

Simsbury

Farmington Canal Heritage Trail Crossings June 1, 2016





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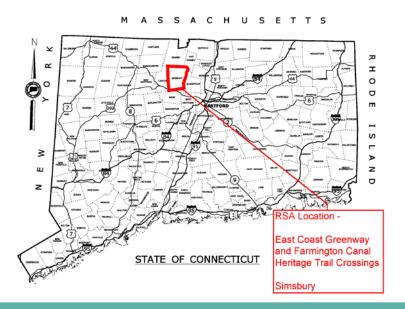
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The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this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

The Town of Simsbury submitted an application to complete an RSA along six Farmington Canal Heritage Trail (FCHT) street crossings near Hopmeadow Street (Route 10) to improve safety for pedestrians and bicyclists. FCHT, which is part of the East Coast Greenway (ECG), has over 12 miles of trails in Simsbury and is a popular attraction for recreational activities. While most of the trails are on pathways separated from vehicular traffic, some sections travel along the roadway and cross streets. Simsbury is particularly concerned about six locations where the trails cross the road. The town is hoping to improve these connections to provide a safer environment for pedestrians and cyclists using the trail.

The Town of Simsbury'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 RSA location is a corridor adjacent to Hopmeadow Street (Route 10) between Canal Street and Wolcott Road in the Town of Simsbury. The trail generally follows the former rail right-of-way for the "Canal Line," which ceased operations in the 1960's. The FCHT crosses Route 10 and several other local roads, including Drake Hill Road and Wolcott Road. The Town of Simsbury has specific concerns regarding pedestrian and cyclist safety in this area due to the level and speed of traffic on Route 10. Average Daily Traffic (ADT) on Route 10 ranges from 17,100 near Canal Street to 9,800 at Wolcott Road. This route serves as the primary north-south connection in Simsbury, and is often used as a thoroughfare to reach neighboring communities. The following six trail crossing areas were identified by Simsbury as the focus of the RSA:

- 1. Wolcott Road
- 2. Route 315 (Tariffville Road)
- 3. Iron Horse Boulevard and Drake Hill Road
- 4. Ensign-Bickford/Dyno-Nobel Drive
- 5. Canal Street/Route 10
- 6. Weatogue crossing/Route 10

Figure 1 provides an overview of the entire corridor and path of the Farmington Canal Heritage Trail and Figure 2 shows the six trail crossings in greater detail.

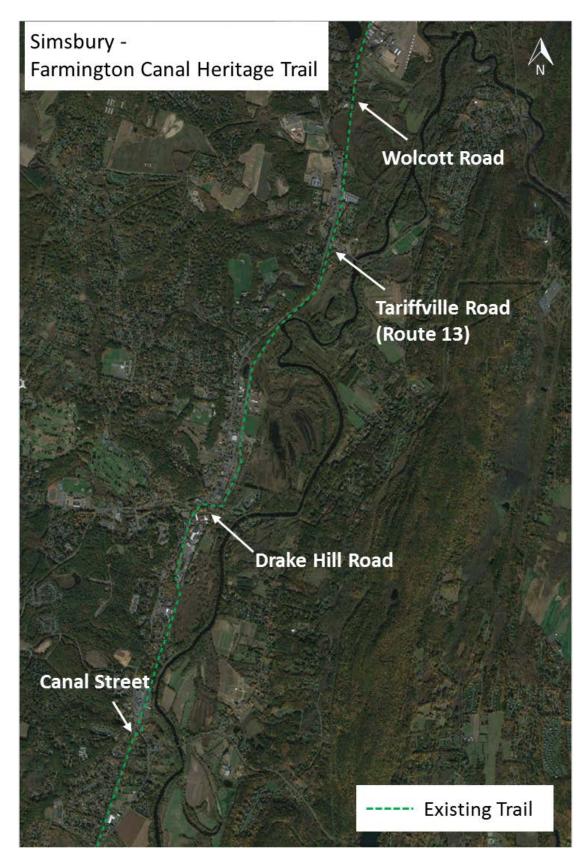


Figure 1. Farmington Canal Heritage Trail

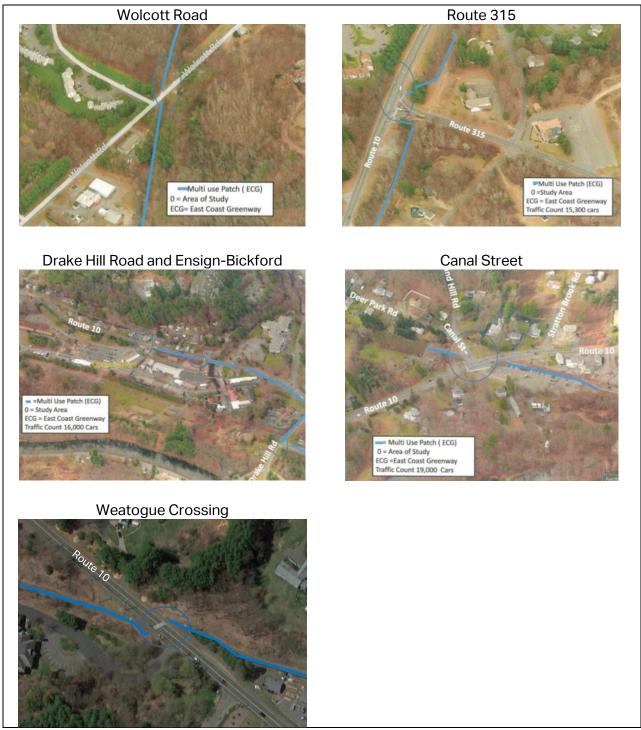


Figure 2. Detailed Trail Crossings



Figure 3. Simsbury Regional Context

Route 10 is a state owned and maintained facility that runs in a relatively straight north/south direction through the center of Simsbury (Figure 3). Route 315 is also a state owned and maintained facility and runs primarily in an east/west direction within the RSA area. Wolcott Road, Drake Hill Road and Canal Street are local roads and fall under Simsbury's jurisdiction for maintenance.

2 Pre-Audit Assessment

2.1 Pre-Audit Information

Between 2012 and 2014, there were 56 crashes near the six trail crossing locations; a majority of these crashes involved rear-end collisions. Figure 4 displays the location of crashes near the trail crossings that occurred in 2015. A cluster of accidents is evident at the Route 10 and Route 315 intersection. The majority of crashes resulted in property damage only, however 10 crashes reported there were injuries to involved parties (Table 1). Although none of these crashes directly involved pedestrians or cyclists, two rear-end crashes on

Route 10 near the Ensign-Bickford/Dyno-Nobel campus were the result of motorists stopping suddenly for pedestrians. In both of these instances, the vehicle did not hit the pedestrians.

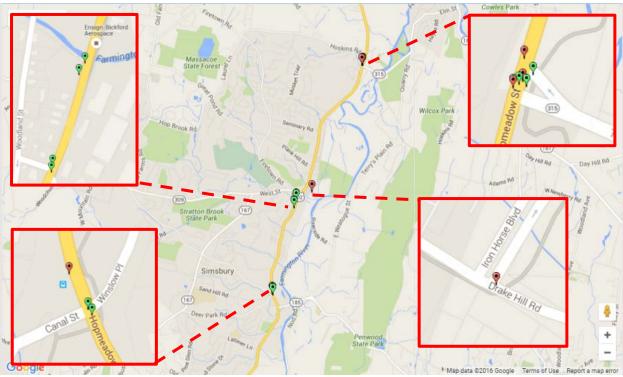


Figure 4. Crashes in 2015

Source: Connecticut Crash Data Repository

	Wol Ro		(Route	lle Road 315) and te 10.	and Dr	rse Blvd. ake Hill ersection	Drake Hi and Ro interse	ute 10		te 10 Ensign	Canal S and Ro interse	ute 10	Wea	togue
Severity Type	Numb	er of	Num	ber of	Num	ber of	Numb	er of	Num	ber of	Numb	er of	Num	ber of
	Cras	shes	Cra	shes	Cra	shes	Cras	hes	Cra	shes	Cras	hes	Cra	shes
Property Damage														
Only	2	67%	16	94%	3	100%	12	86%	7	88%	3	38%	3	100%
Injury (No fatality)	1	33%	1	6%	0	0%	2	14%	1	13%	5	63%	0	0%
Fatality	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	3		17		3		14		8		8		3	

Table 1. Crash Severity

Source: UConn Connecticut Crash Data Repository

	Wol		(Route 3	lle Road B15) and e 10.	and Dr	rse Blvd. ake Hill ersection	Drake Hi and Rou interse	ute 10		te 10 Ensign	Canal S and Ro interse	ute 10	Wea	togue
Manner of Crash /	Numb	er of	Numl	per of	Num	ber of	Numb	er of	Num	ber of	Numb	er of	Num	ber of
Collision Impact	Cras	hes	Cras	shes	Cra	shes	Cras	hes	Cra	shes	Cras	hes	Cra	shes
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Sideswipe-Same														
Direction	0	0%	0	0%	0	0%	2	14%	0	0%	0	0%	0	0%
Rear-end	0	0%	10	59%	1	33%	9	64%	7	88%	8	100%	3	100%
Turning-Intersecting														
Paths	0	0%	2	12%	0	0%	1	7%	0	0%	0	0%	0	0%
Turning-Opposite														
Direction	1	33%	1	6%	0	0%	0	0%	0	0%	0	0%	0	0%
Fixed Object	1	33%	3	18%	2	67%	0	0%	1	13%	0	0%	0	0%
Backing	0	0%	0	0%	0	0%	2	14%	0	0%	0	0%	0	0%
Angle	0	0%	1	6%	0	0%	0	0%	0	0%	0	0%	0	0%
Moving Object	1	33%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	3		17		3		14		8		8		3	

Table 2. Crash Type

Source: UConn Connecticut Crash Data Repository

The trail crossing at Wolcott Road is located approximately a third of a mile from the Route 10 intersection. There is one lane of traffic in each direction that is approximately 13 feet wide. There are no shoulder markings. There are no sidewalks on Wolcott Road near this pedestrian crossing.

