COMMUNITY
connectivity program

Darien

Post Road (Route 1)

Road Safety Audit

June 14, 2018

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM

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Acknowledgements:

OFFICE OF INTERMODAL PLANNING
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CONNECTICUT DEPARTMENT OF TRANSPORTATION

With assistance from AECOM Transportation Planning Group

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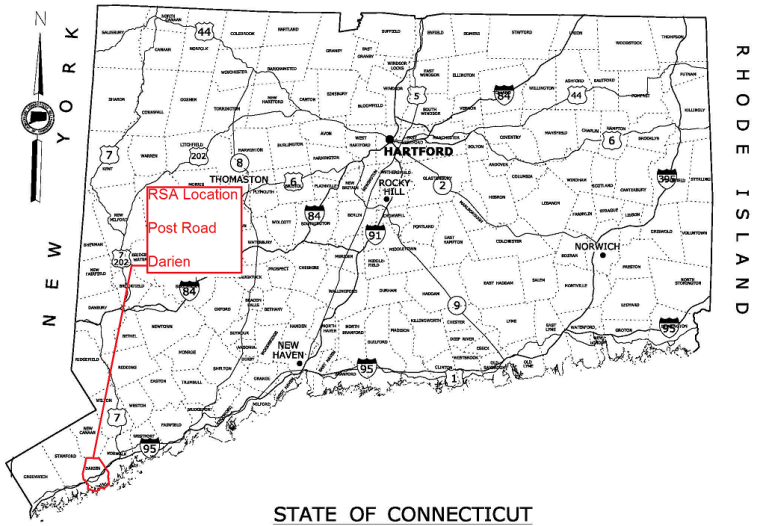
The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this program is conducting Road Safety Audits (RSA's) at selected locations. An RSA is a formal safety assessment of the existing conditions of walking and biking routes and is intended to identify the issues that may discourage or prevent walking and bicycling. It is a qualitative review by an independent team experienced in traffic, pedestrian, and bicycle operations and design that considers the safety of all road users and proactively assesses mitigation measures to improve the safe operation of the facility by reducing the potential crash risk frequency or severity.

The RSA team is made up of CTDOT staff, municipal officials and staff, enforcement agents, AECOM staff, and community leaders. An RSA Team is established for each municipality based on the requirements of the individual location. They assess and review factors that can promote or obstruct safe walking and bicycling routes. These factors include traffic volumes and speeds, topography, presence or absence of bicycle lanes or sidewalks, and social influences.

Each RSA was conducted using RSA protocols published by the FHWA. For details on this program, please refer to www.ctconnectivity.com. Prior to the site visit, area topography and land use characteristics are examined using available mapping and imagery. Potential sight distance issues, sidewalk locations, on-street and off-street parking, and bicycle facilities are also investigated using available resources. The site visit includes a "Pre-Audit" meeting, the "Field Audit" itself, and a "Post-Audit" meeting to discuss the field observations and formulate recommendations. This procedure is discussed in the following sections.



STATE OF CONNECTICUT

1 Introduction to Post Road, Darien RSA

The Connecticut Department of Transportation (CTDOT) is undertaking an RSA along the U.S. Route 1 corridor between the New York State line and the Westport/Fairfield border, a total distance of 22.77 miles. This corridor encompasses five municipalities: Greenwich, Stamford, Darien, Norwalk, and Westport. Because of the length of the corridor, and the differing stakeholders in the various municipalities, it was decided to treat each town as an individual RSA corridor. This report presents the findings of the RSA conducted in the Town of Darien.

The Town of Darien corridor includes US Route 1 (Post Road) from the City of Stamford border to the border of Norwalk (3.9 miles). The study corridor generally has sidewalks on at least one side of the street, but eliminating any sporadic gaps would improve safety for pedestrians and bicyclists, and the improved connectivity would create and expand the vibrant use of the corridor.

1.1 Location

The RSA corridor includes US Route 1- Post Road (Figure 1-1). Figure 1-2 shows the study area in a regional context. Route 1 is classified as a principal arterial and runs parallel to Interstate 95. Route 1 in Darien is designated a Diversion Route for incidents along I-95. The Average Daily Traffic (ADT) on Post Road ranges from 9,100 vehicles per day (vpd) to 22,800 vpd. These are considered moderate volumes for suburban/urban roadways. The corridor has two lanes in each direction except for the section between Ledge Road and I-95 Exit 13 (just south of Richmond Drive) which has a single lane in each direction. All major intersections throughout the study area are controlled by traffic signals.

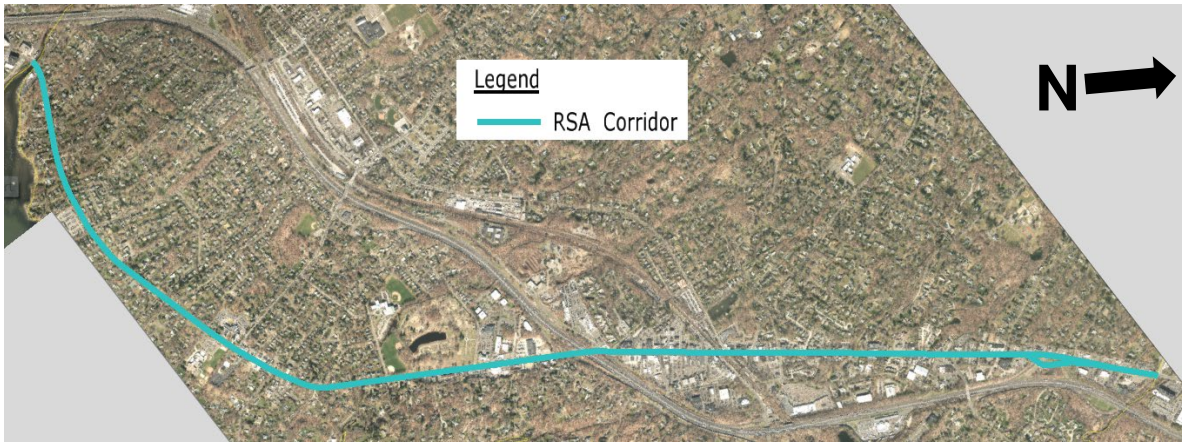


Figure 1-1. Post Road (Route 1) Darien

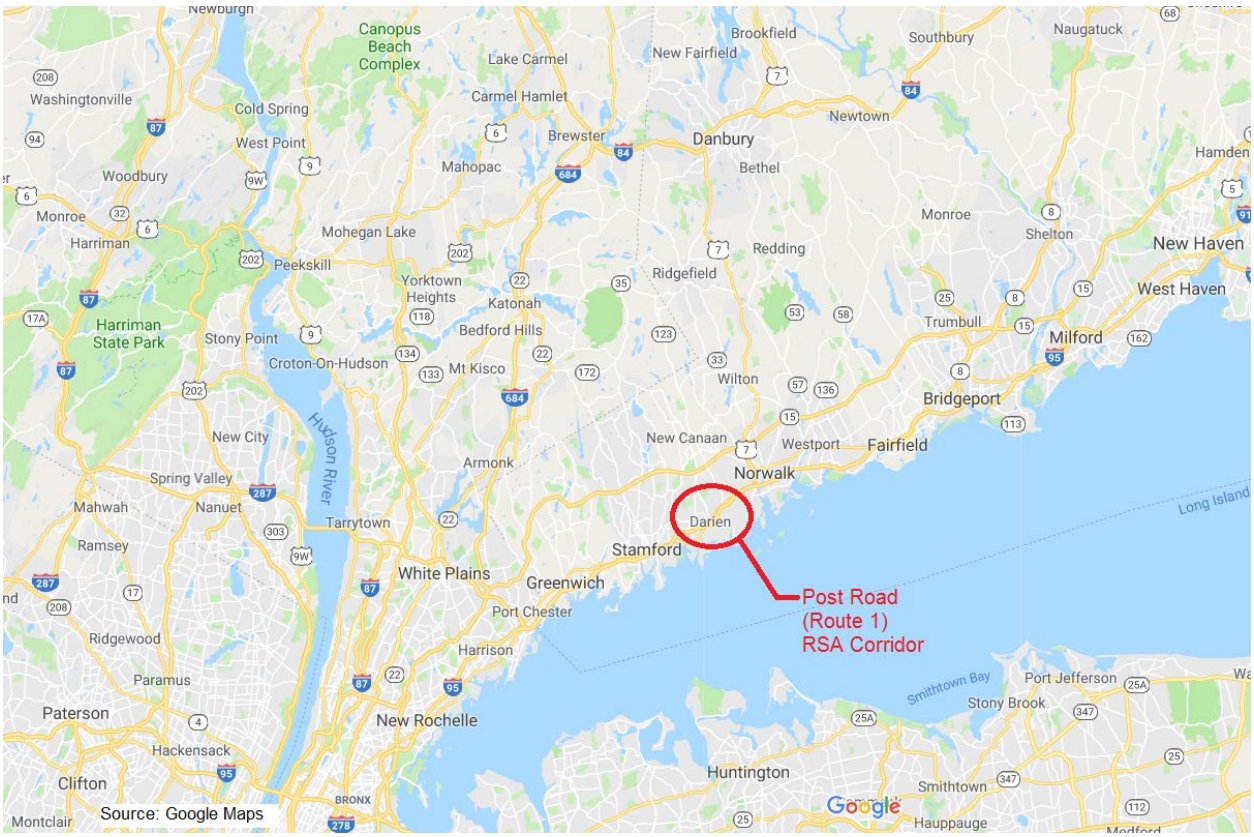


Figure 1-2. Study Area – Regional Context

2 Pre-audit Assessment

2.1 Pre-audit Information

As noted above, traffic volumes are moderate to high along this urbanized corridor. Between 2015 and 2017 there were 457 crashes throughout the RSA corridor. Over 85% were either angle, sideswipe same direction, or front to rear (rear-end) collisions. This is a strong indication of the nature of the operation in the corridor being substantially influenced by the high number of intersections and driveways, and by significant levels of traffic congestion.

Table 2 provides additional information on the type of collision as well as the severity of the crash. While a majority of crashes (79%) resulted only in property damage, 96 crashes did result in injuries. There were 3 crashes involving bicyclists and 5 crashes involving pedestrians.

Figure 2-1 displays these crashes. The western portion of the corridor is more suburban in nature, with fewer intersections and driveways, and shows a correspondingly lower crash density. The more urban eastern end of the corridor demonstrates a higher crash density, with a clustering of crashes around the intersections.

