COMMUNITY
connectivity program

Burlington

George Washington Turnpike – Road Safety Audit

April - 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM

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Acknowledgements:

OFFICE OF INTERMODAL PLANNING
BUREAU OF POLICY AND PLANNING
CONNECTICUT DEPARTMENT OF TRANSPORTATION

With assistance from AECOM Transportation Planning Group

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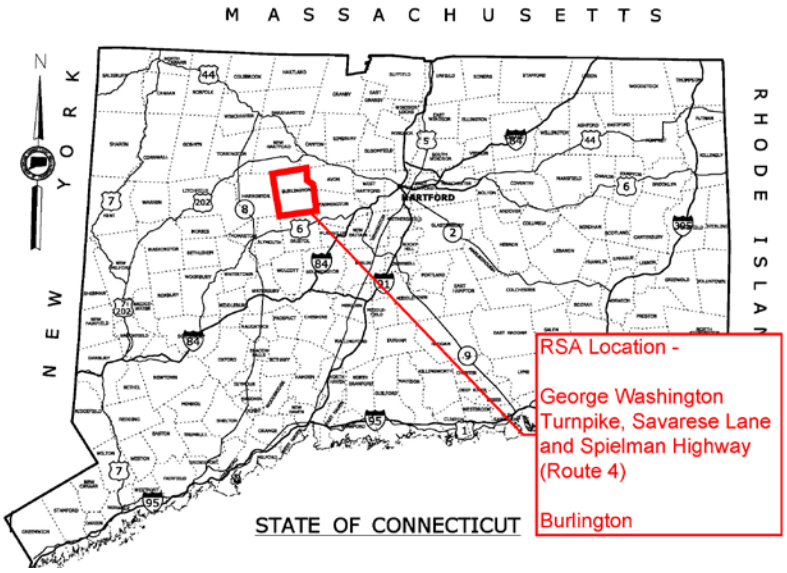
The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this program is conducting Road Safety Audits (RSA's) at 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.



1 Introduction to the Burlington (George Washington Turnpike) RSA

The Town of Burlington submitted an application to complete an RSA at the George Washington Turnpike and Spielman Highway (Route 4) intersection to improve safety for pedestrians and bicyclists. The alignment of this intersection, coupled with traffic volumes on Route 4, has resulted in what is perceived as a challenging environment for pedestrians and bicyclists. The Town of Burlington would like to encourage pedestrian use in this area due to the proximity to recreational facilities, the town library and a teen center.

The Town of Burlington's application contained information on traffic volumes, crash data, and mapping of the intersection. The application and supporting documentation are included in Appendix A.

1.1 Location

The site is the intersection of George Washington Turnpike and Route 4 in the Town of Burlington (Figure 1). Located between these two roads is Burlington's Town Green, which is used for local events. There are no crosswalks or bicycle facilities in this area. Route 4 is a Principal Arterial and provides and east-west connection between Hartford and western Connecticut (Figure 3). As a result, this route is often used by commuters heading to the Hartford area. The Average Daily Traffic (ADT) on Route 4 near the George Washington Turnpike intersection is approximately 11,900.

Figure 1. George Washington Turnpike at Route 4

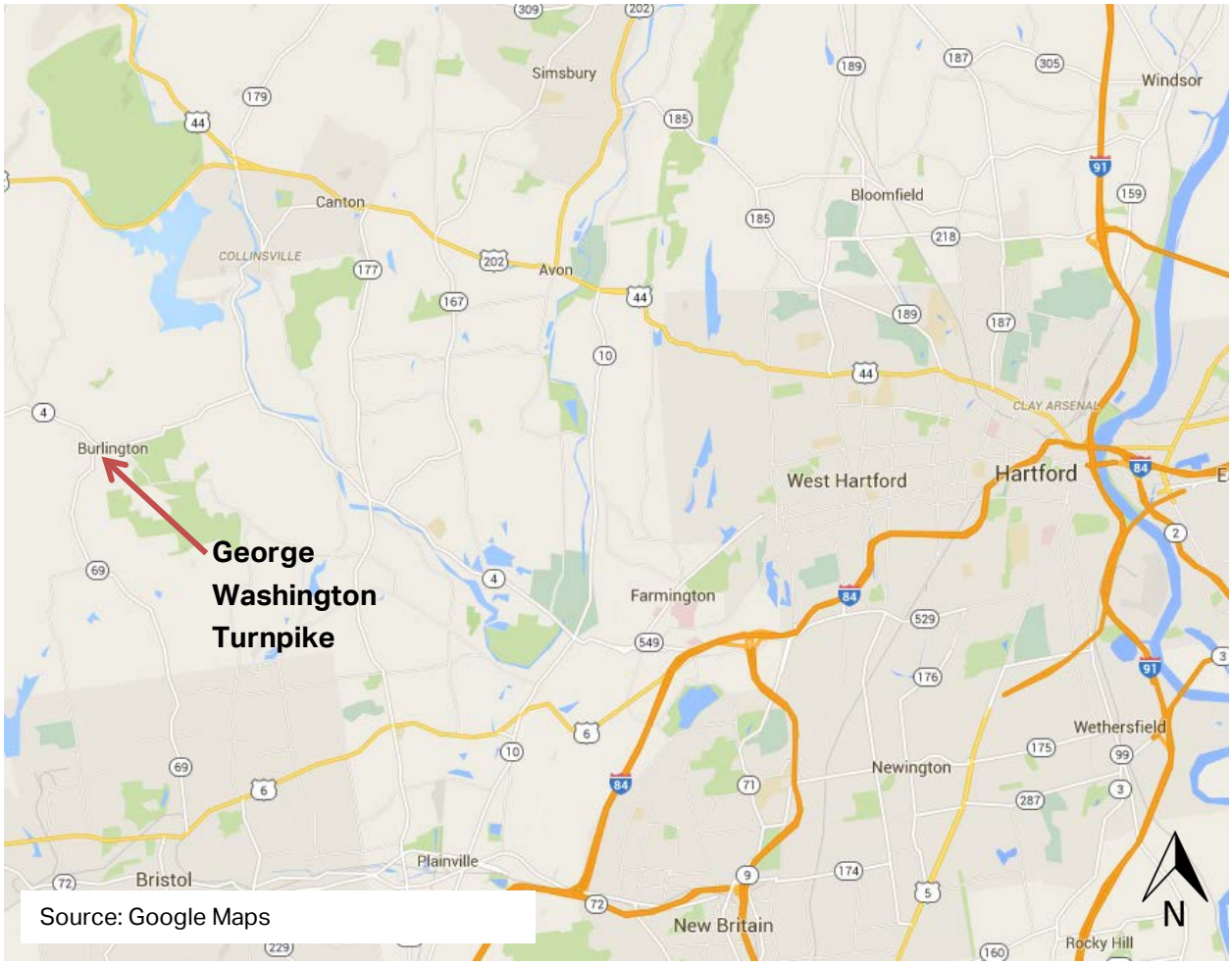


Figure 2. George Washington Turnpike/Route 4 - Regional Context

George Washington Turnpike, a town facility, aligned in a northwest/southeast direction. Route 4 is a state owned and maintained facility, aligned in a relatively straight east/west direction through the intersection with George Washington Turnpike.

2 Pre-Audit Assessment

2.1 Pre-Audit Information

As noted above, traffic volumes are significant at this location given the rural nature of the town. Although the crash history in this area is relatively low, Burlington indicated in their application that the crash rate may be lower because local people are more familiar with the intersection's challenges. Figure 3 displays crashes that occurred in this area during 2015. Table 1 and Table 2 provide additional information on the type of collision as well as the severity of the crash. A majority of crashes in the area of these intersections were angle-type crashes. This is not unusual for an intersection. A majority of crashes, 89%, resulted in property damage only, while one (1) crash resulted in injuries.

