COMMUNITY
connectivity program

Thompson

Route 12 & Main Street – Road Safety Audit

May 16, 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

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Acknowledgements:

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With assistance from AECOM Transportation Planning Group

Contents

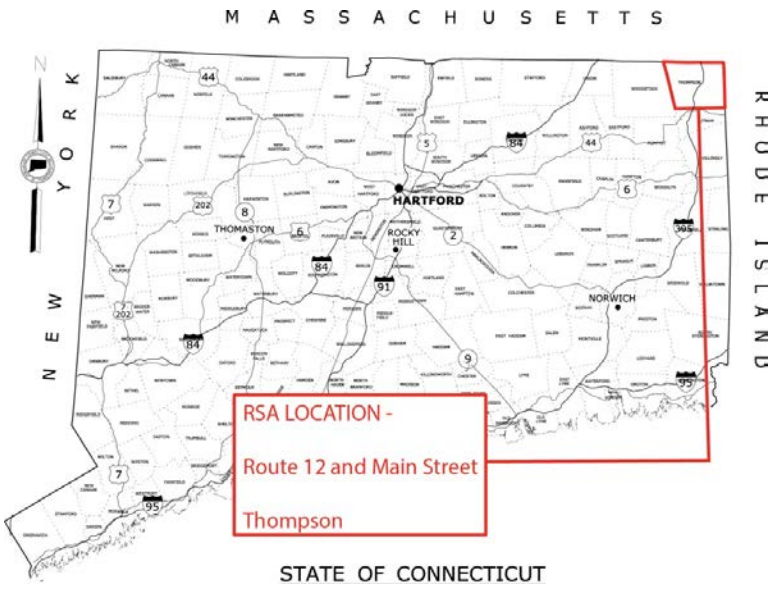
Figures

Tables

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 Thompson (Route 12 and Main Street) RSA

The Town of Thompson submitted an application to complete an RSA along the Main Street and Route 12 corridors to improve safety for pedestrians and bicyclists. Route 12 (Riverside Drive) is a well-traveled corridor that connects residential, commercial, and civic services. The area is frequently used by bicyclists and pedestrians but has locations that are not inviting to walkers or bicyclists. Sidewalks are available in some locations, but are not available along the entire length of the corridor.

The Town of Thompson'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

Thompson is located in the northeast corner of Connecticut and boarders both Rhode Island and Massachusetts (Figure 1). The RSA site includes the 4.5 mile section of Route 12 from the Putnam town line to the intersection with Main Street and all of Main Street (0.6 miles) (Figure 2). The Route 12 Average Daily Traffic (ADT) varies along the corridor with heavier volumes to the north. The ADT is 5,000 vehicles per day (vpd) by Main Street, 7,000 vpd just north of the Route 200 intersection, 5,700 vpd just south of the Route 200 intersection, 2,000 vpd by the Route 193 intersection and 1,700 vpd at the Putnam town line. An ADT of 7,000 vpd is a moderate volume for this type of a roadway.

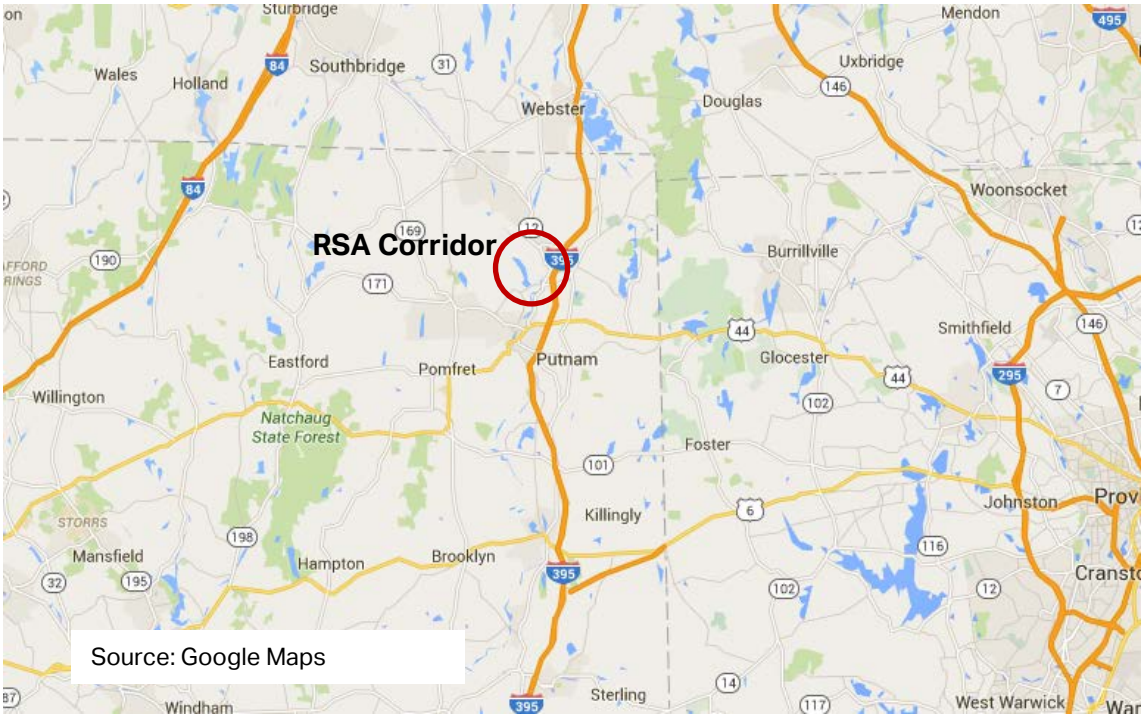


Figure 1. Route 12 Regional Context

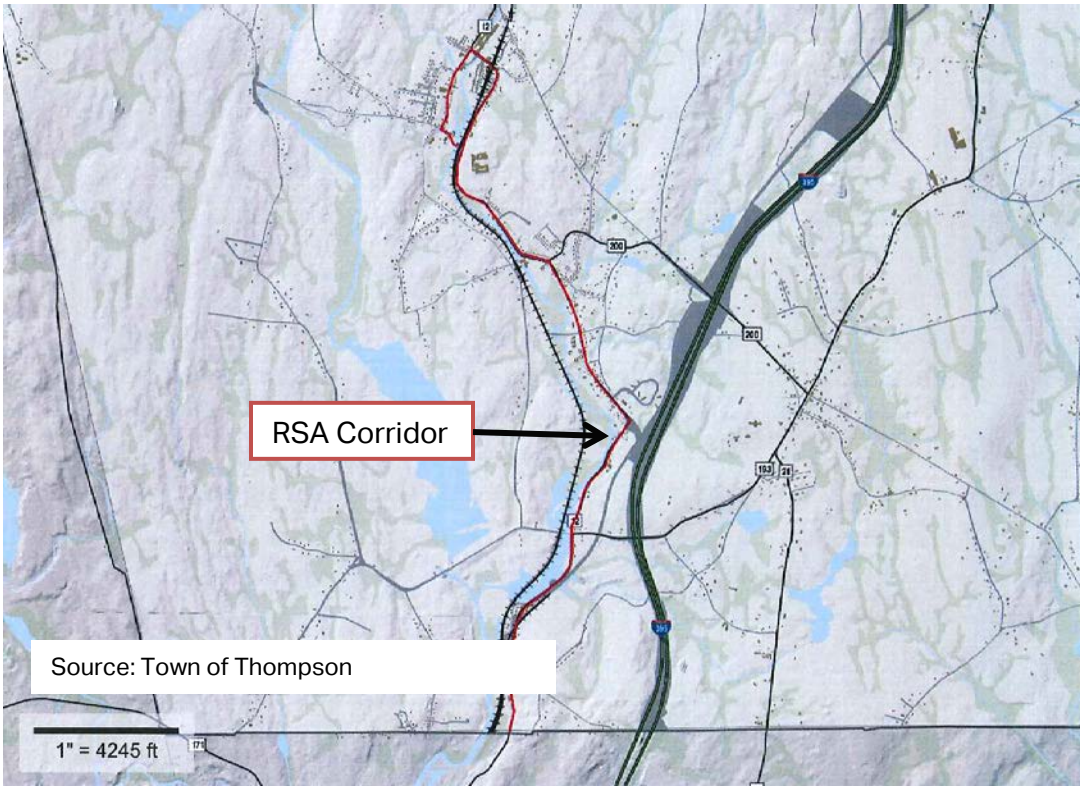


Figure 2. Route 12 Study Corridor

Route 12 is a state owned and maintained facility that traverses in a north/south direction and connects to I-395 in Thompson. It is a two lane road with 12-foot lanes and shoulders that vary between 1 and 8 feet wide, with the widest shoulders located at the southern end of the study corridor. Main Street is town road that is 22 feet wide, has a painted double yellow center line and no painted shoulders.

2 Pre-Audit Assessment

2.1 Pre-Audit Information

The crash history (2015) shows that the most frequent crashes occur at intersections (Figure 3). Table 1 shows the most frequent collision type was "Fixed Object" (36%). This indicates that motorists may be speeding or distracted since many of the accidents have occurred during the daytime in fair weather and have resulted in relatively high percentage of injury (35%) (Table 2). The majority of the crashes occurred in the afternoon, which is generally attributed to higher traffic volumes associated with commuting, shopping, and school activities.

Manner of Crash / Collision Impact	Number of Accidents	
Unknown	0	0%
Sideswipe-Same Direction	0	0%
Rear-end	8	15%
Turning-Intersecting Paths	11	20%
Turning-Opposite Direction	5	9%
Fixed Object	20	36%
Backing	0	0%
Angle	2	4%
Turning-Same Direction	4	7%
Moving Object	0	0%
Parking	0	0%
Pedestrian	0	0%
Overturn	0	0%
Head-on	2	4%
Sideswipe-Opposite Direction	3	5%
Total	**55**	

Table 1. Crash Type

2012-2014

Source: UConn Connecticut Crash Data Repository

Severity Type	Number of Accidents	
Property Damage Only	36	65%
Injury (No fatality)	19	35%
Fatality	0	0%
Total	**55**	