The intersection of Route 10 and Route 315 is a signalized "T" intersection, with the trail crossing the Route 315 approach. Westbound traffic on Route 315 approached in two lanes, with the right turn separated by a triangular channelizing island. Travel lanes on Route 315 are approximately 12 to 13 feet in width.

The intersection of Iron Horse Boulevard and Drake Hill Road is an unsignalized "T" intersection, with the southbound Iron Horse Boulevard approach providing two lanes (right turn and left turn) controlled by a stop sign. The eastbound and westbound approaches on Drake Hill Road are free flow. Other than the trail path, there are no sidewalks near this trail crossing.

The trail crossing at the Ensign-Bickford/Dyno-Nobel campus crosses their main entrance driveway. This entrance is part of the Route 10 intersection with Woodland Street and is controlled by a traffic signal. The trail crossing has an exclusive pedestrian crossing phase and signal.

The Canal Street / Winslow Place / Route 10 intersection is a four leg signalized intersection. At this location, the trail crosses Winslow Place/Canal Street and Route 10 from the northeast corner to the southwest corner. There are two painted crosswalks controlled with an exclusive pedestrian phase and signals. The northbound and southbound approaches on Route 10 each have one travel lane and a left turn lane approximately 12 feet in width. The eastbound approach from Canal Street has two lanes, and the westbound approach from Winslow Place has one lane.

In the Weatogue section of Simsbury, just south of Talcott Acres Road, the trail crosses Route 10. This is the only trail crossing of the six observed during the RSA that is controlled by a flashing warning sign. The travel lanes on Route 10, one in each direction northbound and southbound, are approximately 12 feet in width.

Figure 5 shows these crossings in greater detail and an inventory of existing conditions near these six trail crossings can be found in Table 3.

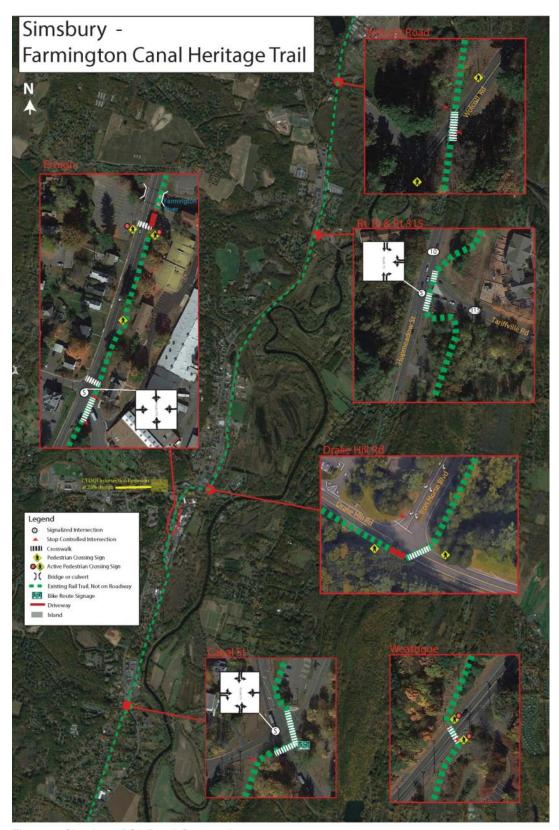


Figure 5. Simsbury RSA Road Geometrics

Simsbury - Farmington Canal Heritage Trail Crossings Street Inventory

						Sidewalk					Ram	ps
Crossing Area	Route	Lanes	Avg. Lane Width	Side	Туре	Width	Condition	Curb	Parking	Shoulder	Exist	Compliant
Wolcott Road		1	12'	EB	No	N/A	N/A	Asphalt	No	N/A	N/A	N/A
		1	12'	WB	No	N/A	N/A	Asphalt	No	N/A	N/A	N/A
Tarffiville Road	Route 315	1	12'	EB	No	N/A	N/A	Asphalt	No	2'-3'	N/A	N/A
		2	12' - 13'	WB	No	N/A	N/A	Asphalt	No	2'-6'	N/A	N/A
Iron Horse Blvd& Drake Hill Rd		1	14'	EB	Asphalt	8'	Good	Asphalt	No	2'-3'	Yes	No
		1	16'	WB	No	N/A	N/A	Asphalt	No	2'-3'	N/A	N/A
Ensign-Bickford/Dyno-Nobel		1	18'	NB	Yes	N/A	Fair	None	No	N/A	Yes	No
		1	18'	SB	No	N/A	N/A	Asphalt	No	N/A	Yes	No
Canal Street		2	12'	NB	No	N/A	N/A	Asphalt	No	3'-4'	N/A	N/A
		2	12'	SB	No	N/A	N/A	Asphalt	No	4'-5'	N/A	N/A
		2	11'	EB	Asphalt	4'-5'	Fair	Asphalt	No	N/A	yes	No
		1	13'	WB	No	N/A	N/A	Asphalt	No	N/A	N/A	N/A
Weatoge		1	12'	NB	No	N/A	N/A	None	No	1'-2'	Yes	No
		1	12'	SB	No	N/A	N/A	None	No	1'-2'	Yes	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 in Simsbury to improve connections for pedestrians and cyclists at the FCHT street crossings. At the trail crossing in the Weatogue area of Simsbury, a flashing pedestrian sign was installed to alert motorists of crossing pedestrians. This sign only flashes when a pedestrian activates the pushbutton on either side of the crosswalk (Figure 6). In addition to the flashing warning device, LED lights (Figure 7) were installed in the pavement and flash when pedestrians or cyclists are in the crosswalk. A stop sign and warning sign (Figure 8) at the Route 315 crosswalk were installed to encourage pedestrians and cyclists to wait for the exclusive crossing signal (Figure 9). Some areas of the trail, such as the crossing at the Ensign-Bickford/Dyno-Nobel driveway, have stop signs and stop bars (Figure 10) to alert pedestrians and cyclist to stop a crossing is approaching. More recently, bike lanes were added along Iron Horse Boulevard and cyclists are encouraged to use these lanes in addition to the trail on the east side of the boulevard.



Figure 6. Weatogue Crossing



Figure 7. LED Lights



Figure 8. Stop Signs on trail



Figure 9. Cyclists Crossing During Signal



Figure 10. Stop Sign and Stop Bar on Trail



Figure 11. Trail Along Drake Hill Road

2.3 Pre-Audit Meeting

The RSA was conducted on June 1, 2016. The Pre-Audit meeting was held at 8:30 AM in the Simsbury Town Hall located at 933 Hopmeadow Street in Simsbury.

The RSA Team was comprised of staff from CTDOT, staff from AECOM, and representatives from several Simsbury departments and organizations including the Public Works Department, Bike and Pedestrian Committee, Police Department, and Dyno-Nobel. 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 Simsbury presented relevant information for the audit, including:

- Trail counts, conducted by the Capitol Region Council of Governments (CRCOG), indicated during a peak two-hour period the trail has over 250 visitors.
- Motorists may not expect pedestrians or cyclists at the crossings due to a lack of advanced signage.
- Dyno-Nobel previously completed a "mini-RSA" regarding the trail crossing and connections on their campus.
- Dyno-Nobel indicated that a certain distance is required between their property and the trails due to security reasons and potential hazards.
- Simsbury would prefer to remove bollards, where appropriate, along the trail.
- The American League of Bicyclists designated Simsbury as a Silver Bike Friendly Community.

3 RSA Assessment

3.1 Field Audit Observations

Wolcott Road

- Existing signs are low to the ground and inconsistent in color (Figure 12).
- Signs are blocked by overgrown vegetation.
- Crosswalk is located at the crest of the road. Its location may reduce visibility to motorists.
- Very little visual cue for motorists that there is a trail crossing.