Severity Type	Number of Crashes	
Property Damage Only	361	79%
Injury of any type (Serious, Minor, Possible)	96	21%
Fatal (Kill)	0	0%
Total	457	

Table 1. Crash Severity 2015-2017

Source: UConn Connecticut Crash Data Repository

Manner of Crash / Collision Impact	Number of Crashes	
Front to rear	158	35%
Sideswipe, same direction	91	20%
Angle	140	31%
Not Applicable	48	11%
Sideswipe, opposite direction	4	1%
Rear to side	3	1%
Other	5	1%
Unknown	6	1%
Rear to rear	1	0%
Front to front	1	0%
Total	457	

Table 2. Crash Type 2015-2017

Source: UConn Connecticut Crash Data Repository

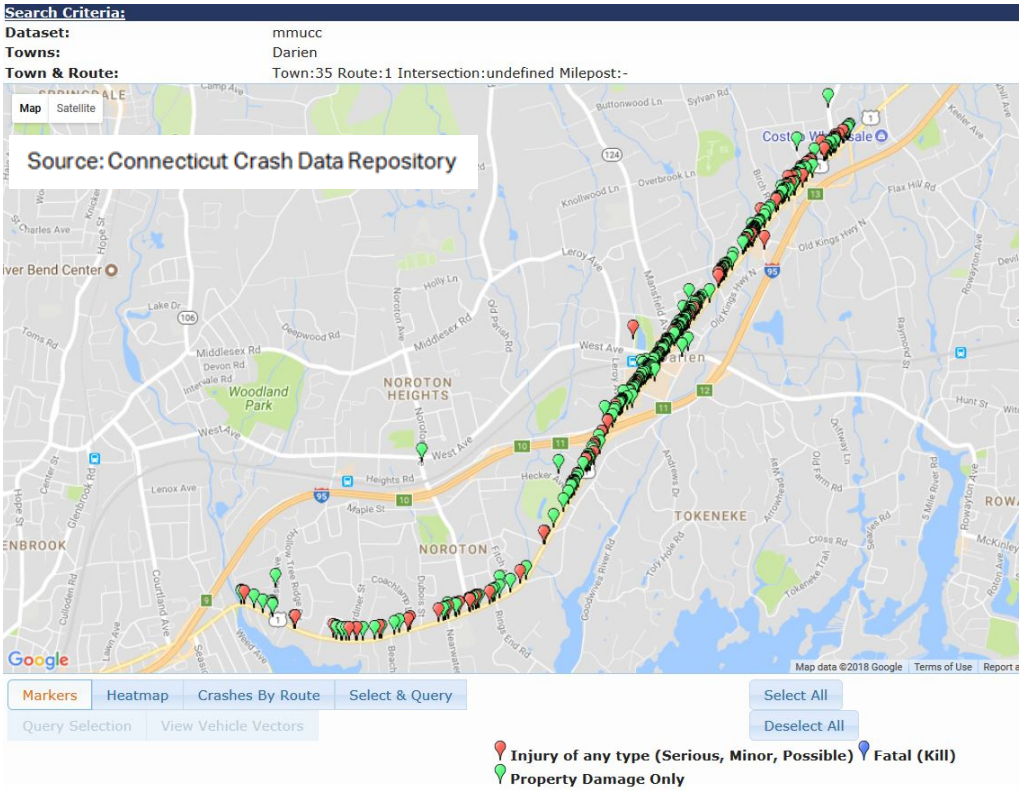


Figure 2-1. Crashes that Occurred in 2015-2017 (Connecticut Crash Data Repository)

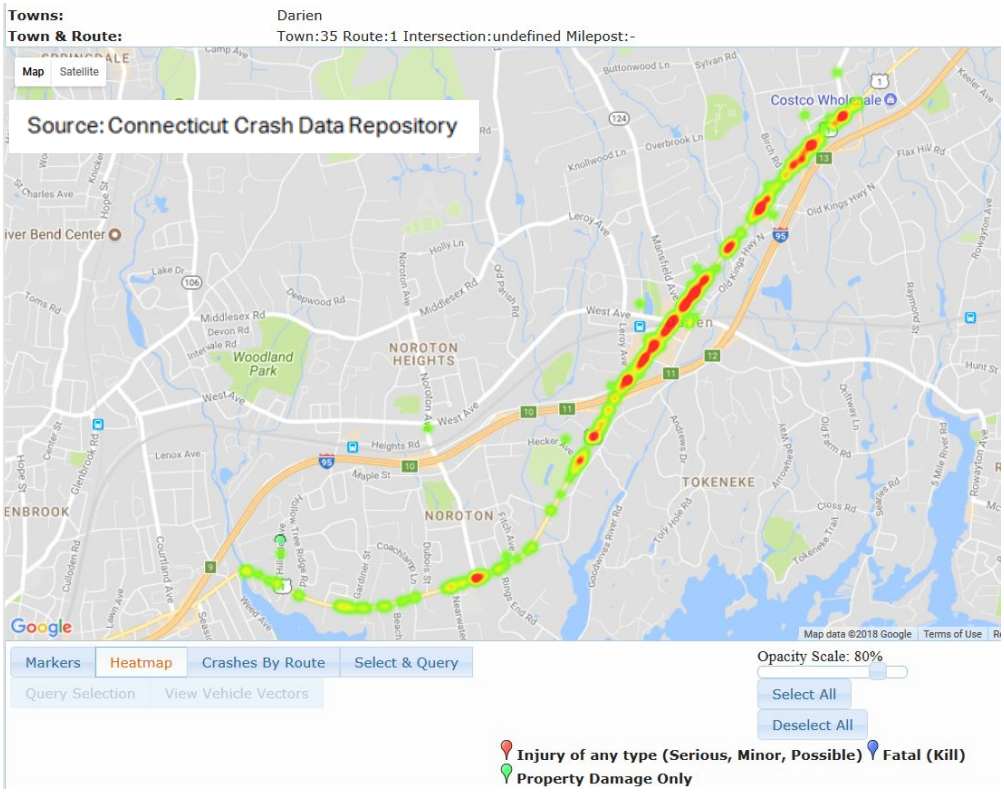


Figure 2-2. Heatmap of Crashes that Occurred in 2015-2017 (Connecticut Crash Data Repository)

There are 21 signalized intersections within the study corridor. Many of these are closely spaced. In addition, there are many driveways to private businesses, including older sites with large curb cuts or parking adjacent to the roadway. CT Transit bus stops are also located throughout the corridor.

During the Pre-audit meeting, the RSA team decided to focus on several key areas because of the length of the corridor. The focus areas are:

- Post Road at Hollow Tree Ridge Road
- Post Road at Thorndal Circle/Hecker Avenue
- Post Road from Leroy Avenue to Sedgwick Avenue
- Post Road at Sedgwick Avenue

Roadway geometrics for study corridor roadways and intersections are shown in Figure 2-3, Figure 2-4, Figure 2-5, and Figure 2-6. An inventory of existing conditions of the intersections can be found in Table 3.