Severity Type	Number of Accidents	
Property Damage Only	8	89%
Injury (No fatality)	1	11%
Total	9	

Table 1. Crash Severity

2012-2014

Source: UConn Connecticut Crash Data Repository

Manner of Crash / Collision Impact	Number of Accidents	
Turning-Intersecting Paths	3	33%
Sideswipe-Same Direction	0	0%
Rear-end	2	22%
Angle	3	33%
Backing	0	0%
Turning-Opposite Direction	1	11%
Turning-Same Direction	0	0%
Fixed Object	0	0%
Sideswipe-Opposite Direction	0	0%
Head-on	0	0%
Not Applicable	0	0%
Front to rear	0	0%
Rear to rear	0	0%
Front to front	0	0%
Sideswipe, same direction	0	0%
Sideswipe, opposite direction	0	0%
Total	9	

Table 2. Crash Type

2012-2014

Source: UConn Connecticut Crash Data Repository

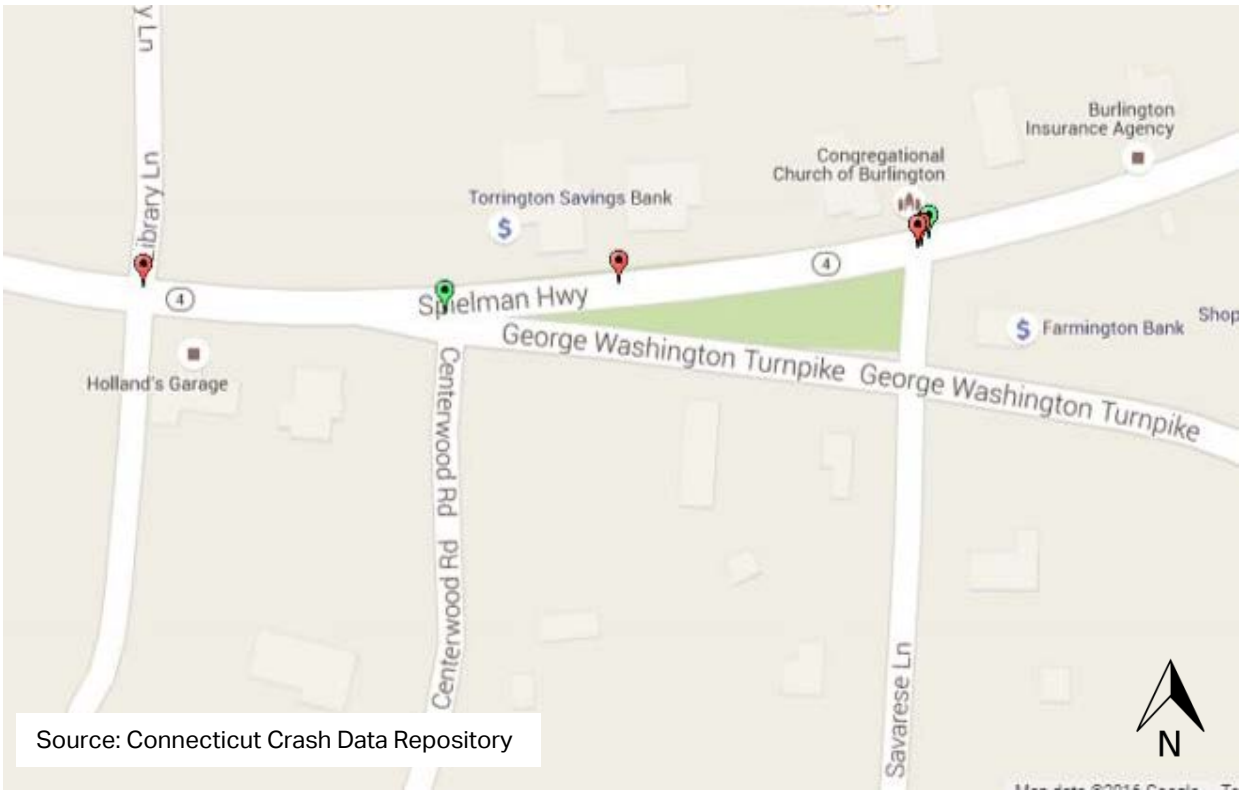


Figure 3. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

The George Washington Turnpike and Savarese Lane intersections with Route 4 are Stop controlled. Both intersections have Stop control on the minor leg approach, with Route 4 being uncontrolled. Adjacent to both of these intersections are driveways for businesses on the north side of Route 4. Activity in this area increases when these businesses are open, as well as on Sunday for church services. The parking lot to the west of the church is also used by Burlington residents for town events. The private driveways along Route 4 create conflicts between through traffic on Route 4 and vehicles turning into and out of the private driveways. Due to the alignment and tight turn radius of George Washington Turnpike at Route 4, northbound right turns out of George Washington Turnpike and westbound left turns from Route 4 to George Washington Turnpike are difficult maneuvers for motorists to make, and even more so for trucks. Pedestrians and bicyclists have to cross a long distance at this location across the George Washington Turnpike approach. There are no crosswalks at this intersection.

The intersection at George Washington Turnpike and Savarese Lane is a 4-way intersection controlled by stop signs at the northbound, southbound and eastbound approaches. The westbound approach is not stop controlled. The stop sign at the eastbound approach to the intersection on Georege Washington Turnpike has a plaque indicating that oncoming traffic

does not stop. However, the two other stop signs at the approaches on Savarese Lane do not have any indications that westbound traffic does not stop.

Due to both vertical and horizontal curves on Route 4, the sight distance is limited for motorists driving westbound on Route 4 approaching Savarese Lane and eastbound approaching George Washington Turnpike. Roadway geometrics for study roadways and intersections are shown in Figure 4.

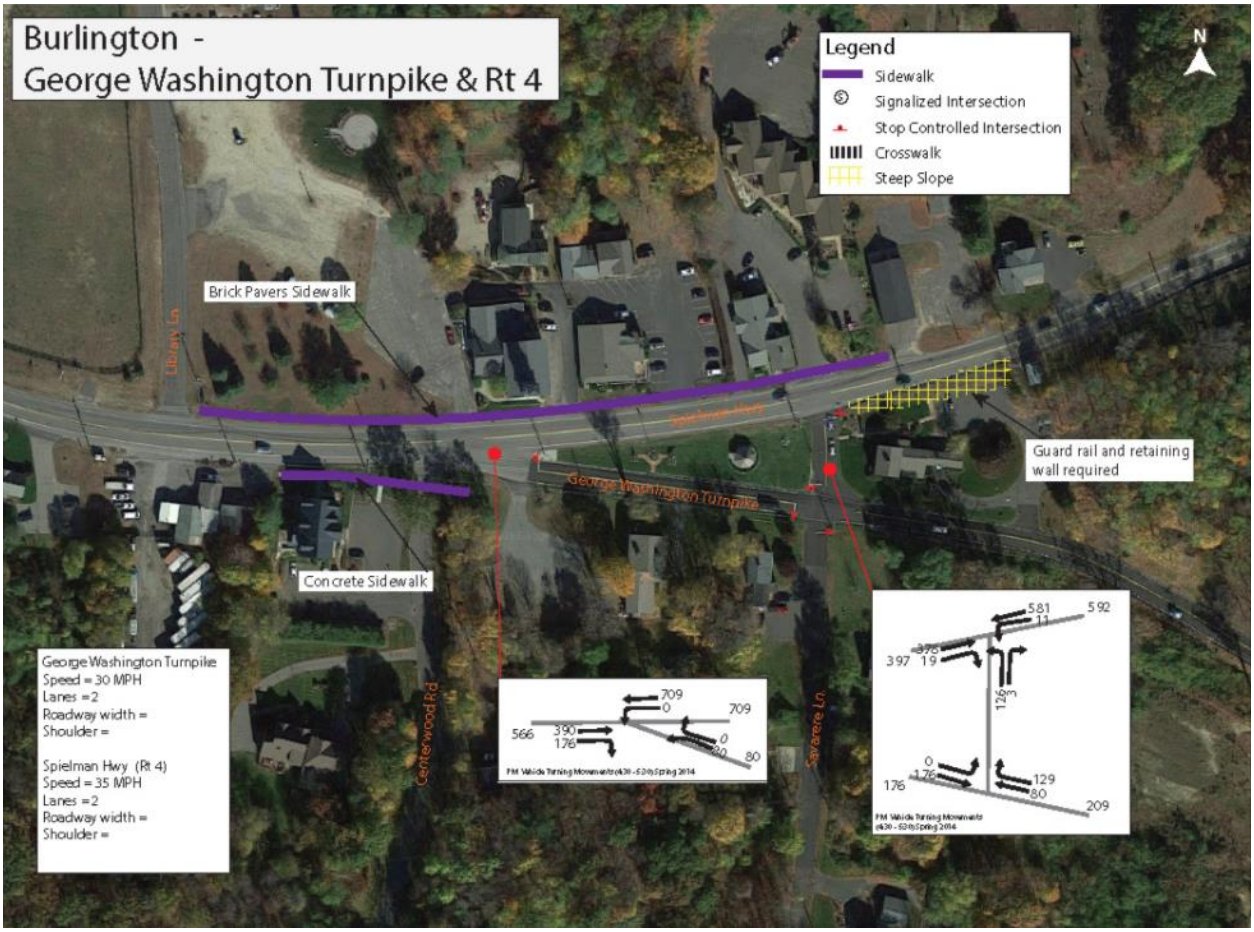


Figure 4. George Washington Turnpike and Route 4 Road Geometrics and Turning Movement Volumes

There is a brick sidewalk on the north side of Route 4 that was recently installed as part of the town's streetscape initiative. The sidewalk is generally six (6) feet in width and has a snow shelf, or grass buffer, from the roadway traffic. An inventory of existing conditions of the intersection can be found in Table 3.