Route 315

- Pedestrian push button is located on the wrong side of the trail.
- Only one pedestrian signal has a countdown.
- Pedestrian crossing signal is 40 seconds long.
- If a pedestrian or cyclist is on the triangular channelizing island, there is no pedestrian push button to grant a crossing (Figure 13).
- Vehicles turning right onto Route 10 from Hopmeadow do not always obey the traffic signal.
 Simsbury indicated that motorists have been observed rolling past the stop bar.
- The corners on each side of this crosswalk have a buildup of sand/dirt (Figure 13).

Iron Horse Boulevard & Drake Hill Road

- Overgrown vegetation is blocking existing signage (Figure 14).
- Iron Horse Boulevard has a bike path. It is not clear
 if cyclists are allowed on the sidewalks in this area
 or should remain on roadway in bike path.
- Vehicles travelling westbound on Drake Hill Road have little visibility of pedestrian sign due to overgrown vegetation.



Figure 12. Signs with Inconsistent Colors and Low to the Ground



Figure 13. Triangular Channelizing island and Sand Buildup at Crosswalk.



Figure 14. Overgrown Vegetation

 Crosswalk is at an angle. During the audit, pedestrians and cyclists were observed crossing this intersection in paths other than the painted crosswalk (Figure 15).

Ensign-Bickford/Dyno-Nobel

- A bollard is only on the south side of this crossing.
- Pavement in the crosswalk area is in poor condition.
- The north side of this crossing has concrete, brick and asphalt (Figure 16).

Canal Street

- The trail leads users onto Canal Street and does not easily channel users to the sidewalk where the pedestrian crossing is located
- There is "No Turn on Red" sign on the southbound approach to this intersection. The other legs are not signed.
- The shoulder/landing area is small and is not able to accommodate more than a few pedestrians or cyclists at a given time.
- Sharp S-curve at NE side.
- This intersection has an exclusive Pedestrian signal phase. Pedestrians were observed crossing diagonally.

Weatogue

• LED flashers in road do not appear to be functional (Figure 17).



Figure 15. Crosswalk is Painted at an Angle



Figure 16. Sidewalk and Trail Have Multiple Surface Types



Figure 17. LED Flashers

3.2 Post-Audit Workshop - Key Issues

- Signage is inconsistent at each of the crossings.
 Some signs are located too low to the ground and are inconsistent in color.
- 2. Some areas have overgrown vegetation that reduces visibility.
- Not all crosswalks have advanced warning signs to alert motorists that a pedestrian crosswalk is approaching.
- 4. The crosswalk at Wolcott Road is located on the crest of the hill and may be difficult for motorists to see (Figure 18). The crosswalk is also skewed, which makes it a longer distance to cross.
- 5. Signage is not clear at the Drake Hill Road and Iron Horse Boulevard to indicate where cyclists are meant to travel (sidewalk versus bike lane). The bike symbol painted on the bike lane is located further back from the intersection.
- 6. Pedestrians and cyclists at the Canal Street and Route 10 intersection have been observed crossing diagonally instead of on the painted crosswalks. The landing shoulders at this intersection are small and there is not enough room to accommodate multiple pedestrians and cyclists at a time (Figure 19).
- 7. Pedestrian crossing signal heads and pushbuttons are not up to current ADA standards (Figure 20).
- 8. Bollards on the trail are inconsistent and some are in poor condition.



Figure 18. Crosswalk on Crest of Hill



Figure 19. Small Landing Area



Figure 20. Pedestrian Pushbutton

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. Signage:

- a. Correct signage height to meet MUTCD standards.
- b. Use consistent colors for all signs.
- c. Use combined pedestrian and cyclist sign to decrease the number of posted signs (Figure 21).
- d. Add advanced warning signs near pedestrian crosswalks.

2. Crosswalk:

- a. Repaint worn crosswalks.
- b. Investigate using triangular yield lines before crosswalk to warn motorists of crossing.
- c. Consider adding paint or stop bar on trail prior to intersection with the road. These can serve as visual clues to alert pedestrians and cyclists on the trail that a road crossing is approaching.

3. Crosswalk at Route 315

- a. Repaint crosswalk and define the crosswalk in the pedestrian refuge/ triangular channelizing island (Figure 22).
- b. Investigate methods to prevent buildup of dirt/sand at corners of the crosswalks.
- 4. Paint bike symbol in the bike lane closer to the intersection at Iron Horse Boulevard and Drake Hill Road (Figure 23).
- 5. Install signs on Iron Horse Boulevard sidewalk indicating bikes are allowed (particularly for slower cyclists or families).

- 6. Install advanced warning signs on trail that an intersection with a commercial driveway is approaching (due to heavy truck traffic) near the Ensign-Bickford/Dyno-Nobel crossing.
- 7. Remove bollard on south side of Ensign-Bickford/Dyno-Nobel crossing (Figure 24).
- 8. Install wood guardrail between Canal Street and the trail path (Figure 25).
- 9. Remove bollard on the trail at the Canal Street intersection.
- 10. Replace LED lights in pavement at the Weatogue crossing (Figure 26).

Figure 27 depicts these recommendations.



Figure 21. Combined Pedestrian and Cyclist Sign



Figure 22. Repaint Crosswalk



Figure 23. Paint Bike Symbols on Iron Horse Boulevard



Figure 24. Remove Bollard



Figure 25. Add Wood Guardrail and Remove Bollard



Figure 26. Replace LED Lights

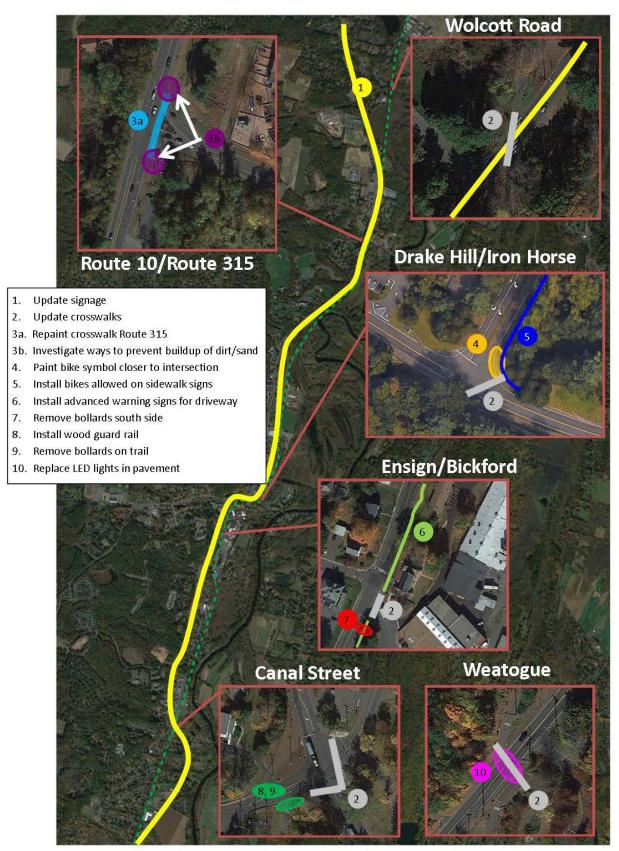


Figure 27. Short Term Recommendations Map

4.2 Medium Term

- 1. Investigate narrowing lane widths on local roads near the trail crossings.
- 2. Upgrade all pedestrian crossing signals to meet current ADA regulations, including:
 - a. Audible signal.
 - b. Countdown pedestrian head (Figure 28).
- 3. Consider implementing the following upgrades at the pedestrian refuge/triangular channelizing island at the Route 10 and Route 315 intersection:
 - a. Install pedestrian pushbutton (Figure 29).
 - b. Add curbing to further define crosswalk area.
 - c. Move crosswalk area to the west to allow a buffer area between the crosswalk and Route 10 (Figure 30).
- 4. Move stop bars at the Route 10 and Route 315 intersection to tighten turning radius (Figure 31).
- 5. At the Drake Hill Road and Iron Horse Boulevard intersection, move the ramp on Drake Hill to the west of the driveway and square up the crosswalk.
- 6. At the northern side of the Ensign-Bickford/Dyno-Nobel crossing, move the existing concrete sidewalk and asphalt trail path closer to the building. This will create a buffer area between the trail and roadway.
- 7. Expand refuge areas at the Canal Street and Route 10 intersection to increase room for additional pedestrians and cyclists (Figure 32).

Figure 33 depicts these recommendations.