Figure 2-3. Post Road, Darien Route 1 - Road Geometrics

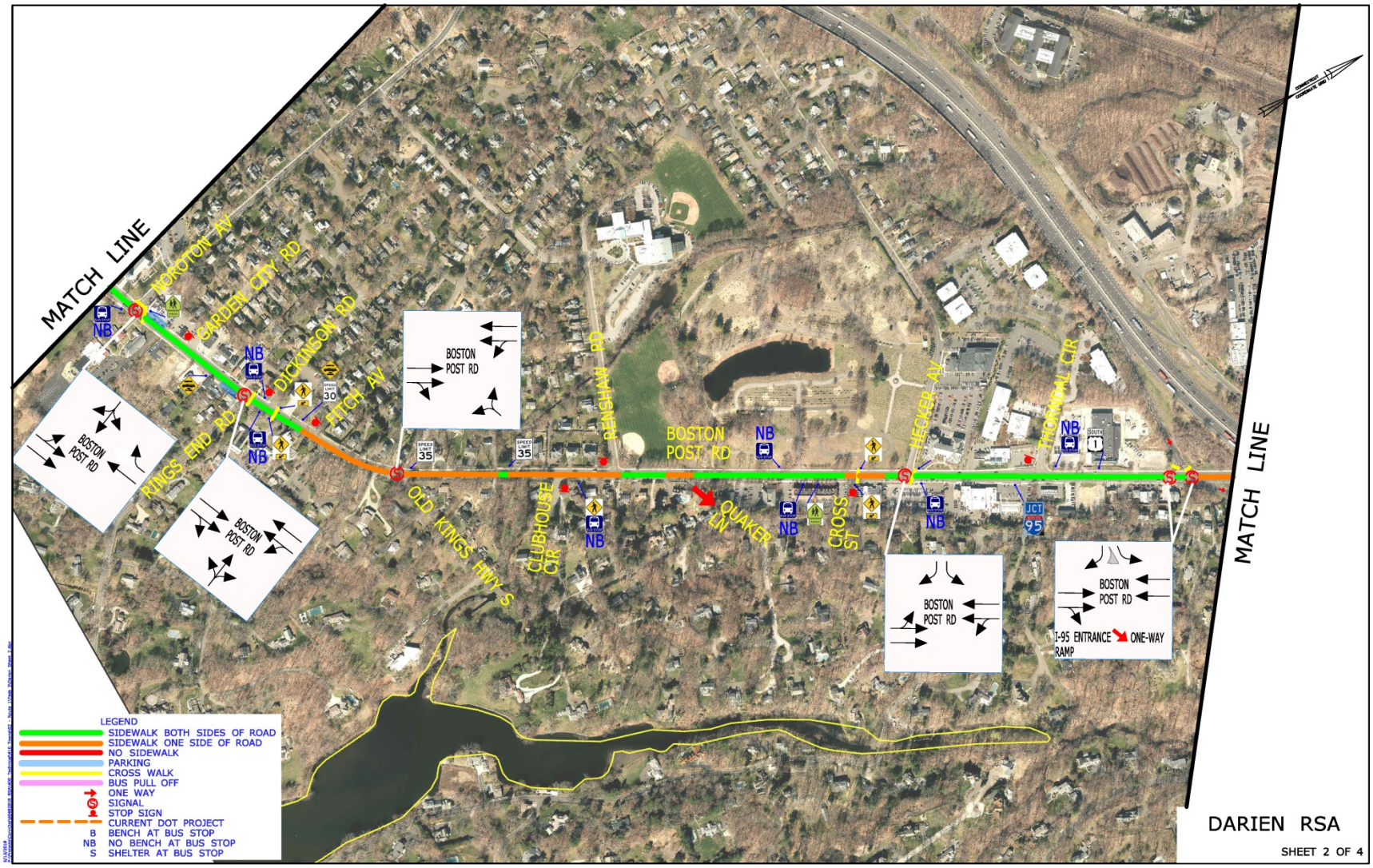


Figure 2-4. Post Road, Darien Route 1 – Road Geometrics

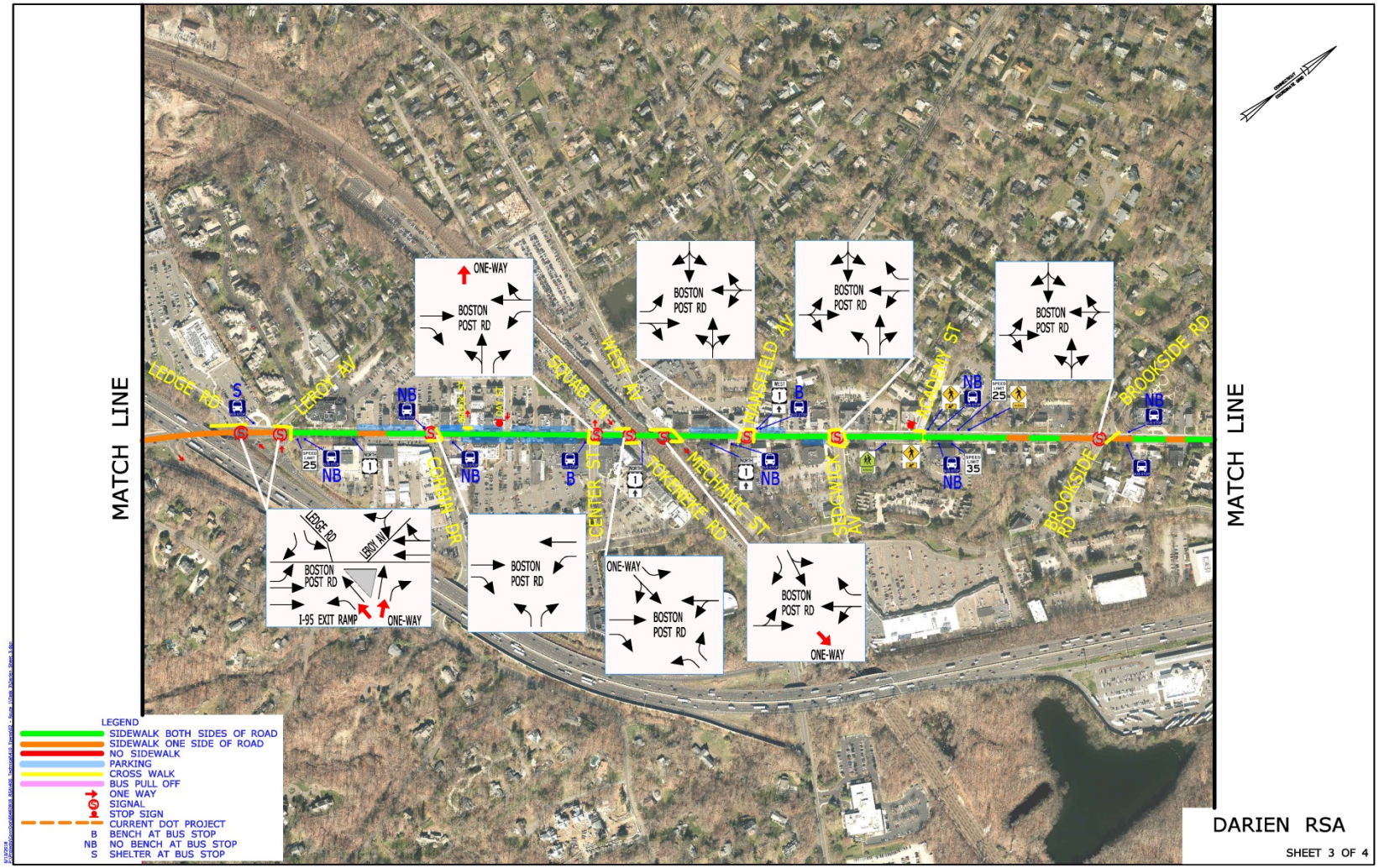


Figure 2-5. Post Road, Darien Route 1 - Road Geometrics

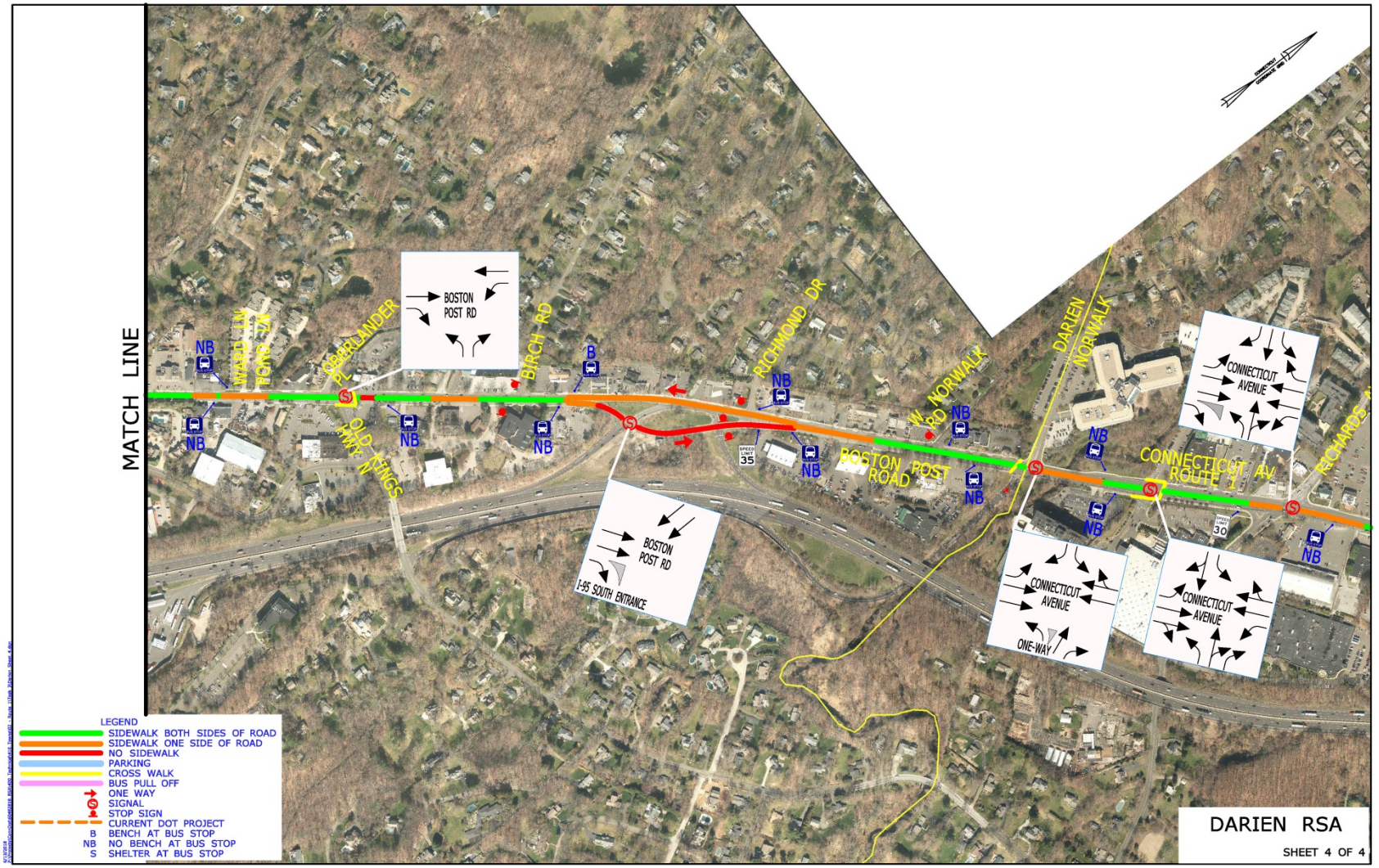


Figure 2-6, Post Road, Daren Route 1 - Road Geometrics

Darien RSA

Street Inventory

From	To	Length	Lanes (Width)	Side	Sidewalk			Curb	Parking	Shoulder	Ramps	
					Type	Width	Condition				Exist	Compliant
Brookside Dr	Hampton Rd	2036 ft	2 (11')	EB	None	N/A	N/A	Concrete	No	Varies	No	No
				WB	Concrete	5'	Fair	Concrete	No	Varies	Yes	No
Hampton Rd	Beach Dr	1730 ft	2 (11')	EB	Asphalt	4'	Fair	Asphalt	No	Varies	Yes	No
				WB	Asphalt	4'	Poor	Asphalt	No	Varies	Yes	No
Beach Dr	Nearwater Lane	1435 ft	2 (11')	EB	Asphalt	5'	Fair	Asphalt	No	Varies	Yes	No
				WB	Asphalt	6'	Fair	Asphalt	No	Varies	Yes	No
Nearwater Lane	Fitch Ave	1589 ft	2 (11')	EB	Concrete	6'	Fair	Asphalt	No	Varies	Yes	No
				WB	Concrete	6'	Fair	Concrete	No	Varies	Yes	No
Fitch Ave	Renshaw Rd	1476 ft	2 (12')	EB	None	N/A	N/A	Asphalt	No	Varies	No	No
				WB	Concrete	6'	Fair	Concrete	No	Varies	Yes	No
Renshaw Rd	I-95 Entrance	2730 ft	2 (12')	EB	Concrete	5'	Fair	Concrete	No	Varies	Yes	No
				WB	Concrete	5'	Fair	Concrete	No	Varies	Yes	No
I-95 Entrance	Leroy Ave	852 ft	2 (11')	EB	None	N/A	N/A	Asphalt	No	Varies	No	No
				WB	Concrete	5'	Fair	Concrete	No	Varies	Yes	No
Leroy Ave	Sedgewick Ave	2619 ft	1 (14')	EB	Concrete	6'	Fair	Concrete	Yes	Varies	Yes	No
				WB	Concrete	5'	Fair	Concrete	Yes	Varies	Yes	No
Segewick Ave	Brookside Rd	1270 ft	1 (16')	EB	Concrete	5'	Fair	Concrete	No	Varies	Yes	No
				WB	Concrete	6'	Fair	Concrete	No	Varies	Yes	No
Brookside Rd	Oberlander Pl	1415 ft	1 (15')	EB	Concrete	7'	Fair	Concrete	No	Varies	Yes	No
				WB	Concrete	7'	Fair	Concrete	No	Varies	Yes	No
Oberlander Pl	Birch Rd	948 ft	1 (16')	EB	Concrete	6'	Fair	Concrete	No	Varies	Yes	No
				WB	Concrete	5'	Fair	Concrete	No	Varies	Yes	No
Birch Rd	W Norwalk Rd	1972 ft	2 (12')	EB	None	N/A	N/A	Concrete	No	Varies	No	No
				WB	Concrete	6'	Fair	Concrete	No	Varies	Yes	No
W Norwalk Rd	Richards Ave	1678 ft	2 (12')	EB	Concrete	7'	Fair	Concrete	No	Varies	Yes	No
				WB	Concrete	6'	Fair	Concrete	No	Varies	Yes	No

Table 3. Street Inventory

2.2 Prior Successful Effort

The Town of Darien had previously conducted a bicycle and pedestrian investigation throughout the Route 1 corridor. The town would like to continue to build on these efforts and others to provide safe mobility for all users. Given that this corridor had been previously studied, this audit took place during the evening commute and focused on more troublesome areas.

2.3 Pre-Audit Meeting

The RSA was conducted on June 14, 2018. The Pre-Audit meeting was held at 3:00 PM in the Darien Town Hall at 2 Renshaw Road in Darien.

The RSA Team was comprised of staff from AECOM, staff from CTDOT, and representatives from several Darien departments including the Police, Highway, Traffic and the Department of Public Works as well as Darien TV79 and Baywater Properties in Darien. The complete list of attendees can be found in Appendix B.

Several items were presented for general information prior to conducting the Audit in the field:

Concerns:

- Pedestrian connections and safety
- Focus on the Downtown areas for high pedestrian and cyclist activity
- Elementary school crossings
- Bike connections on Route 1
- Access from train station to points closer to Town Hall and downtown
- YMCA area should be looked at for safety
- Would like pedestrian connections from train station to Route 1
- Additional crosswalks would be welcome in the downtown
- Exclusive pedestrian phase at the library and ADA compliance
- 4 dynamic speed signs are being installed on Route 1
- Town is looking at exclusive pedestrian phasing in the downtown
- Route 1 floods under the overpass of the train tracks
- Route 1 is the emergency bypass to I-95
- Speeding is an issue on the western end of Route 1

2.4 Field Audit Observations

Post Road at Hollow Tree Ridge Road

- Hollow Tree Ridge Road is stop controlled with Post Road free flowing. It provides primary access to Noroton Heights train station.
- There is a small pedestrian refuge island in the center of Hollow Tree Ridge Road (Figure 2-7).
- Curb ramps are provided on the north side of Post Road but are not ADA compliant. Marked crosswalks are not provided.
- Middlesex Middle School and Darien High School are off of Hollow Tree Ridge Road on the northern end.
- Study for signalization.
- Speeding is an issue.
- Sidewalks are narrow and have no buffer to separate them from traffic.

Figure 2-7 Small pedestrian refuge island

Post Road at Thorndal Circle/Hecker Avenue:

- Hecker Avenue is a three way signalized intersection.
- Thorndal Circle is stop controlled with Post Road free flowing. It provides primary access to 3 or 4 larger businesses and the Darien Public Library.
- A crosswalk is provided across Post Road at the Hecker Avenue intersection (Figure 2-8). The southern end of the crosswalk is within a driveway. There are no ADA compliant curb ramps, and there is no pedestrian phase or pedestrian signals. The pushbuttons have "Push for Green Light" signs. (Town is working to install ADA compliant curb ramps and exclusive pedestrian signal phase)
- Curb line pulls back from the travel way,

Figure 2-9 Wide shoulder

creating an overly wide section of pavement in front of Nielsen's Florist & Garden Shop (Figure 2-9).

- Re-align crosswalk to be more direct. (Town is working on re-aligning crosswalk at Hecker Avenue to be more direct and to avoid driveway.)
- Noroton Avenue and Hecker Avenue are slated for Pedestrian ADA upgrades at the intersections of Route 1. (Town is adding exclusive pedestrian phase to signal at Post Road and Noroton Avenue. Town is also installing ADA compliant curb ramps and exclusive pedestrian signal phase at Hecker Avenue.)
- Congestion builds during the PM commute with people trying to access businesses such as Shake Shack as well as trying to get onto I-95.

Post Road from Leroy Avenue to Sedgwick Avenue

- Between Leroy Avenue and Sedgwick Avenue, there are six signalized intersections. Post Road is generally a single lane in each direction, and many of the side streets have single lane approaches.
- More urban environment with on-street parking and some back out parking between Leroy Avenue and Corbin Drive.
- Crosswalks are generally provided throughout this corridor but are lacking at the train station. There is no easy way to cross Route 1 at the train station.
- There are many pedestrian mid-block crossing from Squab Lane to Tokeneke Road (Figure 2-10).
- Westbound Bus stop is in a poor location.
- Articulated buses block Squab Lane.
- Look at eliminating some on street parking to create bus pull-offs.

