



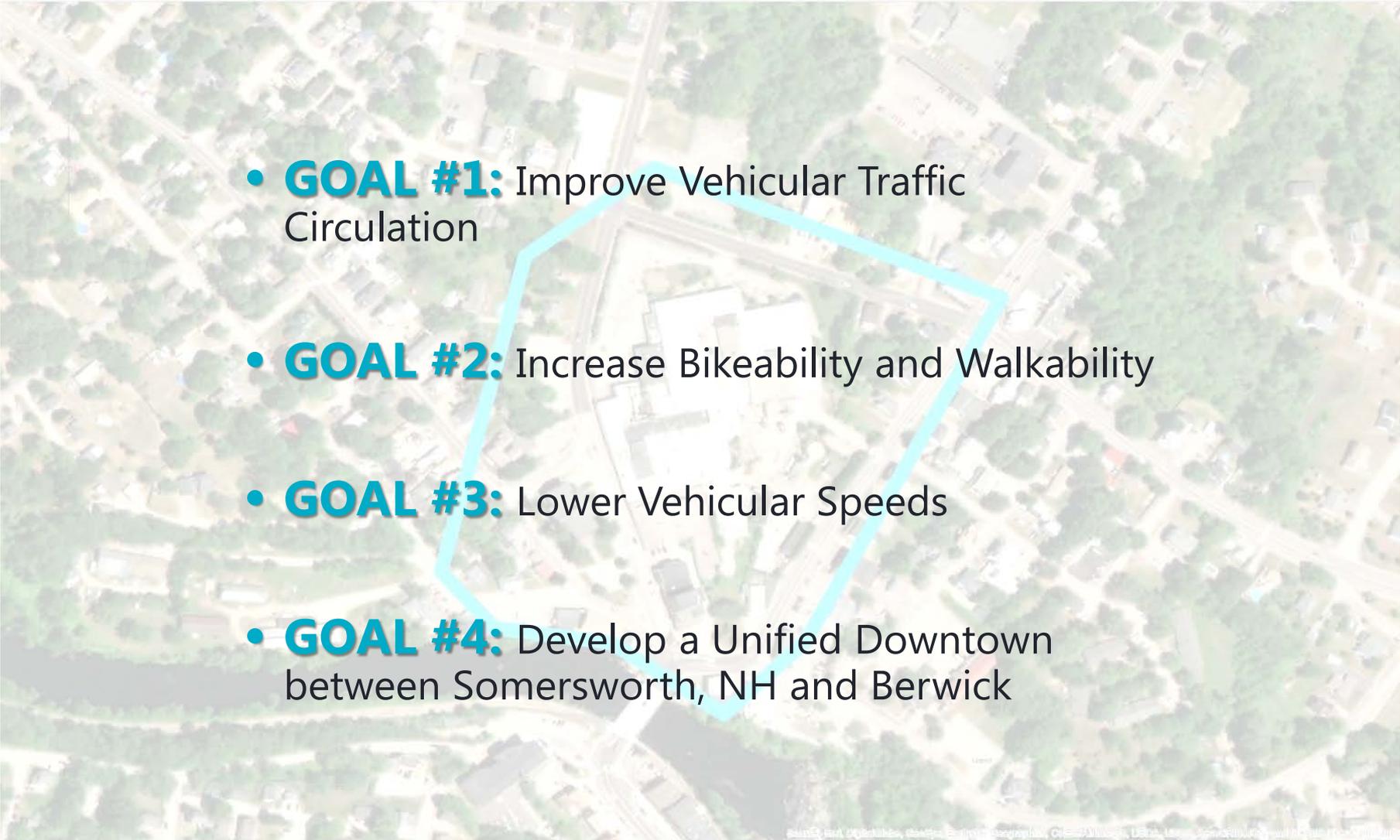
BERWICK DOWNTOWN VEHICLE, BICYCLE, AND PEDESTRIAN STUDY

COMMITTEE MEETING

11/14/18



STUDY GOALS AND OBJECTIVES

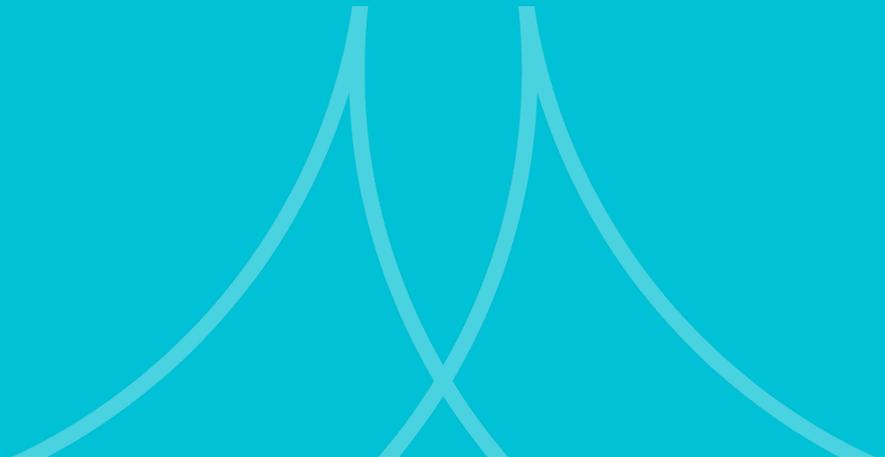
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- **GOAL #1:** Improve Vehicular Traffic Circulation
 - **GOAL #2:** Increase Bikeability and Walkability
 - **GOAL #3:** Lower Vehicular Speeds
 - **GOAL #4:** Develop a Unified Downtown between Somersworth, NH and Berwick

