CANTON ROAD SAFETY AUDIT

DOWD AND MAPLE AVENUE (ROUTE 565) AND BRIDGE STREET (ROUTE 179)

COMMUNITY connectivity program

FHI studio

JANUARY 2023

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1 COMMUNITY CONNECTIVITY PROGRAM

1.1 Program Background

The Connecticut Department of Transportation (CTDOT) has created a Community Connectivity Program that focuses on improving the state's transportation network for all users. A major component of this program is conducting Road Safety Audits (RSAs) at selected locations. An RSA is a formal safety assessment of the existing roadway. 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/or severity.

The RSA team includes CTDOT staff, municipal officials and staff, municipal police, local stakeholders, FHI Studio staff, and community leaders. The 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, roadway geometrics, crash data, roadway inventory (i.e. signage, curbs, bicycle/pedestrian facilities, amenities, safety components), and sidewalks.

Each RSA is conducted using RSA protocols published by the FHWA. For details on this program, please refer to the CT Connectivity RSA site on the CTDOT webpage.

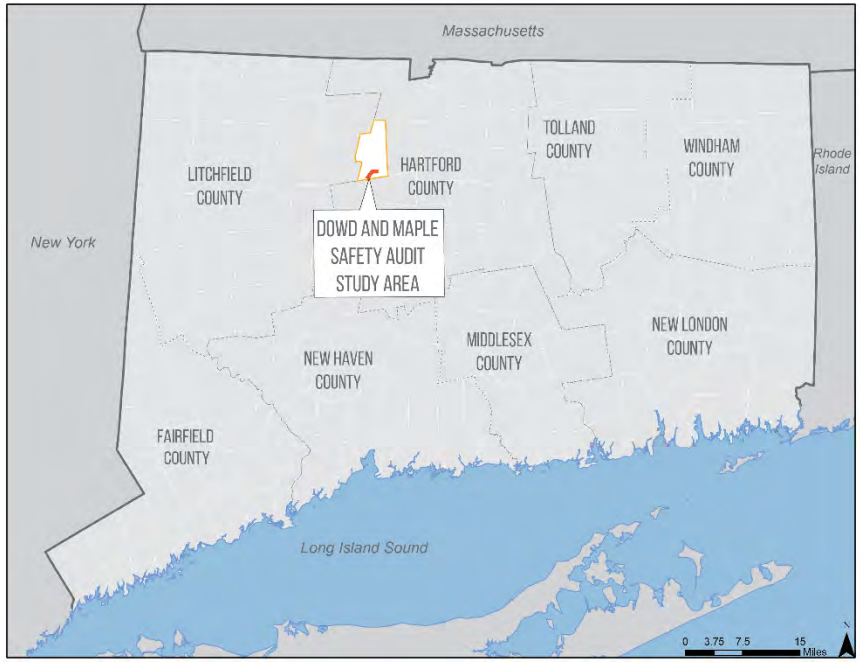
Prior to the site visit, area topography, land use characteristics, intersection sight distance concerns, sidewalk locations, parking, and bicycle facilities are examined using available mapping and imagery. The site visit includes a "Pre-Audit" meeting, the "Field Audit" itself, and a "Post-Audit" meeting to discuss the field observations and formulate recommendations. This procedure and the summary results are discussed in the following sections.

1.2 Canton RSA Study Area and Location

CTDOT sponsored an RSA for the Town of Canton in the Route 565 (Dowd and Maple Avenue) and Route 179 (Bridge Street) area. The study area encompasses Route 565 (Dowd and Maple Avenue) between Route 44 (US 202) and Route 179 (Bridge Street).

Exhibit 1 shows the study area in context to the State of Connecticut, while Exhibit 2 shows the study area in further detail.