Table 2. Crash Severity

2012-2014

Source: UConn Connecticut Crash Data Repository

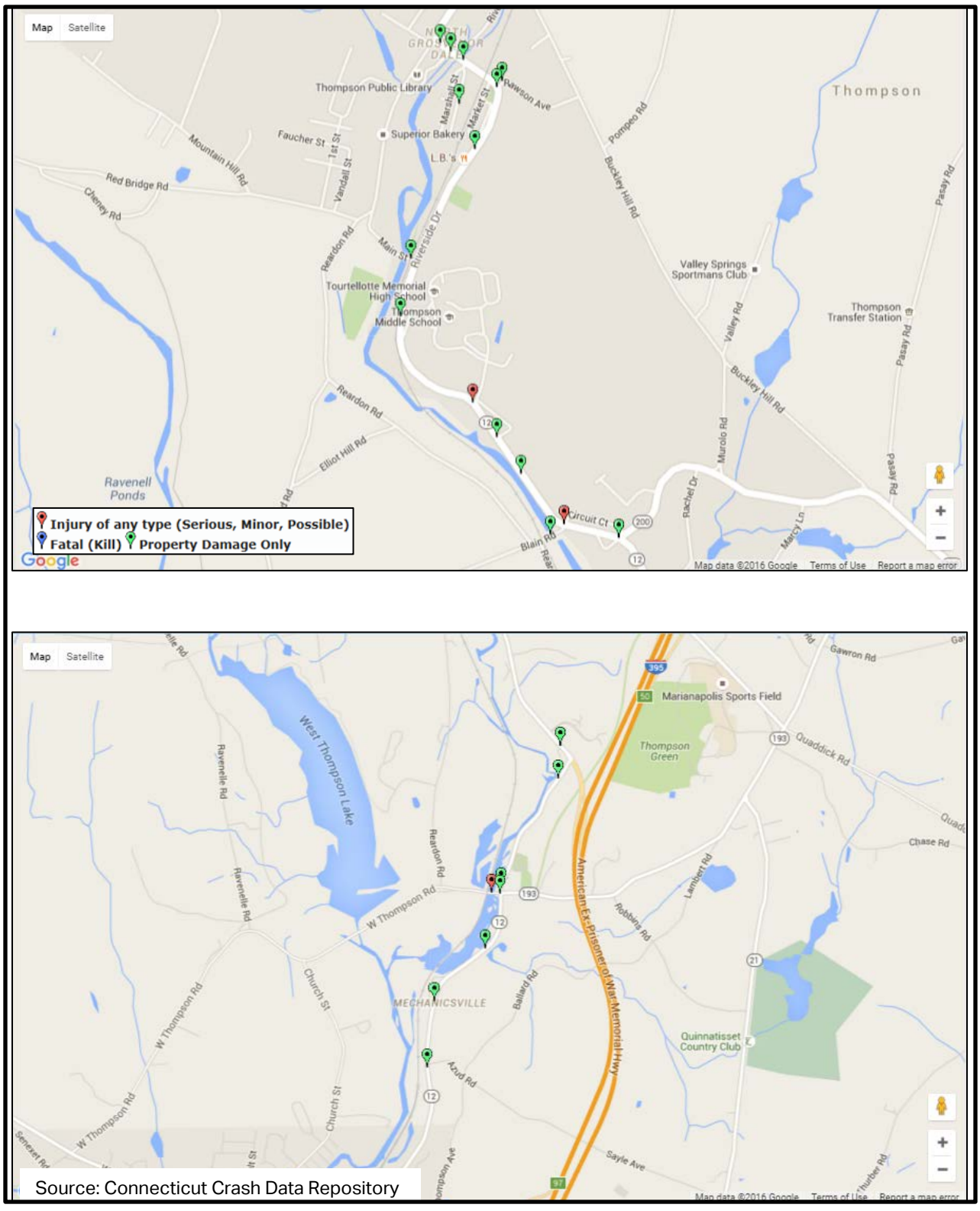


Figure 3. Study Areas Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

The sidewalk along Route 12 is not continuous and varies as to which side it is on. At the south end of the corridor, the sidewalk begins 800 feet north of the Azud Road intersection on the east side of Route 12, and 250 feet further north on the west side. It continues for only 575 feet on the west side, and for approximately ½ mile on the east. The southerly sidewalk segments are concrete, and are 5 feet wide, but the east side changes to a 4 foot wide bituminous sidewalk as it continues north. There is then a gap until Route 200, at which point the sidewalk continues north on the west side of the road to the intersection with Main Street. This sidewalk is concrete and varies between 4 and 5 feet in width. On Main Street there is sidewalk on the west side from Route 12 to the library. There is a small segment in front of the Superior Bakery and a segment between the St. Josephs School and the intersection of Route 12 (at the Railroad Crossing). On the east side of Main Street there is continuous sidewalk between the public library and St. Joseph Roman Catholic Church.

There are 27 intersections in the RSA study area. Only the intersection of Route 12 and Route 193 is signalized. All others are stop controlled. There are seven crosswalks in the corridor, all of which are located on the Main Street Loop. Six of these are mid-block crossings.

Table 3 summarizes the roadway and intersection geometrics along the Route 12 study corridor.

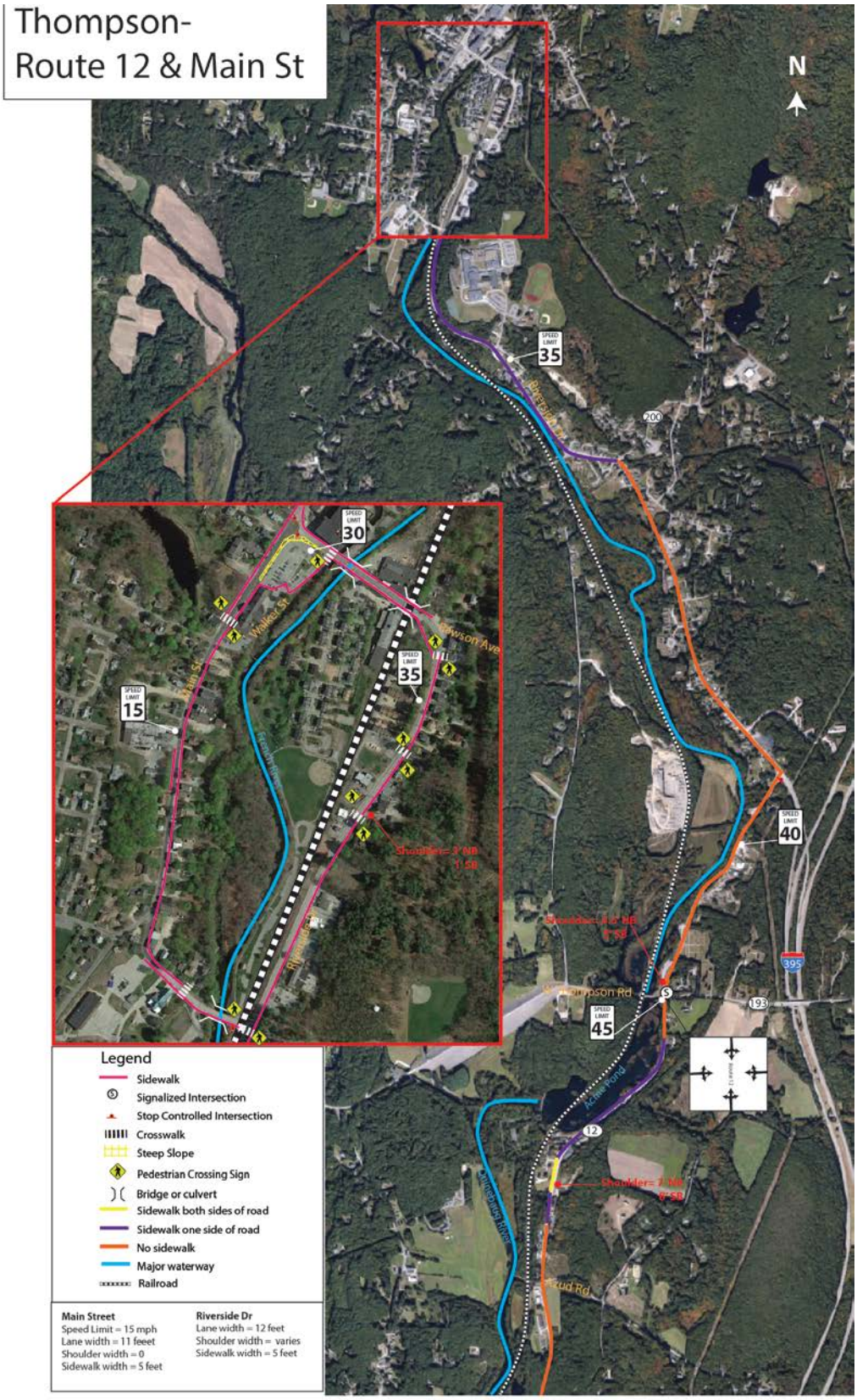


Figure 4. Thompson Road Geometrics

Thompson - Route 12 & Main Street

Street Inventory

From	To	Distance	Width	Sidewalk				Curb	Shoulder	Ramps	
				Side	Type	Width	Condition			Exist	Compliant
Putnam town line	Air Line Trail Head	0.5 miles	1 lane	NB	No	N/A	N/A	None	5'-7'	N/A	N/A
			1 lane	SB	No	N/A	N/A	None	7'-8'	N/A	N/A
Air Line Trail Head	Route 193	0.6 miles	1 lane	NB	Concrete	5'	Fair	Concrete	5'-7'	No	No
			1 lane	SB	No	N/A	N/A	None	7'-8'	N/A	N/A
Route 193	Route 200	1.7 miles	1 lane	NB	No	N/A	N/A	Asphalt	4'-5'	N/A	N/A
			1 lane	SB	No	N/A	N/A	None	4'-5'	N/A	N/A
Route 200	Rawson Avenue	1.5 miles	1 lane	NB	Concrete	5'	Fair	Asphalt	1'-3'	Yes	No
			1 lane	SB	No	N/A	N/A	Asphalt	1'-3'	N/A	N/A
Rawson Avenue	Main Street	0.2 miles	1 lane	NB	Concrete	5'	Good	Asphalt	1'-3'	Yes	No
			1 lane	SB	Concrete	5'	Good	Asphalt	1'-3'	Yes	No
Main Street	Route 12	0.6 miles	1 lane	NB	Concrete	5'	Fair	Concrete	N/A	Yes	No
			1 lane	SB	No	N/A	N/A	Asphalt	N/A	N/A	N/A

***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. Route 12 Study Corridor Inventory

2.2 Prior Successful Efforts

A number of best practices have already been applied in Thompson to improve connections for pedestrians and cyclists. The Main Street loop has sidewalks on at least one side of the road with crosswalks where needed. Most crosswalks have pedestrian crossing signs. Route 12 has shoulder lines painted along its entire length. The Air Line Trail through Thompson is being paved with stone dust to encourage ridership.

2.3 Pre-Audit Meeting

The RSA was conducted on May 16, 2016. The Pre-Audit meeting was held at 8:30 AM in the Thompson Town Hall located at 815 Riverside Drive in Thompson.

The RSA Team was comprised of staff from CTDOT, their consultant, AECOM, and representatives from several Thompson departments and organizations including the Engineering Department, Public Works Department, Trails Committee. 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 Thompson presented relevant information for the audit, including:

- Route 12 between the high school/middle school and Main Street is where pedestrian volumes are highest. The sidewalks were put in by the state and are not maintained. The town clears snow on sidewalks at the schools. The sidewalks are narrow and in bad condition. In the winter, pedestrians often have to walk in the road because they are not cleared of snow.
- There is vegetation growth that blocks the sidewalk.
- Most of the town roads are so narrow that you cannot put in a designated bike lane.
- No one has money to maintain the roads.
- Signage and pavement markers would be the cheapest next step to provide safety for bicyclists and pedestrians.
- There is not a whole lot the town can do with existing infrastructure, so the town will need to be creative.
- There is a lack of biking facilities, but once the top coat is put on the Airline Trail they expect to see more long distance riders.
- Cars are driving too fast. There is no police presence, especially on Route 131 and Route 12. Some sections have no shoulder and others are wide.
- People in cars do not understand that bikes have the right to be on the road.
- Sharrows are typically placed only on lower speed roads.
- When school gets out there are a lot of children on bikes.