STUDY AREA



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

EXISTING CONDITIONS



VEHICULAR TRAFFIC



VEHICULAR TRAFFIC

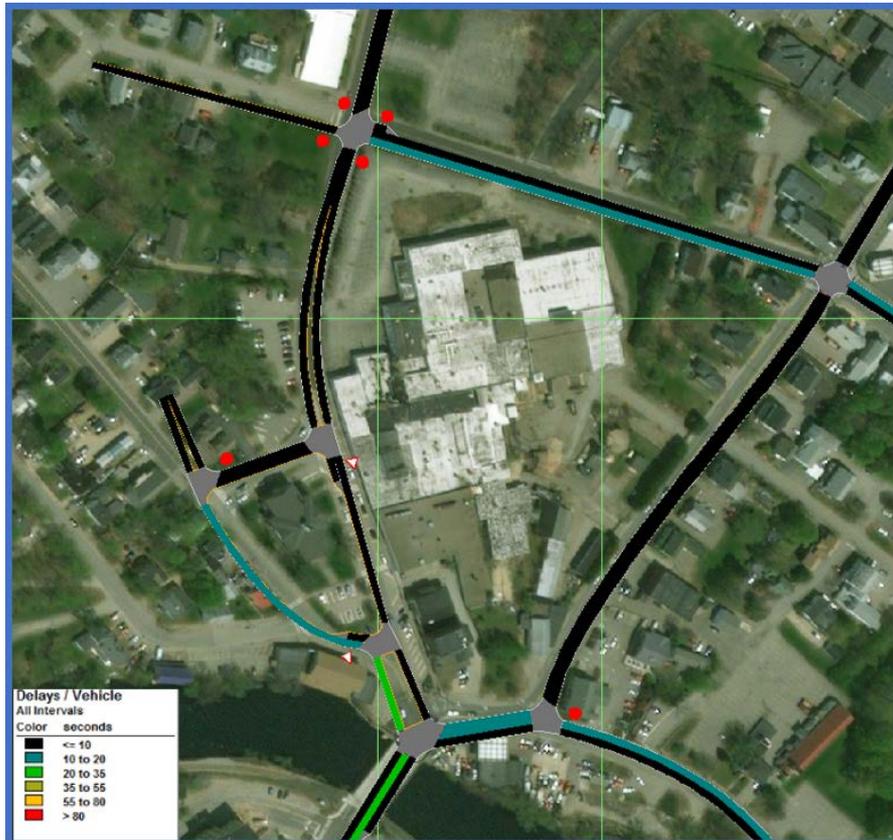


Study area existing AM traffic volume

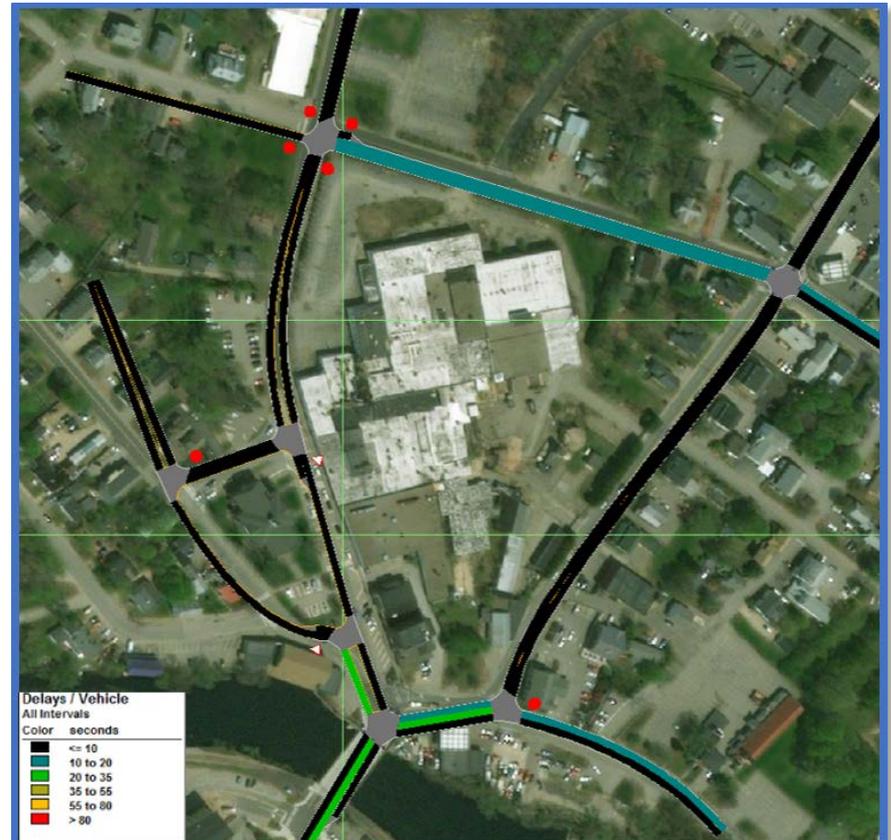


Study area existing PM traffic volume

VEHICULAR TRAFFIC



Study area existing AM vehicle delay



Study area existing PM vehicle delay

Predevelopment AM

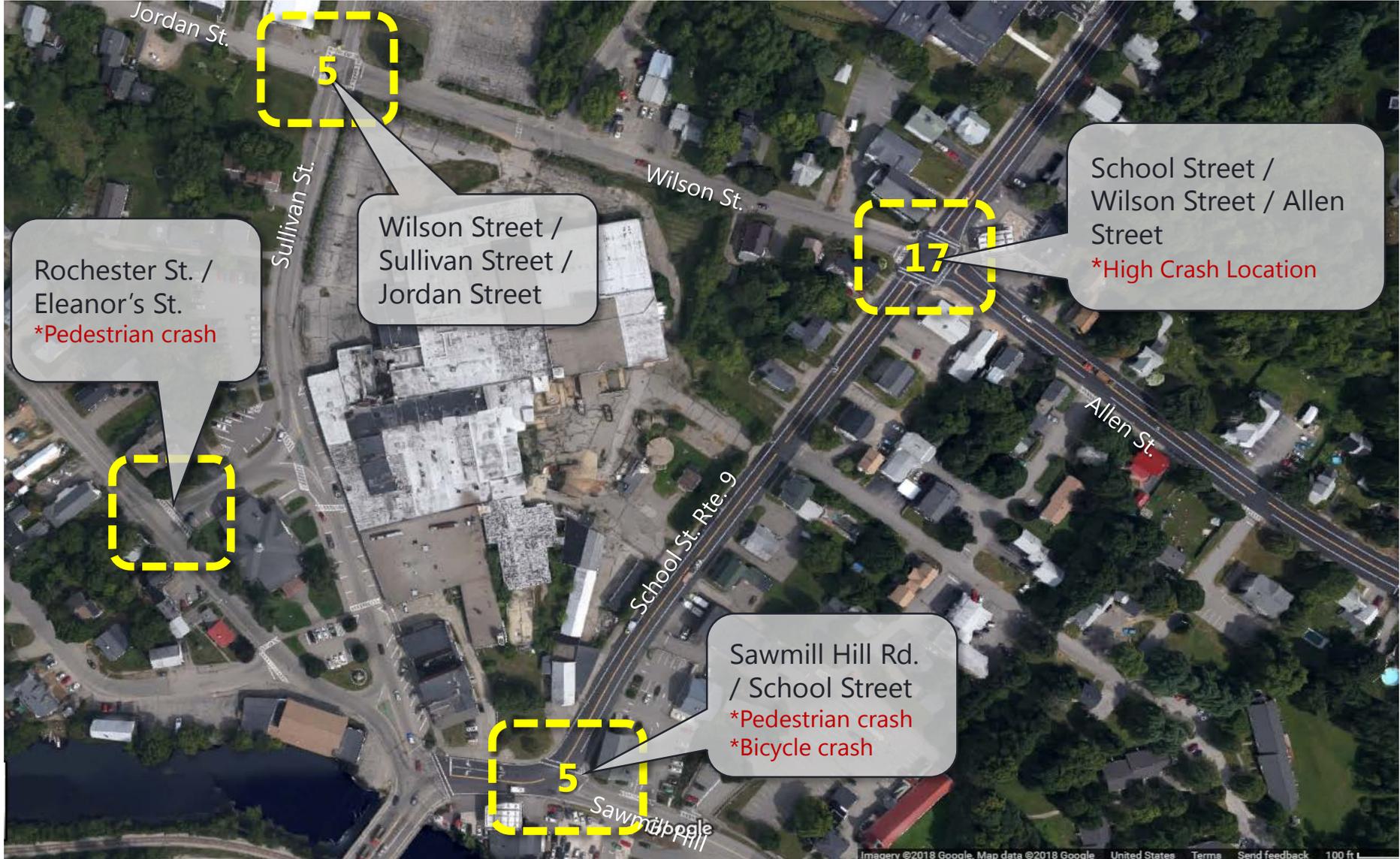