Figure 28. Countdown Signal



Figure 29. Pushbutton



Figure 30. Pedestrian Refuge



Figure 31. Tighten Turning Radius



Figure 32. Expand Landing Area

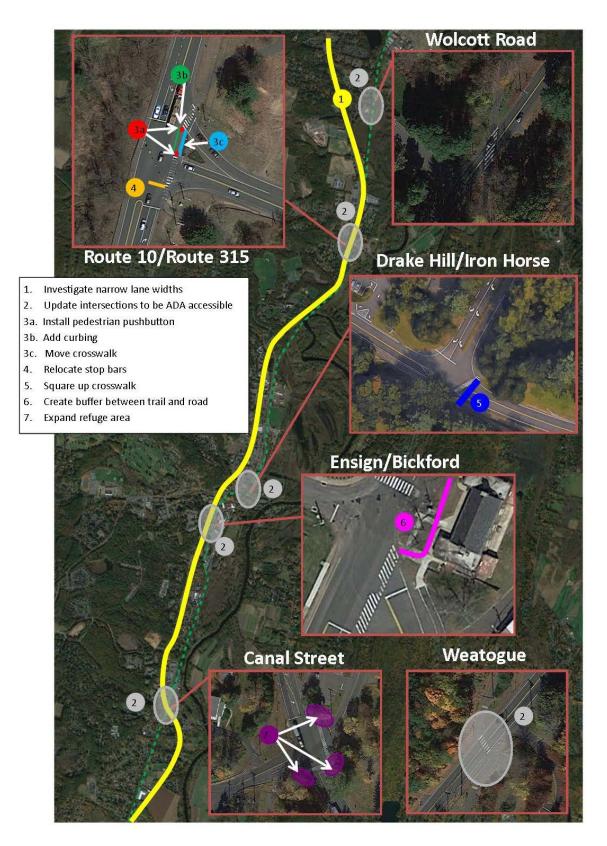


Figure 33. Mid Term Recommendations Map

4.3 Long Term

- 1. Investigate removing the existing right turn channelizing island at the intersection of Route 10 and Route 315. This will result in a shorter crossing distance for pedestrians and cyclists (Figure 34).
- 2. Investigate relocating parts of the trail away from Route 10.
- 3. Investigate reconfiguring the trail crossing at Wolcott Road to create a perpendicular crossing.
- 4. Install a solar flashing pedestrian warning signal system at the Wolcott Crossing

Figure 35 depicts these recommendations and the potential trail connection alignment.





Figure 34. Route 10 and Route 315 intersection

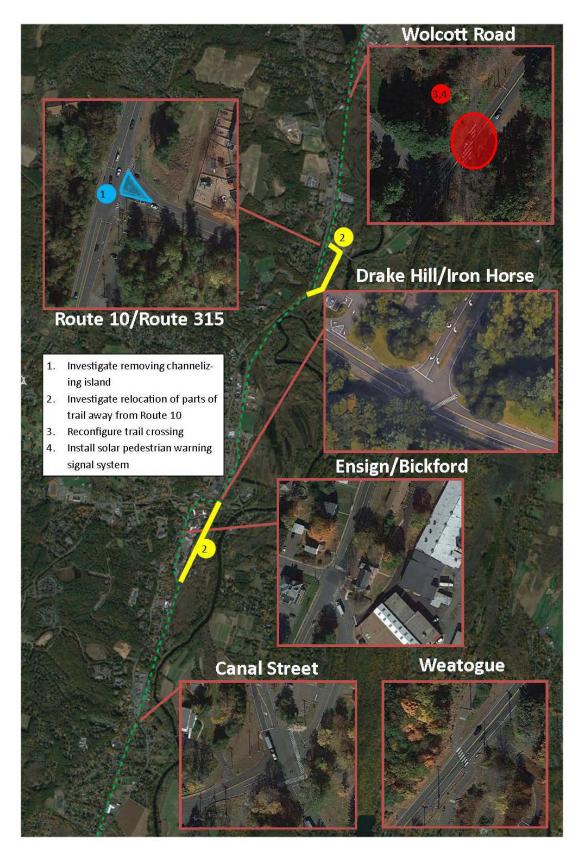


Figure 35. Long Term Recommendations Map

Summary

This report outlines the observations, discussions and recommendations developed during the RSA. It documents the successful completion of the Town of Simsbury RSA and provides Simsbury with an outlined strategy to improve the transportation network along the six trail crossing for all road users, particularly focusing on pedestrians and cyclists. Moving forward, Simsbury 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 the area.



Appendix A





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 Thomas J. Roy, P.E.

Title Director of Public Works

Email Address troy@simsbury-ct.gov

Telephone Number (860) 658-3222

2. Location information

Address Farmington Canal Herritage Trail / East Coast Greenway

Description Six Crossings of Public Roads and Multi-Use Trail

City / Town Town of Simsbury

3. Roadway type (Please select all that apply)	
State road	
Local road	
Private Road	
Other (please specify)	
4. Zoning (Please select all that apply)	
Industrial	
Residential	
Commercial	
Mixed Use	
Retail	
N/A (not applicable)	
Other (please specify)	
multiple locations- multi-use trail for pedestrians & bikes	ii .
5. Approximate mile radius around the location	
1/4 mile	
Other (Please Specify)	

6. Community Sites (Please select all that apply)
Community Centers
Business Districts
Restaurant/Bar Districts
Churches
Housing Complexes
Proximity to Schools
Tourist Locations (examples – Casino, Malls, Parks, Aquarium, etc)
N/A (not applicable)
Other (please specify) multiple locations- multi-use trail for pedestrians & bikes
7. Employment Facilities (Retail, Industrial, etc) Yes
No
If Yes please describe (please specify)
People regularly commute to and from work on the trail

8. Educational facilities (Please select all that apply)	* 2
Public, Parochial, Private Schools (more than 1 school within a ½ mile)	
University / Community Colleges	
N/A (not applicable)	
Other (please specify) Latimer Lane Elementray School	
9. Transit facilities (Please select all that apply)	
Bus	
Rail	
Ferry	
Airport	
Park and Ride Lot	
N/A (not applicable)	-
Other (please specify) Multi-use trail	

10. Safety Concerns (Please select all that apply)
Traffic (volumes & speed)
Collisions
Sidewalks
Traffic Signals
Traffic Signs
Parking Restrictions / Additions
Drainage
ADA Accommodations
Agricultural & Live Stock crossing
Maintenance issues (cutting grass, leaves, snow removal)
N/A (not applicable)
Other (please specify)

es					
Yes please describ	e and list all p	rojects.			
imsbury is an actively urrently in design or o ur downtown directly	construction. Ou	r POCD is setur	e number of new to allow for high	apartments and re density walkable o	tail shops communities in

N/A not applicable		3	
lf Yes please describe	and list.		
		#	

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

Simsbury is fortunate to have over 12 miles of the East Coast Greenway/ Farmington Canal Heritage Trail run through the length of our community. This trail attracts thousands of visitors to the region each year and is used for both active recreation and commuting. Recent trail counts conducted by the Capital Region Council of Governments (CRCOG) have provided that in a single two hours span our trail has over 250 users.

With the heavy us that our trail receives, we have a growing concern over the higher potential for accidents, specifically at locations were hour trail crosses our roadways.

We have identified our six most critical areas where the Trail crosses heavily travelled roads or driveways:

- 1. Route 10 in Weatogue section of Simsbury
- 2. Intersection of Canal Street and Route 10
- 3. Ensign Bickford Property 632 Hopmeadow Street (light industrial facility with frequent deliveries and high employee traffic)
- 4. Intersection Drake Hill Road and Iron Horse Boulevard
- 5. Intersection of Route 10 and Route 315
- 6. Wolcott Road

In reviewing police accident data (attached) we have had at least two bicycle versus car accidents at these crossings in the past five year. These type of accidents often bring serious injuries and the Town along with our Bike/Pedestrian Committee are focused on improving the safety of all trail users and feel that improvements at these crossings is a critical step.

We are looking forward to identifying the most critical safety issues and determining possible solutions that could be implemented to improve the overall safety of our community.

Yes			
currently in design or	y growing community with a l construction. Our POCD is s adjacent to the trail system.	arge number of new apartments etup to allow for high density wa	and retail shops kable communities in

15. Any other pertinent information that is unique to this location? Yes Simsbury is a Silver Bike Friendly Community and was awarded this designation by the American League of Bicyclists. We have an active Bike & Pedestrian Committee. One of their leading initiatives is to focus on safety of bike path trails.

Thank you for completing the Community Connectivity application.