- There is a flashing warning sign for the school, it flashes all of the time instead of just during school hours.
- Access for funding sources, grant programs are through police department. The town should consider intersections with camera vehicle detection, red light enforcement cameras, or portable speed limit signs.
- School zones should have speed limit signs.
- ADA ramps at crosswalks need improvement.
- New developments are required to put in a sidewalk if it does not exist.
- MUTCD is the standard that towns use for pavement markings.
- There are ways to enhance the crosswalks, such as rectangular rapid flashing beacons, which are activated by pedestrian or electronic detection.
- Increased signage that indicates the state law is to stop for pedestrians in crosswalks would be helpful.
- In an effort to save money the town requested Connecticut Light and Power to take down some of the street lights in 2012 and leave them just on curves and at intersections. On straight sections of roadways every other light was shut down.
- The sight lines on Route 12 at Cumberland Farms are poor, which can be further complicated by trucks, and makes it difficult for motorists to get in and out of the driveways.
- Crossing guards do use crossing bollards/cones during school.
- There are a high percentage of trucks on Route 12 and it is expected to increase in the future. On Main Street, trucks drive on the sidewalk in order to turn into the bakery. It is a sharp turn. There is only one access point.
- Tractor trailer trucks back into Cumberland Farms and it becomes dangerous for cars. There is a plot of land adjacent to Cumberland Farms, maybe the state could put pressure on Cumberland Farms to use it for truck access?
    - It is noted that the state permits access onto state roads.
- Tractor trailers park on Route 12 to access Dunkin Donuts.
- There is some new construction. A new Dunkin Donuts is being constructed and a Dollar General was just completed. There are also plans to develop/expand the industrial park.
- Sections of the Route 12 corridor in the southern end have wide shoulders.
- Very few roads in Thompson lend themselves to having bike lanes or shoulders that are paved.
- There is no town regulation that prohibits biking on sidewalks.
- School buses cannot use the Main Street bridge because of the at-grade railroad crossing adjacent to Route 12. Buses would need to stop on the tracks waiting for a gap in Route 12 traffic; this is a safety issue.

3 RSA Assessment

3.1 Field Audit Observations

South End of Route 12 Corridor

- Lanes are 12 feet wide.
- The shoulders are wide, 7 feet on the northbound side and 8 feet on the southbound side. The curb reveal is low.
- The posted speed limit is 45 mph.
- There is an off-street parking area for the Airline Trail. The state is working on a trail connection to Putnam. Originally, where there is now a gap in the trail, the Air Line tracks joined with the Providence and Worcester Railroad (P&W) tracks in Putnam for approximately two miles until splitting off again. At the split, the Air Line crossed Route 12 in a tunnel, which has since been filled in. The P&W line is still an active freight line, creating a gap in the trail. A future rail trail connection will most likely require an at-grade trail crossing Route 12 (Figure 5). It was noted that the location of the potential crossing does not appear to have adequate sight distance available for oncoming Route 12 traffic given high existing speeds. Some type of alternative control device or geometric considerations appear to be necessary to accommodate the crossing at this location.
- Construction on the Airline Trail base is complete and stone dust will be laid shortly.
- The sidewalk is on the northbound side of Route 12, and is 5 feet wide (Figure 6).
- There is minimal lighting in the parking area for the trail (Figure 7).

Figure 5. Potential Crossing Needed to Connect Airline Trail

Figure 6. Sidewalk on Route 12

Figure 7. Lack of Lighting in Rail Trail Parking Area

Route 193 Intersection

- A new industrial park with proposed rail sidings is being planned. There are concerns that the existing bridge may have geometric or weight constraints that would limit truck traffic.
- CTDOT is currently conducting a study on an additional exit off I-395 to Route 193 in order to eliminate the left hand exit that currently exists.
- The Airline Trail crosses Route 193 at grade. Better geometry, signing and markings are needed (Figure 8).

Figure 8. Airline Trail Crossing Route 193

- At the Route 12/Route 193 signal there is no separate pedestrian phase, crosswalks or pedestrian signal heads. A pedestrian push button is provided for a green indication to allow for crossings on the north side of the intersection, but the push button is located behind the guide rail (Figure 9). There are no handicap ramps.
- Lanes are 12 feet wide on Route 12.
- The shoulders are 4.5 feet wide on the northbound side and 5 feet wide on the southbound side.
- The Airline Trail currently crosses the I-395 ramps (using a bridge). A sidewalk should be extended to connect to the trail.

Figure 9. Crossing Push Button Behind Guide Rail

Elderly Housing Area

- There is a passing zone on Route 12, is it needed?
- If a bridge is built at Plum Road over the French River to the planned industrial park, a pedestrian connection between the Thompson Housing Authority and the Thompson Plaza at 520 Riverside Drive will be needed. Currently there is an informal path connecting the two.

- In this area the state right of way along Route 12 appears to be wide.
- There are no sidewalks in this area. Sidewalks are needed to connect the housing area to medical facilities by Westfield Drive and to the existing sidewalk at Thompson Hill Road (Route 200) (Figure 10).

Figure 10. Lack of Sidewalks Along the Route 12 Corridor

Park Street/Route 200

- There are directional route signs and blue information signs, but they are not visible from all approaches.
- Route signs are old and faded.
- A new crosswalk is needed at this intersection if a new sidewalk is installed connecting to the Thompson Housing Authority to the south
- The roadway pavement and sidewalk are in poor condition (Figure 11). The concrete sidewalk is five (5) feet wide, but broken in places.
- The catch basin grates are not bike friendly (Figure 12).
- Route 12 was initially paved with concrete, but has since been overlaid with bituminous asphalt. This has resulted in cracking at the expansion joints and low curb reveal.
- The intersection of Route 12 and Blain Road is wide and not defined well for traffic. The town has been exploring realignment options for this intersection to reduce pavement width, better define travel lanes and improve pedestrian safety.
- Passing zone on Route 12 may not be needed.

Figure 11. Broken Sidewalk

Figure 12. Non-Bike Friendly Catch Basin

Thatcher Road/Dollar General/Dunkin Donuts

- A crosswalk is needed to connect Thatcher Road to Dollar General (Figure 13).
- The sidewalk in front of Dollar General is 6 feet wide and ADA compliant.
- There is no crosswalk across Route 12 at Thatcher Road or across Thatcher Road.
- A new Dunkin Donuts is being constructed on the east side of Route 12. The sidewalk and curb are in poor condition, the developer has made improvements to some portions of the sidewalk as part of the Dunkin Donuts project.
- The speed limit on Route 12 is 35 mph.

Figure 13. Intersection of Thatcher Road and Route 12

Cumberland Farms

- The curb cuts are poorly defined (Figure 14). At the gas station, the large curb cuts and asphalt islands are difficult to perceive (Figure 15).
- Route 12 travel lanes are 12 feet. The southbound shoulder is one (1) foot wide, and northbound shoulder is 3 feet wide.
- Pedestrians go behind Cumberland Farms and walk along the railroad tracks to find an opening in the fence. The fence is only on the west side of the tracks.
- Railroad employees sometimes leave the train to stop at Cumberland Farms.
- There is very limited space in the Cumberland Farms parking lot for deliveries.
- Vehicles can go in and out of either driveway at Cumberland Farms.
- The crosswalk across Route 12 is not ADA compliant and there are no handicap ramps. The pedestrian crossing sign is in poor condition.

Figure 14. Large Curb Cuts at Cumberland Farms

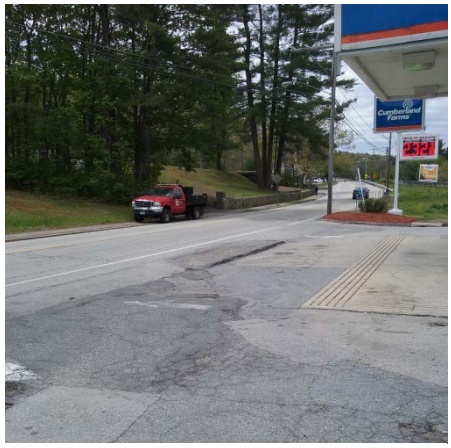


Figure 15. Entrance to Cumberland Farms

Swanson Park

- The crosswalk does not have handicap ramps or detectable warning strips. The signing is in poor condition.
- The sight line for motorists approaching the crosswalk is limited in both directions by horizontal curves and vegetation (Figure 16).
- The crosswalk does not line up with the sidewalk through the park (Figure 17).
- The sidewalk through the park is narrow.
- There is parking in front of the businesses on the east side of Route 12.

Figure 16. Poor Visibility to Crosswalk at Swanson Park

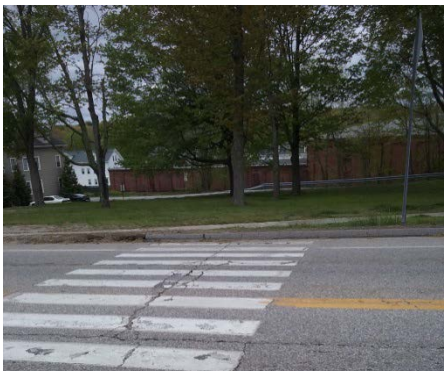


Figure 17. Crosswalk in Front of Swanson Park

Library

- The pedestrian crosswalk sign on Route 12 is set far back from the actual crossing.
- The crosswalk is ADA compliant.
- The sidewalk on Walker Street zig zags in front of the library. A worn pedestrian path shows people are taking the shortest distance to the library (Figure 18).
- The crosswalk width on Main Street is narrow.
- There is no crosswalk across Walker Street at Main Street to connect the existing sidewalks.
- There is no sidewalk on the west side of Route 12 north of Walker Street. The potential for a sidewalk here is constrained by the topography.

Figure 18. Pedestrian Path by Library

Main Street

- The centerline is very faded.
- The posted speed limit is 15 mph.

- There are no painted shoulder lines.
- Overgrown vegetation covers some traffic signs and blocks visibility.
- There is only a short segment in front of the bakery where there is sidewalk on both sides of the road. There is a continuous sidewalk on the east side of Main Street.

Railroad Crossing on Main Street.

Figure 19. Stop Bar Set Back Behind Tracks

- The railroad crossing has active warning systems for pedestrians and vehicles.
- The stop bar for Main Street is behind the tracks, this is 50 feet from the intersection with Route 12 (Figure 19). Large vehicles cannot use this intersection. They have to pull up to Route 12 to see, but the rear of the vehicle is over the tracks. There are no signs discouraging commercial vehicles from using this intersection.
- If the stop bar was moved up past the railroad crossing and the curb tightened could commercial vehicles still turn right onto Route 12?
- There are no information signs regarding the crossing for pedestrians. There are "No Stopping on Tracks" signs for motorists.
- The crosswalk across Route 12 is a long crossing. A crossing guard is present with traffic cones during school arrival and dismissal periods.
- The pedestrian crosswalk sign for the southbound Route 12 direction needs an arrow plaque.
- The crosswalk is not ADA compliant (Figure 20)
- There is a mix of catch basin grate types.