Intersection	Overall Delay (s)	LOS
Market/Sullivan/Sawmill Hill	18.6	B
School/Wilson/Allen	9.7	A
Sullivan/Wilson/Jordan	6.8	A
School/Sawmill Hill	3.1	A

Predevelopment PM

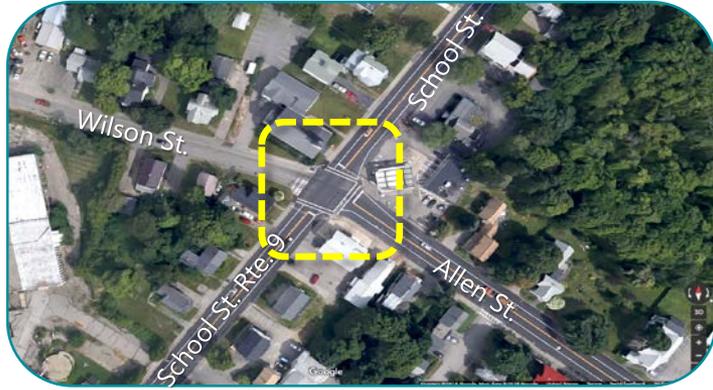
Intersection	Overall Delay (s)	LOS
Market/Sullivan/Sawmill Hill	18.8	B
School/Wilson/Allen	12.3	B
Sullivan/Wilson/Jordan	8.7	A
School/Sawmill Hill	2.1	A

The intersections were able to process vehicles smoothly at both the signalized and unsignalized intersections.