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

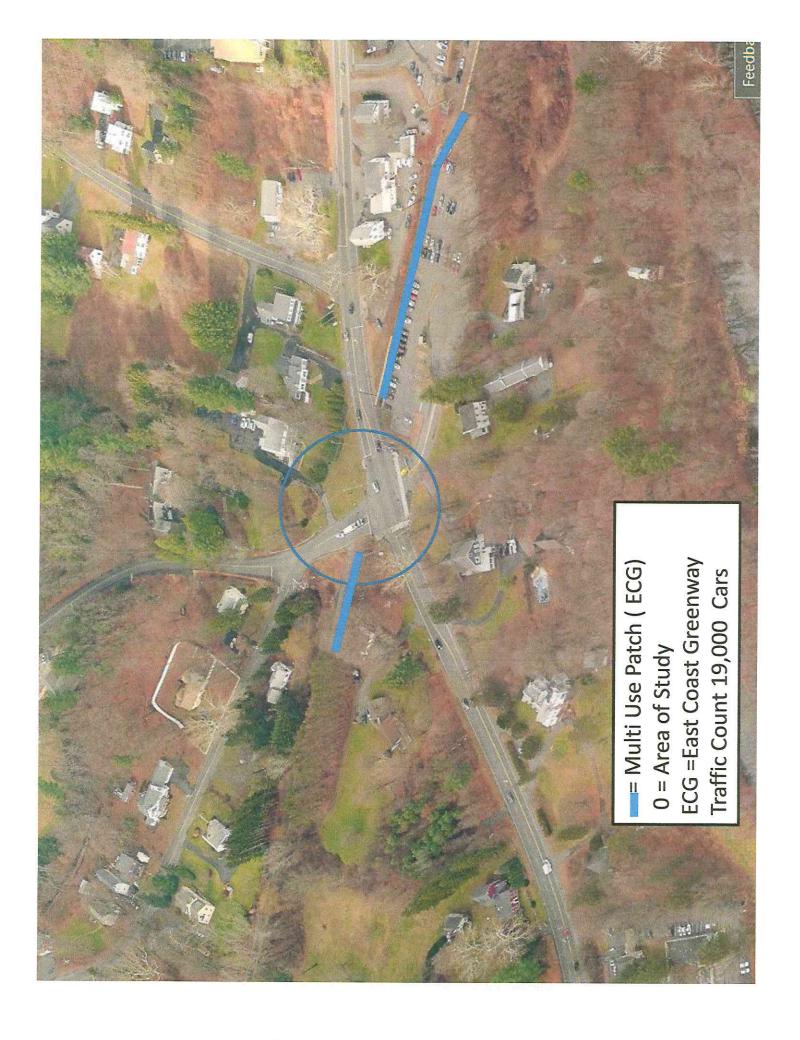
- 1 Location map (google, GIS) (Required)
- 2 Collision data (If available)
- 3 Traffic data (ADT or VMT) (If available)
- 4 Pedestrian/bicycle data (If available)

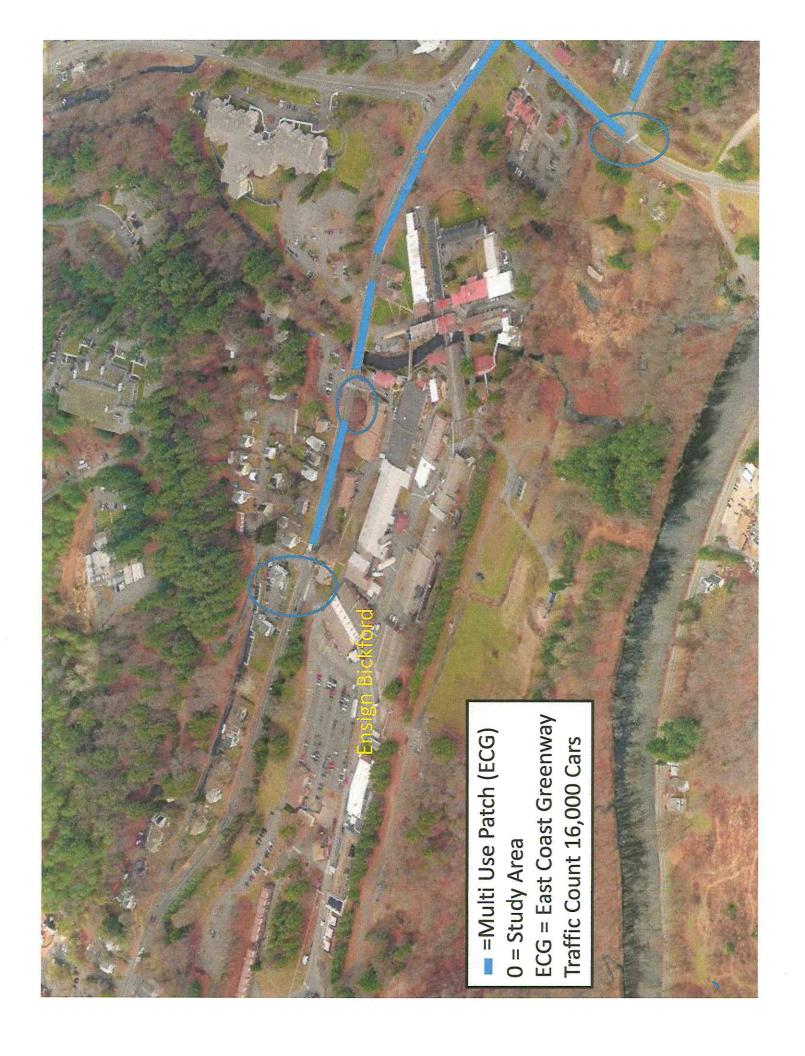


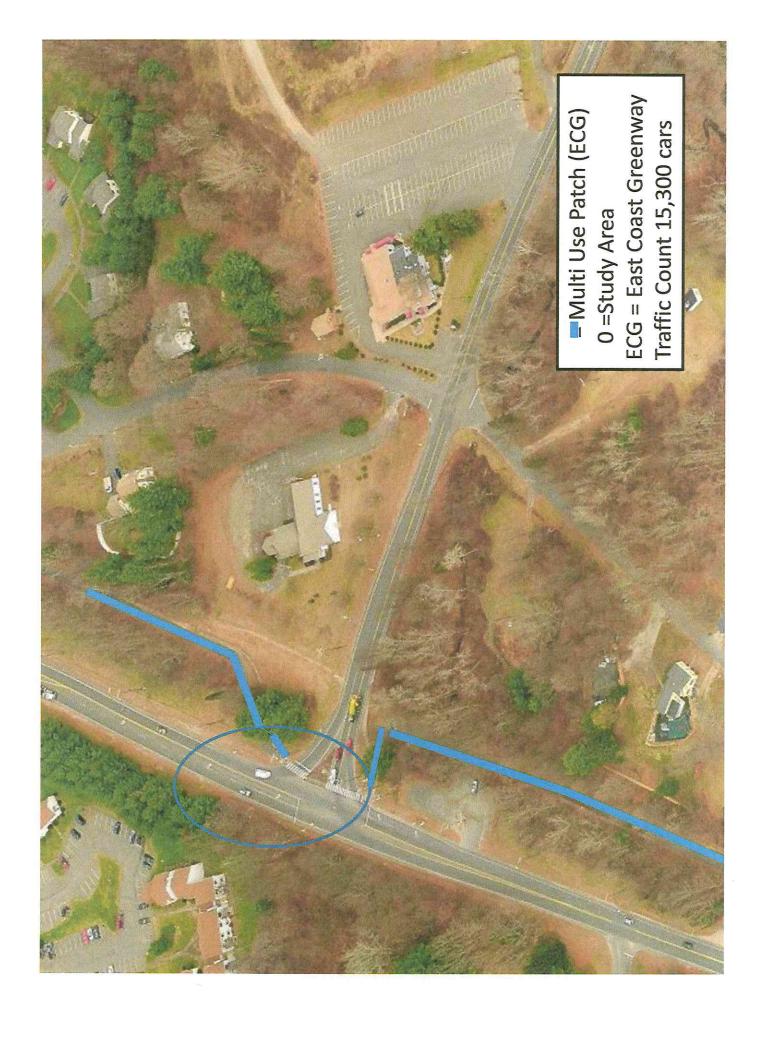
Location Maps

&

Traffic Counts









Accident Data

5 year Accidents 02/25/2011- 02/25/2016 period per Law Enforcement Administration System (LEAS) check

No pedestrians were injured/hit in the areas below in the time period 02/25/2011-02/25/2016.

I did not see any trucks nor motorcycles involved in the accidents below. The two accidents involving bicycles are noted (Drake Hill/Iron Horse).

Dry Bridge Rd

2 accidents occurred on Dry Bridge at Notch Rd (one 2011, one 2016) 1 MVA, 1 MVA-Injury

No other accidents appear to have occurred on Dry Bridge in 5-yr period

West Mountain Rd

16 accidents West Mountain at Wildwood
8 accidents on West Mountain between #000-1006
2 accidents on West Mountain between #101-200
4 accidents on West Mountain between #201-300
1 accident on West Mountain between #401-500
No other accidents

Rail Trail Crossing Area of Wolcott Rd

Only accidents (both 2012):

1 car vs deer (no in

(no injury to people)

1 car vs tree

(no injury to people)

No accident in/related to crossing

Rail Trail Crossing *Area* of Tariffville Rd (Rt 315)

29 accidents occurred at the intersection of Hopmeadow St & Tariffville Rd **23 MVA, 6 MVA-Injury**

Rail Trail Crossing Area of Canal St/Hopmeadow St

1 accident Canal at Hopmeadow St (**not** related to person in crosswalk) <u>1</u> MVA-Injury

Rail Trail Crossing Area of Ensign Bickford/Dyno-Nobel

2 accidents (related to person in sidewalk- (Both: car stopped, car behind did not; no pedestrians hurt) **Both MVA-Injury**

1 accident at entrance to EB/DN (car stopped for school bus, car behind following too close) MVA-Injury

Rail Trail Crossing Area of Drake Hill Rd

5 accidents Drake Hill at Iron Horse Blvd vs car (only 1 injury, included)

23 accidents Drake Hill at Hopmeadow St

4 MVA, 1 MVA-Injury; 2 were bicycle

19 MVA, 4 MVA-Injury



Appendix B









Road Safety Audit

Town: Simsbury

RSA Location: Farmington Canal Heritage Trail

Meeting Location: Simsbury Town Hall, Main Meeting Room

Address: 933 Hopmeadow Street

Date: 6/1/2016 **Time:** 8:30am

Participating Audit Team Members

Audit Team Member	Agency/Organization
Kristin Hadjstylianos	AECOM
Bruce Donald	FUTC; CGC; ECGA
Don Dapont	Simsbury Public Works
Tom Roy	Simsbury Public Works
Jon Hughes	Dyno Nobel
Debbie Thibodeau	Simsbury Bike Ped Comm
Craig Babowicz	CTDOT
Pattie Jacobus	Sims Free Bike
Jeff Shea	Simsbury
Peter Ingvertser	Simsbury Chief of Police



Appendix C









Road Safety Audit – Simsbury

Meeting Location: Simsbury Town Hall, Main Meeting Room

Address: 933 Hopmeadow Street

Date: 6/1/2016 **Time:** 8:30 AM

<u>Agenda</u>

Type of Meeting: Road Safety Audit – Pedestrian Safety

Attendees: Invited Participants to Comprise a Multidisciplinary Team

Please Bring: Thoughts and Enthusiasm!!

