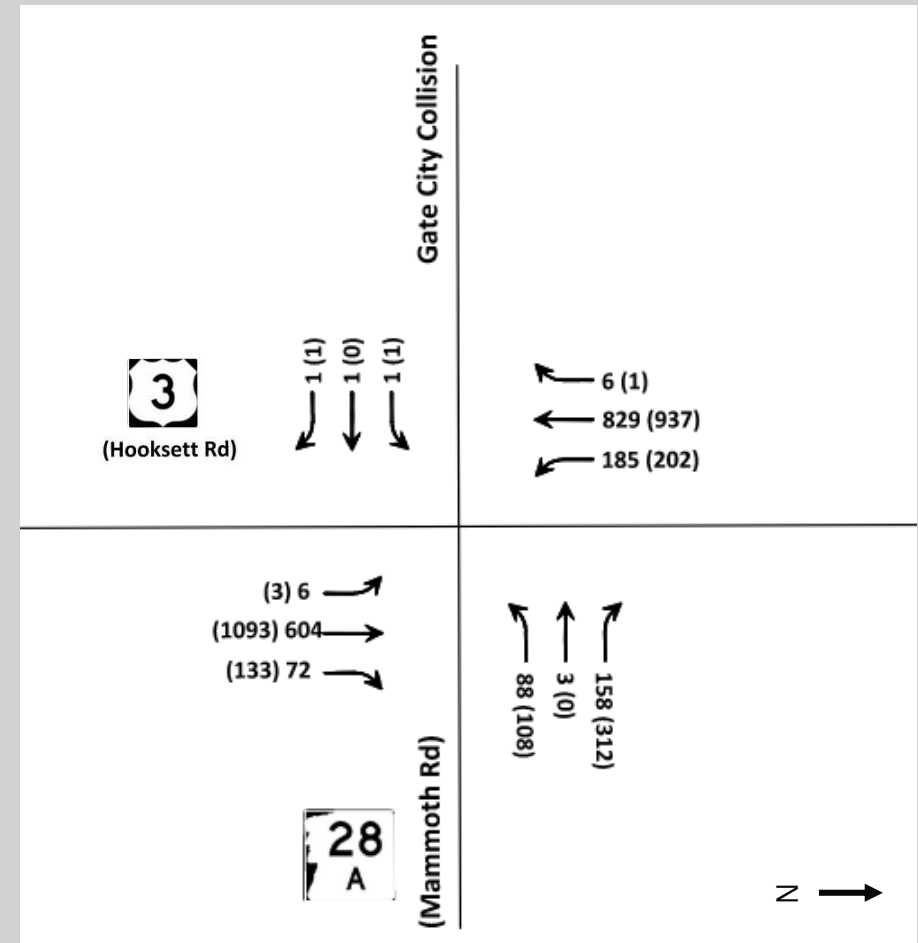
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Traffic Volumes – Mammoth Rd



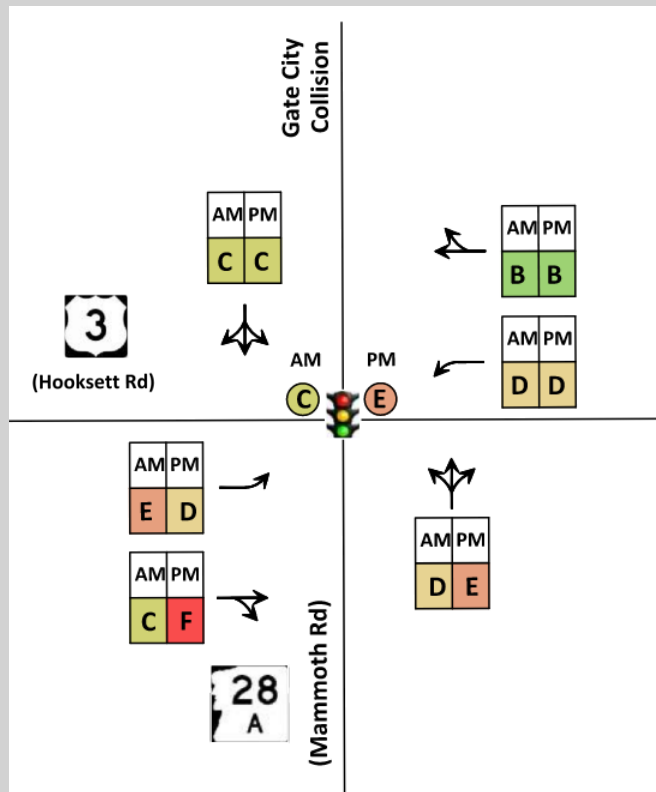
Existing Hourly Volumes
AM (PM)



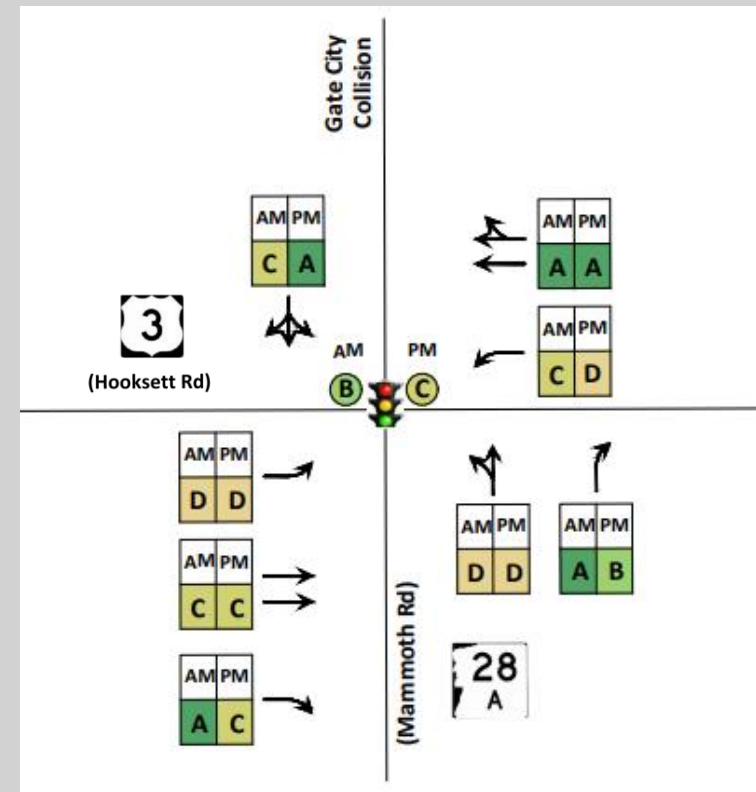
Projected Hourly Volumes (2045)
AM (PM)