Burlington - George Washington Turnpike, Savarese Lane and Route 4

Intersection Street Inventory

Street	Route	Travel Direction	Width	Sidewalk				Curb	Parking	Shoulder	Ramps	
				Side	Type	Width	Condition *				Exist	Compliant
Spielman Highway	4	2 Way	1 Lane	EB	None	N/A	N/A	Granite	No	1'	No	No
			1 Lane	WB	Paver	6'	Good	Granite	No	2'	No	No
George Washington Turnpike	Local	2 Way	1 Lane	EB	None	N/A	N/A	Asphalt	No	-	No	No
			1 Lane	WB	None	N/A	N/A	Granite	No	-	No	No
Savarese Lane	Local	2 Way	1 Lane	NB	None	N/A	N/A	Asphalt	No	-	No	No
			1 Lane	SB	None	N/A	N/A	Granite	No	-	No	No

***CONDITION – "Good" is Serviceable Condition that meets current design standards. "Fair" is generally serviceable, but may need minor repairs, or may not completely align with current design standards. "Poor" is not serviceable, and generally inadequate for continued long-term use.**

Table 3. Intersection Street Inventory

2.2 Prior Successful Efforts

A number of best practices have already been applied to this area of Burlington. To improve pedestrian amenities, Burlington installed a sidewalk on the north side of Route 4 as part of a streetscape improvement project (Figure 6).

Figure 5. Recently installed sidewalk on Route 4

2.3 Pre-Audit Meeting

The RSA was conducted on April 5, 2016. The Pre-Audit meeting was held at 8:00 AM in the Town Hall located at 200 Spielman Highway in Burlington.

The RSA Team was comprised of staff from CTDOT and AECOM, as well as representatives from several Burlington departments and organizations, including the First Selectmen's Office, Public Works Department, Police Department, Community Services and the Fire Department. The complete list of attendees can be found in Appendix B. Materials distributed to the RSA Team, including the agenda, audit checklist, ADT counts, crash data and road geometrics, can be found in Appendix C.

RSA Team members from Burlington presented relevant information for the audit, including:

- There are poor sight lines on Route 4 westbound approaching Savarese Lane and Savarese Lane looking east.
- There is a tight turn radius for vehicles making a westbound left turn from Route 4 into Savarese lane.
- There are no crosswalks in audit area.
- Burlington indicated there are high vehicle speeds on Route 4.
- Centerwood Road (private road) is poorly aligned at George Washington Turnpike.
- The long-term vision for the center of town is to encourage more services and retail for residents.

3 RSA Assessment

3.1 Field Audit Observations

- Vehicles were observed traveling at high speeds on Route 4.
- Utility poles restrict sight distance on Route 4 at George Washington Turnpike and Savarese Lane (Figure 7).
- Tight turn radius at George Washington Turnpike and Savarese Lane.
- It is difficult for motorists to find a gap in Route 4 traffic and turn left frpm Savarese Lane. This results in vehicle queues that extend back into George Washington Turnpike.
- Short storage length on Savarese Lane between Route 4 and George Washington Turnpike (Figure 8).
- The community served by Centerwood Road has another access option.
- There are no pavement markings at the intersection of George Washington Turnpike and Route 4 to guide motorists. The current alignment encourages high speeds for motorists making a right turn from Route 4 eastbound onto George Washington Turnpike.
- No "Intersection Ahead" signs on Route 4 westbound approaching Savarese Lane.
- The westbound approach on George Washington Turnpike at Savarese Lane is not controlled, but the other three intersection approaches are Stop controlled. This creates driver confusion as to who has the right of way.
- There may be opportunities for access management on Route 4, including driveway consolidation.
- Vehicles turning left (westbound) onto Route 4 from George Washington Turnpike have to inch past the stop bar in order to see oncoming traffic (Figure 9).

Figure 6. Visibility reduced by location of utility poles

Figure 7. Short storage length on Savarese Lane

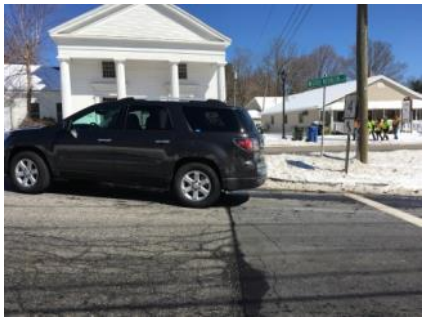


Figure 8. Vehicle past the stop bar on George Washington Turnpike at Route 4

3.2 Post-Audit Workshop - Key Issues

1. There is a lack of signage in Burlington to alert vehicles they are entering the town center area.

2. The sharp grade and location of utilities contribute to poor visibility at the Savarese Lane and George Washington Turnpike intersections at Route 4.

3. The westbound approach at the George Washington Turnpike and Savarese Lane intersection is not controlled (Figure 10). The other three approaches do not have any signs indicating that this intersection is only a 3-way stop.

4. There are no pedestrian crosswalks along Route 4.

5. There are no bike facilities in the area and the existing shoulder width on Route 4 is narrow (Figure 11).

6. Although the posted speed limit is 35 mph, vehicles usually travel faster than this along Route 4. During the audit, team members attempted to measure the width of Route 4 but were unsuccessful due to the volume and speed of traffic.

7. The configuration of the George Washington Turnpike and Route 4 intersection encourages motorists to travel at fast speeds. Due to the angle, the intersection feels more like a highway exit ramp (Figure 12). The Centerwood Road northbound approach to this intersection complicates turning movements and creates added confusion for motorists.

Figure 9. Westbound traffic does not stop on Savarese lane at George Washington Turnpike

Figure 10. Narrow shoulders on Route 4

Figure 11. Route 4 and George Washington Turnpike intersection

4 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 years or more when funding is available.

4.1 Short Term

1) Raise existing signs to seven (7) feet for better visibility (Figure 12).

2) Stop Signs:
   a) Install a new Stop sign on the westbound George Washington Turnpike approach to Savarese Lane (Figure 13).
   b) Install All-Way plaques below all four stop signs (Figure 14).

3) Install "Intersection Ahead" advance warning sign on Route 4 westbound approaching Savarese Lane (Figure 15).