Figure 20. Non-ADA Compliant Ramp on Route 12 at Main Street

3.2 Post-Audit Workshop - Key Issues

- There are no bike accommodations, and the shoulder width varies from 1 to 8 feet. Wider shoulders and 11-foot through lanes throughout the entire corridor would be useful to:
    - Give more comfort to bicyclists
    - Help to reduce vehicle speeds.
- There is low curb reveal in places.
- There is a potential need for a crosswalk by the Airline Trail parking lot at Route 12. This will depend on the trail alignment used into Putnam, and how the abandoned rail spur is used. Pedestrian beacon alternatives should be considered for the crossing including rectangular rapid flashing beacons.
- CTDOT is contemplating redesigning the I-395 interchange with access to Route 193.
- The bridge on Route 193 over the French River is narrow and cannot accommodate two trucks at the same time.
- The pedestrian signal at the Routes 193/12 intersection serves very few pedestrians and is not MUTCD compliant. If there is more pedestrian demand in the future then it may be warranted, but for now, removal should be considered.
- Route 193 needs a connection to the Airline Trail from the Thompson Dam.
- A new sidewalk would be difficult to construct along Route 12 from the medical facility to Route 200 due to wetlands and steep slopes. It could be phased in; the south section may be easier than the north.
- A proposed bridge on Plum Road to the proposed industrial park is no longer a consideration.
- At the intersection of Park Street (Rt. 200) and Route 12, the sightlines are restricted due to the curvature of the road. A new crosswalk should be located north of Park Street. The location of a new sidewalk will depend on ROW and environmental constraints.
- The Blain Road intersection is a "Y"- type alignment with expansive pavement.
- The sidewalk and curb fronting the new Dunkin Donuts on Route 12 is in poor condition.
- The location of the crosswalk at Route 12/Thatcher should be evaluated.
- There is a crosswalk to nowhere by Swanson Park. Sight distance is limited. Moving the crosswalk south may be constrained by a driveway. The crosswalk by the Library on Main Street is very narrow.
- Tightening the curb radius on the southwest corner of Route 12/Main Street may make it difficult for trucks to turn. Any measures should be discussed with the bakery on Main Street since their trucks drive through this intersection daily.
- There are several issues regarding safety, access and circulation with the Cumberland Farms store on Route 12.

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. Make all crossings ADA accessible with handicap ramps and detectable warning strips (Figure 21).
2. Work with CTDOT to understand the rationale behind the passing zones on Route 12 and eliminate if possible.
3. Town to work with new developments to provide or improve sidewalks.
4. CTDOT to remove vegetation along Route 12 that restricts sight lines and blocks traffic signs, town along Main Street.
5. When the town repaints the Main Street center lines, sharrows should be considered for some locations along Route 12 (Figure 22).
6. Add signage that indicates to share the road with bicyclists where appropriate and educate the community (Figure 23).
7. There are directional route and information signs by Park Road but they are not visible from all three approaches. A second set of signs is needed.
8. Evaluate alternatives for active pedestrian protection at the Airline Trail Crossing at Route 193 (Figure 24).
9. Consult with CTDOT as to the purpose of the pedestrian button (signal crossing) on Route 12 at the intersection with Route193. Removal of the pedestrian button should be considered.
10. Coordinate with CTDOT to perform traffic and classification counts and determine the number of commercial vehicles on Route 193 going over the bridge.
11. Evaluate the best location for new pedestrian crosswalks at Route 12 and Thatcher Road to connect sidewalks and provide access to the Dollar General Store. Construct a new crosswalk with handicap ramps, warning strips and signage.

12. Add a handicap ramp on the west side of the crosswalk at Cumberland Farms and Route 12. The existing traffic circulation will need to be modified.
13. Coordinate with Cumberland Farms to accept deliveries in off hours only.
14. Relocate the crosswalk on Route 12 by Swanson Park south to below the driveway and extend the sidewalk on the west side to meet the new crosswalk location (Figure 25).
15. Replace old and faded pedestrian signs with new fluorescent signs per MUTCD.
16. Trim vegetation at Swanson Park to improve sightlines or replace with lower vegetation.
17. Evaluate the need for new crosswalks at Market Street, Central Street and Riverside Drive.
18. Add a pedestrian crossing sign at the Walker Street crosswalk.
19. Redirect the lighting at the corner of Walker Street and Route 12.
20. Widen the crosswalks in front of the library on Walker Street and on Main Street at Walker Street.
21. Install pedestrian signage at the railroad crossing on Main Street (southerly), west of Route 12.
22. Add a pedestrian crossing sign with down arrow plaque to all crosswalks where missing (Figure 26).
23. Coordinate with the bakery on Main Street concerning truck movements from Main Street turning onto Route 12 due to the location of the railroad crossing by the intersection of Main Street and Route 12.

Figure 27 depicts the short term recommendations.

Figure 21. Example of Detectable Warning Strips

Figure 22. Example of a Sharrow

Figure 23. Share the Road Sign

Figure 24. Active Pedestrian Rail Trail Crossing

Figure 25. Move on Route 12 at Swanson park Crosswalk to Align with Sidewalk

Figure 26. Pedestrian Crossing with Down Arrow Plaque

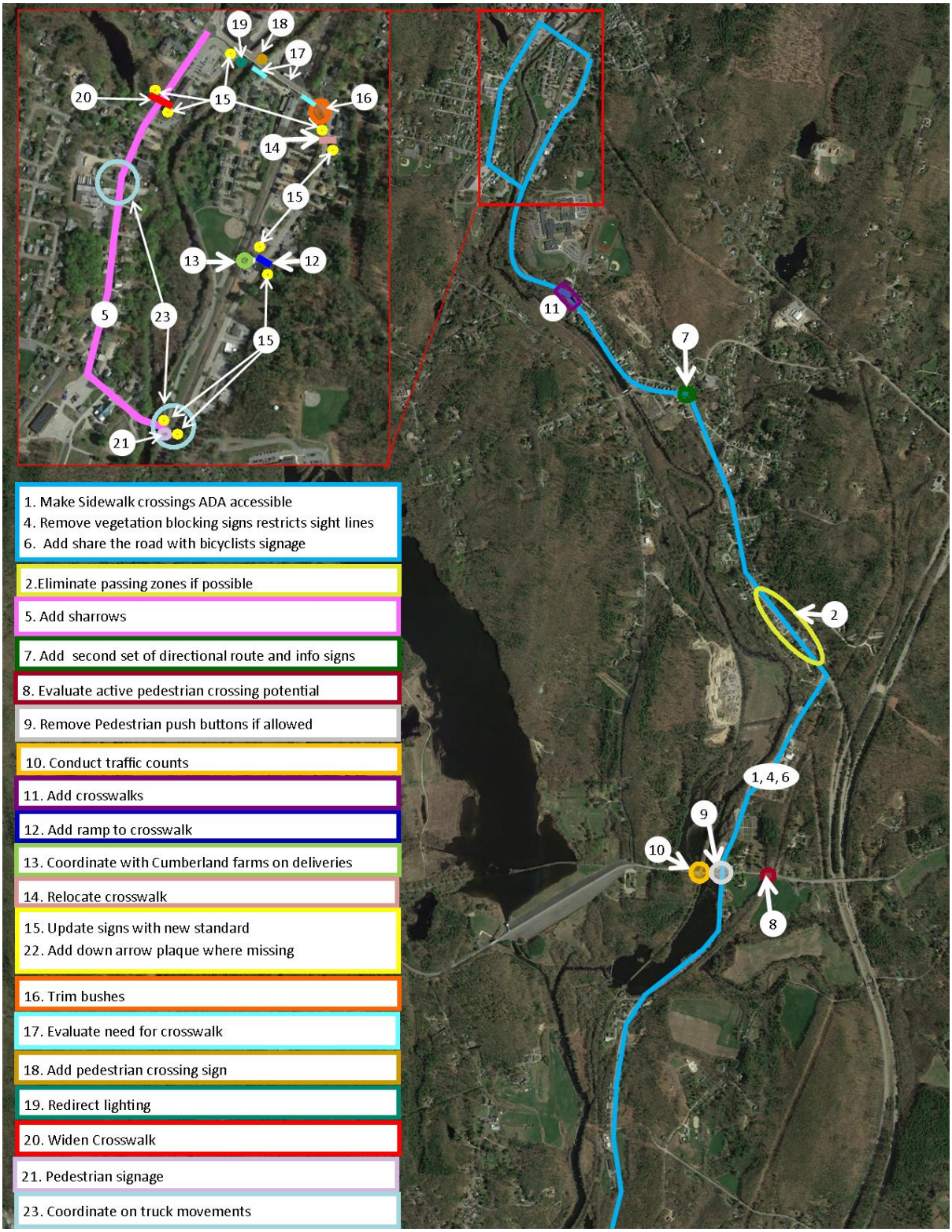


Figure 27. Short Term Recommendations

4.2 Medium Term

1. Repave Route 12 (State)
    a. Restripe travel lanes to 11 feet wide' and increase shoulder width for cyclists. This would not change the width of the roadway. Narrower lanes do slow down the traffic (Figure 28).
2. Install a new crosswalk by the Airline Trail parking lot on Route 12 including active protection (flashing beacon, rectangular rapid flashing beacon, or HAWK) to increase driver awareness due to sight distance and speed concerns (Figure 29).
3. Paint lane lines on Blain Road at Route 12 and add curbing to better designate travel lanes and improve safety for all users.
4. Coordinate with Cumberland Farms to study the vehicle circulation in and out of the site to determine options to improve access and circulation. One option should explore using the adjacent parcel (owned by Cumberland Farms) to the south to expand parking and turn around areas for trucks.
5. Move the stop bar on Main Street and Route 12 closer to the intersection. Evaluate the potential for a curb extension on the southwest corner to shorten the pedestrian crossing distance. Truck turning radius will need to be evaluated to make sure that a curb extension does not make trucks cross the Route 12 centerline while making a right turn from Main Street.
6. Replace catch basin grates with bike friendly grates (Figure 30).
7. Repair poor sidewalk and curb fronting the Dunkin Donuts site on Route 12.

Figure 31 depicts the medium term recommendations.