The red boxes highlight the predominant traffic movements

Level of Service (LOS) – Mammoth Rd (signalized intersection)



Existing LOS (2020)



Projected LOS (2045) – w intersection modifications

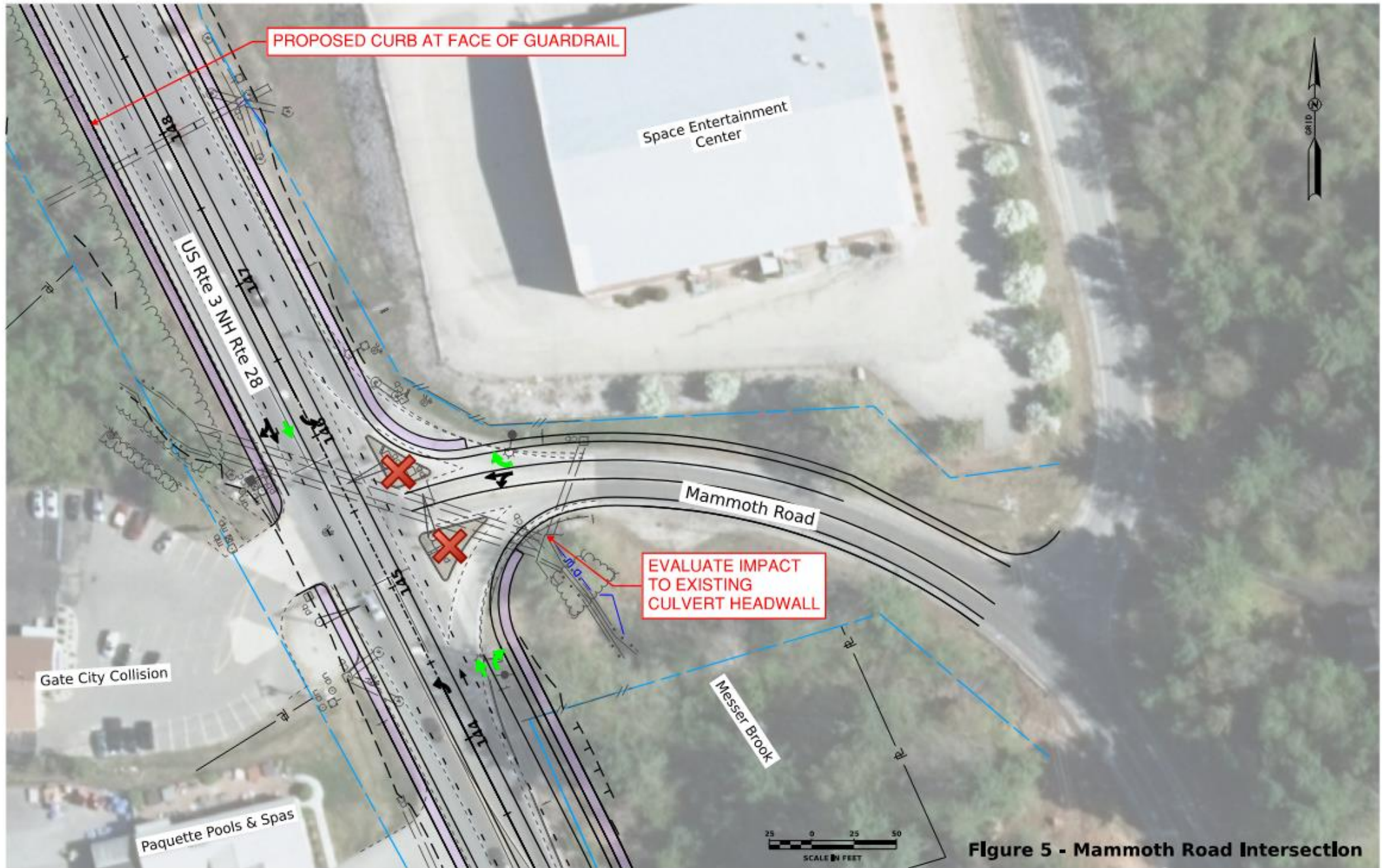
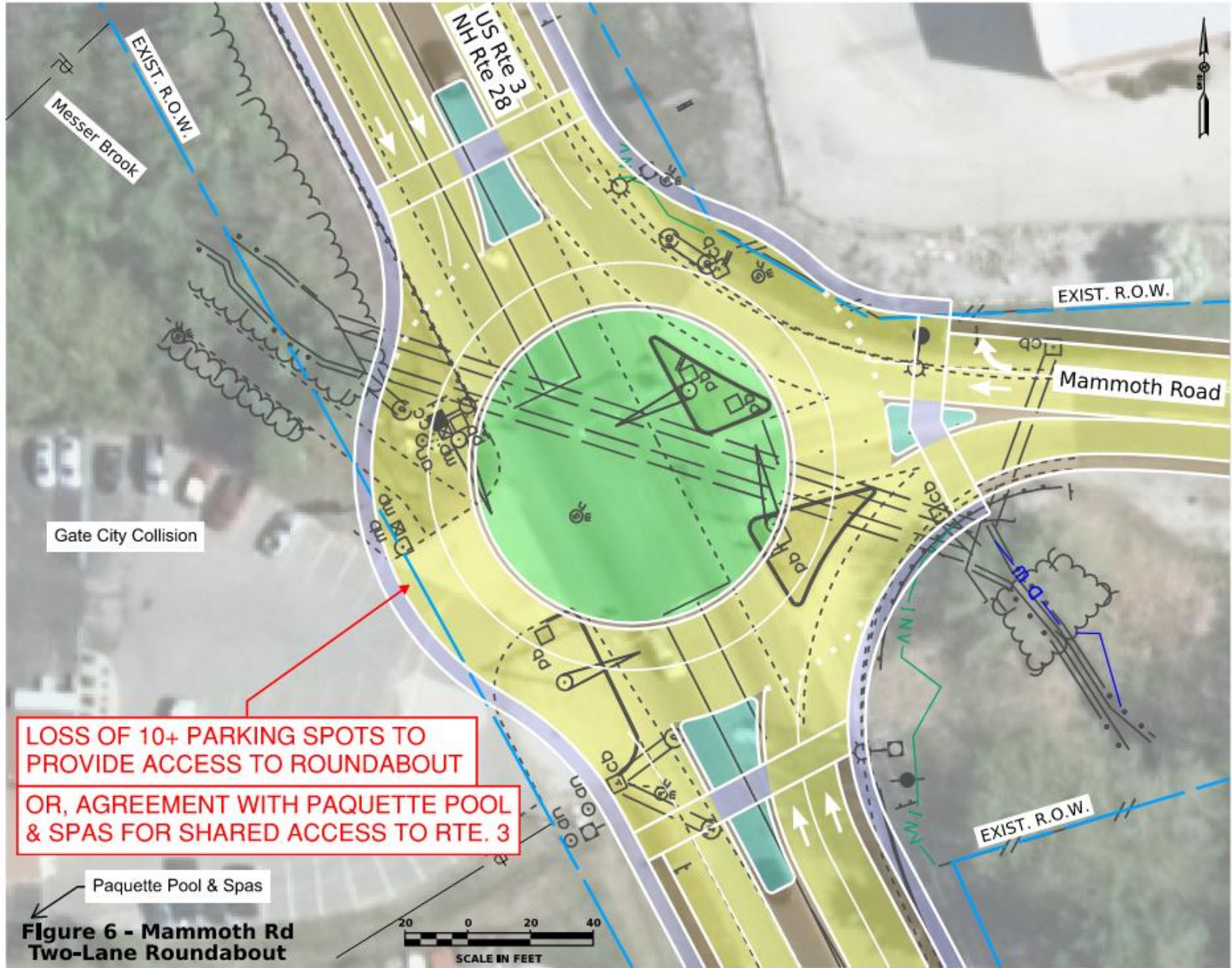


