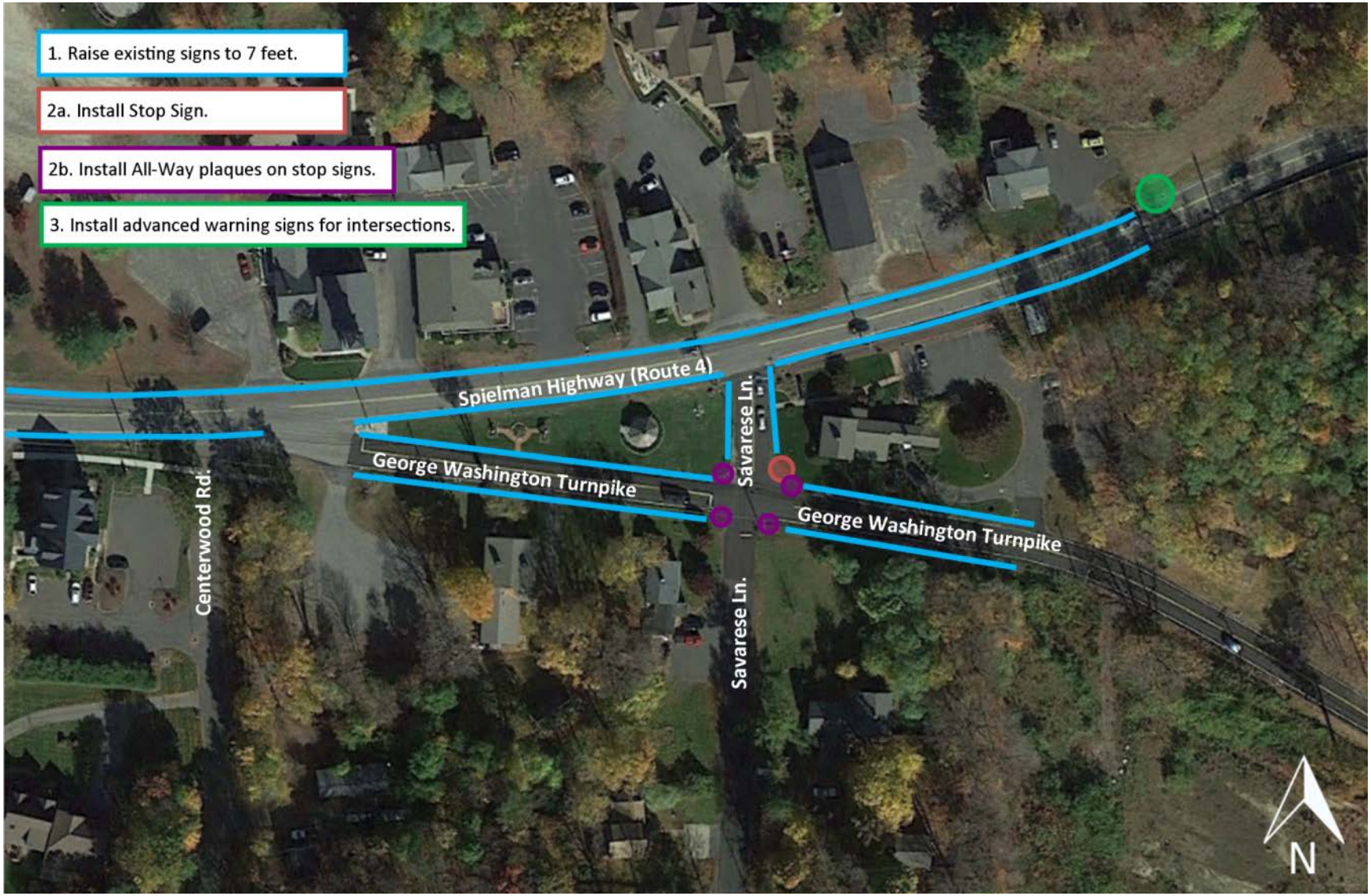
Figure 17 depicts these recommendations.

Figure 12. Raise signs to seven (7) feet

Figure 13. Add stop sign at Savarese Lane westbound approach

Figure 14. Example of an All-Way plaque

Figure 15. Example of Intersection Ahead sign


1. Raise existing signs to 7 feet.
2a. Install Stop Sign.
2b. Install All-Way plaques on stop signs.
3. Install advanced warning signs for intersections.
Spielman Highway (Route 4)
George Washington Turnpike
George Washington Turnpike
Savarese Ln.
Savarese Ln.
Centerwood Rd.
N

4.2 Medium Term

1) Route 4 Eastbound approach to George Washington Turnpike:
   a) Consider providing a bump-out on the Route 4 eastbound departure lane to George Washington Turnpike to help slow vehicles down.
   b) Add pavement markings to help guide motorist's movements (Figure 17).

2) When Route 4 is repaved by the State, Burlington should ask CTDOT to consider increasing shoulder width to provide better accommodation for cyclists (Figure 18).

3) Town to develop a long-range master plan of the center area to improve safety and access and circulation for all modes in coordination with land use development.

4) Town to coordinate with residents on Centerwood Road to consider making Centerwood Road one-way southbound to eliminate conflicts with the northbound approach at George Washington Turnpike/Route 4.

Figure 20 depicts these recommendations.

Figure 17. Add bump-out on southwest corner and pavement markings at George Washington Turnpike/Route 4

Figure 18. Increase shoulder width along Route 4 to improve cyclist safety

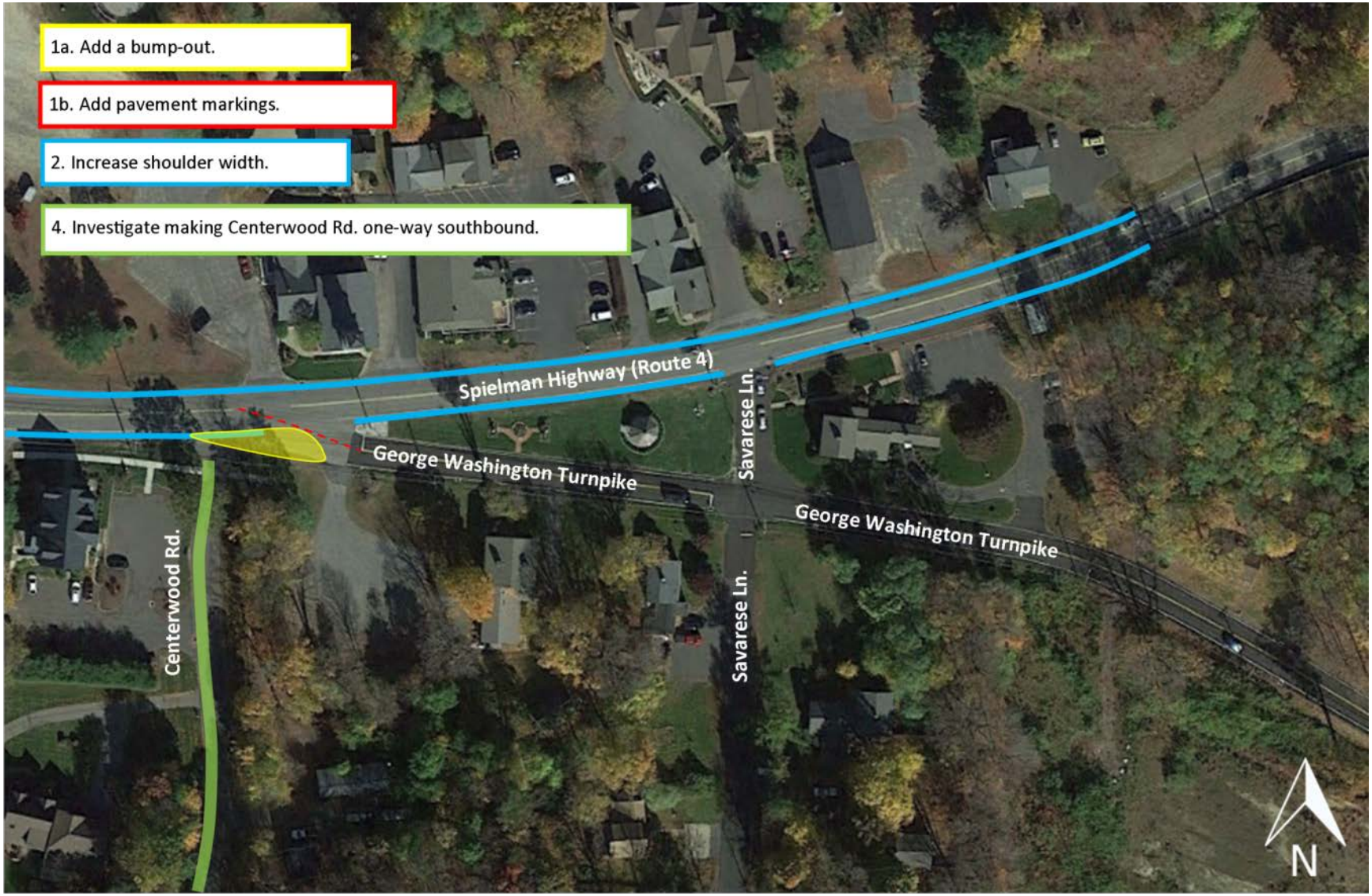


Figure 19. Medium Term Recommendations

4.3 Long Term

1) Make George Washington Turnpike one-way eastbound between Route 4 and Savarese Lane.

2) Evaluate relocating Savarese Lane west of its current location to create a new four-way signalized intersection with Route 4 and the major private driveway on the north side of Route 4.
   a) Add a traffic signal.
   b) Add crosswalks.
   c) Add ADA compliant pedestrian crossing buttons (Figure 20) and signals (Figure 21).

Figure 20. Pedestrian Crossing Button

Figure 21. Pedestrian Crossing Countdown Signal

Figure 23 depicts these recommendations.