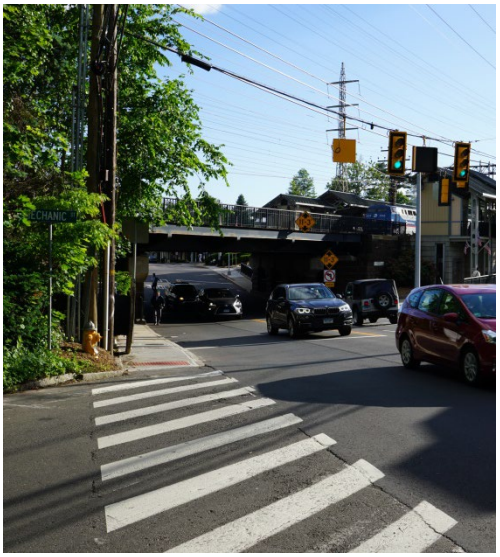


Figure 2-10 Pedestrians not using sidewalks or crosswalks

- Route 1 floods under the I-95 overpass, along with Leroy Avenue.
- Pedestrians cross with turning traffic.

Post Road at Sedgwick Avenue

- The location is a four way, signalized intersection.
- Crosswalks are provided on all four legs of the intersection but there are no ADA compliant curb ramps.
- Consider "Don't Block the Box" markings.

2.5 Post Audit Workshop - Key Issues

Post Road at Hollow Tree Ridge Road

- Need painted crosswalks on the northern side of Post Road and for crossing Post Road.
- Study for signalization or alternative traffic control, such as a HAWK, including in the area of the YMCA.

Post Road at Thorndal Circle/Hecker Avenue/Noroton Avenue:

- Look at the possibility for pedestrian signal, HAWK, or RRFB. (Town is addressing exclusive pedestrian signal phases at Hecker and Noroton Avenues.)
- Narrow the roadway and/or provide parking cut-out in front of Nielsen's Florist & Garden Shop. (Town has identified for geometric alignment.)
- Re-align crosswalk at Hecker Avenue to be more direct and to avoid driveway. (Town is addressing this issue.)
- Congestion builds during the PM commute with people trying to access businesses such as Shake Shack as well as trying to get onto I-95.

Post Road from Leroy Avenue to Sedgwick Avenue

- Parking and bus movements are key issues that cause congestion in the downtown area.
- No easy way to cross Route 1 at the train station.
- Route 1 floods under the I-95 overpass, along with Leroy Avenue.

3 Recommendations

From the discussions during the Post-Audit meeting, the RSA team compiled a set of recommendations that are divided into short-term, mid-term, and long-term categories. For the purposes of the RSA, **Short-term** is understood to mean modifications that can be expected to be completed very quickly, perhaps within six months, and certainly in less than a year if funding is available. These include relatively low-cost alternatives, such as striping and signing, and items that do not require additional study, design, or investigation (such as right-of way acquisition). **Mid-term** recommendations may be more costly and require establishment of a funding source, or they may need some additional study or design in order to be accomplished. Nonetheless, they are relatively quick turn-around items, and should not require significant lengths of time before they can be implemented. Generally, they should be completed within a window of eighteen months to two years if funding is available. **Long-term** improvements are those that require substantial study and engineering, and may require significant funding mechanisms and/or right-of-way acquisition. These projects generally fall into a horizon of two or more years when funding is available.

3.1 Short Term

1. Determine optimal locations for bus stops and work with CTTransit to relocate them.
2. Install temporary dynamic speeding signs to help deter speeding.
3. Study parking locations and usage, and determine if street parking can be removed in critical areas.
4. Consider "Don't Block the Box" markings at critical intersections. (Would require drafting an enabling Town Ordinance.)
5. Install painted crosswalks at missing locations.

Figure 3-1, Figure 3-2, Figure 3-3, and Figure 3-4 depicts these recommendations.