Figure 5 - Mammoth Road Intersection



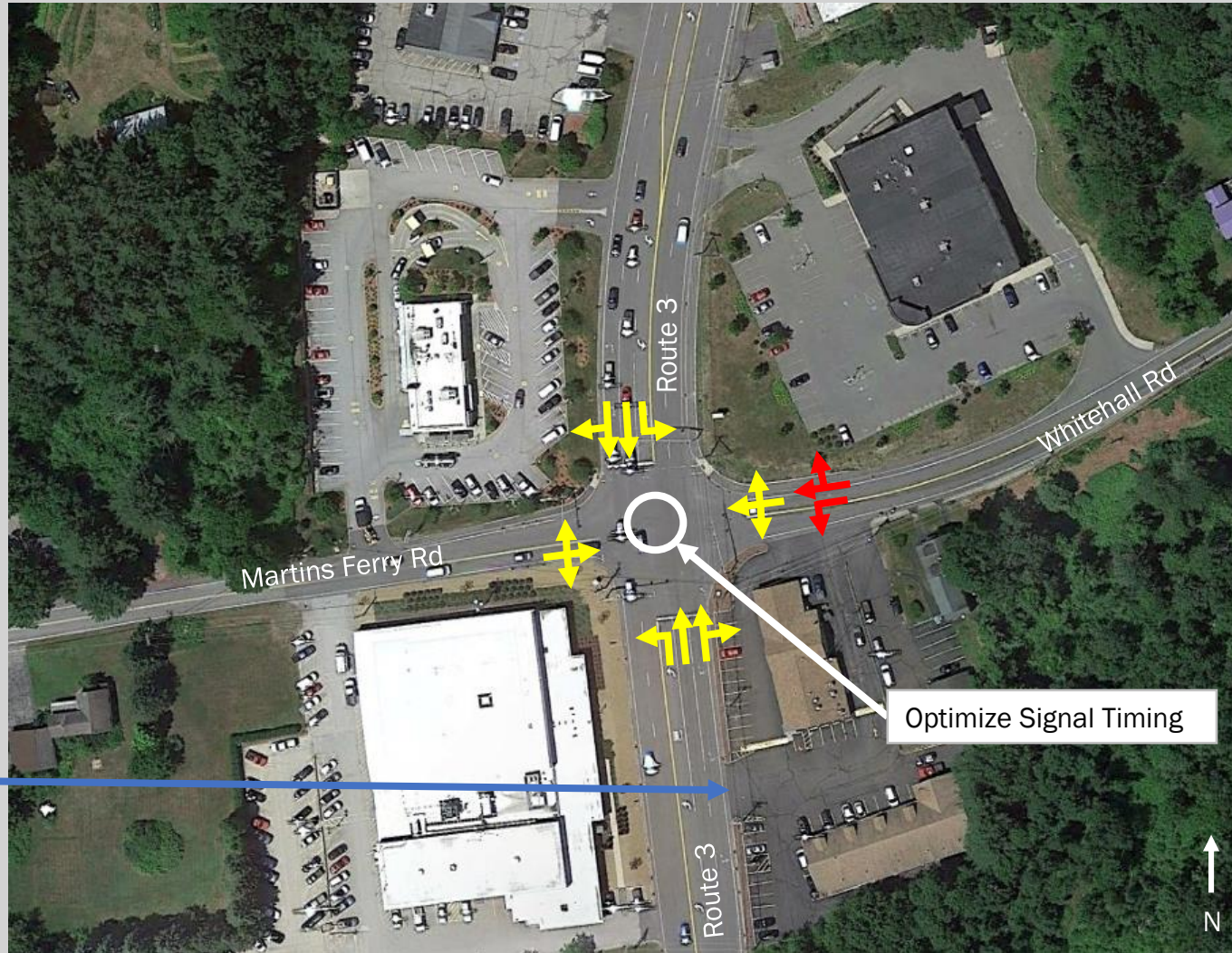
LOSS OF 10+ PARKING SPOTS TO PROVIDE ACCESS TO ROUNDABOUT
OR, AGREEMENT WITH PAQUETTE POOL & SPAS FOR SHARED ACCESS TO RTE. 3