Exhibit 1: Canton RSA Regional Location



The purpose of the RSA is to observe any safety concerns while discussing possible safety improvements for pedestrians and bicyclists travelling along the study area corridor. The study area functions primarily as a connector road between Route 44 (Albany Turnpike) and Collinsville, a section of the Town of Canton, with access to local residential neighborhoods, civic uses such as Town Hall and intermediate and high schools, and pedestrian and bicyclist movement throughout the study area. The Farmington River Trail (FRT) runs approximately parallel to the study area and crosses the study area in two locations. The FRT is a heavily used trail, with counts on this trail over 67,000 users per year (2020, CT Trail Census). See Exhibit 3 for points of interest located along the corridor.

Route 565 (Dowd Avenue and Maple Avenue) is a Major Collector while Route 179 (Bridge Street and River Road) is a Minor Arterial that provides a regional connection to points north and south. The study area has some sidewalks and crosswalks throughout, but lacks bicycle facilities along much of the study area roadway to the north of the intersection of Route 179 (River Road).

Average Daily Traffic (ADT) in the study area ranges between 6,600 vehicles to 12,700 vehicles per day along Route 565 (Dowd and Maple Avenue) and Route 179 (Bridge Street).

Exhibit 4 displays daily traffic in the study area. There is one signalized intersection in the study area, at the intersection of Route 179 (Bridge Street) and Main Street. The other intersections along the corridor are two-way stop-controlled with Route 179 (Bridge Street) and Route 565 (Dowd and Maple Avenue) having priority and not stopping though the intersection.