Figure 3-1 Short Term Recommendations

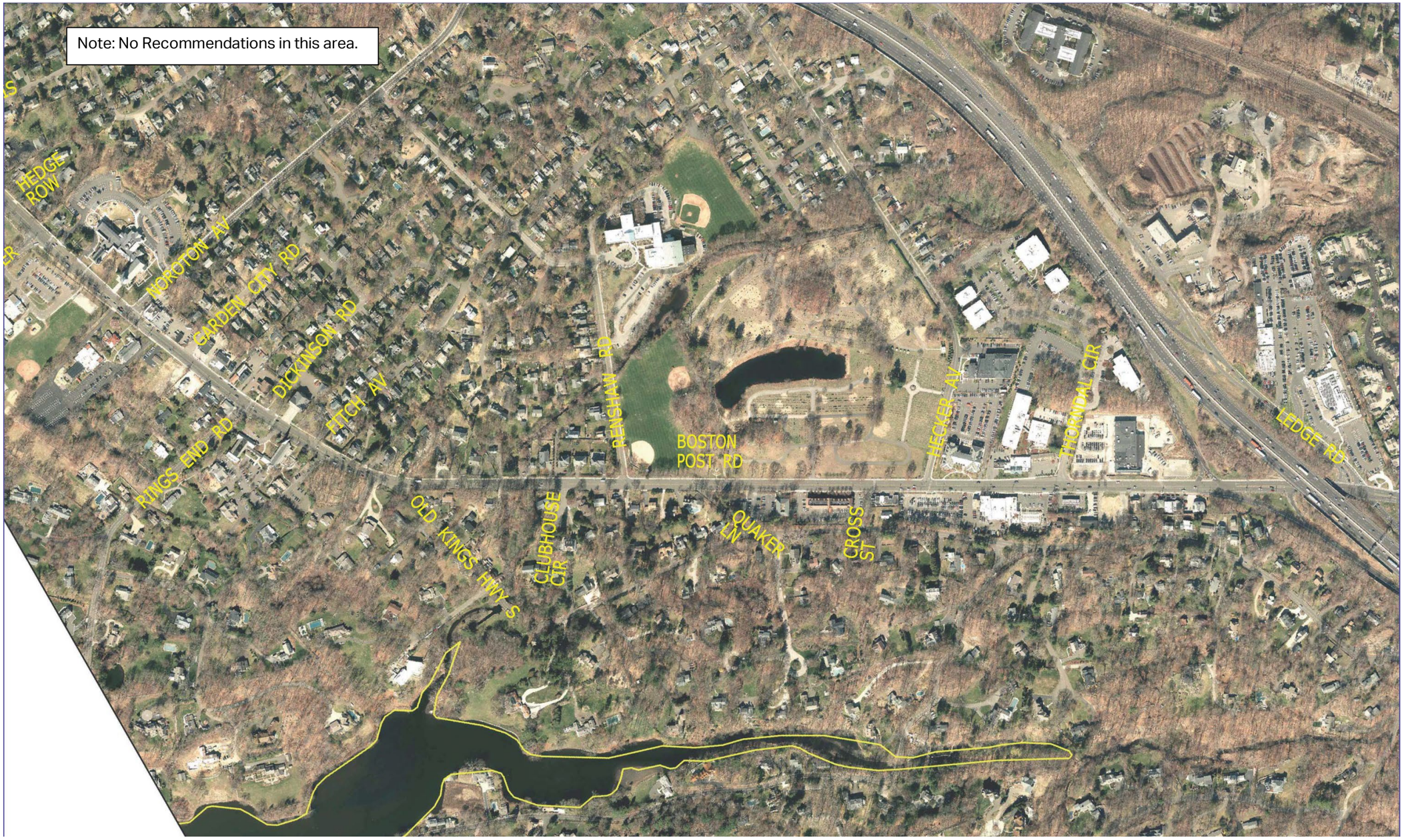


Figure 3-2 Short Term Recommendations

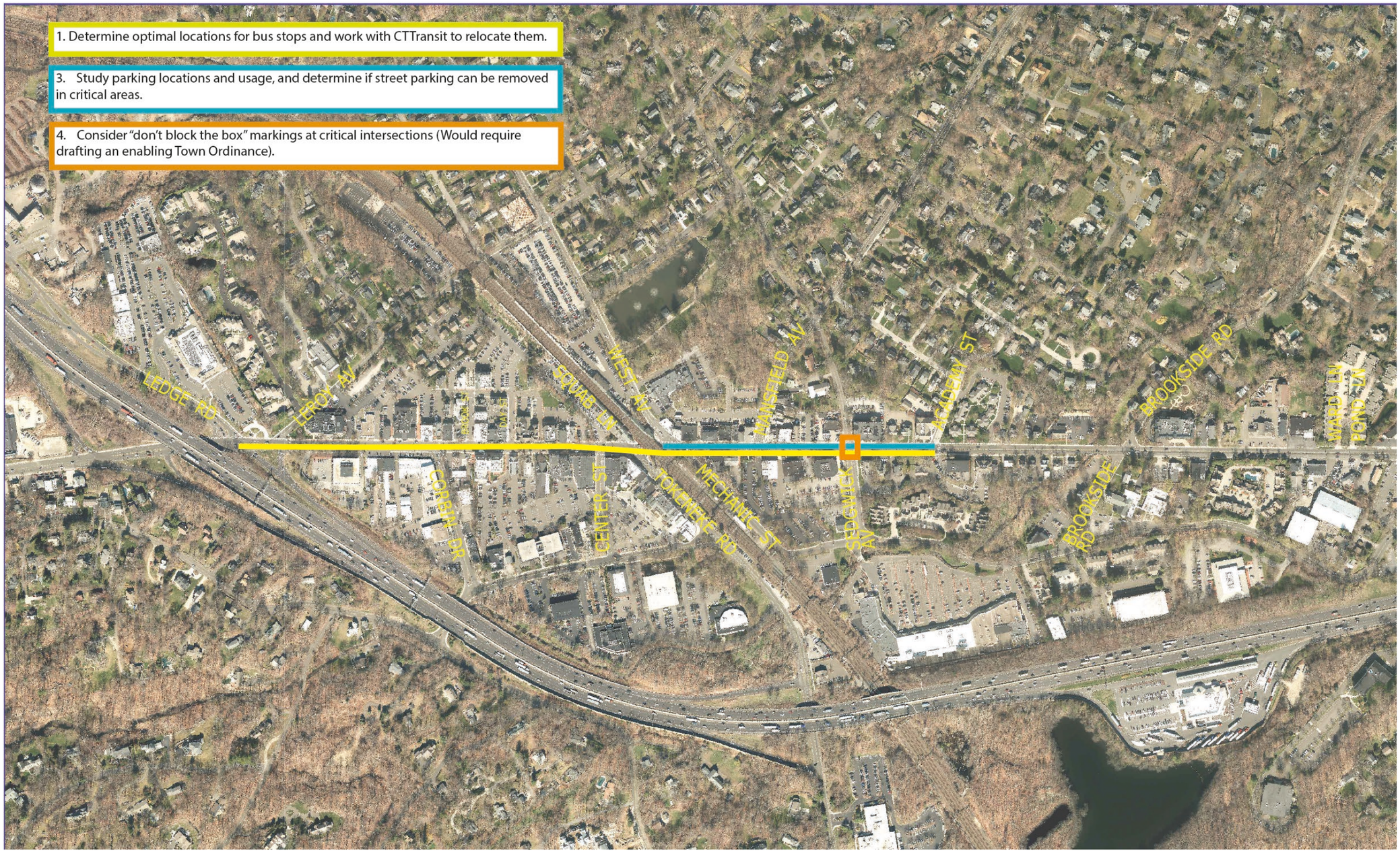


Figure 3-3 Short Term Recommendations

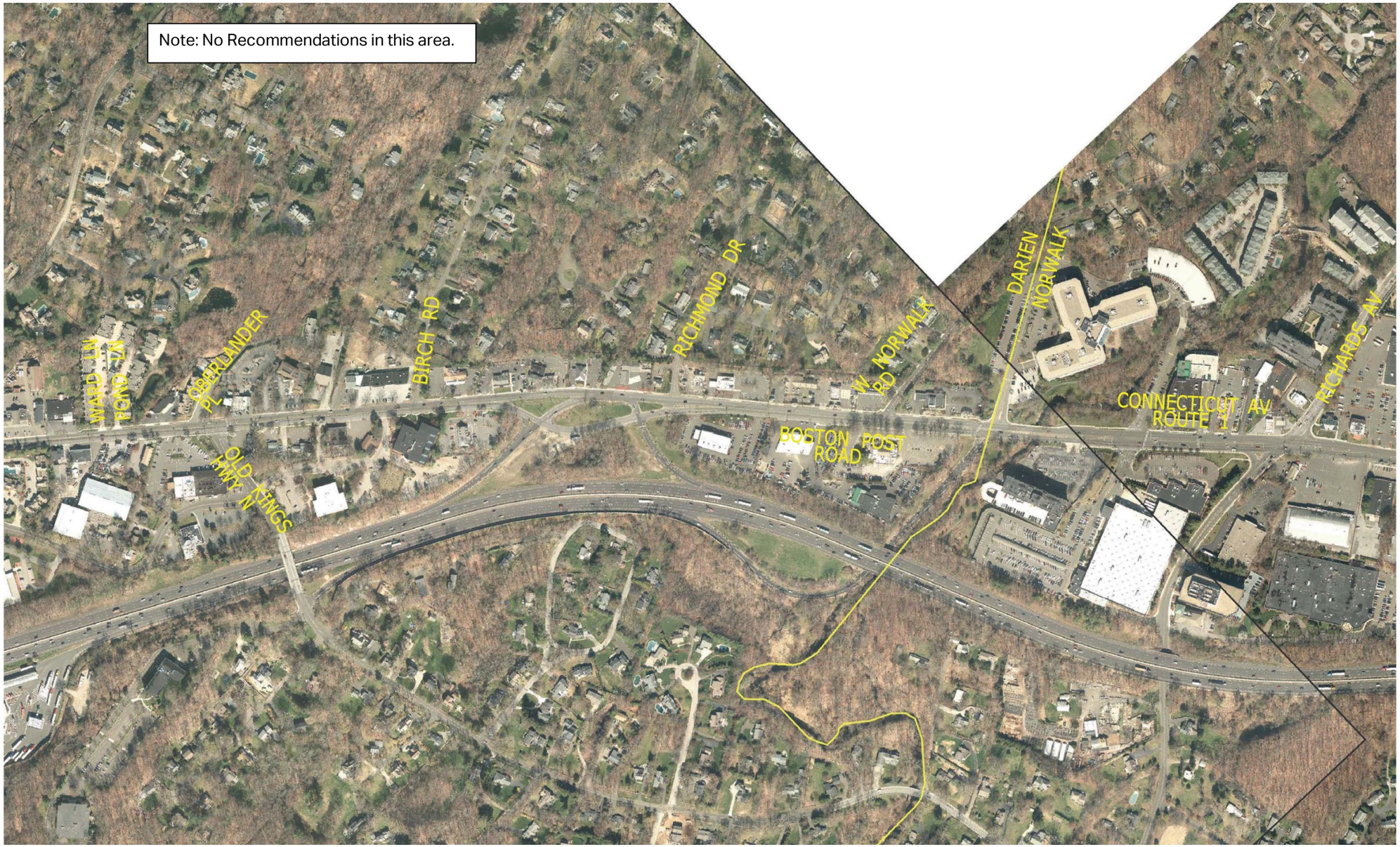


Figure 3-4 Short Term Recommendations

3.2 Medium Term

1. Consider the best way to add crossings on Route 1 at the train station.
2. Study flooding issues on Route 1 under the I-95 overpass and Leroy Avenue. (Issue cannot be addressed by LTA.)
3. Narrow the roadway and/or provide a parking cut-out in front of Nielsen's Florist & Garden Shop. (Town has already identified intersection of Post Road and Thorndal Circle for geometric realignment.)
4. Re-align crosswalk at Hecker Avenue to be more direct and to avoid driveway. (Town is already underway with this item.)
5. Add grass buffers to sidewalks for pedestrian comfort and safety in non-urban areas.
6. Add exclusive pedestrian phase to signal at Post Road and Noroton Avenue. (Town is already underway with this item.)

Figure 3-5, Figure 3-6, Figure 3-7, and Figure 3-8 depicts some of the recommendations.

Figure 3-5 Medium Term Recommendations

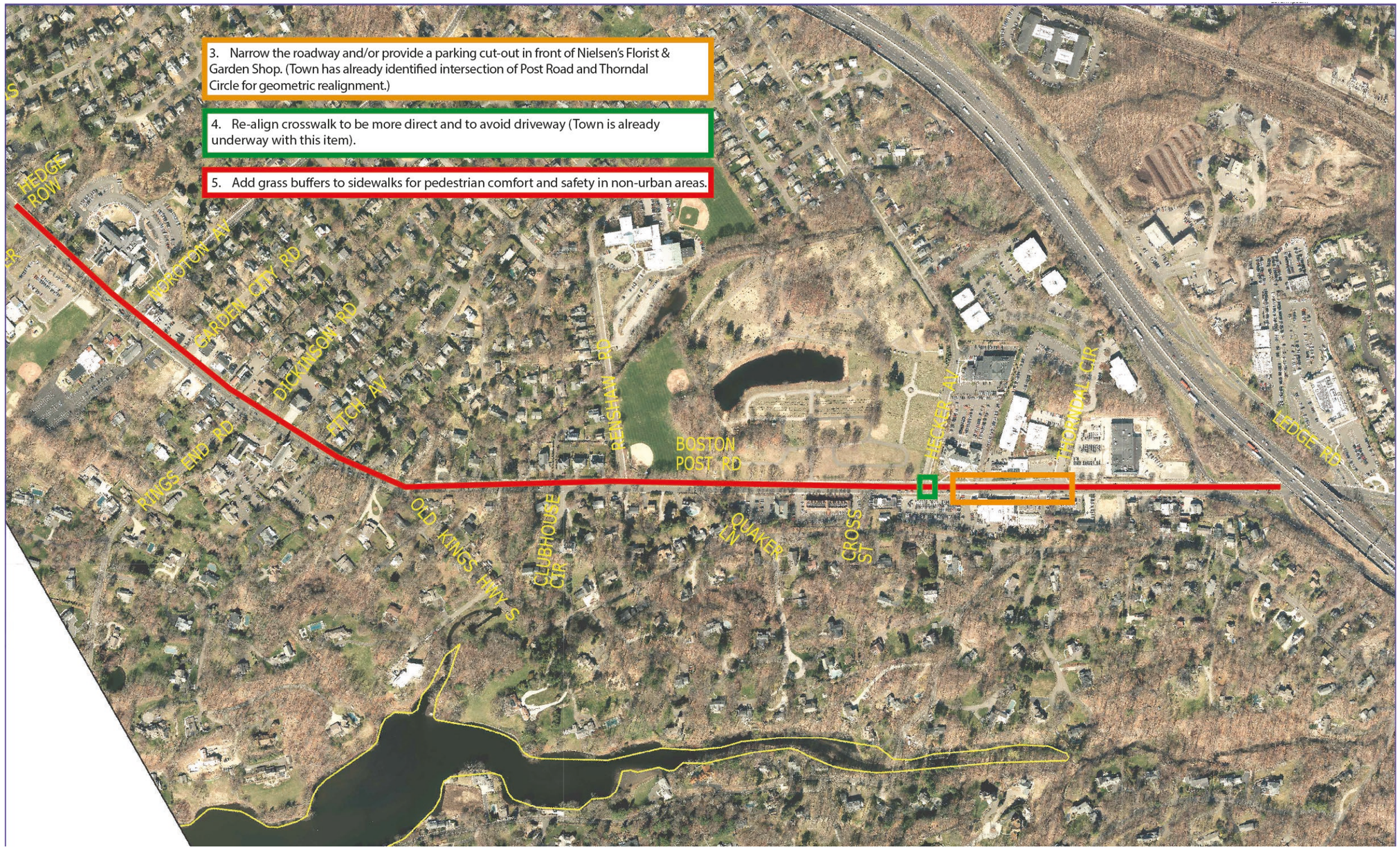


Figure 3-6 Medium Term Recommendations

Figure 3-7 Medium Term Recommendations

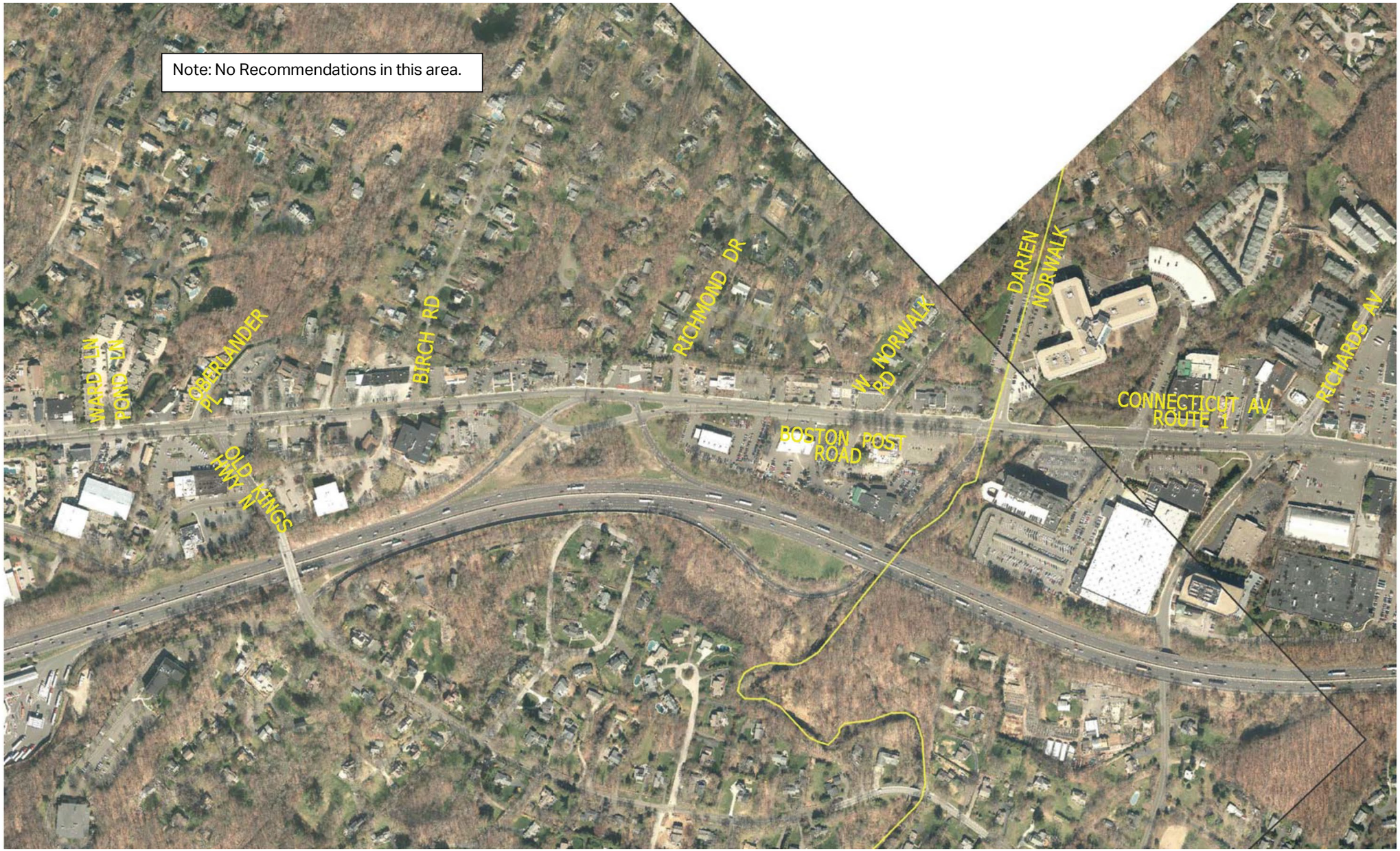


Figure 3-8 Medium Term Recommendations

3.3 Long Term

1. Study proper traffic control (signal, RRFB or HAWK) at the intersections of Post Road with Hollow Tree Ridge Road (RRFB not recommended), YMCA (HAWK recommended), Hecker Avenue, and Thorndal Circle. (Town is already underway with adding exclusive pedestrian phase at Hecker Avenue. Town recommends conducting additional traffic counts at Hollow Tree Ridge Road when Heights Road redevelopment projects are completed.)

Figure 3-9, Figure 3-10, Figure 3-11, and Figure 3-12 depicts some of these recommendations.