Figure 6 - Mammoth Rd Two-Lane Roundabout

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 Messer Brook existing headwalls + extension of existing culvert
Aesthetics				Roundabout provides opportunity for beautification of corridor
Maintenance				Roundabout experiences less maintenance than signalized intersection
Cost				

Traffic Suggestions Martins Ferry Rd



Consider impact of proposed developments in the area in the traffic analysis

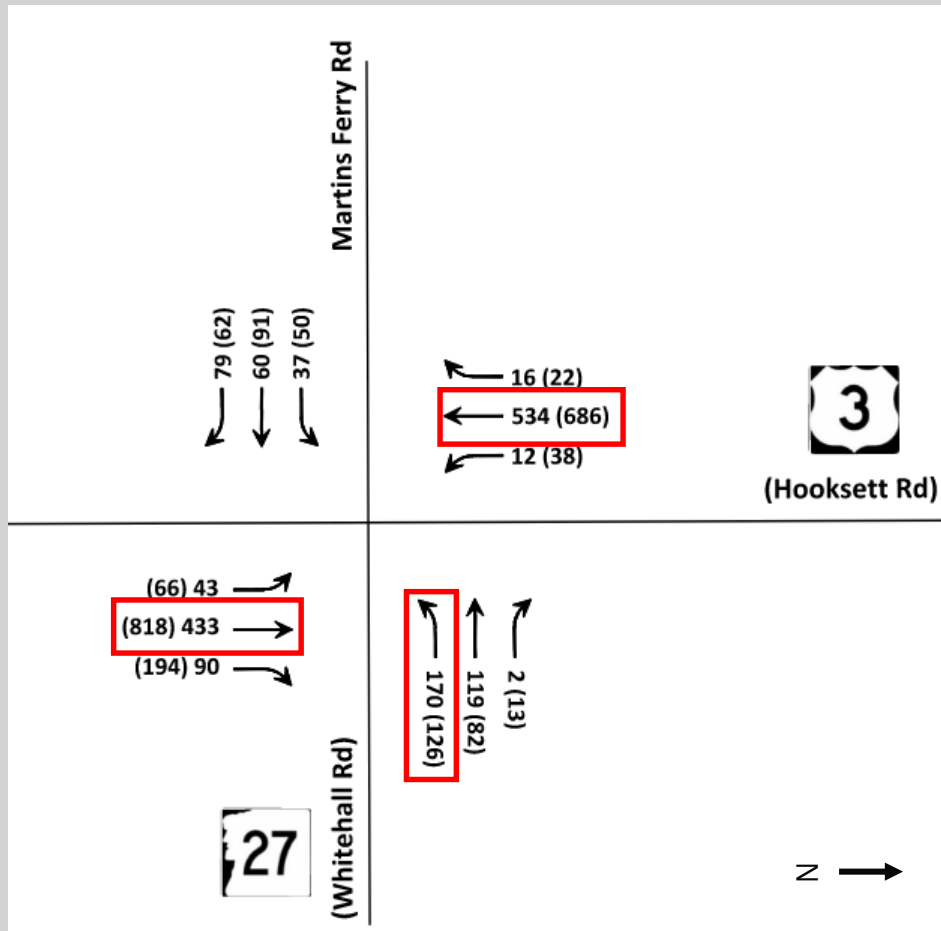
Review location of curb cuts for properties located in the 4 corners of the intersection

Investigate safety improvements for Southbound Rte 3 traffic turning left to Supreme Pizza property