Figure 28. Advisory Bike Lanes

Figure 29. HAWK Beacon


Figure 30. Bike Friendly Catch Basin

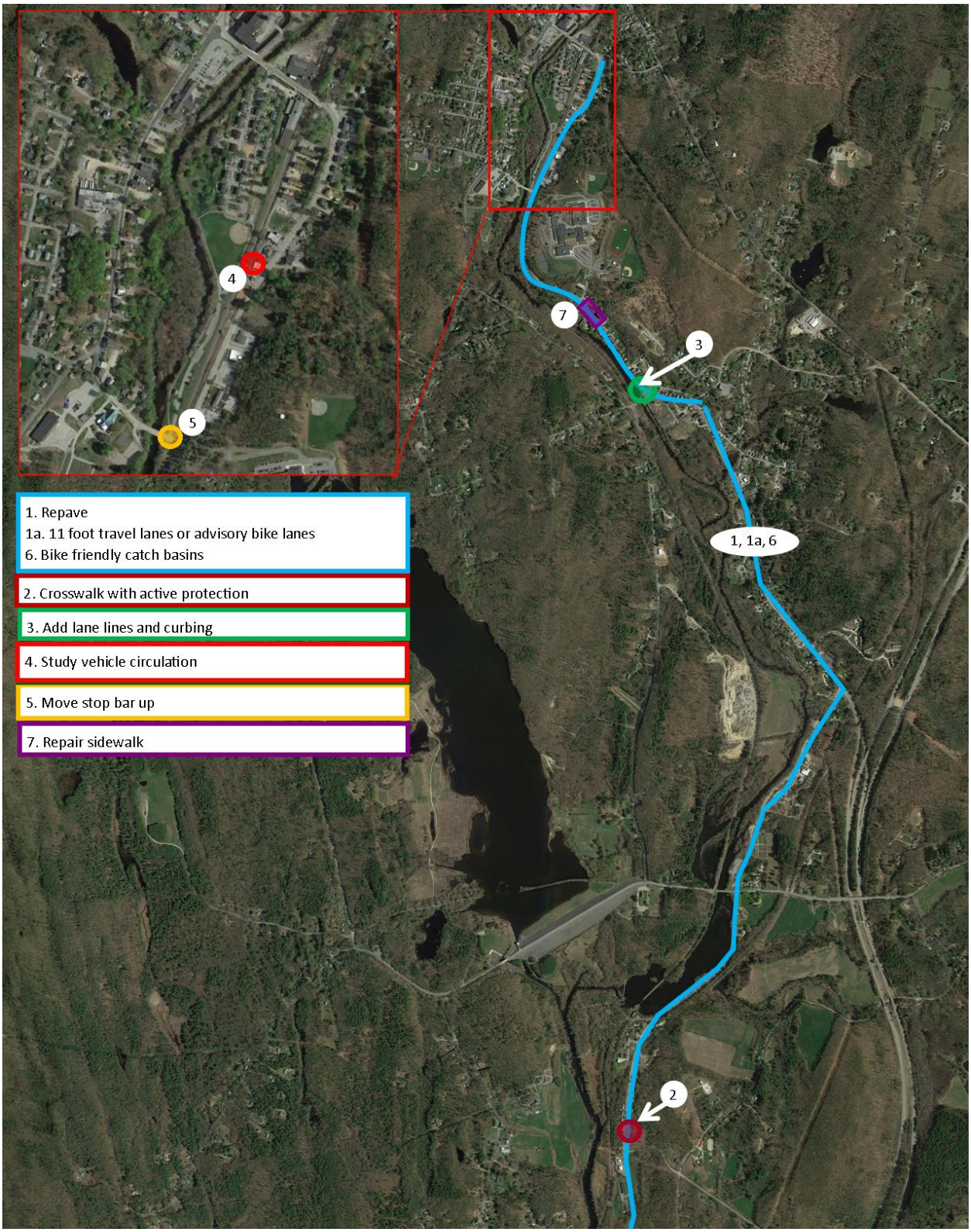


Figure 31. Medium Term Recommendations

4.3 Long Term

1. If a new interchange at I-395/Route 193 is constructed then the need for grade separation of the Airline Trail at Route 193 should be evaluated.
2. Construct a new sidewalk from the medical facility by Westside Drive on the west side of Route 12 to meet the existing sidewalk at Park Street/Route 200. Provide a new crosswalk across Route 12 north of Park Street on the north end and evaluate the location of a new crosswalk across Route 12 on the south end.
3. Evaluate alternatives to redesign the Route 12/Blain Road intersection to reduce the intersection width, shorten crossing distances, define travel lanes, slow traffic, and improve safety for all users.
4. Evaluate and upgrade all sidewalks.
5. If truck traffic increases on Route 193 due to the proposed industrial park development, then investigate if the signal should be upgraded to include pedestrian signals. If the site is large enough to qualify as a Major Traffic Generator, then the State may recommend it if the site-generated traffic warrants it.

Figure 32 depicts the long term recommendations.

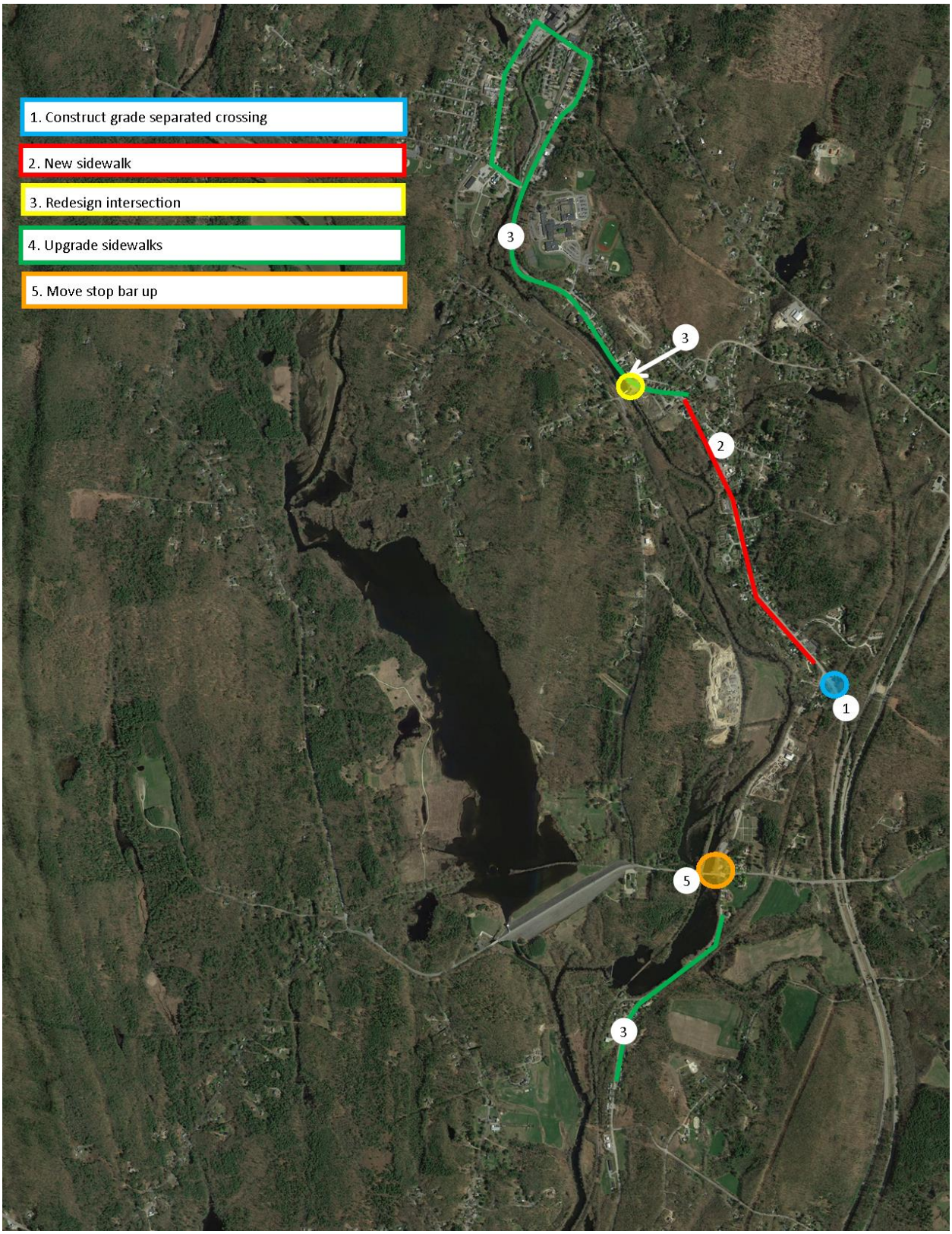


Figure 32. Long Term Recommendations

4.4 Summary

This report outlines the observations, discussions and recommendations developed during the RSA. It documents the successful completion of the Town of Thompson RSA and provides Thompson with an outlined strategy to improve the transportation network along Route 12 and Main Street for all road users particularly focusing on pedestrians and cyclists. Moving forward, Thompson 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 along Route 12 and Main Street.

COMMUNITY
connectivity program

Appendix A

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM
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	Mary Ann Chinatti
Title	Director of Planning & Development
Email Address	planner@thompsonct.org
Telephone Number	(860) 923-9475

2. Location information

Address	Route 12 Corridor/Main Street Loop
Description	Main road through the most heavily populated portion of town
City / Town	Thompson

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)

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

School, office, personal service, municipal

5. Approximate mile radius around the location

Greater than a ½ mile

Other (Please Specify)

Other routes will be discussed later in this application

6. Community Sites
(Please select all that apply)

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

School, office, personal service, municipal

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

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

If Yes please describe (please specify)

Retail, office, industrial, municipal, education

8. Educational facilities
(Please select all that apply)

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

9. Transit facilities
(Please select all that apply)

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

10. Safety Concerns
(Please select all that apply)

- [x] **Traffic (volumes & speed)**
- [ ] **Collisions**
- [x] **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)**

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 are numerous projects ongoing/upcoming for Riverside Drive (aka Rt. 12), including:

Two properties are currently being investigated with the assistance of DECD Brownfield grants, with the ultimate goal of bringing the properties back to fully productive commercial/mixed use sites.

A retail development (Dollar General) is under construction, and a restaurant with drive-thru (Dunkin Donuts) and a mixed use (retail/office/residential) have received approval from the Planning & Zoning Commission but have not yet begun construction.

The Town has also applied for a STEAP grant to connect the industrial park, located on Reardon Rd., to available public water/sewer on Riverside Dr. via directional bore under the French River/P&W rail line.

An engineering study is underway to develop plans (site and architectural) to rebuild the Community Volunteer Fire Department building, located on Riverside Drive.

CT DECD Brownfield Grant Projects:

630 Riverside Drive: Environmental Site Assessments/Preparation of a Remedial Action and Reuse Plan - this project is ongoing, with Phase I ESA completed, and Phase II/III anticipated to be complete by mid-march. Following Ph. II/III completion, the Town's consultant will present its recommended Remedial Action and Reuse Plan. The final deliverables will provide potential developers with a road-map for any required clean-up prior to construction. The property is located in a Neighborhood Commercial (NC) zone district, which permits mixed-use development.

929 Riverside Drive: Known as "The River Mill", the property/structure is the focal point of the North Grosvenordale National Register Historic District. The project awarded grant funding entails: Environmental Site Assessments/Hazardous Materials Survey/Structural Evaluation/Preparation of a Remedial Action and Reuse Plan. The structure is severely underutilized (approximately 60,000 s.f. of its total 575,000 s.f.) and located in a Neighborhood Commercial (NC) zone district.

Both of these sites, once brought back to fully contributing parcels, will increase foot/bicycle traffic within the corridor.