CRASHES AT INTERSECTIONS



CRASHES AT INTERSECTIONS



School / Wilson / Allen

- 17 vehicle crashes (HCL):
 - 10 Running red lights
 - 3 Rear end collisions
 - 3 Driver inattention
 - 1 Disregard for operations



Sawmill Hill / School

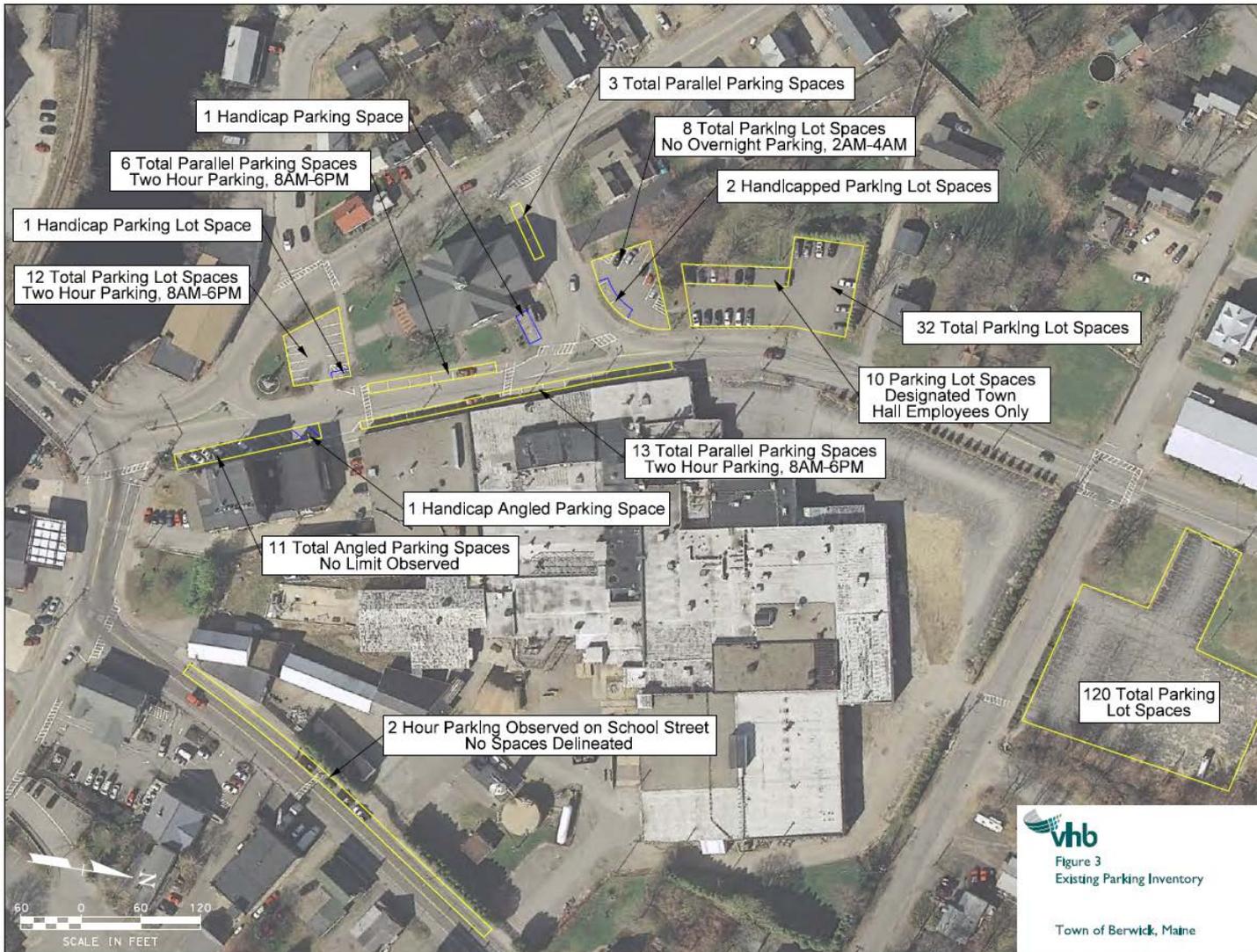
- 5 vehicle crashes (+):
 - 5 Failure to stop at stop sign (vehicles)
 - 1 bicycle crash
 - 1 pedestrian crash



Wilson / Sullivan / Jordan

- 5 vehicle crashes:
 - 2 Weather conditions
 - 1 Rear end collision
 - 1 Distracted driving
 - 1 Driver inattention