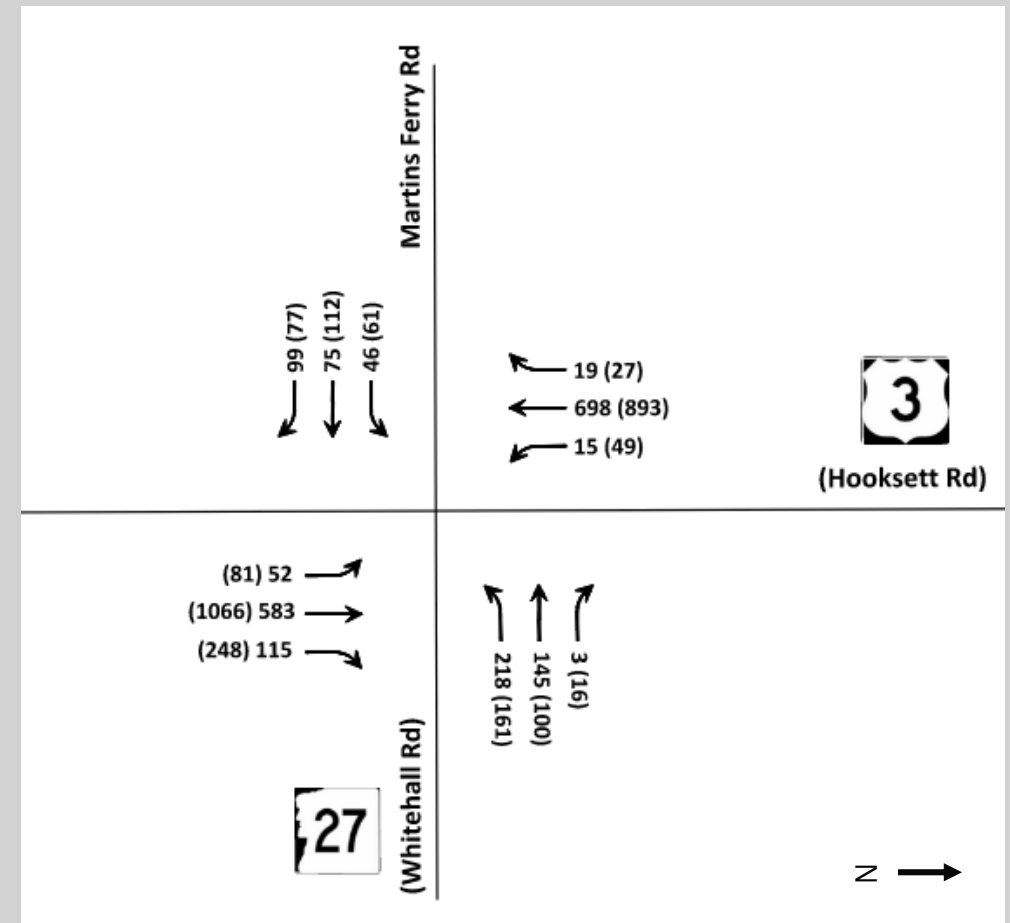
Optimize Signal Timing

LEGEND:
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Traffic Volumes - Martins Ferry Rd



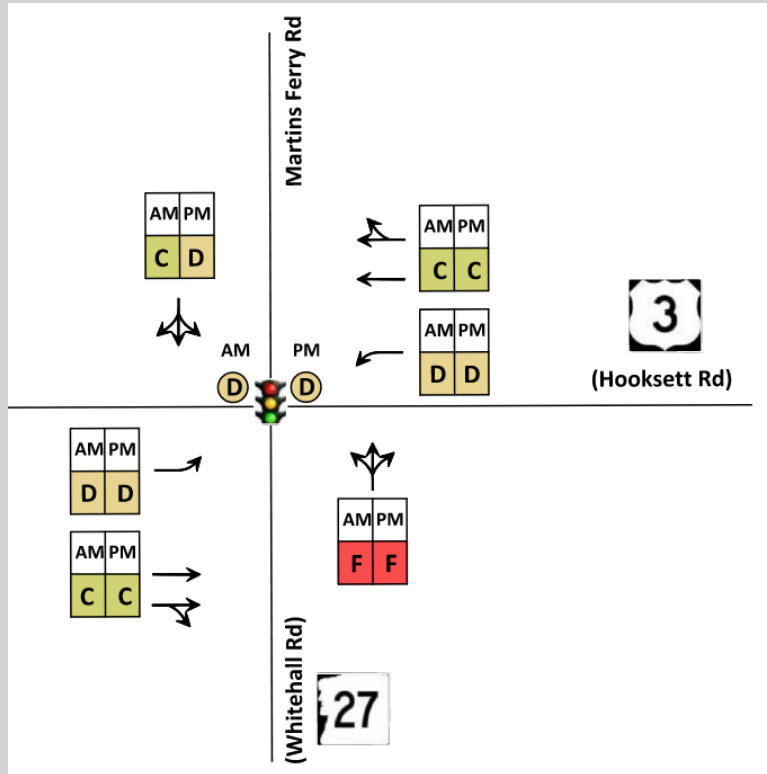
Existing Hourly Volumes
AM (PM)



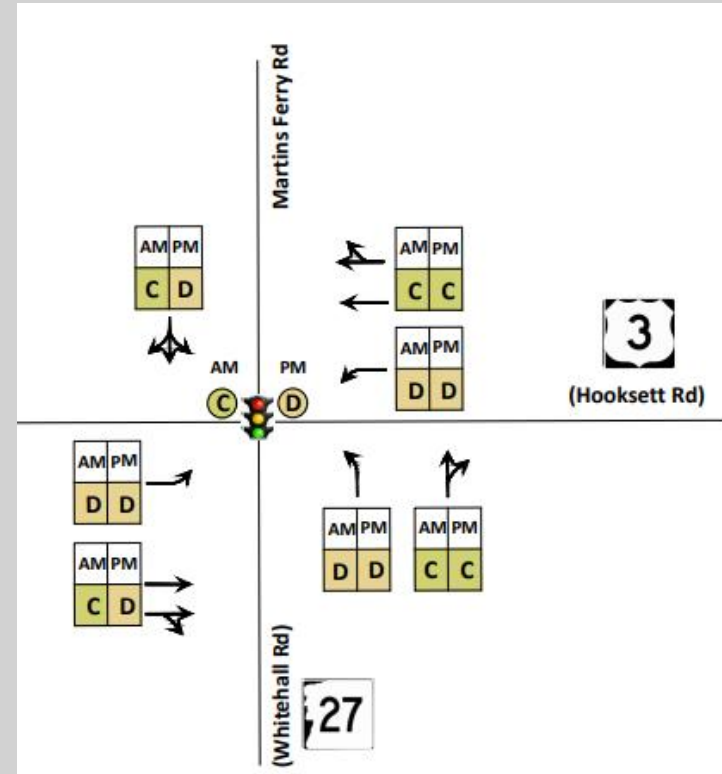
Projected Hourly Volumes (2045)
AM (PM)

The red boxes highlight the predominant traffic movements

LOS - Martin's Ferry (Signalized Intersections)



Existing LOS (2020)