12. Environmental Concerns:

Other

If Yes please describe and list.

Though there are no "concerns" re development of bike/ped friendly travel along Riverside Drive (aka Rt. 12), the French River parallels the road; there are also brownfield sites, wetlands and flood plain in close proximity.

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

The area should be considered for an RSA because Riverside Drive (aka Rt. 12) is a heavily traveled corridor through the town and connects residential, retail/restaurants, schools, municipal offices, bank, post office, bank, public safety and library services.

The area is frequently used by pedestrians to get from one location to another,and by bicyclists as well. It is currently not pedestrian/bicycle friendly and, at times, is dangerous for walkers/bicyclists. Though sidewalks are available in some locations, sidewalk access is not available along the corridor's entirety. Also, bike lanes do not currently exist along the corridor.

Also included with this request are, and if the Town's request is approved, we will work with the consultant to identify/prioritize the following locations:

Riverside Drive (aka Rt. 12) - Blain Rd. - Reardon Rd. - W. Thompson Rd. loop, which would allow pedestrians/cyclists to safely access the heavily-visited West Thompson Dam, and its trails system, from points east of the Dam.

Riverside Drive (aka Rt. 12) - Blain Rd. - Reardon Rd. - Thompson Rd. - Ravenelle Rd., which would provide access to the West Thompson Dam, and its trails system, from points west of the Dam.

Potential bicycle routes from Riverside Drive (aka Rt. 12)/Rt. 193 in Thompson, connecting with Putnam/Danielson to the south and Massachusetts to the north.

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

Yes

Upon completion of the two brownfield projects described in detail under Item #11 of this request, the properties will be marketed to solicit businesses/development for those locations.

The Town is also working with the owner of the industrial park on Reardon Rd. and will assist with additional marketing of those properties upon installation of municipal water/sewer.

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

Yes

Thompson has much to offer pedestrian/bicycle traffic; however, due to its current system of roads, the Town is not well-suited for that traffic. It is hoped that approval of this request will be a catalyst to not only assist its residents, but to attract visitors to take advantage of the uniqueness that is Thompson.

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

COMMUNITY
connectivity program

Appendix B

Built to deliver a better world

Road Safety Audit

Town: Thompson
RSA Location: Route 12
Meeting Location: Thompson Town Hall
Address: 815 Riverside Drive
Date: 5/16/2016
Time: 8:30 AM

Participating Audit Team Members

Audit Team Member	Agency/Organization
Krystal Oldread	AECOM
Melanie Zimyeski	CTDOT
Janet Blanchette	Resident Civil Engineer
Linda Jarmolowicz	Board of Education
Mike Lajeuvesse	Thompson Trails
Mary Ann Chinatti	Town Planner
Jeff Maxtutis	AECOM
Rennee Wald	Town
Karen Durlach	Thompson Trails
Leo Adams	DPW
Ken Beausoleic	First Selectman
Charlie Obert	Thompson Trails

COMMUNITY
connectivity program

Appendix C

Built to deliver a better world

Road Safety Audit – Thompson

Meeting Location: Thompson Town Hall
Address: 815 Riverside Drive
Date: 5/16/2016
Time: 8:30 AM

Agenda

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:
  - Average Daily Traffic
  - Crash Data
  - Geometrics
- Issues
- 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
  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	

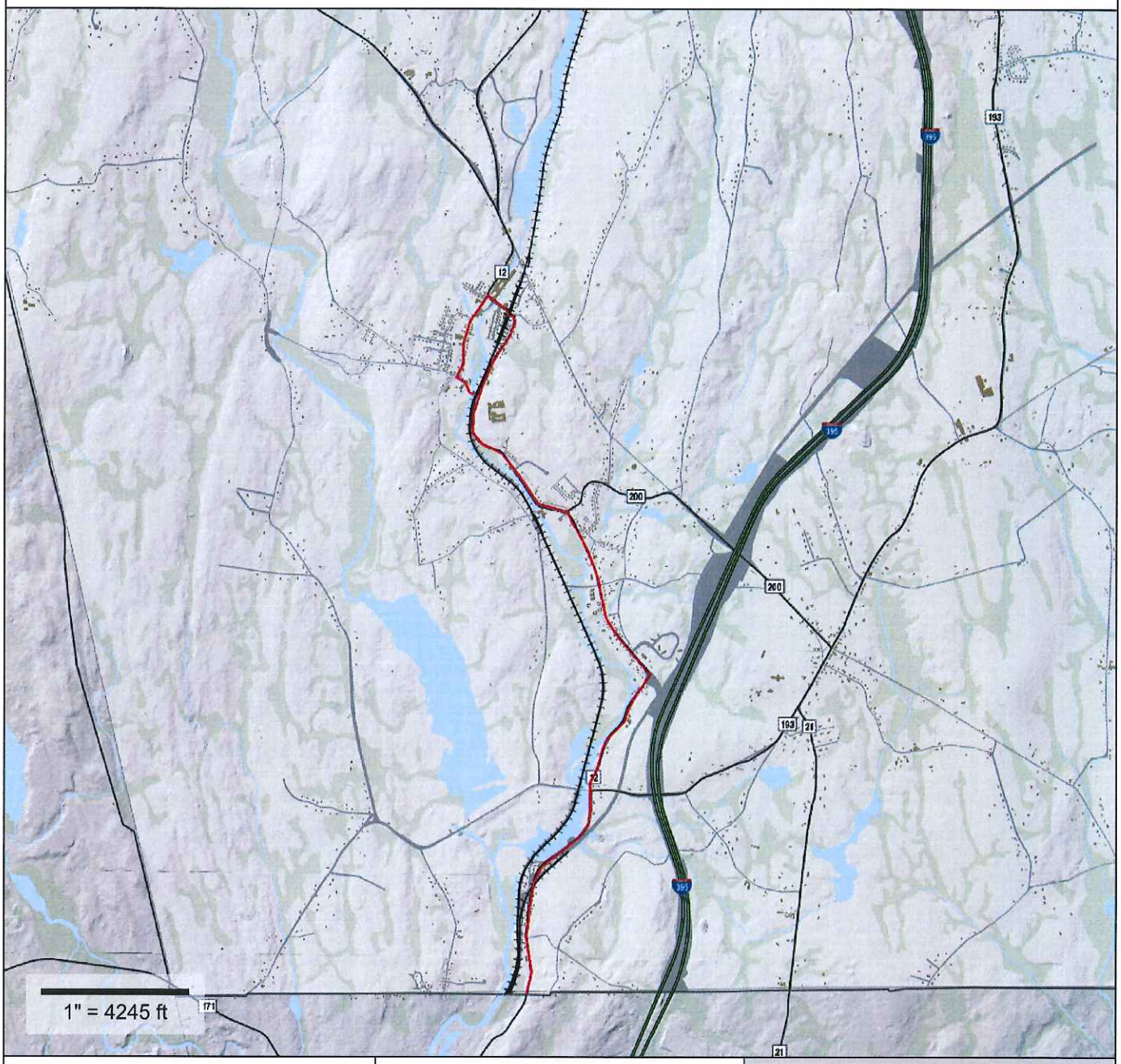
• Signals
  o Proper visibility
  o Proper operation
  o Efficient operation
  o Safe placement of equipment
  o Proper sight distance
  o Adequate capacity	

• 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	

Town of Thompson February 23, 2016

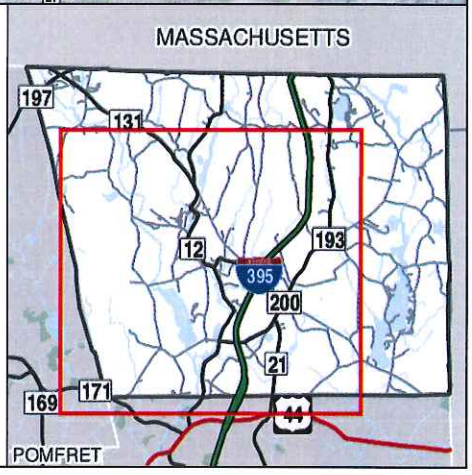
Riverside Drive/Main St. Loop



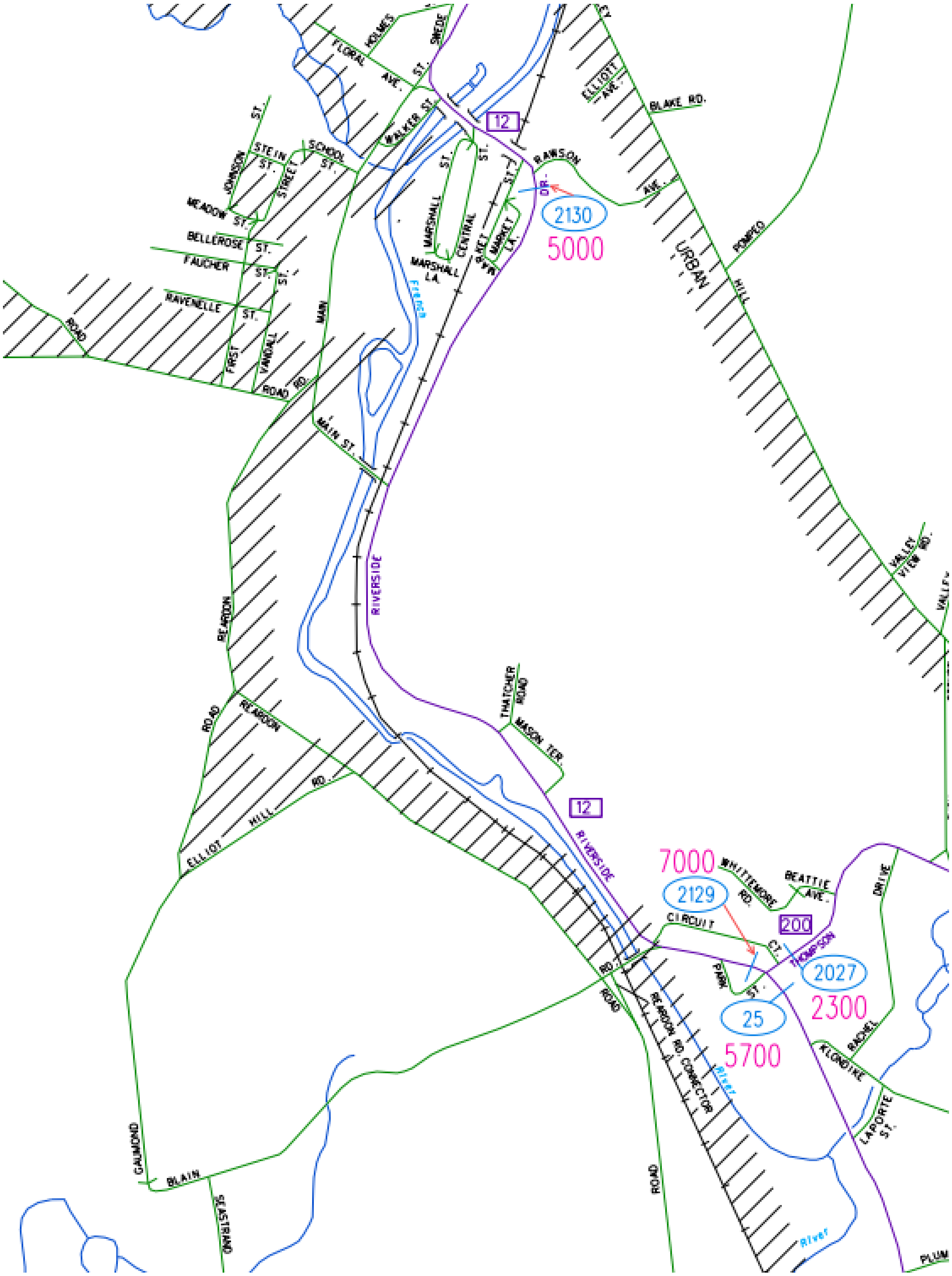
MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