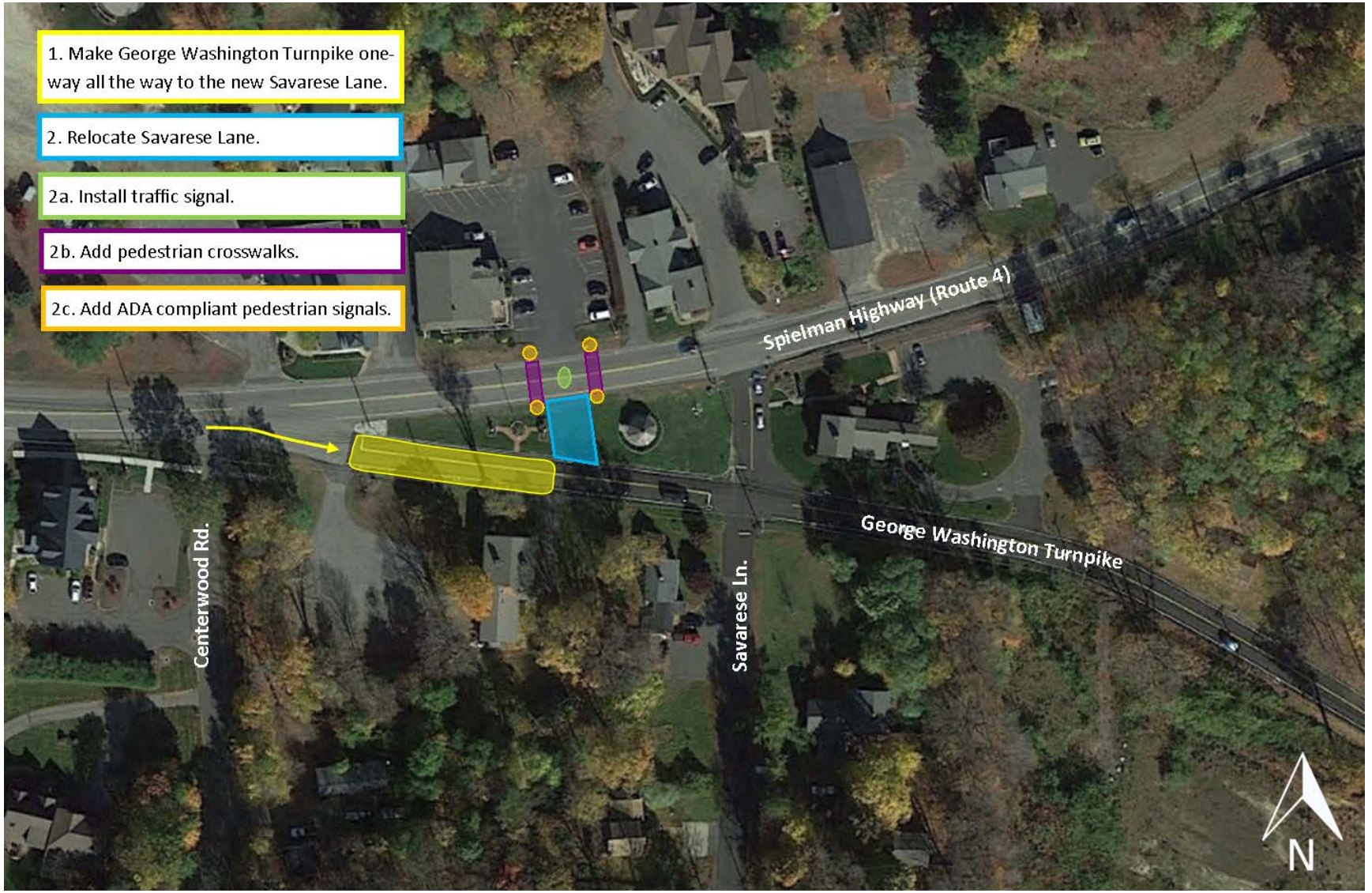


Figure 22. Long Term Recommendations

4.4 Summary

This report outlines the observations, discussions and recommendations developed during the RSA. It documents the successful completion of the Town of Burlington RSA and provides Burlington with an outlined strategy to improve the transportation network at the George Washington Turnpike, Route 4 and Savarese Lane intersections for all road users, particularly focusing on pedestrians and cyclists. Moving forward, Burlington may use this report to prepare strategies for funding and implementing the improvements, and as a tool to plan for including these recommendations into future development in this area.

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Appendix A

Built to deliver a better world

Welcome to the Community Connectivity Program Application

Please fill in the following information to provide the Audit team leaders with a comprehensive description of the area contained in this application.

1. Applicant contact information

Name	Theodore Shafer
Title	First Selectman
Email Address	shafer.t@burlingtonct.us
Telephone Number	(860) 673-6789

2. Location information

Address	760 George Washington Turnpike
Description	triangular intersection of GW turnpike and Connecticut Rt 4
City / Town	Burlington CT

3. Roadway type
(Please select all that apply)

- [x] **State road**
- [x] **Local road**
- [ ] **Private Road**
- [ ] **Other (please specify)**

4. Zoning
(Please select all that apply)

- [ ] **Industrial**
- [ ] **Residential**
- [x] **Commercial**
- [x] **Mixed Use**
- [x] **Retail**
- [ ] **N/A (not applicable)**
- [ ] **Other (please specify)**

5. Approximate mile radius around the location

1/8 mile

Other (Please Specify)

6. Community Sites
(Please select all that apply)

- [x] **Community Centers**
- [x] **Business Districts**
- [x] **Restaurant/Bar Districts**
- [x] **Churches**
- [x] **Housing Complexes**
- [ ] **Proximity to Schools**
- [ ] **Tourist Locations (examples – Casino, Malls, Parks, Aquarium, etc...)**
- [ ] **N/A (not applicable)**
- [ ] **Other (please specify)**

7. Employment Facilities
(Retail, Industrial, etc...)

- [x] **Yes**
- [ ] **No**

If Yes please describe (please specify)

town center with commercial/retail sites, a church, town library, recreation uses and potential lower cost housing in the future

8. Educational facilities
(Please select all that apply)

- [ ] **Public, Parochial, Private Schools (more than 1 school within a ½ mile)**
- [ ] **University / Community Colleges**
- [x] **N/A (not applicable)**
- [ ] **Other (please specify)**

9. Transit facilities
(Please select all that apply)

- [ ] **Bus**
- [ ] **Rail**
- [ ] **Ferry**
- [ ] **Airport**
- [ ] **Park and Ride Lot**
- [x] **N/A (not applicable)**
- [ ] **Other (please specify)**

10. Safety Concerns
(Please select all that apply)

- [x] **Traffic (volumes & speed)**
- [x] **Collisions**
- [x] **Sidewalks**
- [ ] **Traffic Signals**
- [x] **Traffic Signs**
- [x] **Parking Restrictions / Additions**
- [x] **Drainage**
- [ ] **ADA Accommodations**
- [ ] **Agricultural & Live Stock crossing**
- [x] **Maintenance issues (cutting grass, leaves, snow removal)**
- [ ] **N/A (not applicable)**
- [ ] **Other (please specify)**

11. Are there any past, current or future transportation/economic development projects near this location (i.e. Federal, State or local projects)?

Yes

If Yes please describe and list all projects.

There is proposed/projected increase in commercial/retail usage in proximity to the intersection of concern.

An addition to the town library with meeting space located in proximity to the intersection is currently under design with construction to occur within the next year.

There is high potential for increased housing in proximity to the intersection.

12. Environmental Concerns:

N/A not applicable

If Yes please describe and list.

13. Please explain why this location should be considered for an RSA

The intersection that would be assessed is heavily utilized by local traffic,commuters and cyclists. vehicle speeds are high for the area and turning movements from George Washington Turnpike onto Rt 4 are difficult and dangerous for vehicles and cyclists. Pedestrian traffic is being encouraged by the town in this area due to its proximity to recreation facilities, the town library and a teen center. A recently completed phase of a streetscape improvement project consisting primarily of new sidewalks encourages the public to walk through this area of town.

Home purchases and population continue to increase in Town which in turn will cause an increase in vehicle, pedestrian and cycling traffic in this area of Town.

14. Are there plans to expand the area?
(Transportation Oriented Development, Economic Development, housing, etc...)

Yes

Plans are currently being made to promote an increase in commercial/retail development on vacant properties in the area, expand the town library and for market rate housing.

15. Any other pertinent information that is unique to this location?

Yes

The intersection surrounds the town green which has a gazebo for public events, including a September Fair on Labor Day which is attended by 2,000 to 3,000 visitors. The town has concerns about pedestrian, cycling and vehicular traffic at this intersection due to roadway geometry coupled with the speed of traffic along Rt 4. Although accident history is low, this is primarily to do with the fact that people living in the area are well familiar with the issues associated with the intersection and the potential for conflicts between vehicle, pedestrians and cyclists. For travelers that are not familiar with the intersection there is high potential for accidents.

Rt 4, which is part of the study area, has traffic in the range of 12,000 to 14,000 vehicles per day.