Exhibit 2: Canton RSA Study Area

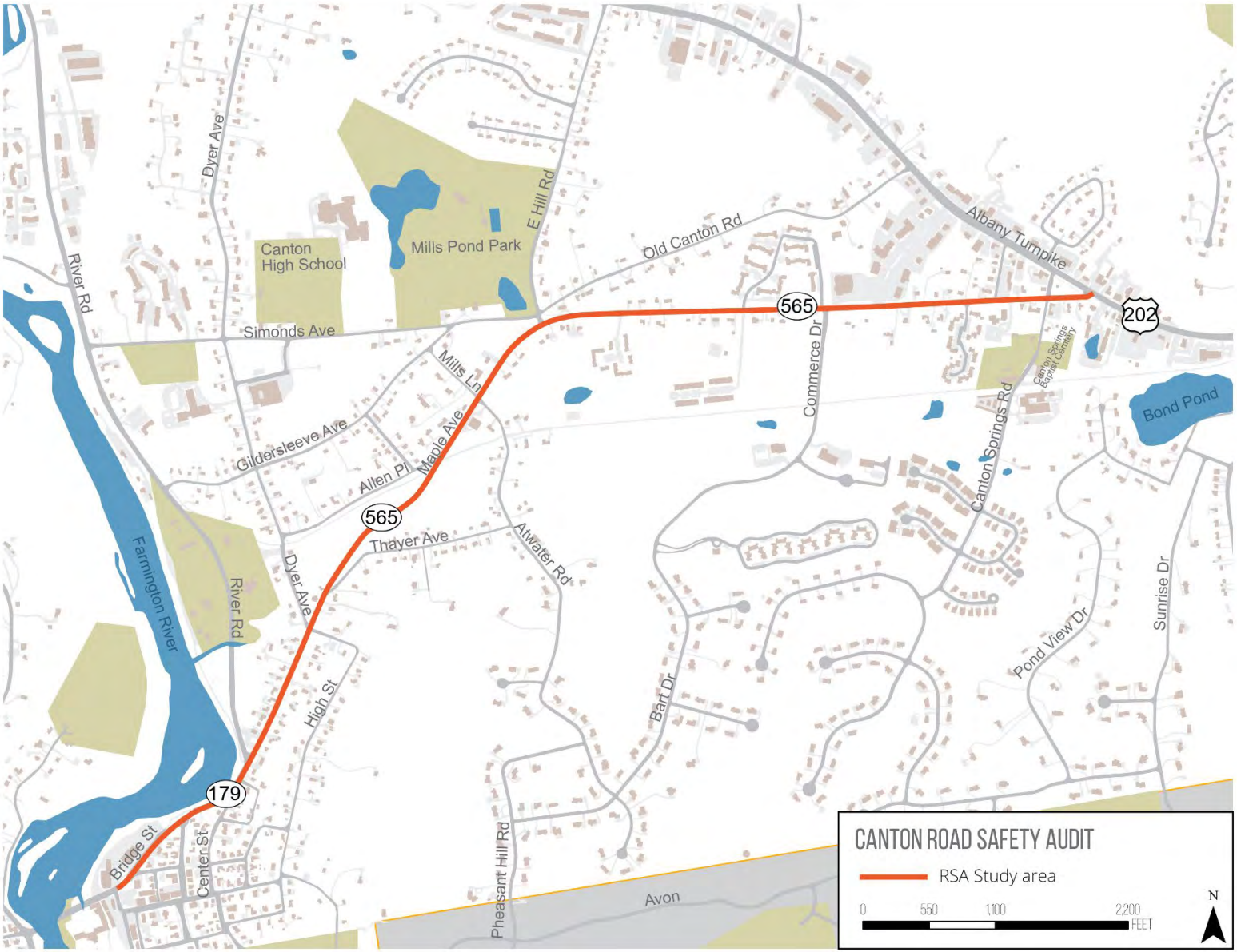


Exhibit 3: Study Area Points of Interest

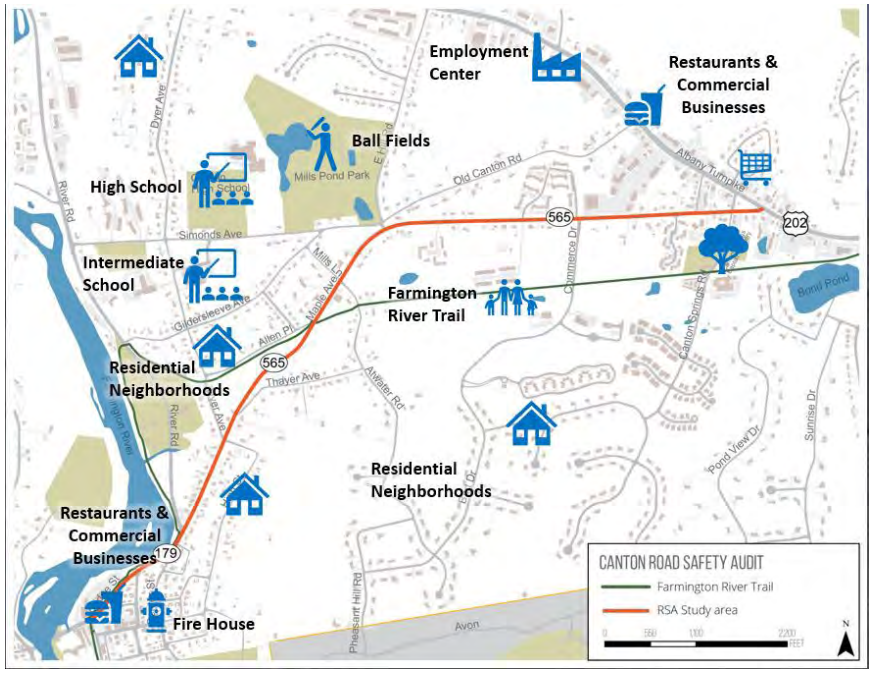
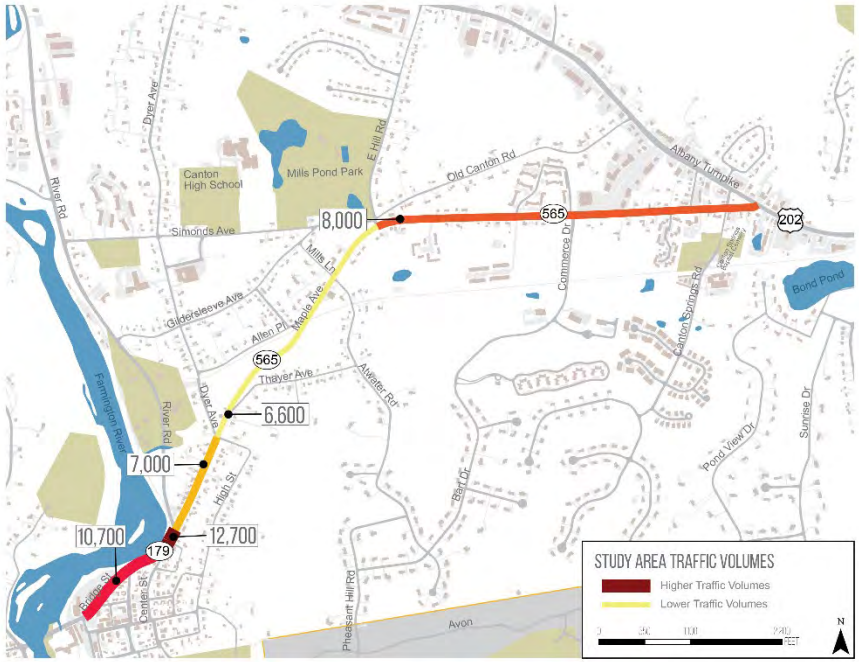