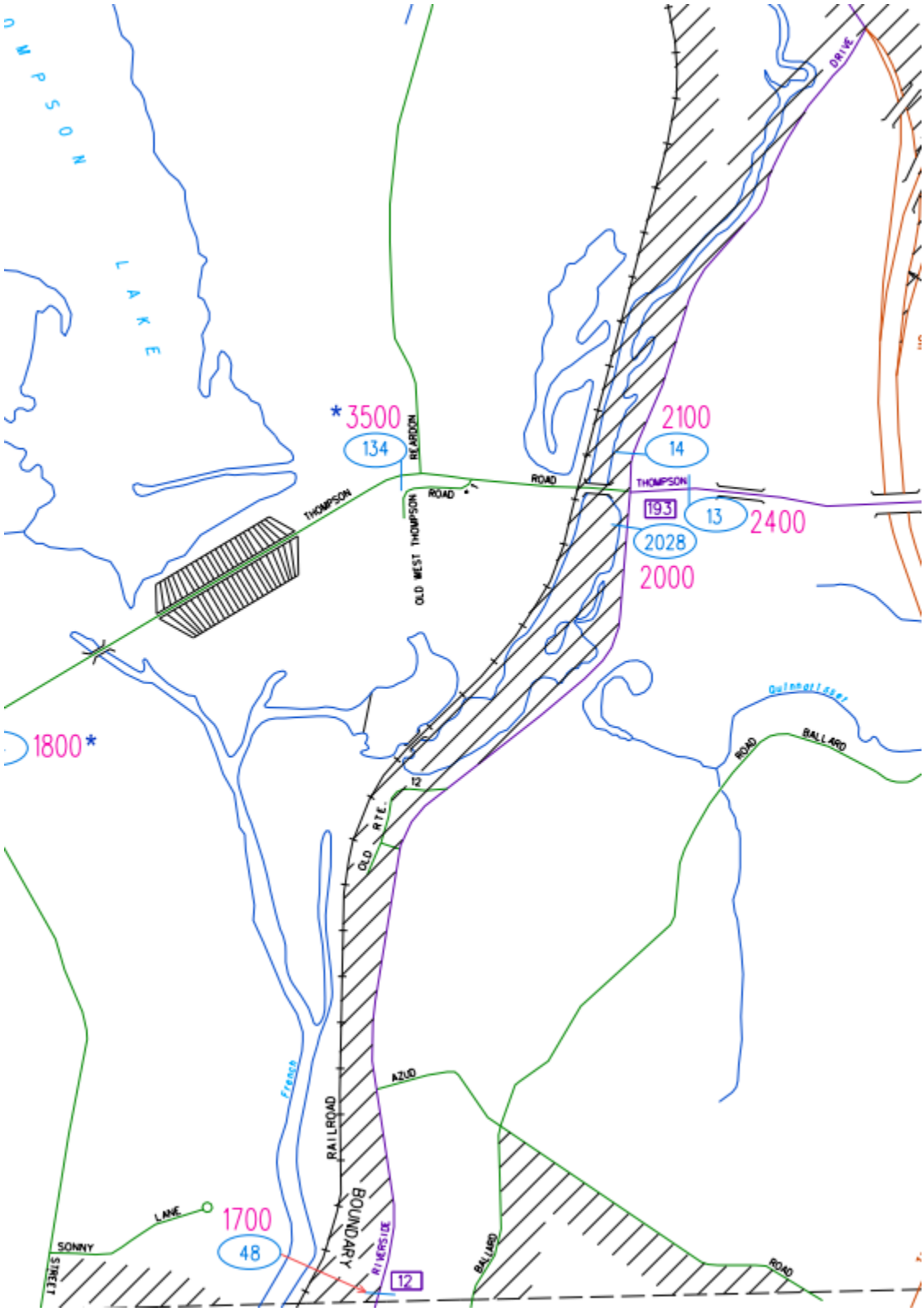
The Town makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 5/1/2008



Average Daily Traffic (ADT)

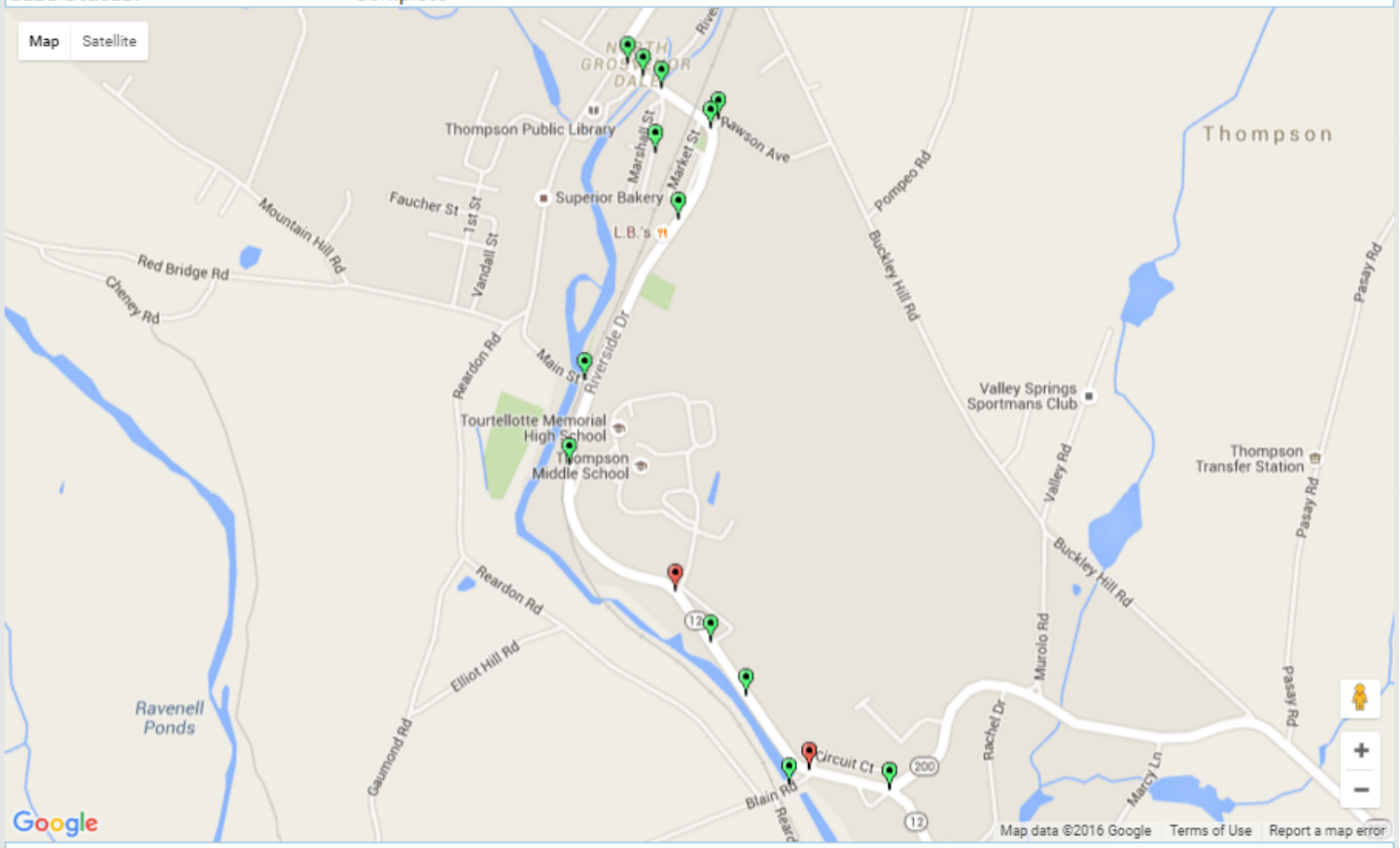



UMPSON LAKE
* 3500
134
REARDON
ROAD
THOMPSON
ROAD
OLD WEST THOMPSON
2100
14
THOMPSON
193
13
2400
2028
2000
1800*
DRIVE
Quinnatisset
ROAD
BALLARD
12
OLD RTE.
AZUD
RAILROAD
BOUNDARY
RIVERSIDE
Fresno
1700
48
SONNY
LANE
STREET
BALLARD
ROAD

2015 Crashes

UCONN Connecticut Crash Data Repository

Search Criteria:	
Dataset:	mmucc
Towns:	Thompson
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

This web site is exempt from discovery or admission under 23 U.S.C. 409.