8:30 AM Welcome and Introductions

Purpose and Goals

Agenda

8:45 AM Pre-Audit

Definition of Study Area

Review Site Specific Data:

o Average Daily Traffic

o Crash Data

GeometricsIssues

Safety Procedures

10:00 AM Audit

Visit Site

As a group, identify areas for improvements

12:00 PM Post-Audit Discussion / Completion of RSA

Discussion observations and finalize findings

Discuss potential improvements and final recommendations

Next Steps

2:30 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 Grades Orientation Tactile Warning Strips Pedestrian refuge at islands Other	
Pedestrian Facilities	
 Sidewalk Width Grade Materials/Condition Drainage 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

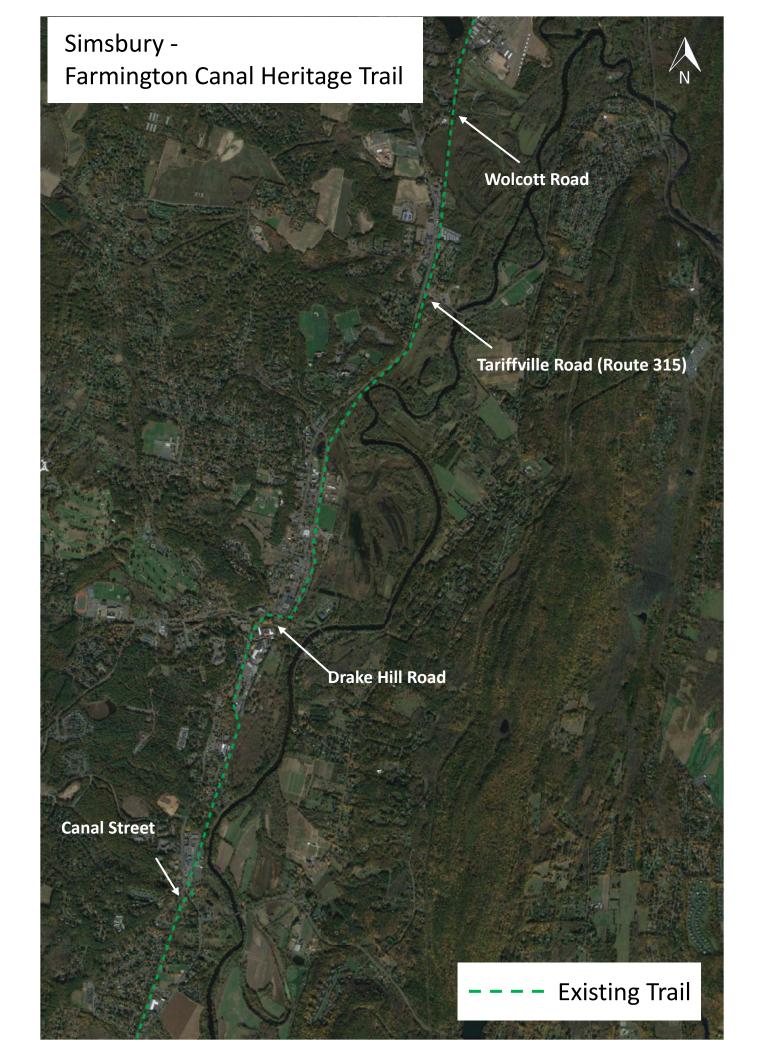
Intersections

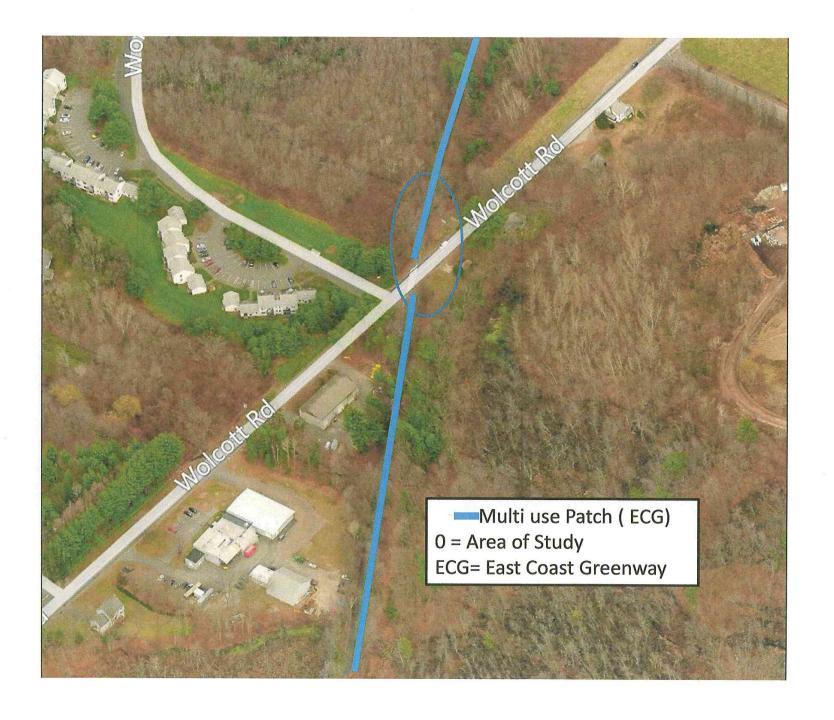
- Geometrics
- o Sight Distance
- Traffic control devices
- Safe storage for turning vehicles
- Capacity Issues

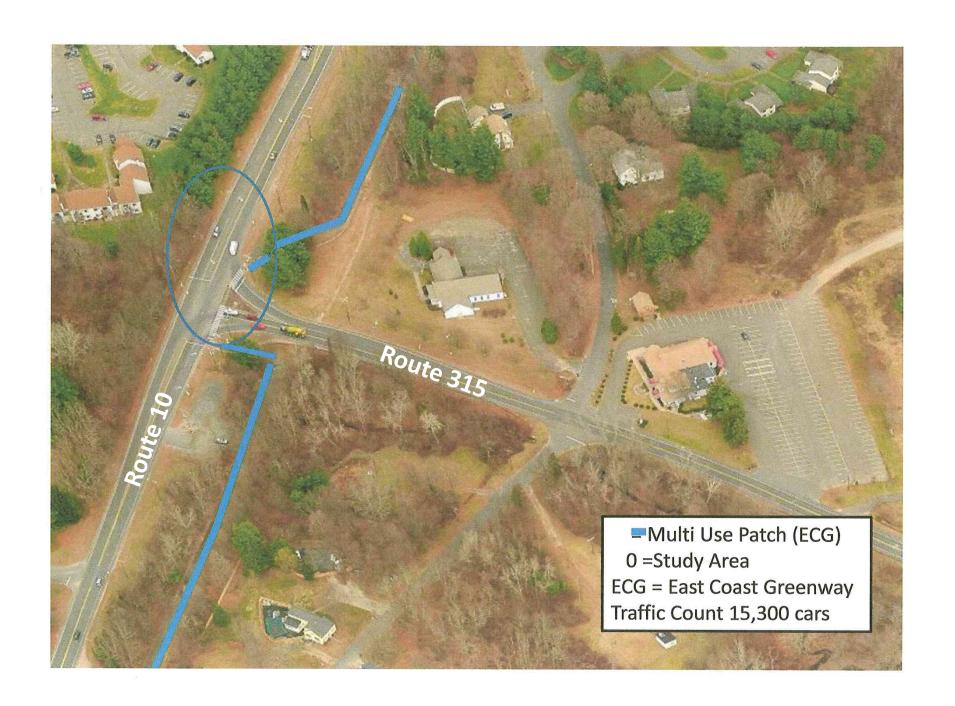




 Pavement Pavement Condition (excessive roughness or rutting, potholes, loose material) Edge drop-offs Drainage issues Lighting Adequacy 	
 Signing Correct use of signing Clear Message Good placement for visibility Adequate retroreflectivity Proper support 	
 Signals Proper visibility Proper operation Efficient operation Safe placement of equipment Proper sight distance Adequate capacity 	
 Pavement Markings Correct and consistent with MUTCD Adequate visibility Condition Edgelines provided 	
 Miscellaneous Weather conditions impact on design features. Snow storage 	