PARKING



Existing Parking Supply - Berwick Traffic Circulation Evaluation - VHB - 2015

PARKING OBSERVATIONS



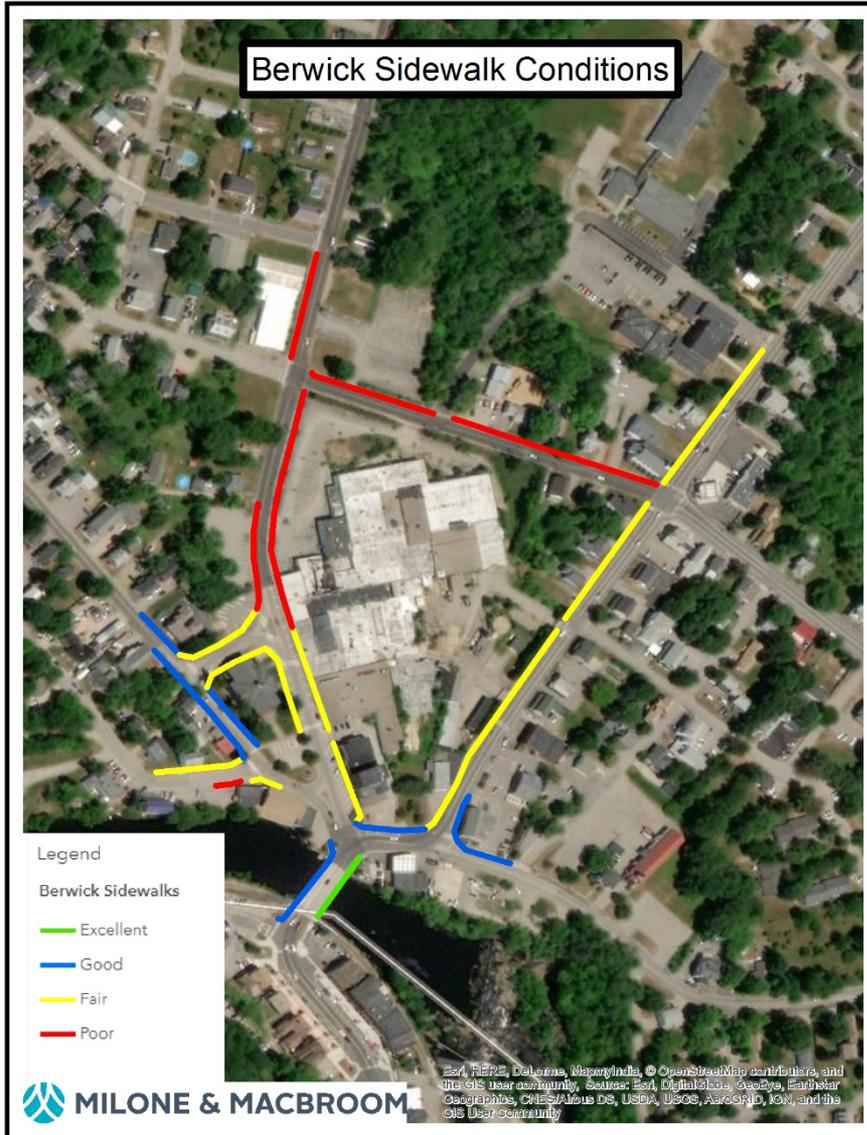
Parking safety:

- On-street parking clearances at crosswalks, intersections, & driveways
- Safety of angled parking near the signalized intersection

Parking compliance:

- Re-evaluation of 2-Hour time parking limits
- ADA compliance for accessible parking stalls