Figure 3-9 Long Term Recommendations

Figure 3-10 Long Term Recommendations

Figure 3-11 Long Term Recommendations

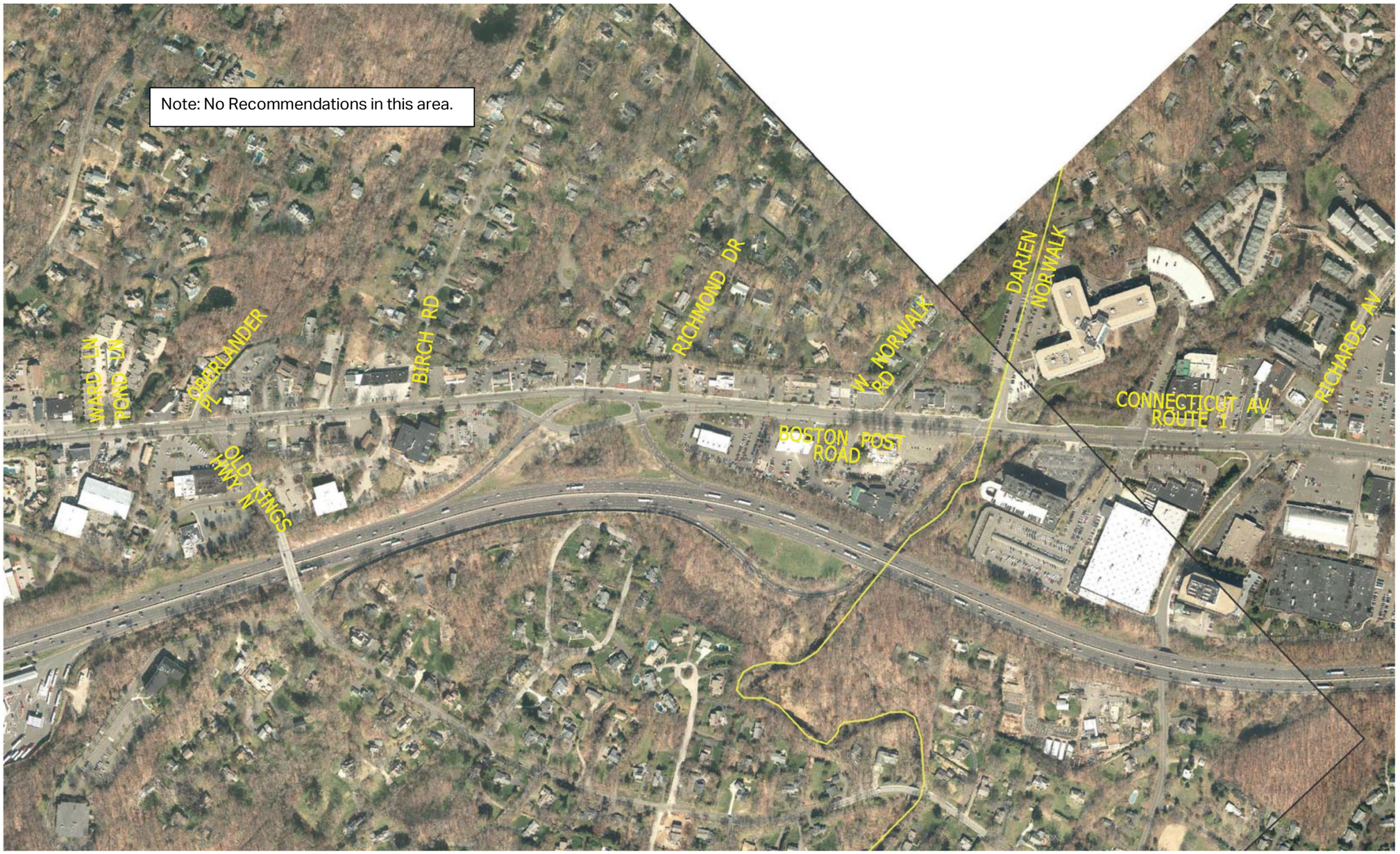


Figure 3-12 Long Term Recommendations

4 Summary

This report documents the observations, discussions and recommendations developed during the successful completion of the U.S. Route 1 RSA in the Town of Darien. It provides an outlined strategy to improve the transportation network for all road users on Route 1, particularly focusing on pedestrians and cyclists. Moving forward, this report may be used to prepare strategies for funding and implementing the improvements, and as a tool to plan for including these recommendations into future development on Route 1.

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Appendix A

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM
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Road Safety Audit – Darien

Meeting Location: Darien Town Hall
Address: 2 Renshaw Road, Darien, CT
Date: Thursday, June 14, 2018
Time: 3:00 PM

Agenda

Type of Meeting: **Road Safety Audit – Pedestrian Safety**

Attendees: **Invited Participants to Comprise a Multidisciplinary Team**

Please Bring: **Thoughts and Enthusiasm!!**

3:00 PM **Welcome and Introductions**

- Purpose and Goals
- Agenda

3:15 PM **Pre-Audit**

- Definition of Study Area
- Review Site Specific Data:
  - Average Daily Traffic
  - Crash Data
  - Geometrics
- Issues
- Safety Procedures

3:45 PM **Audit**

- Visit Site
- As a group, identify areas for improvements

6:00 PM **Post-Audit Discussion / Completion of RSA**

- Discussion observations and finalize findings
- Discuss potential improvements and final recommendations
- Next Steps

7:00 PM **Adjourn for the Day – but the RSA has not ended**

Instruction for Participants:

- Before attending the RSA, participants are encouraged to observe the intersection and complete/consider elements on the RSA Prompt List with a focus on safety.
- All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, but are reminded that the synergy that develops and respect for others' opinions are key elements to the success of the overall RSA process.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.

Audit Checklist

Pedestrians and Bicycles	Comment

Pedestrian Crossings
• Sufficient time to cross (signal)
• Signage
• Pavement Markings
• Detectable warning devices (signal)
• Adequate sight distance
• Wheelchair accessible ramps
  o Grades
  o Orientation
  o Tactile Warning Strips
• Pedestrian refuge at islands
• Other	

Pedestrian Facilities
• Sidewalk
  o Width
  o Grade
  o Materials/Condition
  o Drainage
  o Buffer
• Pedestrian lighting
• Pedestrian amenities (benches, trash receptacles)
• Other	

Bicycles • Bicycle facilities/design • Separation from traffic • Conflicts with on-street parking • Pedestrian Conflicts • Bicycle signal detection • Visibility • Roadway speed limit • Bicycle signage/markings • Shared Lane Width • Shoulder condition/width • Traffic volume • Heavy vehicles • Pavement condition • Other	

Roadway & Vehicles	
• Speed-related issues o Alignment; o Driver compliance with speed limits o Sight distance adequacy o Safe passing opportunities	
• Geometry o Road width (lanes, shoulders, medians); o Access points; o Drainage o Tapers and lane shifts o Roadside clear zone /slopes o Guide rails / protection systems	

• Intersections o Geometrics o Sight Distance o Traffic control devices o Safe storage for turning vehicles o Capacity Issues	

• Pavement
  o Pavement Condition (excessive roughness or rutting, potholes, loose material)
  o Edge drop-offs
  o Drainage issues
• Lighting Adequacy	

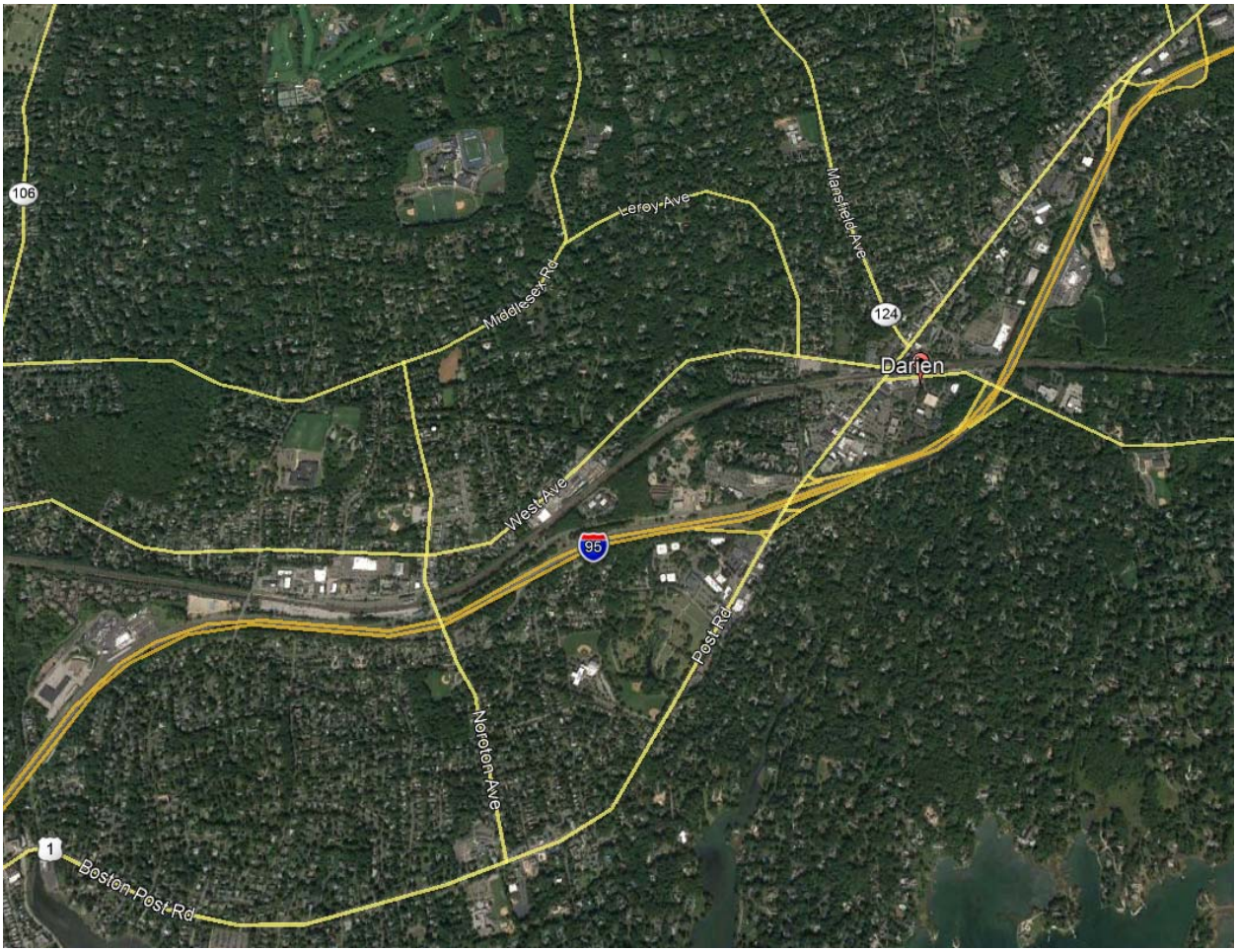
• Signing
  • Correct use of signing
  • Clear Message
  • Good placement for visibility
  • Adequate retroreflectivity
  • Proper support	

• Signals
  o Proper visibility
  o Proper operation
  o Efficient operation
  o Safe placement of equipment
  o Proper sight distance
  o Adequate capacity	