The following is a link to a map showing the study area.

https://www.google.ca/maps/place/760+George+Washington+Turnpike,+Burlington,+CT+06013,+USA/@41.7688548,-72.9655705,184m/data=!3m1!1e3!4m2!3m1!1s0x89e7a4f2768afe8d:0x81b12547ea527616

Thank you for completing the Community Connectivity application.

Please click on the "submit button" below and include the following attachments

1. Location map (google, GIS) **(Required)**
2. Collision data (If available)
3. Traffic data (ADT or VMT) (If available)
4. Pedestrian/bicycle data (If available)

Submit Application

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Appendix B

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Road Safety Audit

Town: Burlington
RSA Location: George Washington Turnpike
Meeting Location: Town Hall
Address: 200 Spielman Highway
Date: 4/5/2016
Time: 9:00 AM

Participating Audit Team Members

Audit Team Member	Agency/Organization
Melanie Zimyeski	CTDOT
Anna Bergeron	CTDOT
Ellie Parente	Burlington
Kevin Mellon	Burlington Police
Ted Shafer	Burlington
Scott Tharau	Burlington Public Works
Stephen McDonnell	Town Engineer
Ron Roberts	Burlington
Adam Turick	Burlington Fire Department
Kristin Hadjstylianos	AECOM
Jeff Maxtutis	AECOM
Krystal Oldread	AECOM
Stephen Gazillo	AECOM
Kwame Aidoo	AECOM

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Appendix C

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Road Safety Audit – Burlington – George Washington Turnpike

Meeting Location: Burlington Town Hall
Address: 200 Spielman Highway
Date: 4/5/2016
Time: 9:00 AM

Agenda

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

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

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

9:00 AM **Welcome and Introductions**

- Purpose and Goals
- Agenda

9:15 AM **Pre-Audit**

- Schedule
- Safety Procedures
- Review Site Specific Data:
  - Average Daily Traffic
  - Crash Data
  - Geometrics
- Issues

10:15 AM **Audit**

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

11:30 PM **Post-Audit Discussion / Completion of RSA**

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

1:00 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.

Road Safety Audit – Burlington – George Washington Turnpike

Meeting Location: Burlington Town Hall
Address: 200 Spielman Highway
Date: 4/5/2016
Time: 9:00 AM

Audit Checklist

ROADWAY ACTIVITY	
Issue	**Comment**
With respect to roadway activity please consider safety elements related to the following: • Pedestrians • Bicycles • Public transportation vehicles and riders • Emergency vehicles • Commercial vehicles • Slow moving vehicles	
Pedestrians & Accessibility	
• Signalized crossings • Sufficient time to cross • Adequacy of signage • Crossing delineations and markings • Handicap ramps • Detectable warning devices • Adequate sight distance • Wheelchair accessible ramps (grades and elevation) • Adequate width of crossing islands for wheelchairs • Warning strip for sight impaired • Visual signage for hearing impaired • Sidewalk width • Parkway Condition • Pedestrian refuge at crosswalks • Mid-block crossings (on a state route) • Pedestrian lighting • Pedestrian amenities (benches, trash receptacles) • Other	

Bicyclists	
• Existing bike accommodations or facilities • Separation from traffic • Conflicts with on-street parking • Bicycle signal detection • Visibility • Roadway speed limit • Bicycle directional signage • Vehicular through lanes per direction • Width of outside travel lane to outside stripe • Shoulder condition • Bi-directional traffic volume (in ADT) • Percentage of heavy vehicles • Pavement conditions • On-street parking • Other	

GEOMETRIC DESIGN	
Issue	**Comment**
A. Speed – (Design Speed; Speed Limit & Zoning; Sight Distance; Overtaking	
Are there speed-related issues along the corridor? Please consider the following elements: • Horizontal and vertical alignment; • Posted and advisory speeds • Driver compliance with speed limits • Approximate sight distance • Safe passing opportunities	
B. Road alignment and cross section	
With respect to the roadway alignment and cross-section please consider the appropriateness of the following elements: • Functional class (Urban Principal Arterial) • Delineation of alignment; • Widths (lanes, shoulders, medians); • Sight distance for access points; • Cross-slopes • Curbs and gutters • Drainage features	

C. Intersections	
For intersections along the corridor please consider all potential safety issues. Some specific considerations should include the following: • Intersections fit alignment (i.e. curvature) • Traffic control devices alert motorists as • necessary • Sight distance and sight lines seem appropriate • Vehicles can safely slow/stop for turns • Conflict point management • Adequate spacing for various vehicle types • Capacity problems that result in safety problems	
D. Auxiliary lanes	
• Do auxiliary lanes appear to be adequate? • Could the taper locations and alignments be causing safety deficiencies? • Are shoulder widths at merges causing safety deficiencies?	
E. Clear zones and crash barriers	

For the roadside the major considerations are clear zone issues and crash barriers. Consider the following:
• Do there appear to be clear zones issues?
  • Are hazards located too close the road?
  • Are side slopes acceptable?
• Are suitable crash barriers (i.e, guard rails, curbs, etc.) appropriate for minimizing crash severity?
• Barrier features: end treatments, visibility, etc.	

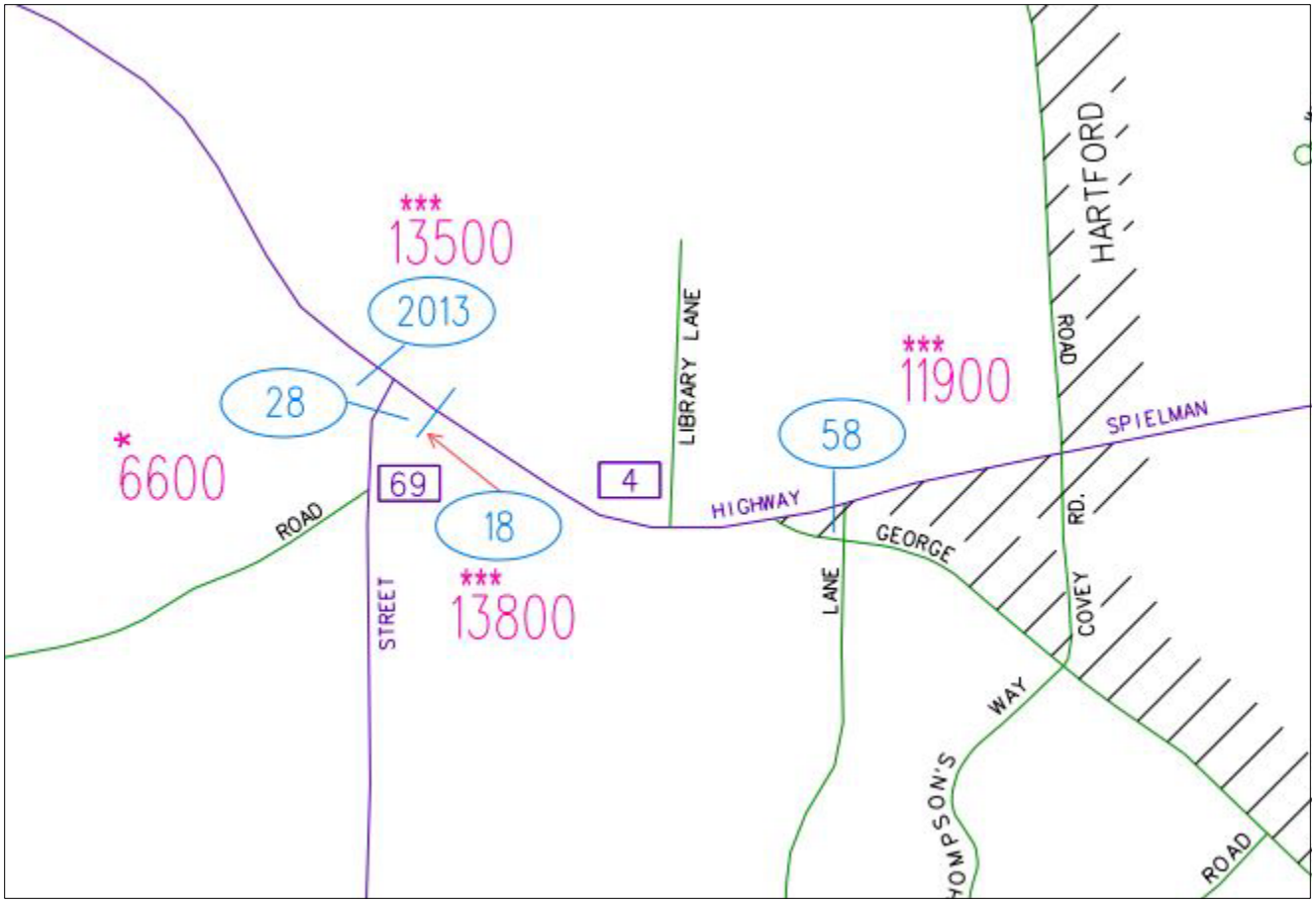
F. Bridges and culverts – (if necessary)	
Are there specific issues related to bridges and culverts that may result in safety concerns?	