SIDEWALKS

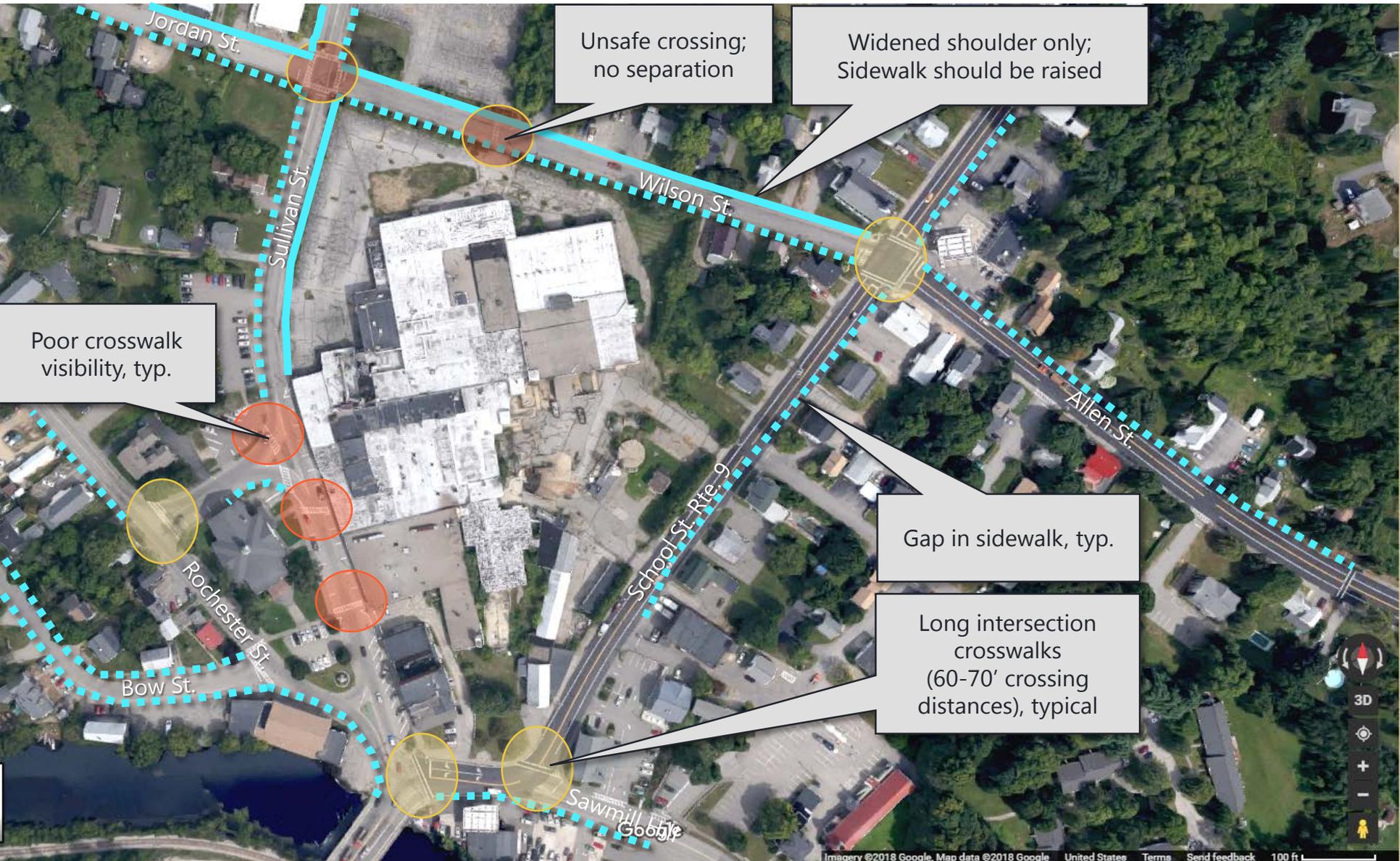


OBSERVATIONS:

- Higher rated locations were the the only sidewalk facilities which appeared to be ADA compliant
- Sidewalk conditions generally deteriorated the farther they were located from the bridge



SIDEWALKS & CROSSINGS



Unsafe crossing;
no separation

Widened shoulder only;
Sidewalk should be raised

Poor crosswalk
visibility, typ.

Gap in sidewalk, typ.

Long intersection
crosswalks
(60-70' crossing
distances), typical

BICYCLE FACILITIES

Objective Measures, Expert Estimation

The assessor rode a bicycle on all the roads in the study area and performed **measurements of lane and shoulder width**.

Additional observations on the presence of **parking, pavement condition, and the complexity of the traffic situations** was also collected at this time.

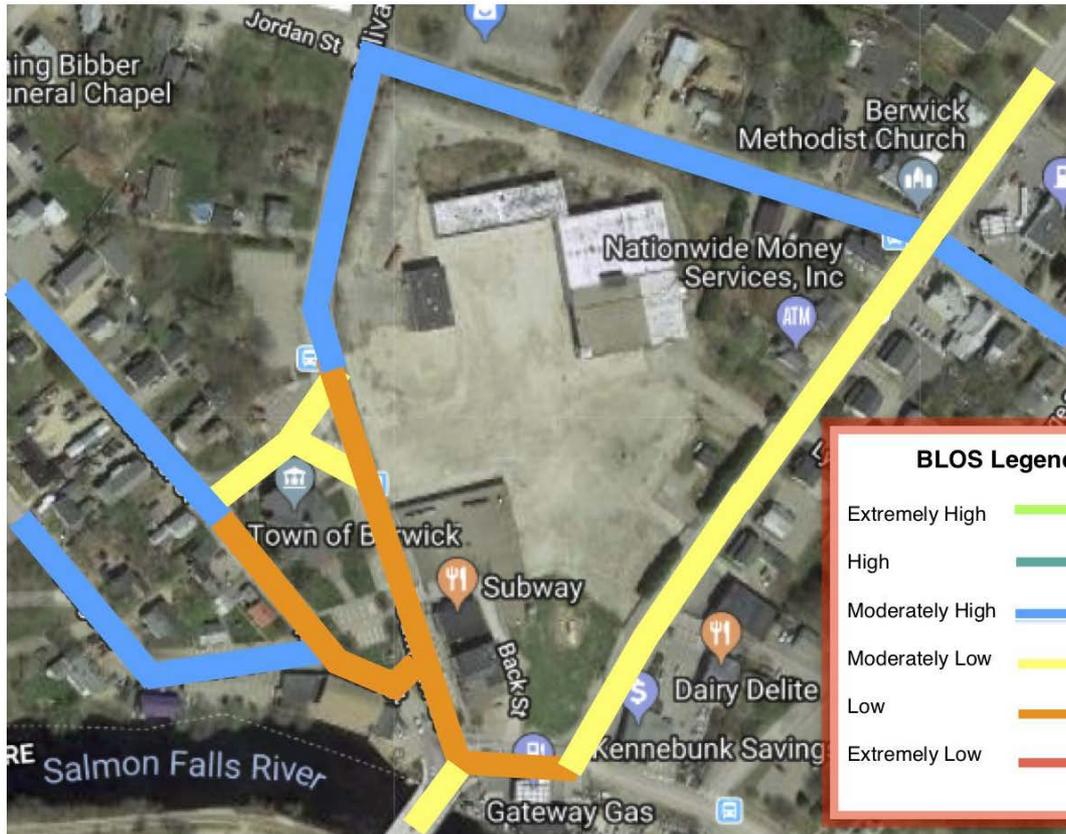
The assessor also made some expert individual **estimations about bicycle level of service** for a typical bicycle rider.