Projected LOS (2045) - w intersection modifications

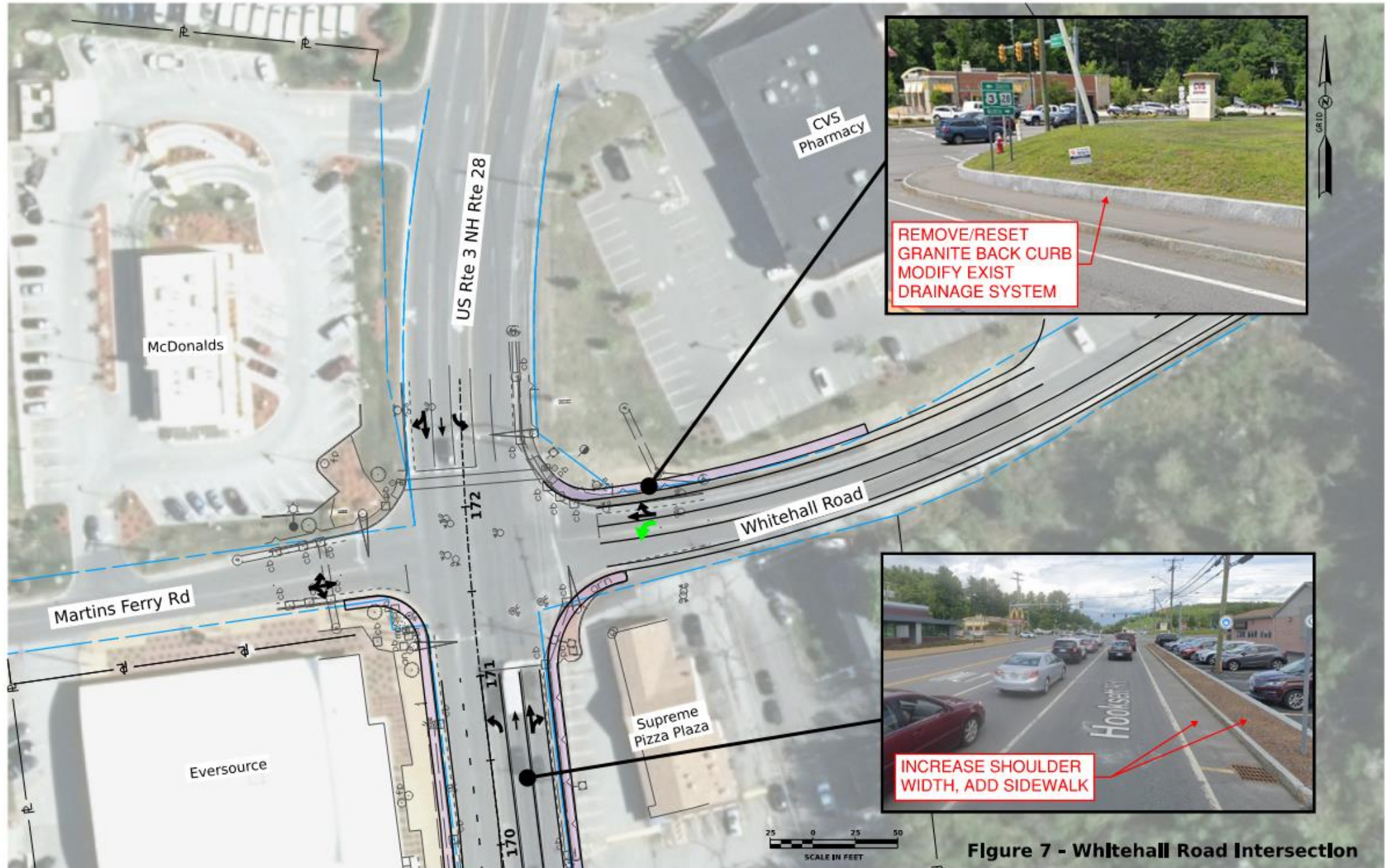


Figure 7 - Whitehall Road Intersection

Final discussion on the 5-lane alternative

- Other concerns with the 5-lane alternative?
- Is a proposed sidewalk needed along both sides for the entire length of Rte 3?
 - West side of Rte 3 from Mammoth Rd to Cinemagic is problematic

Mid-segment Traffic Analysis

Segment	Direction	3-Lane Cross Section				5-Lane Cross Section	
		Year 2020 LOS (Existing)		Year 2045 LOS (No-Build)		Year 2045 LOS (Build)	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Alice Ave to Mammoth Rd	NB	C	D	C	E	C	D
	SB	C	C	D	D	C	D
Mammoth Rd to Martins Ferry Rd	NB	C	D	C	E	C	D
	SB	C	D	D	D	D	D

Notes:

1. Capacity will be reached for the NB movement for Alice Ave – Mammoth segment by 2045
2. Capacity will be reached for the NB movement for Mammoth – Martins Ferry segment by 2035
3. Capacity for the SB movement is not reached until 2055/2060

Future design alternatives

- Develop a 3-lane alternative with capacity expansion at the 3 existing signalized intersections?
- Present both the 3 and 5-lane alternatives at the public information meeting to compare impacts