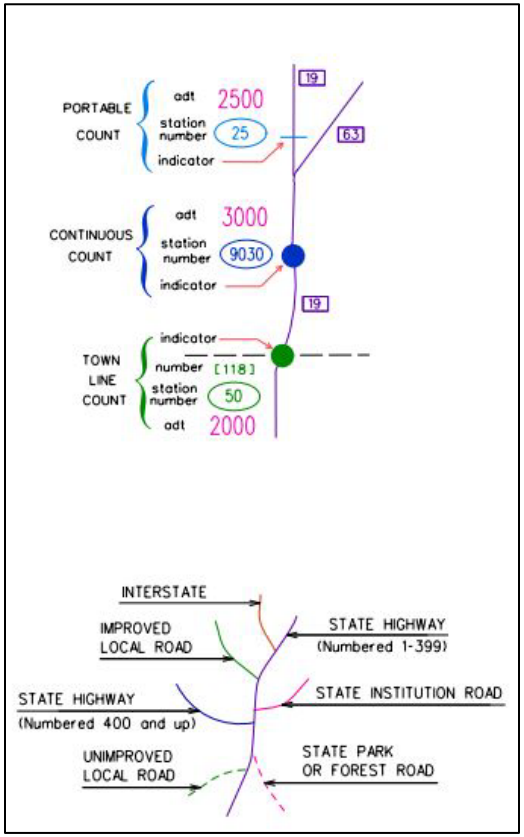
G. Pavement – (Defects, Skid Resistance, and Flooding)	
• Is the pavement free of defects including excessive roughness or rutting, potholes, loose material, edge drop-offs, etc.) that could result in safety problems (for example, loss of steering control)? • Does the pavement appear to have adequate skid resistance, particularly on curves, steep grades and approaches to intersections? • Is the pavement free of areas where flooding or sheet flow of water could contribute to safety problems? • In general, is the pavement quality sufficient for safe travel of heavy and oversized vehicles?	
H. Lighting (Lighting and Glare)	
It is important to consider to the impacts of lighting. Some specifics include the following: • Is lighting required and, if so, has it been adequately provided? • Are there glare issues resulting from headlights during night time operations or from sunlight?	

TRAFFIC CONTROL DEVICES	
Issue	**Comment**
I. Signs	
Signage is a critical element in providing a safe roadway environment. Please consider the following: • Are all current signs visible (consider both night and day)? Are they conspicuous and clear? Are the correct signs used for each situation? • Does the retroreflectivity or illumination appear satisfactory? • Are there any concerns regarding sign supports?	
J. Traffic signals	
• If present, do the traffic signals appear to be designed, installed, and operating correctly? • Is the signal processing the traffic efficiently? • Is the controller located in a safe position? (where it is unlikely to be hit, but maintenance access is safe) • Is there adequate sight distance to the ends of possible vehicle queues?	
K. Marking and delineation	
• Is the line marking and delineation: – appropriate for the function of the road? – consistent along the route? – likely to be effective under all expected conditions (day, night, wet, dry, fog, rising and setting sun, oncoming headlights, etc.) • Are centerlines, edgelines, and lane lines provided? If not, do drivers have adequate guidance?	

ENVIRONMENTAL CONSIDERATIONS	
Issue	**Comment**
Weather & Animals	
From an environmental perspective it is important to consider any potential impacts. Most notably is likely to be the impacts of weather or animals, including: • Possible effects of rain, fog, snow, ice, wind on design features. • Has snow fall accumulation been considered in the design (storage, sight distance around snowbanks, etc.)? • Are there any known animal travel/migration routes in surrounding areas which could affect design?	


Library Ln
4
Spielman Hwy
George Washington Turnpike
Centerwood Rd

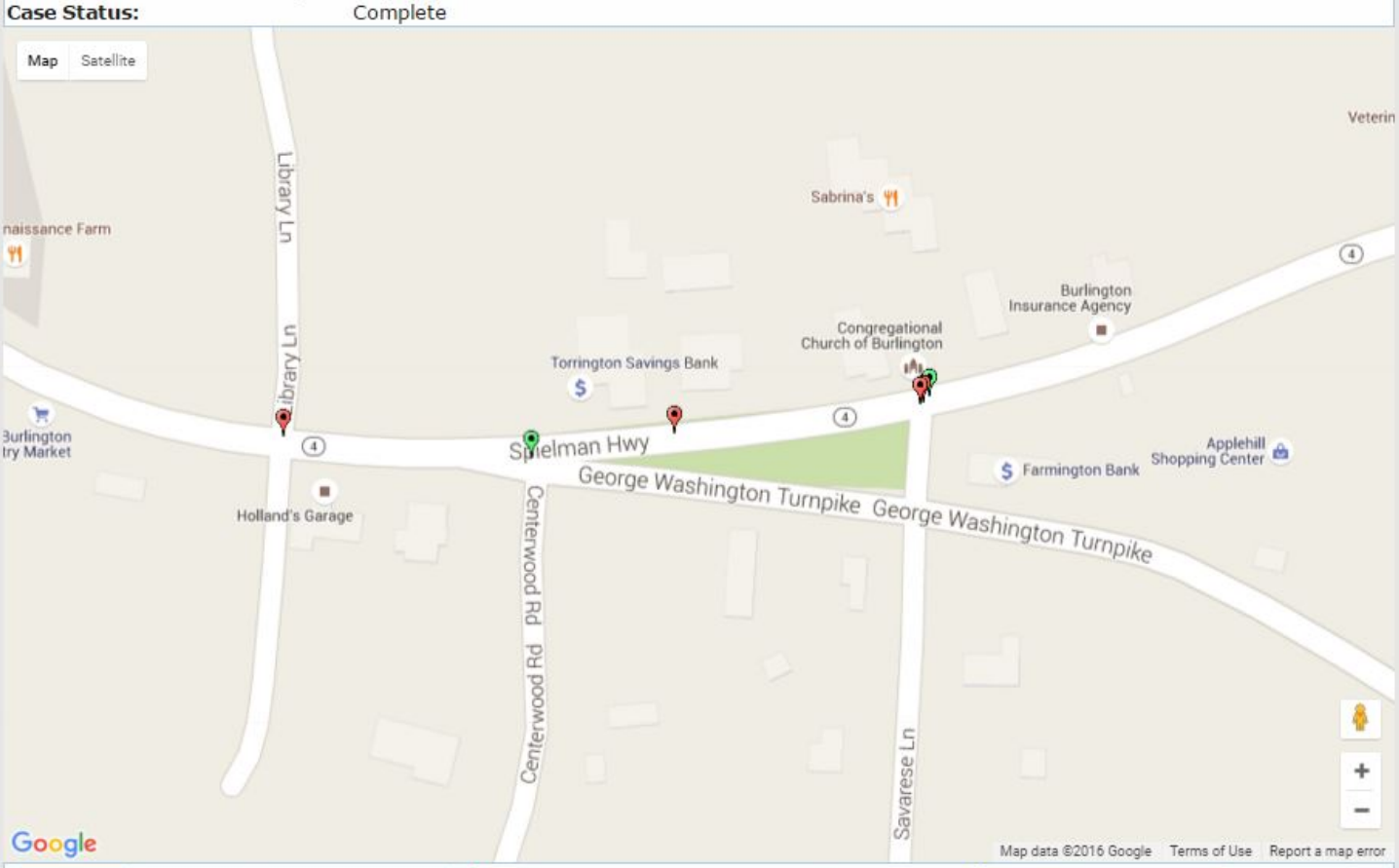

*** 13500
2013
28
* 6600
ROAD
69
18
*** 13800
STREET
4
LIBRARY LANE
*** 11900
58
LANE
HIGHWAY
GEORGE
SPIELMAN
HARTFORD
ROAD
RD.
COVEY
WAY
THOMPSON'S
ROAD


PORTABLE COUNT
adt 2500
station number 25
indicator
19
63
CONTINUOUS COUNT
adt 3000
station number 9030
indicator
19
TOWN LINE COUNT
indicator
number [118]
station number 50
adt 2000
INTERSTATE
IMPROVED LOCAL ROAD
STATE HIGHWAY (Numbered 1-399)
STATE HIGHWAY (Numbered 400 and up)
STATE INSTITUTION ROAD
UNIMPROVED LOCAL ROAD
STATE PARK OR FOREST ROAD