BICYCLE FACILITIES

Approx. Lane Width	Shoulder Width	AAVT	Pavement Condition	Posted Speed	Parking	Road Complexity	Expert Estimation
14-15	≥6	≤2000	New	≤25	No	Simple	Extremely High
12 to 13	5	2000-3400	Good	30-35	Yes	Moderate	High
10 to 11	4	3500-4400	Fair	40-45		Complex	Mod. High
≤10	3	4500-6400	Poor	≥50			Mod Low
	0-2	6500-8400					Low
		8500+					Very low

The average grade for the Bicycle Level of Service (BLOS) for the study area is a D, Moderately Low, rating. It is generally neither an inviting nor supportive context for bicycle riding.



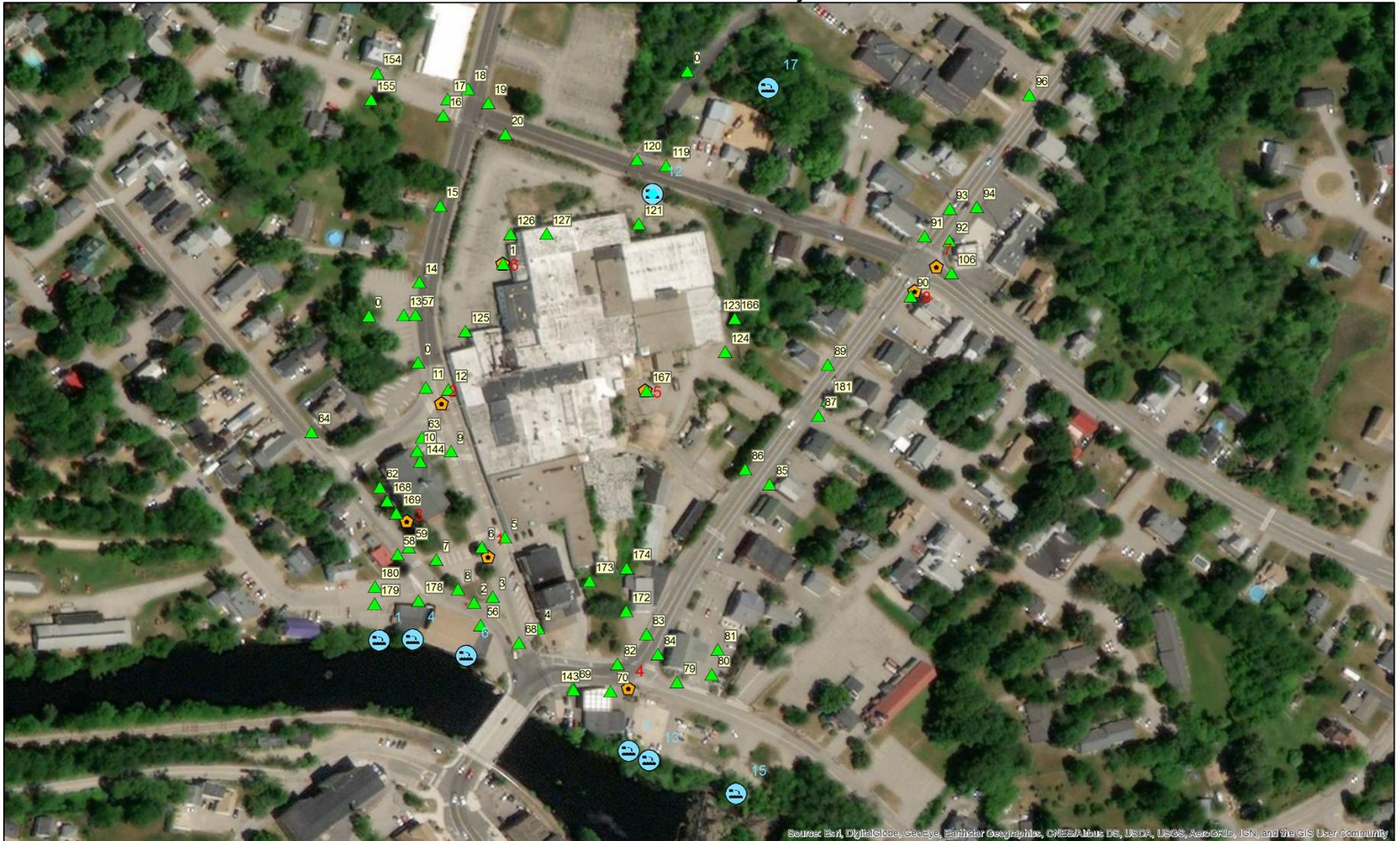
Average Score	Grade	Description of BLOS
≥3.5	A	Extremely High
3.49-3.00	B	High
2.9-2.5	C	Moderately High
2.49-2.00	D	Moderately Low
1.9-1.5	E	Low
≤1.49	F	Extremely Low