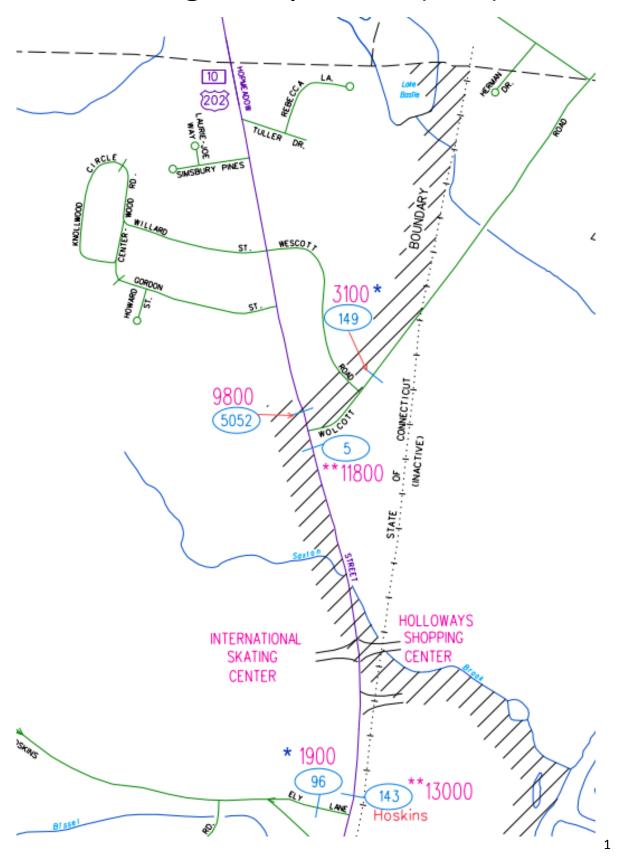








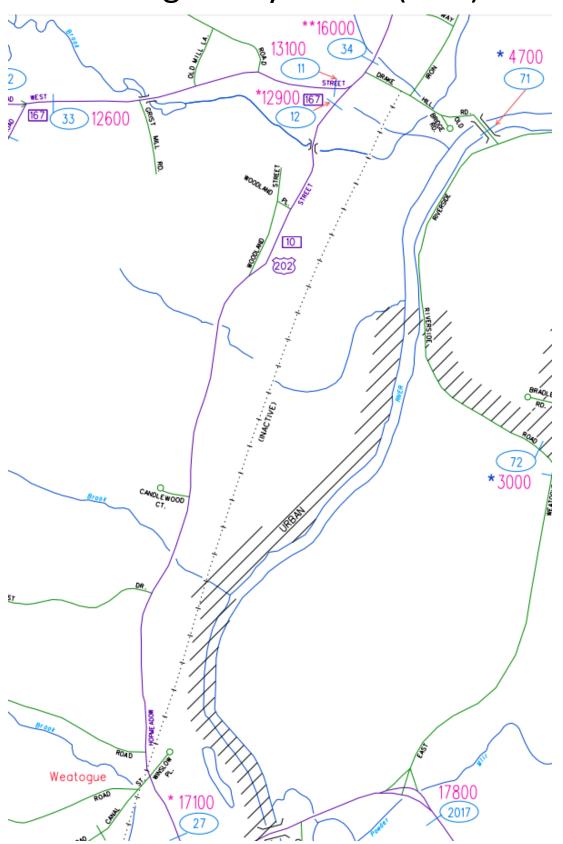
Average Daily Traffic (ADT)



Average Daily Traffic (ADT)



Average Daily Traffic (ADT)



2015 Crashes

UCONN Connecticut Crash Data Repository mmucc Dataset: Simsbury Towns: Crash Severity: Injury of any type (Serious, Minor, Possible), Fatal (Kill), Property Damage Only Case Status: Complete Ensign-Bickford Aerospace Farmingto Simsbury Srake Hill Rd Map data ©2016 Google Terms of Use Report a map error 🎙 Injury of any type (Serious, Minor, Possible) 🖣 Fatal (Kill) Select & Query Markers Select All Property Damage Only Query Selection Deselect All This web site is exempt from discovery or admission under 23 U.S.C. 409. Connecticut Crash Data Repository User Guide Contact Us

No accidents within the vicinity of the following trail crossings:

- Weatogue
- Wolcott Road





Road Safety Audit – Simsbury

Crash Summary

Data: 3 years (2012-2014)

Crash data collected for the following trail crossing areas:

- 1. Wolcott Road 3 crashes
- 2. Tariffville Road (Route 315) intersection with Hopmeadow Street (Route 10) 17 crashes
- **3.** Iron Horse Boulevard intersection with Drake Hill Road 3 crashes
- **4.** Drake Hill Road intersection with Hopmeadow Street (Route 10) 14 crashes
- **5.** Section of Hopmeadow Street near Ensign Bickford/Dyno-Nobel 8 crashes
- **6.** Canal Street intersection with Hopmeadow Street (Route 10) 8 crashes

A total of 53 crashes occurred near the trail crossings, 19% resulted in injuries. None of these crashes directly involved pedestrians or cyclists, although 2 rear-end crashes on Hopmeadow St. near Ensign Bickford/Dyno-Nobel were caused by motorists stopping for pedestrians (the pedestrians were not hit).

Table A. Crash Severity

	Wolcot	t Road	(Route	lle Road 315) and adow St.	Iron Hor and Dra Road inte	ke Hill	Drake Hi and Hopn St. inters	neadow		dow St. Ensign	Hopme	treet and eadow St. section
Severity Type	Number of		Number of		Numb	er of	Numb	er of	Numb	per of	Num	ber of
	Accidents		Accidents		Accidents		Accidents		Accidents		Accidents	
Property Damage												
Only	2	67%	16	94%	3	100%	12	86%	7	88%	3	38%
Injury (No fatality)	1	33%	1	6%	0	0%	2	14%	1	13%	5	63%
Fatality	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	3		17		3		14		8		8	





Table B. Crash Type

	Wolcott Road		Tariffville Road (Route 315) and Hopmeadow St.		and Dra	Iron Horse Blvd. and Drake Hill Road intersection		Drake Hill Road and Hopmeadow St. intersection		Hopmeadow St. near Ensign		Canal Street and Hopmeadow St. intersection	
Manner of Crash /		ber of	Number of		Number of		Number of		Number of		Number of		
Collision Impact	Accio	dents	Accio	dents	Accide	ents	Accide	ents	Accio	lents	Accidents		
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Sideswipe-Same Direction	0	0%	0	0%	0	0%	2	14%	0	0%	0	0%	
Rear-end	0	0%	10	59%	1	33%	9	64%	7	88%	8	100%	
Turning-Intersecting Paths	0	0%	2	12%	0	0%	1	7%	0	0%	0	0%	
Turning-Opposite Direction	1	33%	1	6%	0	0%	0	0%	0	0%	0	0%	
Fixed Object	1	33%	3	18%	2	67%	0	0%	1	13%	0	0%	
Backing	0	0%	0	0%	0	0%	2	14%	0	0%	0	0%	
Angle	0	0%	1	6%	0	0%	0	0%	0	0%	0	0%	
Turning-Same Direction	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Moving Object	1	33%	0	0%	0	0%	0	0%	0	0%	0	0%	
Parking	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Pedestrian	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Overturn	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Head-on	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Sideswipe-Opposite Direction	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Total	3		17		3		14		8		8		





Table C. Weather Condition

	Wolcott Road		Tariffville Road (Route 315) and Hopmeadow St.		Iron Horse Blvd. and Drake Hill Road intersection		Drake Hill Road and Hopmeadow St. intersection		Hopmeadow St. near Ensign		Canal Street and Hopmeadow St. intersection		
Weather	Numbe		Numb		Number of		Numbe		Numb	per of	Number of		
Condition	Accide	ents	Accio	lents	Accid	ents	Accide	ents	Accio	lents	Acci	Accidents	
Snow	0	0%	1	6%	0	0%	1	7%	0	0%	0	0%	
Rain	1	33%	1	6%	0	0%	0	0%	3	38%	0	0%	
No Adverse													
Condition	2	67%	15	88%	3	100%	13	93%	5	63%	8	100%	
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Blowing Sand,													
Soil, Dirt or Snow	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Other	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Severe													
Crosswinds	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Sleet, Hail	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	
Total	3		17		3		14		8		8		