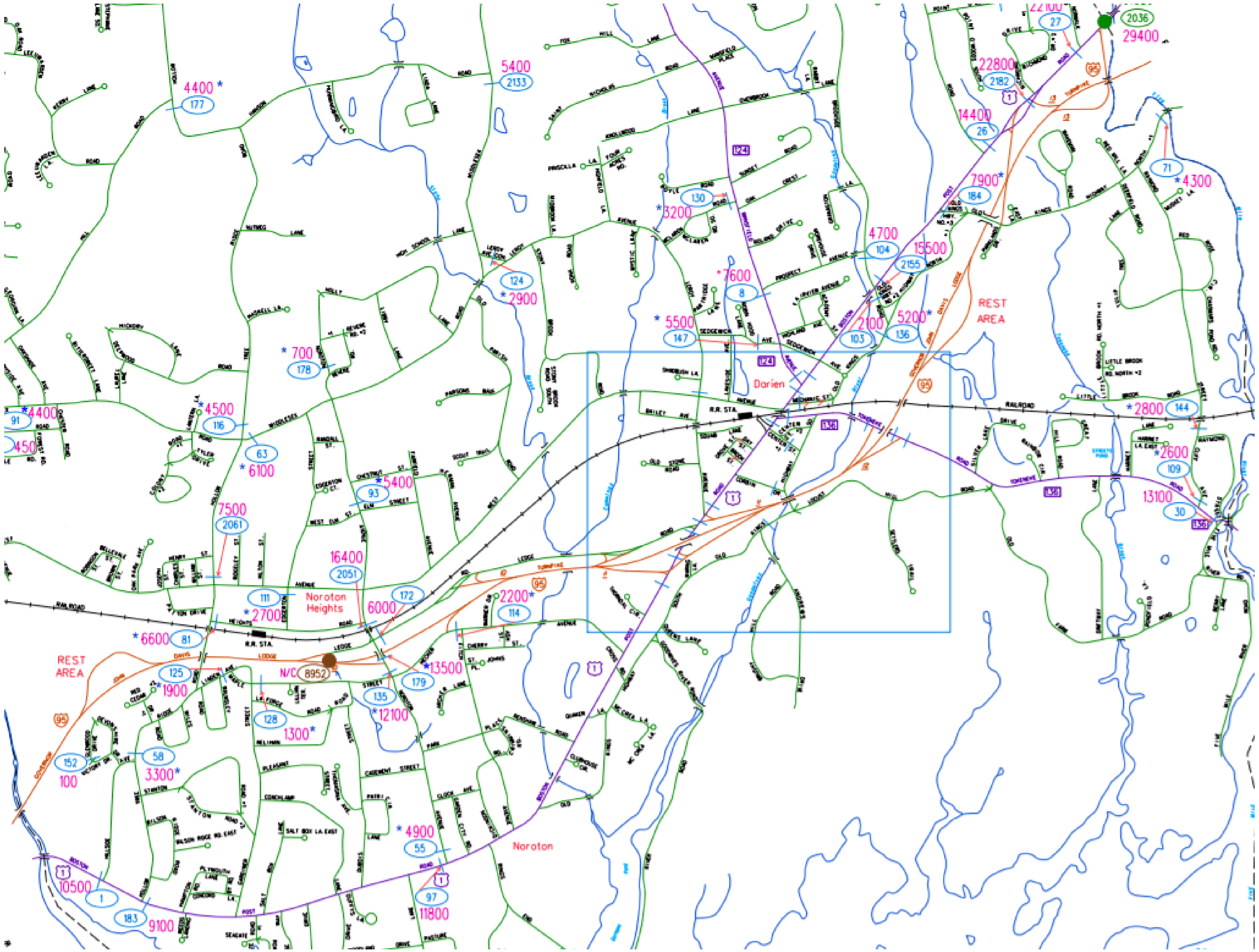
• Pavement Markings
  o Correct and consistent with MUTCD
  o Adequate visibility
  o Condition
  o Edgelines provided	

• Miscellaneous
  o Weather conditions impact on design features.
  o Snow storage	

Location Map



Darien



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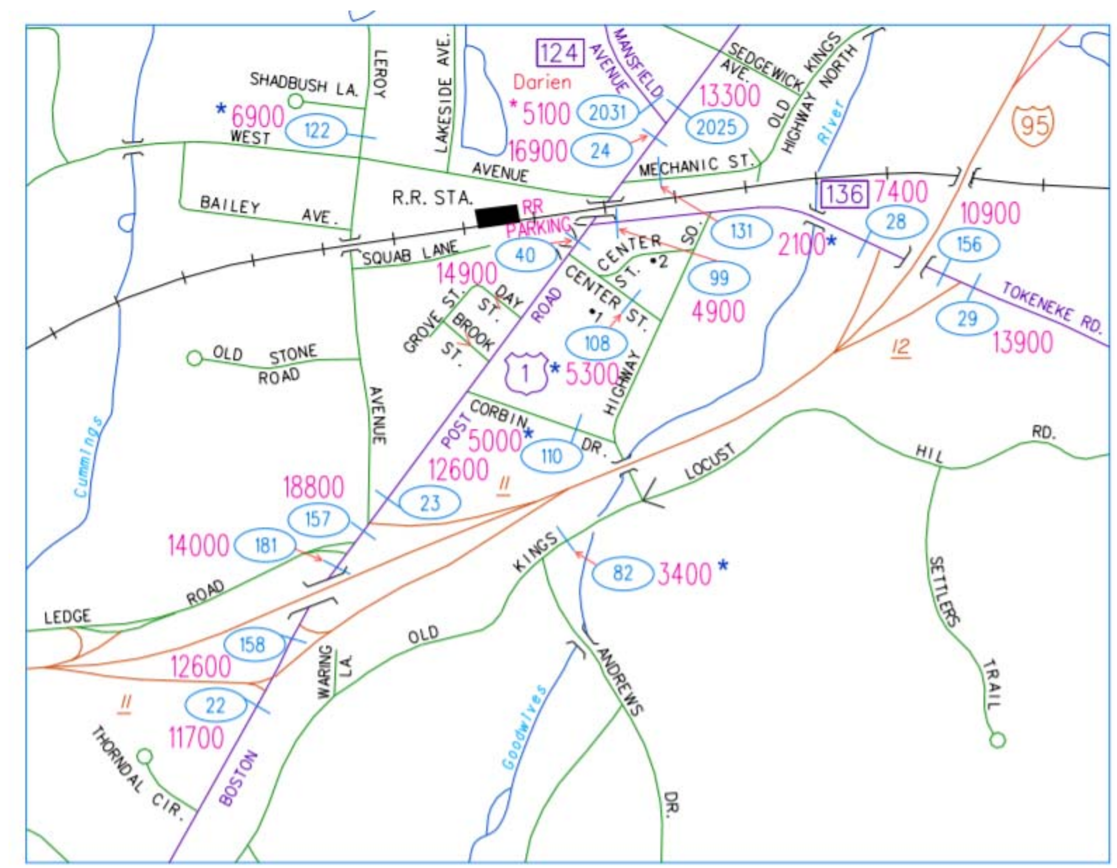
7900
184
71
4300
130
3200
124
2900
4700
104
15500
2155
7600
8
5500
147
2100
103
5200
136
REST
AREA
700
178
Darien
4400
91
4500
116
63
6100
5400
93
2800
144
2600
109
13100
30
7500
2061
16400
2051
111
2700
Noroton
Heights
6000
172
2200
114
6600
81
REST
AREA
N/C
8952
125
1900
13500
179
135
12100
128
1300
152
100
58
3300
4900
55
Noroton
10500
1
183
9100
97
11800
R.R. STA.



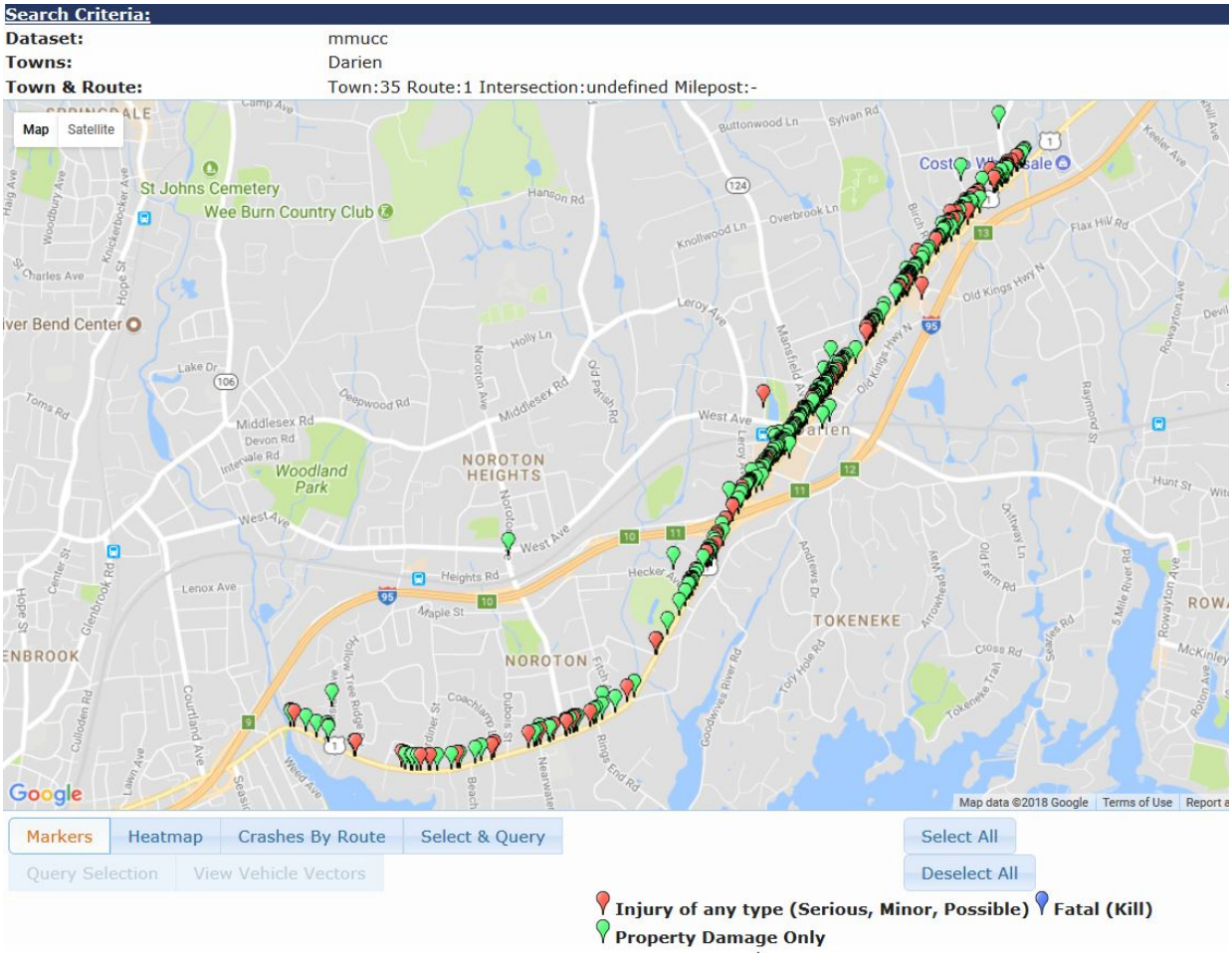
SHADBUSH LA.
LEROY
LAKESIDE AVE.
124
Darien
MANSFIELD AVENUE
SEDGEWICK AVE.
OLD KINGS HIGHWAY NORTH
6900
122
WEST
5100
2031
13300
2025
16900
24
AVENUE
MECHANIC ST.
River
95
BAILEY AVE.
R.R. STA.
RR PARKING
136
7400
28
10900
156
SQUAB LANE
40
14900
131
2100
CENTER ST.
99
4900
29
TOKENEKE RD.
13900
OLD STONE ROAD
GROVE ST.
BROOK ST.
DAY ST.
CENTER ST.
108
1
5300
SO. HIGHWAY
12
AVENUE
CORBIN DR.
POST ROAD
5000
110
12600
LOCUST
HIL
RD.
18800
157
23
Cummings
14000
181
ROAD
KINGS
82
3400
SETTLERS TRAIL
LEDGE
158
OLD
12600
WARING LA.
ANDREWS
22
11700
THORNDAL CIR.
BOSTON
Goodwives
DR.