BLOS Legend

- Extremely High █
- High █
- Moderately High █
- Moderately Low █
- Low █
- Extremely Low █

UTILITIES

Berwick Utilities in Study Area



NEXT STEPS



Tasks & Milestones
Project Schedule
Outreach

Proposed Project Schedule

KACTS - Downtown Berwick Study

	August	Sept	October	Nov	Dec	Jan	Feb	March	April
Task 1: Project Kick-Off									
Develop Purpose and Need	█	█							
Determine Final Scope	█	█							
Identify Additional Data Collection	█	█							
Task 2: Review Available Data									
Review Previous Studies	█								
Task 3: Bicycle / Pedestrian Deficiencies									
Identify Opportunities		█	█						
Bicycle Lane Location Feasibility		█	█	█					
Sidewalk Inventory		█	█	█					
Deliverable:				█					
Task 4: Assessment of Current Conditions									
Inspection and Analysis of Sub-Surface Infrastructure		█	█						
Transportation Model			█	█	█				
Crash Data Analysis			█	█	█				
Initial Recommendations				█	█				
Deliverable:					█				
Task 5: Assessment of Future Scenarios									
Develop Concept Plans				█	█	█			
Traffic Analysis of Concept Plans					█	█	█		
Deliverable:						█			
Task 6: Develop Preliminary Recommendations									
Select Optimal Plan						█			
Concept Illustrations						█	█	█	
Schedule of Optimal Plan							█	█	█
Deliverable:									█
Task 7: Public Feedback									
Kick-Off Meeting	█								
Steering Committee Meetings				█		█		█	
Public Meetings				█				█	
Deliverable:									█
Task 8: Final Report									
Draft Report									█
Final Submission of all Reports and Graphics									█

Updated Project Schedule

KACTS - Downtown Berwick Study

	August	Sept	October	Nov	Dec	Jan	Feb	March	April	May	June
Task 1: Project Kick-Off											
Develop Purpose and Need	■	■									
Determine Final Scope	■	■									
Identify Additional Data Collection	■	■									
Task 2: Review Available Data											
Review Previous Studies	■	■									
Task 3: Bicycle / Pedestrian Deficiencies											
Identify Opportunities	■	■									
Bicycle Lane Location Feasibility	■	■	■	■							
Sidewalk Inventory	■	■	■	■							
Deliverable:					■						
Task 4: Assessment of Current Conditions											
Inspection and Analysis of Sub-Surface Infrastructure	■	■		■	■						
Transportation Model	■	■	■	■	■						
Crash Data Analysis	■	■	■	■	■						
Initial Recommendations	■	■	■	■	■						
Deliverable:						■					
Task 5: Assessment of Future Scenarios											
Develop Concept Plans	■	■			■	■	■	■			
Traffic Analysis of Concept Plans	■	■				■	■	■	■		
Deliverable:									■		
Task 6: Develop Preliminary Recommendations											
Select Optimal Plan	■	■					■	■	■		
Concept Illustrations	■	■					■	■	■	■	
Schedule of Optimal Plan	■	■						■	■	■	
Deliverable:										■	
Task 7: Public Feedback											
Kick-Off Meeting	■	■									
Steering Committee Meetings					■			■		■	
Public Meetings						■				■	
Deliverable:										■	
Task 8: Final Report											
Draft Report	■	■								■	
Final Submission of all Reports and Graphics											■

BERWICK DOWNTOWN VEHICLE, BICYCLE & PEDESTRIAN STUDY



To create liveable streets, walking and bicycling should be safe and comfortable. The Town of Berwick, KACTS, and Milone & MacBroom are gathering input from the community in order to address conditions, create successful recommendations, and develop a community vision for the downtown center. If you live in Berwick, then you're the expert and we need to hear from you!

WE WANT TO KNOW WHAT YOU'RE THINKING



**YOU'RE INVITED TO PARTICIPATE!
A MEETING TO DISCUSS THE EXISTING CONDITIONS
AND GATHER PUBLIC INPUT FOR THE DOWNTOWN REVITALIZATION**

**PUBLIC MEETING
6:00PM - 8:00PM
BURGESS MEETING ROOM, BERWICK TOWN HALL
WEDNESDAY, DECEMBER 5, 2018**

For More Information: contact James Bellissimo Phone: (207) 698-1101 x124; jbellissimo@berwickmaine.org

KACTS
Kittery Area Comprehensive Transportation System



**MILONE &
MACBROOM**



MILONE & MACBROOM