Next Meetings

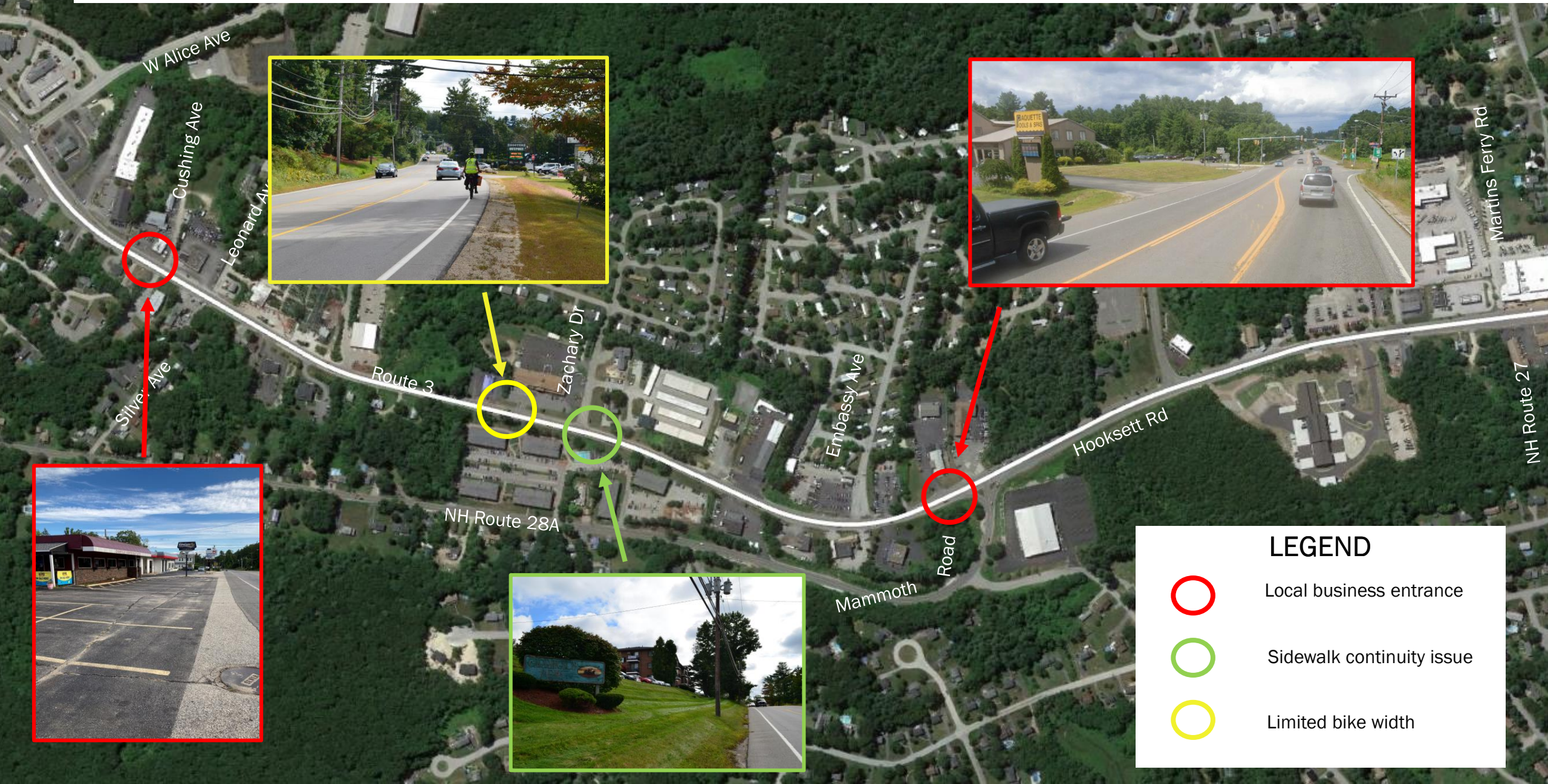
- First Public Information Meeting
 - To be scheduled in July?
- Working Group Meeting #4
 - To be scheduled around Oct 2021, depending on feedback from public info meeting
 - Anticipated Goals
 - Discussion of alternative rating criteria
 - Present other design alternatives and gather input
- Contact information:
 - Tobey Reynolds, P.E.
 - Tobey.L.Reynolds@dot.nh.gov
 - 603-271-7421

Meeting Adjourned

Thank you!



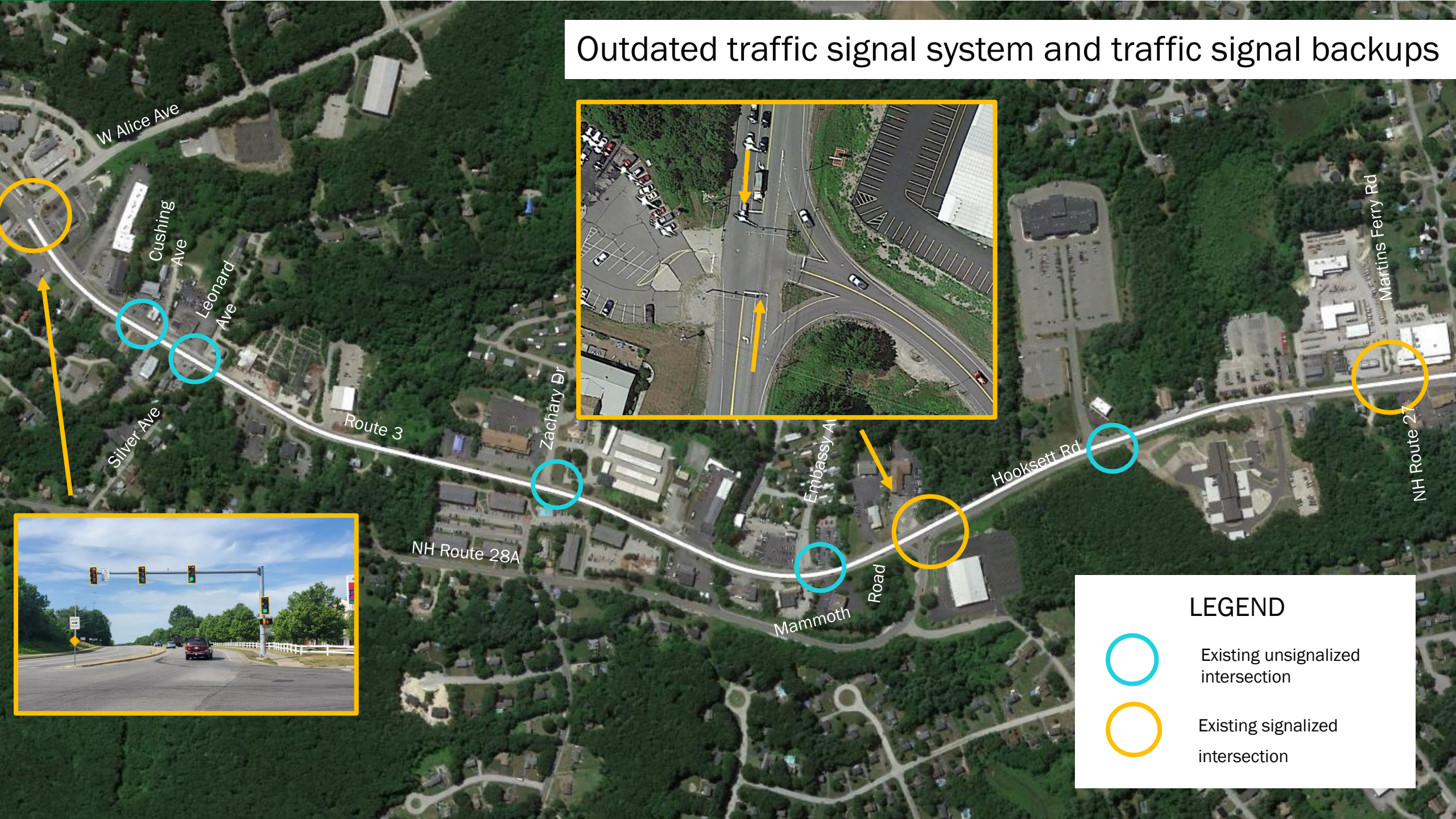
Poor access management, inadequate bike lane width and lack of sidewalk access and continuity