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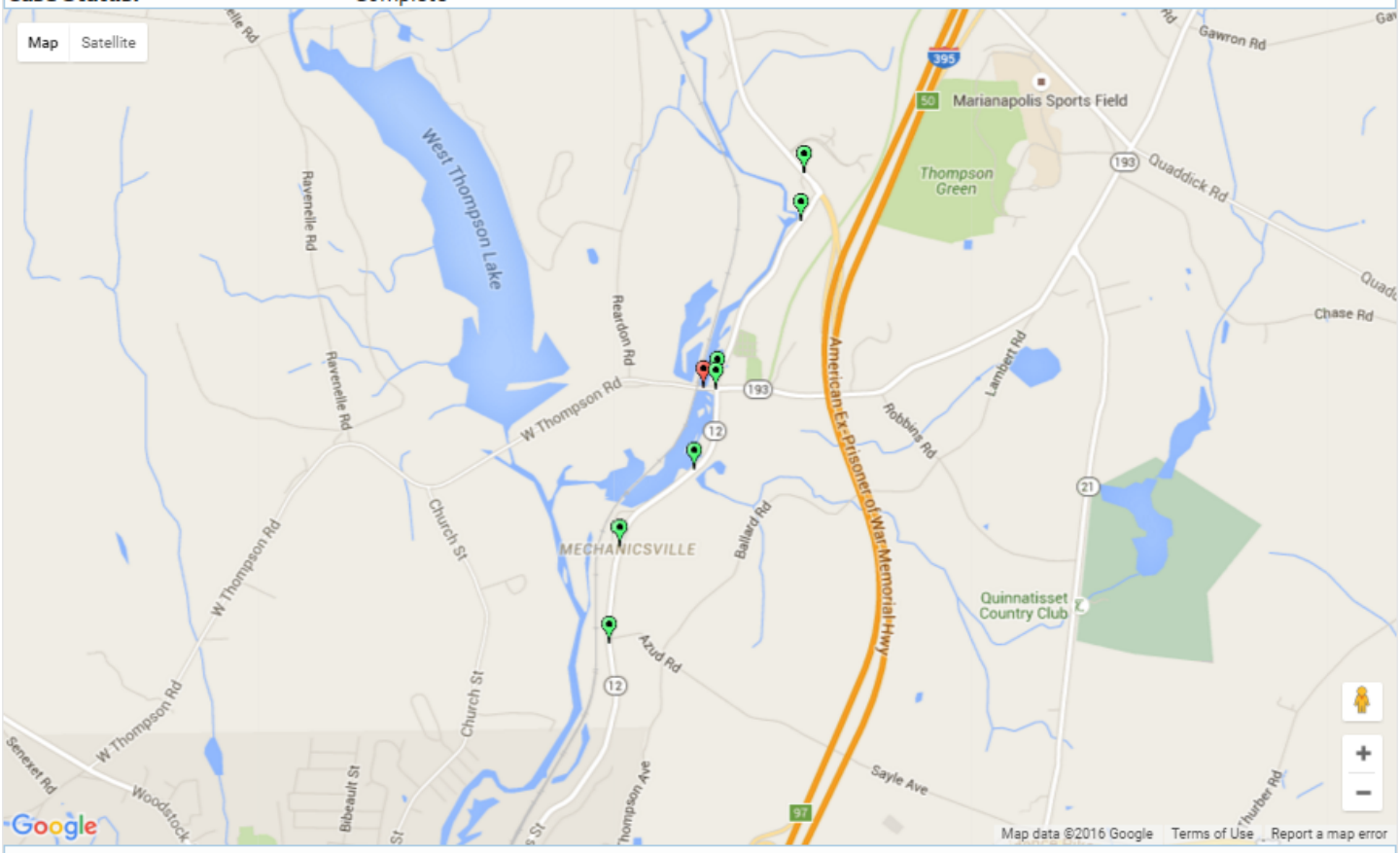


Markers | Heatmap | Select & Query | Query Selection

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

Select All | Deselect All

Road Safety Audit – Thompson

Crash Summary

Data: 3 years (2012-2014)

1 accident involved a bicyclist and resulted in an injury

Severity Type	Number of Accidents	
Property Damage Only	36	65%
Injury (No fatality)	19	35%
Fatality	0	0%
Total	55	

Manner of Crash / Collision Impact	Number of Accidents	
Unknown	0	0%
Sideswipe-Same Direction	0	0%
Rear-end	8	15%
Turning-Intersecting Paths	11	20%
Turning-Opposite Direction	5	9%
Fixed Object	20	36%
Backing	0	0%
Angle	2	4%
Turning-Same Direction	4	7%
Moving Object	0	0%
Parking	0	0%
Pedestrian	0	0%
Overturn	0	0%
Head-on	2	4%
Sideswipe-Opposite Direction	3	5%
Total	55	

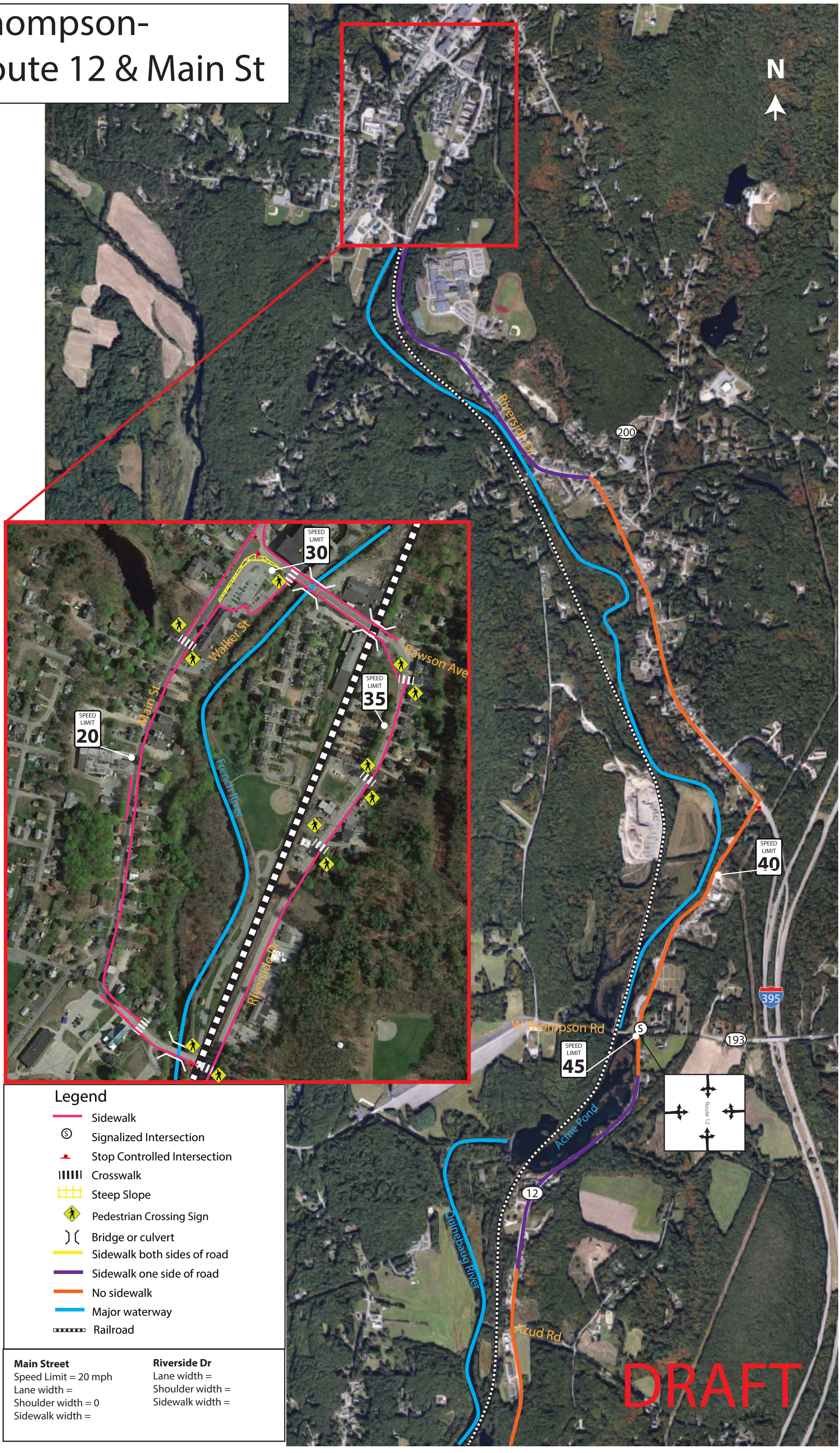
Weather Condition	Number of Accidents	
Snow	5	9%
Rain	6	11%
No Adverse Condition	43	78%
Unknown	0	0%
Blowing Sand, Soil, Dirt or Snow	0	0%
Other	0	0%
Severe Crosswinds	0	0%
Sleet, Hail	1	2%
Total	55	

Light Condition	Number of Accidents	
Dark-Not Lighted	7	13%
Dark-Lighted	8	15%
Daylight	39	71%
Dusk	1	2%
Unknown	0	0%
Dawn	0	0%
Total	55	

Road Surface Condition	Number of Accidents	
Snow/Slush	5	9%
Wet	8	15%
Dry	40	73%
Unknown	0	0%
Ice	2	4%
Other	0	0%
Total	55	

Time		Number of Accidents	
0:00	**0:59**	2	3.6%
1:00	**1:59**	1	1.8%
2:00	**2:59**	0	0.0%
3:00	**3:59**	0	0.0%
4:00	**4:59**	0	0.0%
5:00	**5:59**	0	0.0%
6:00	**6:59**	0	0.0%
7:00	**7:59**	2	3.6%
8:00	**8:59**	1	1.8%
9:00	**9:59**	8	14.5%
10:00	**10:59**	2	3.6%
11:00	**11:59**	5	9.1%
12:00	**12:59**	4	7.3%
13:00	**13:59**	4	7.3%
14:00	**14:59**	4	7.3%
15:00	**15:59**	3	5.5%
16:00	**16:59**	3	5.5%
17:00	**17:59**	3	5.5%
18:00	**18:59**	7	12.7%
19:00	**19:59**	1	1.8%
20:00	**20:59**	1	1.8%
21:00	**21:59**	3	5.5%
22:00	**22:59**	1	1.8%
23:00	**23:59**	0	0.0%
Total		55	

Thompson-
Route 12 & Main St



Legend

- Sidewalk
- Signalized Intersection
- Stop Controlled Intersection
- Crosswalk
- Steep Slope
- Pedestrian Crossing Sign
- Bridge or culvert
- Sidewalk both sides of road
- Sidewalk one side of road
- No sidewalk
- Major waterway
- Railroad

Main Street
Speed Limit = 20 mph
Lane width =
Shoulder width = 0
Sidewalk width =

Riverside Dr
Lane width =
Shoulder width =
Sidewalk width =

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 – Thompson

Fact Sheet

Functional Classification:

- Route 12 is classified as a Minor Arterial

ADT

- ADT along this corridor spans between 1,700 and 7,000

Population and Employment Data (2014):

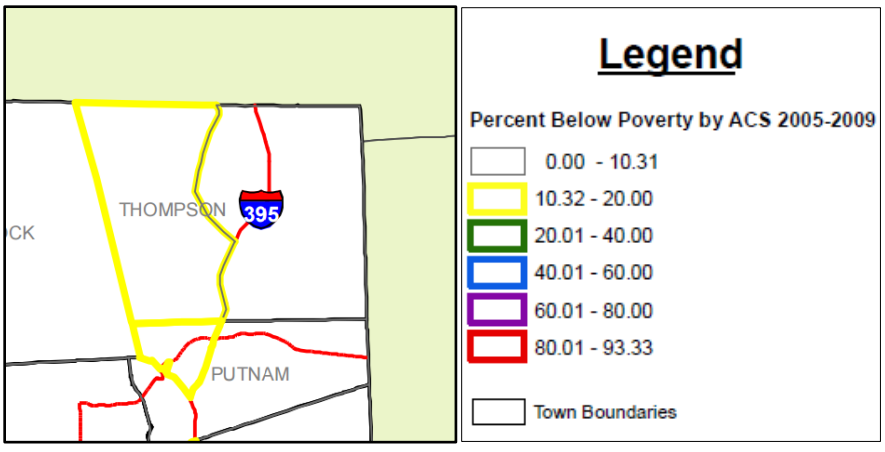
- Population: 9,390
- Employment: 1,593

Urbanized Area

- Route 12 and Main Street are located in the Worcester Urbanized Area

Demographics

- The statewide average percentage below the poverty line is 10.31%. Within the vicinity of the Route 12/Main Street corridor, up to 20.0% of Thompson residents fall below the poverty level.



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

Air Quality

- Thompson's CIPP number 813
- Thompson is within the Greater CT Marginal Ozone Area
- Thompson is within a CO Attainment Area