2015 Crashes

UCONN Connecticut Crash Data Repository

Search Criteria:	
Dataset:	mmucc
Towns:	Burlington
Crash Severity:	Injury of any type (Serious, Minor, Possible), Fatal (Kill), Property Damage Only
Body Type:	null, null, null
Condition at Time of Crash:	null, null, null
Driver Distracted By:	null, null, null
Non-motorist Distracted By:	null, null, null
Case Status:	Complete



Markers | Heatmap | Select & Query | Query Selection

Injury of any type (Serious, Minor, Possible) | Fatal (Kill) | Property Damage Only

Select All | Deselect All

Connecticut Crash Data Repository | User Guide | Contact Us

Road Safety Audit – Burlington – George Washington Turnpike

Meeting Location: Burlington Town Hall
Address: 200 Spielman Highway, Burlington
Date: 4/5/2016
Time: 9:00 AM

Crash Summary

Data: 3 years (2012-2014)

Severity Type	Number of Accidents	
Property Damage Only	8	89%
Injury (No fatality)	1	11%
Total	9	

Manner of Crash / Collision Impact	Number of Accidents	
Turning-Intersecting Paths	3	33%
Sideswipe-Same Direction	0	0%
Rear-end	2	22%
Angle	3	33%
Backing	0	0%
Turning-Opposite Direction	1	11%
Turning-Same Direction	0	0%
Fixed Object	0	0%
Sideswipe-Opposite Direction	0	0%
Head-on	0	0%
Not Applicable	0	0%
Front to rear	0	0%
Rear to rear	0	0%
Front to front	0	0%
Sideswipe, same direction	0	0%
Sideswipe, opposite direction	0	0%
Total	9	

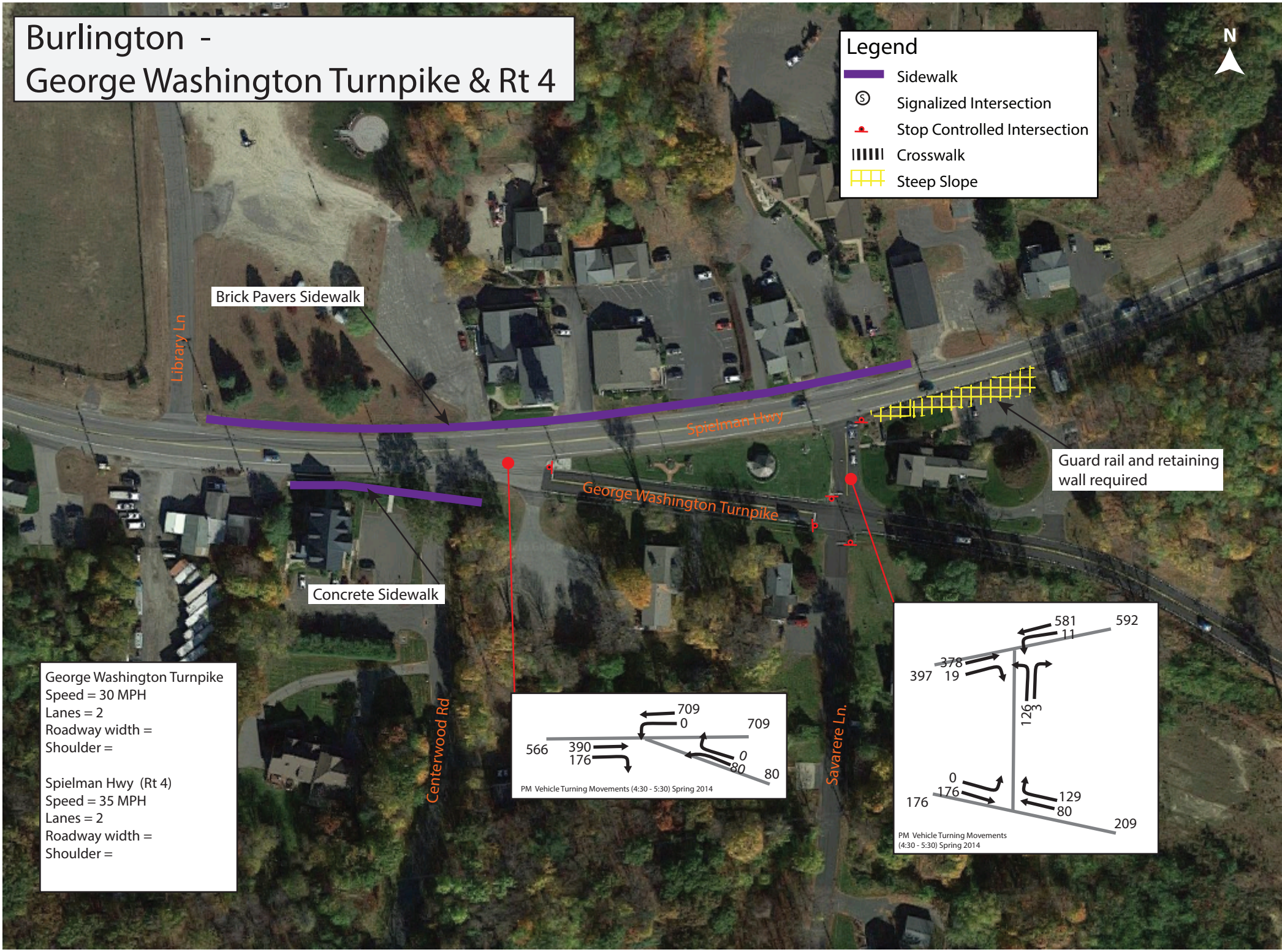
Weather Condition	Number of Accidents	
Clear	0	0%
Snow	0	0%
Rain	1	11%
Unknown	0	0%
Fog	0	0%
Freezing Rain or Freezing Drizzle	0	0%
Fog, Smog, Smoke	0	0%
Cloudy	0	0%
Other	0	0%
No Adverse Condition	8	89%
Total	9	

Light Condition	Number of Accidents	
Dusk	2	22%
Daylight	6	67%
Dark-Lighted	1	11%
Dark-Not Lighted	0	0%
Dawn	0	0%
Unknown	0	0%
Total	9	

Road Surface Condition	Number of Accidents	
Dry	6	67%
Ice / Frost	0	0%
Wet	3	33%
Snow/Slush	0	0%
Unknown	0	0%
Total	9	

Time		Number of Accidents	
0:00	0:59	0	0%
1:00	1:59	0	0%
2:00	2:59	0	0%
3:00	3:59	0	0%
4:00	4:59	0	0%
5:00	5:59	0	0%
6:00	6:59	0	0%
7:00	7:59	0	0%
8:00	8:59	0	0%
9:00	9:59	0	0%
10:00	10:59	0	0%
11:00	11:59	0	0%
12:00	12:59	2	22%
13:00	13:59	0	0%
14:00	14:59	1	11%
15:00	15:59	1	11%
16:00	16:59	2	22%
17:00	17:59	1	11%
18:00	18:59	1	11%
19:00	19:59	1	11%
20:00	20:59	0	0%
21:00	21:59	0	0%
22:00	22:59	0	0%
23:00	23:59	0	0%
Total		9	

Burlington - George Washington Turnpike & Rt 4



George Washington Turnpike
Speed = 30 MPH
Lanes = 2
Roadway width =
Shoulder =

Spielman Hwy (Rt 4)
Speed = 35 MPH
Lanes = 2
Roadway width =
Shoulder =

Road Safety Audit – Burlington – George Washington Turnpike

Meeting Location: Burlington Town Hall
Address: 200 Spielman Highway
Date: 4/5/2016
Time: 9:00 AM

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 – Burlington

Meeting Location: Burlington Town Hall
Address: 200 Spielman Highway
Date: 4/5/2016
Time: 9:00 AM

Fact Sheet

Functional Classification:

- George Washington Turnpike - Collector
- Route 4 – Principal Arterial

ADT

- ADT at this location is 11,900

Population and Employment Data (2014):

- Population: 9,443
- Employment: 903

Urbanized Area

- This location is not within an Urbanized Area.

Demographics

- The statewide average percentage minority population is 30.53%. There are no areas in Burlington exceeding the state's average.

- The statewide average percentage below the poverty line is 10.31%. There are no areas in Burlington exceeding the state's average.

Air Quality

- Burlington's CIPP number 205
- Burlington is within the Greater CT Marginal Ozone Area
- Burlington is within a CO Attainment Area