LEGEND

-  Local business entrance
-  Sidewalk continuity issue
-  Limited bike width

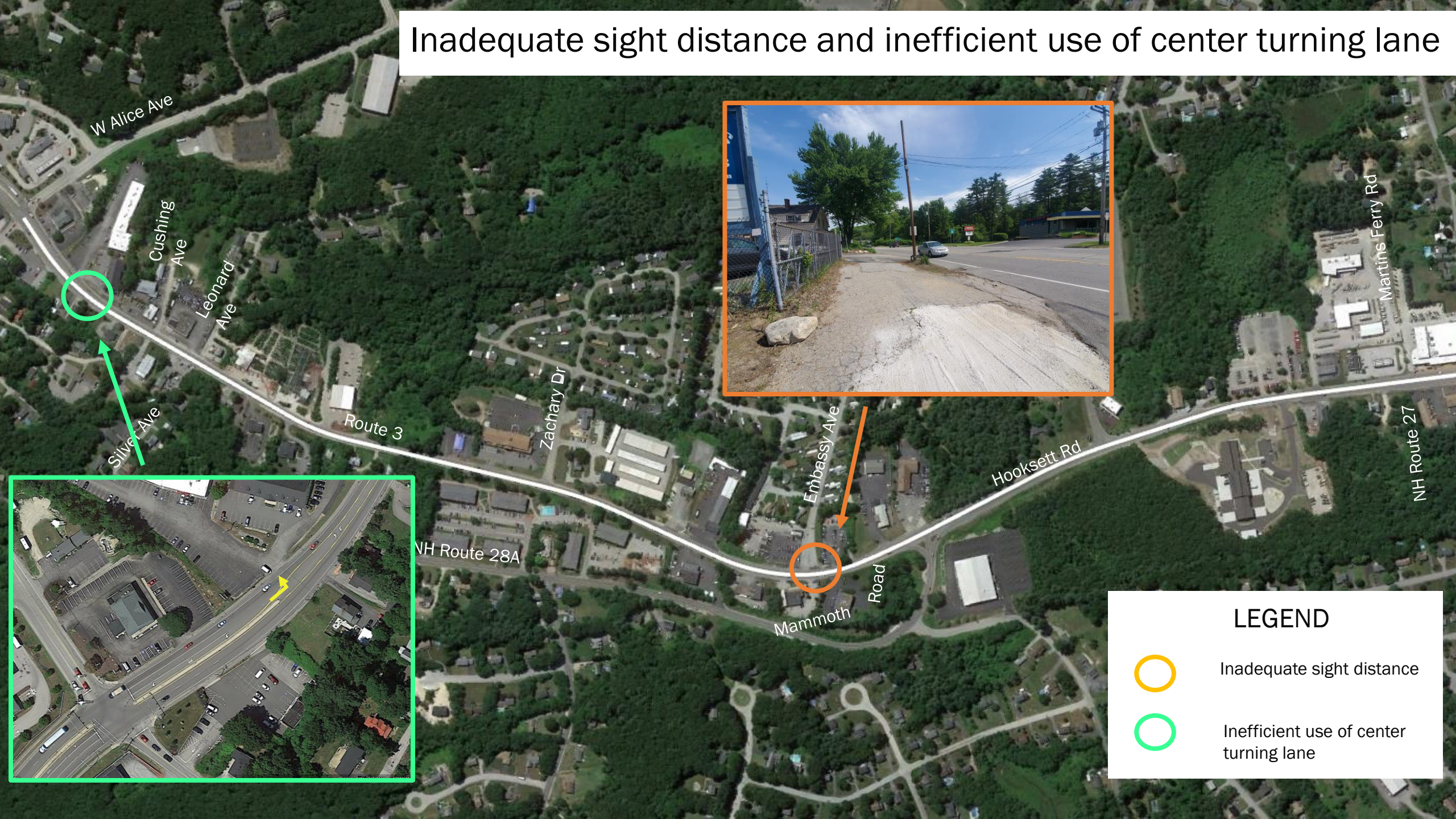
Outdated traffic signal system and traffic signal backups





LEGEND

-  Existing unsignalized intersection
-  Existing signaled intersection

Inadequate sight distance and inefficient use of center turning lane



LEGEND

-  Inadequate sight distance
-  Inefficient use of center turning lane