Table D. Light Condition

	Wolcott Road		Tariffville Road (Route 315) and Hopmeadow St.		Iron Horse Blvd. and Drake Hill Road intersection		Drake Hill Road and Hopmeadow St. intersection		Hopmeadow St. near Ensign		Canal Street and Hopmeadow St. intersection	
	Number of		Number of			Number of		Number of		per of	Number of	
Light Condition	Accide	ents	Acci	dents	Accid	ents	Accide	ents	Accio	lents	Acc	idents
Dark-Not Lighted	0	0%	2	12%	0	0%	0	0%	0	0%	0	0%
Dark-Lighted	1	33%	5	29%	1	33%	3	21%	1	13%	2	25%
Daylight	2	67%	10	59%	2	67%	11	79%	7	88%	6	75%
Dusk	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Dawn	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	3		17		3		14		8		8	

Table E. Road Surface Condition

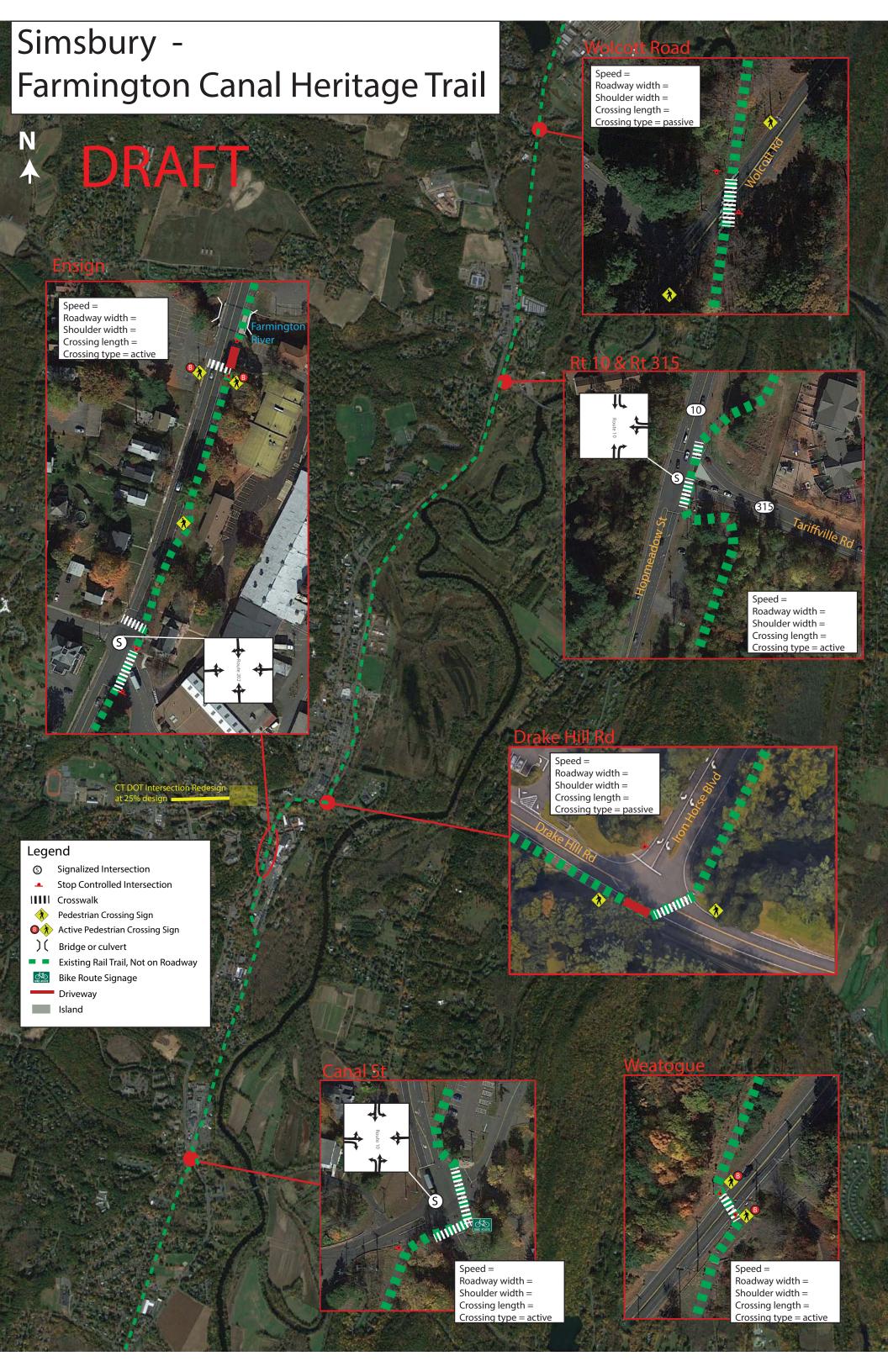
	Wolcott Road		Tariffville Road (Route 315) and Hopmeadow St.		Iron Horse Blvd. and Drake Hill Road intersection		Drake Hill Road and Hopmeadow St. intersection		Hopmeadow St. near Ensign		Canal Street and Hopmeadow St. intersection	
Road Surface Condition	Numb Accid		· ·	ber of dents	Numb Accid				Number of Accidents		Number of Accidents	
Snow/Slush	1	33%	1	6%	0	0%	1	7%	0	0%	0	0%
Wet	0	0%	2	12%	1	33%	0	0%	3	38%	0	0%
Dry	2	67%	14	82%	1	33%	13	93%	5	63%	8	100%
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Ice	0	0%	0	0%	1	33%	0	0%	0	0%	0	0%
Other	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Total	3		17		3		14		8		8	





Table F. Time of Crash

		Wolcott Road (Route 315) and Hopmeadow St.		(Route 3	15) and	Iron Hor and Dra Road inte	ake Hill	Drake Hill Road and Hopmeadow St. intersection		Hopmeadow St. near Ensign		Canal Street and Hopmeadow St. intersection	
		Numbe	er of	Number of		Number of		Number of		Number of		Number of	
Time o	f crash	Accidents		Accidents		Accidents		Accidents		Accidents		Accidents	
0:00	0:59	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.0%
1:00	1:59	0	0%	3	18%	0	0%	0	0%	0	0%	0	0.0%
2:00	2:59	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.0%
3:00	3:59	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.0%
4:00	4:59	1	33%	0	0%	0	0%	0	0%	0	0%	1	12.5%
5:00	5:59	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.0%
6:00	6:59	0	0%	0	0%	0	0%	0	0%	1	13%	0	0.0%
7:00	7:59	0	0%	1	6%	1	33%	0	0%	1	13%	0	0.0%
8:00	8:59	0	0%	1	6%	0	0%	0	0%	2	25%	0	0.0%
9:00	9:59	0	0%	0	0%	0	0%	0	0%	0	0%	1	12.5%
10:00	10:59	0	0%	1	6%	1	33%	3	21%	0	0%	0	0.0%
11:00	11:59	0	0%	2	12%	0	0%	0	0%	1	13%	0	0.0%
12:00	12:59	0	0%	0	0%	0	0%	2	14%	0	0%	0	0.0%
13:00	13:59	0	0%	0	0%	0	0%	1	7%	0	0%	0	0.0%
14:00	14:59	2	67%	1	6%	0	0%	0	0%	0	0%	3	37.5%
15:00	15:59	0	0%	1	6%	0	0%	3	21%	1	13%	0	0.0%
16:00	16:59	0	0%	1	6%	0	0%	2	14%	1	13%	0	0.0%
17:00	17:59	0	0%	2	12%	0	0%	0	0%	0	0%	1	12.5%
18:00	18:59	0	0%	2	12%	1	33%	0	0%	0	0%	0	0.0%
19:00	19:59	0	0%	1	6%	0	0%	0	0%	0	0%	1	12.5%
20:00	20:59	0	0%	0	0%	0	0%	2	14%	0	0%	0	0.0%
21:00	21:59	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.0%
22:00	22:59	0	0%	0	0%	0	0%	1	7%	0	0%	1	12.5%
23:00	23:59	0	0%	1	6%	0	0%	0	0%	1	13%	0	0.0%
Total		3		17		3		14		8		8	







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 – Simsbury

Fact Sheet

Functional Classification:

- Route 10 is classified as a Principal Arterial
- The following are classified as a Collector:
 - Wolcott Road
 - o Tariffville Road
 - o Drake Hill Road
 - o Iron Horse Blvd

ADT

- ADT along near Canal Street and Route 10 is 17,100
- ADT south of Drake Hill Road is 12,900. ADT north of Drake Hill Road is 16,000
- ADT on Iron Horse Blvd. is 2,800
- ADT south of Tariffville Road is 15,300. ADT north of Tariffville Road is 14,200
- ADT on Wolcott Road is 3,100

Population and Employment Data (2014):

Population: 23,681Employment: 9,558

Urbanized Area

The trail and its roadway crossings are located in the Hartford Urbanized Area

Demographics

- The statewide average percentage below the poverty line is 10.31%. There are no areas in Simsbury exceeding the state's average.
- The statewide average percentage minority population is 30.53%. There are no areas in Simsbury that exceed the state's average.

Air Quality

- Simsbury's CIPP number 222
- · Simsbury is within the Greater CT Marginal Ozone Area
- · Simsbury is within a CO Attainment Area