Road Safety Audit – Darien

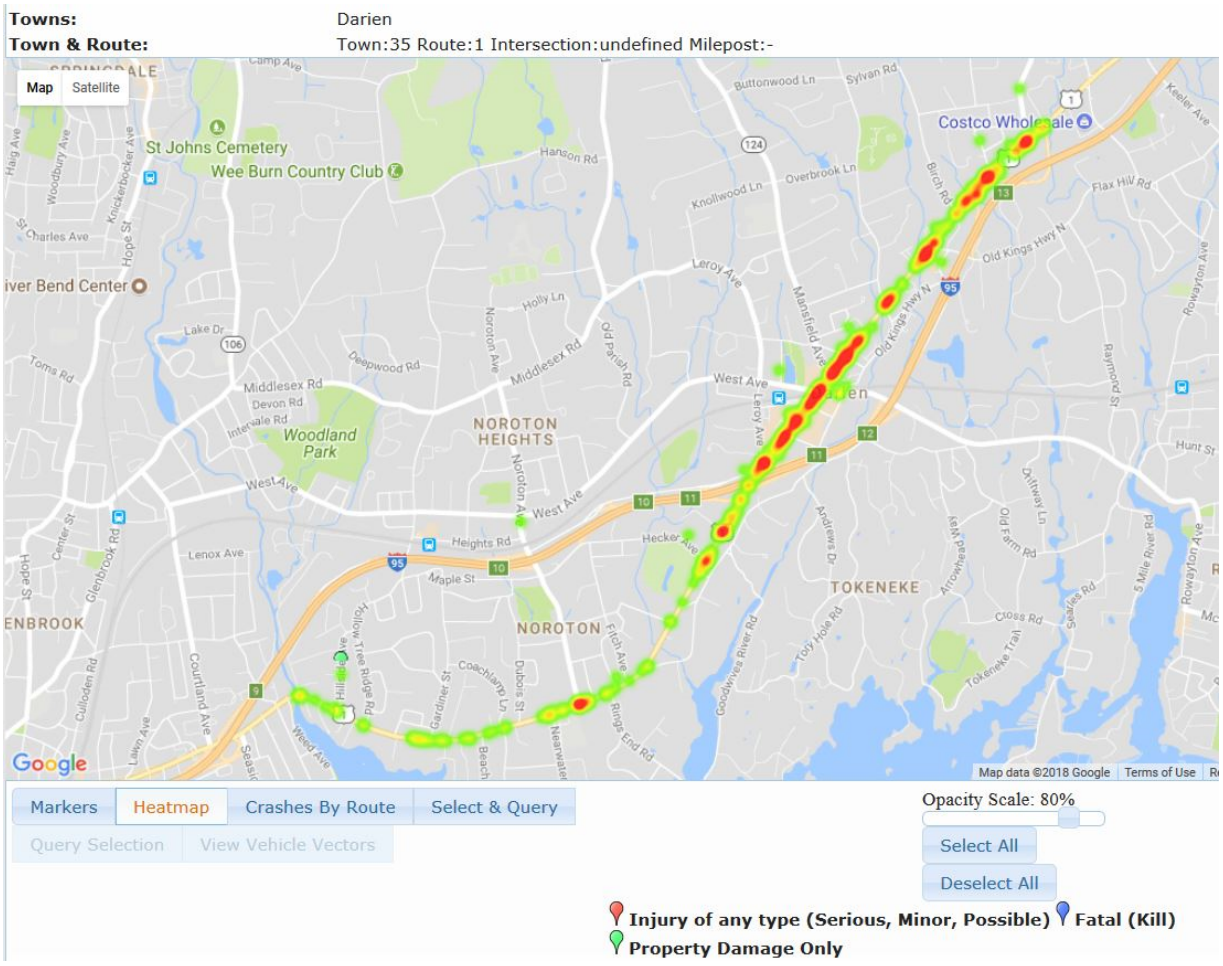
Crash Summary

There were 457 crashes in the last 3 years (2015-2017).

There are no fatal crashes.



Heat Map


Towns: Darien
Town & Route: Town:35 Route:1 Intersection:undefined Milepost:-
Map
Satellite
St Johns Cemetery
Wee Burn Country Club
Costco Wholesale
NOROTON HEIGHTS
Woodland Park
NOROTON
TOKENEKE
Google
Map data ©2018 Google
Terms of Use
Markers
Heatmap
Crashes By Route
Select & Query
Query Selection
View Vehicle Vectors
Opacity Scale: 80%
Select All
Deselect All
Injury of any type (Serious, Minor, Possible)
Fatal (Kill)
Property Damage Only

Data: 3 years (2015-2017)

Severity Type	Number of Crashes	
Property Damage Only	361	79%
Injury of any type (Serious, Minor, Possible)	96	21%
Fatal (Kill)	0	0%
Total	457	

Manner of Crash / Collision Impact	Number of Crashes	
Front to rear	158	35%
Sideswipe, same direction	91	20%
Angle	140	31%
Not Applicable	48	11%
Sideswipe, opposite direction	4	1%
Rear to side	3	1%
Other	5	1%
Unknown	6	1%
Rear to rear	1	0%
Front to front	1	0%
Total	457	

Weather Condition	Number of Crashes	
Clear	361	79%
Snow	4	1%
Cloudy	34	7%
Blowing Sand, Soil, Dirt	0	0%
Rain	52	11%
Fog, Smog, Smoke	4	1%
Blowing Snow	0	0%
Unknown	0	0%
Freezing Rain or Freezing Drizzle	1	0%
Severe Crosswinds	1	0%
Total	457	

Light Condition	Number of Crashes	
Dark-Lighted	70	15%
Daylight	362	79%
Dusk	12	3%
Dark-Not Lighted	11	2%
Dawn	2	0%
Total	457	

Road Surface Condition	Number of Crashes	
Dry	365	80%
Wet	86	19%
Snow	4	1%
Ice / Frost	1	0%
Slush	1	0%
Unknown	0	0%
Standing Water	0	0%
Total	457	

Time		Number of Crashes	
0:00	**0:59**	6	1%
1:00	**1:59**	2	0%
2:00	**2:59**	3	1%
3:00	**3:59**	3	1%
4:00	**4:59**	1	0%
5:00	**5:59**	2	0%
6:00	**6:59**	4	1%
7:00	**7:59**	10	2%
8:00	**8:59**	26	6%
9:00	**9:59**	20	4%
10:00	**10:59**	21	5%
11:00	**11:59**	36	8%
12:00	**12:59**	44	10%
13:00	**13:59**	43	9%
14:00	**14:59**	40	9%
15:00	**15:59**	42	9%
16:00	**16:59**	49	11%
17:00	**17:59**	43	9%
18:00	**18:59**	22	5%
19:00	**19:59**	17	4%
20:00	**20:59**	8	2%
21:00	**21:59**	8	2%
22:00	**22:59**	5	1%
23:00	**23:59**	2	0%
Total		457	

Person Type	Number
Driver	867
Passenger	351
Bicyclist	3
Pedestrian	5

Post-Audit Discussion Guide

Safety Issues

- Confirmation of safety issues identified during walking audit

Potential Countermeasures

- Short Term recommendations

- Medium Term recommendations

- Long Term recommendations

Next Steps

- Discussion regarding responsibilities for implementing the countermeasures (including funding)

Road Safety Audit – DARIEN

Fact Sheet

Functional Classification:

- Route 1 is classified as a Principal Arterial (Other)

ADT

- ADT on Route 1 is 22,800 – 9,100

Population and Employment Data (2016 US Census Bureau):

- Population: 21,392
- Employment: 8,152

Urbanized Area

- The study are of Route 1 is in the Bridgeport - Stamford Urbanized Area

Demographics

- The statewide average percentage below the poverty line is 10.5%
  The poverty level of Darien is 5.4%

- The statewide average percentage minority population is 23%
  The minority level of Darien is 8%

Air Quality

- Darien CIPP number 105
- Darien is within the NY/NJ/CT Moderate Ozone Area
  $PM_{2.5}$ Attainment/Maintenance Area
- Darien is within a Southwestern Region CO Attainment Area


BUSINESS DRIVEWAY
E. MAIN ST
BROOKSIDE DR
WEED AV
NB
WATERBURY AVE
E. MAIN ST
PURDY LN
NB
SPEED LIMIT 35
STAMFORD
DARIEN
OAKLAND TERRACE
CATALPA TERRACE
HILLSIDE AV
NB
BOSTON POST RD
HOLLOW TREE RIDGE RD
NB
NB
HAMPTON RD
WEEDS LANDING
GARDINER ST
NB
NB
SEAGATE RD
SALT BOX LN
LIGHTHOUSE WAY
NB
BEACH DR
NB
BISHOPS GATE RD
COACHLAMP LN
OUTLOOK DR
SPEED LIMIT 30
DUFFYS LN
NB
DUBOIS ST
SPEED LIMIT 35
NB
HEDGE ROW
BOSTON POST RD
NB
NEARWATER LN
MATCH LINE
CONNECTICUT COORDINATE GRID
LEGEND
SIDEWALK BOTH SIDES OF ROAD
SIDEWALK ONE SIDE OF ROAD
NO SIDEWALK
PARKING
CROSS WALK
BUS PULL OFF
ONE WAY
SIGNAL
STOP SIGN
CURRENT DOT PROJECT
B BENCH AT BUS STOP
NB NO BENCH AT BUS STOP
S SHELTER AT BUS STOP

DARIEN RSA

DRAFT


MATCH LINE
NOROTON AV
GARDEN CITY RD
DICKINSON RD
FITCH AV
RINGS END RD
BOSTON POST RD
OLD KINGS HWY S
CLUBHOUSE CIR
RENSHAW RD
BOSTON POST RD
QUAKER LN
CROSS ST
HECKER AV
THORNDAL CIR
NB
SPEED LIMIT 30
SPEED LIMIT 35
JCT 95
SOUTH 1
I-95 ENTRANCE RAMP
ONE-WAY
MATCH LINE
LEGEND
SIDEWALK BOTH SIDES OF ROAD
SIDEWALK ONE SIDE OF ROAD
NO SIDEWALK
PARKING
CROSS WALK
BUS PULL OFF
ONE WAY
SIGNAL
STOP SIGN
CURRENT DOT PROJECT
B BENCH AT BUS STOP
NB NO BENCH AT BUS STOP
S SHELTER AT BUS STOP
DARIEN RSA
DRAFT
SHEET 2 OF 4

MATCH LINE

MATCH LINE

LEGEND

- SIDEWALK BOTH SIDES OF ROAD
- SIDEWALK ONE SIDE OF ROAD
- NO SIDEWALK
- PARKING
- CROSS WALK
- BUS PULL OFF
- ONE WAY
- SIGNAL
- STOP SIGN
- CURRENT DOT PROJECT
- B BENCH AT BUS STOP
- NB NO BENCH AT BUS STOP
- S SHELTER AT BUS STOP

6/13/2018
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DARIEN RSA

DRAFT

SHEET 3 OF 4


MATCH LINE
CONNECTICUT COORDINATE GRID
WARD LN
POND LN
OBERLANDER PL
OLD KINGS HWY N
BIRCH RD
RICHMOND DR
W. NORWALK RD
DARIEN NORWALK
BOSTON POST ROAD
CONNECTICUT AV ROUTE 1
RICHARDS AV
BOSTON POST RD
I-95 SOUTH ENTRANCE
CONNECTICUT AVENUE
ONE-WAY
SPEED LIMIT 35
SPEED LIMIT 30
BUS STOP
NB
B
LEGEND
SIDEWALK BOTH SIDES OF ROAD
SIDEWALK ONE SIDE OF ROAD
NO SIDEWALK
PARKING
CROSS WALK
BUS PULL OFF
ONE WAY
SIGNAL
STOP SIGN
CURRENT DOT PROJECT
B BENCH AT BUS STOP
NB NO BENCH AT BUS STOP
S SHELTER AT BUS STOP
DARIEN RSA
DRAFT
SHEET 4 OF 4

COMMUNITY
connectivity program

Appendix B

Built to deliver a better world

Road Safety Audit

Town: Darien
RSA Location: Route 1
Meeting Location: Darien Town Hall
Address: 2 Renshaw Road
Date: 6/14/2018
Time: 3:00 PM - 7:00 PM

Participating Audit Team Members

Audit Team Member	Agency/Organization
Audit Team Member	Agency/Affiliation
Marlon Pena	DOT
Christian Nielson	AECOM
Kristin Florberg	WestCOG
Nicole Sullivaan	WestCOG
Anna Bergeron	CTDOT
John Amarilios	Darien TV79
Don Anderson	Darien Police Dept.
Jay Lockaby	DOT-Traffic
Frank Adelman	Darien RTM
Ed Gentile Jr.	Town of Darien - DPW
Steve Mitchell	AECOM
Kathleen Buch	Town of Darien
Jayme Stevenson	Town of Darien
Jeremy Ginsberg	Town of Darien
Mark Wheeler	Town of Darien- Public Works Committee
Rocky Genovese	Baywater Properties Darien
Stephen Gazillo	AECOM
Kevin Teseco	AECOM