Exhibit 4: Average Daily Traffic Volumes



2 PRIOR EFFORTS IN STUDY AREA

2.1 2016 Road Safety Audit

Under the Community Connectivity Program sponsored by CTDOT, an RSA was conducted around the Town Green in 2016 and encompassed Route 44 (Albany Turnpike) and Route 565 (Dowd/Maple Avenue). Upgrading signage along the corridor to current MUTCD standards was recommended. Additionally, an analysis of the existing signal timing at Route 44 (Albany Turnpike) and Route 565 (Dowd/Maple Avenue), as well as sidewalk improvements around the town green. Further recommendations included consideration of a road diet on Route 44 (Albany Turnpike) and a reconstruction of the Route 44 (Albany Turnpike) and Route 565 intersection into a normal T-intersection. Exhibit 5 shows the newly painted crosswalk and signal equipment.

Exhibit 5: A photo from the 2016 RSA showing the pedestrian crossing of River and Bridge Streets.

2.2 2014 Plan of Conservation and Development (POCD)

The 2014 Plan of Conservation and Development undertaken by the Town of Canton identifies the intersections of Route 565 (Maple Avenue) and Route 179 (River Road) as a potential location for a roundabout. Additional traffic calming measures were proposed at Route 179 (Bridge Street) and River Street, to better facilitate access to the Farmington River Trail and provide space for left turning movements. Exhibit 6 displays the proposed modifications to the two intersections.

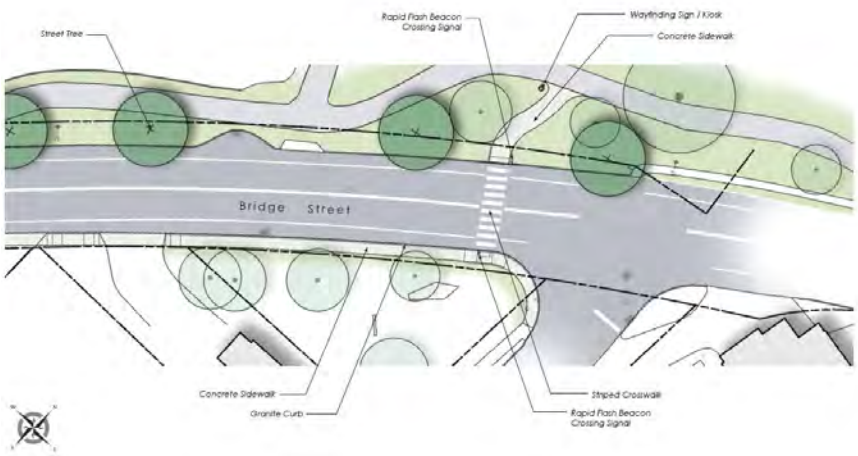
Exhibit 6: Proposed traffic Calming Measures in the study area in the 2014 POCD. Note – the concept plan to the left is mislabeled and should apply to Center Street based on conversations during the RSA.

2.3 Collinsville Village Center Streetscape and Main Street Master Plan

As part of the Collinsville Master Plan, a streetscape project focused on improving safe pedestrian access, organized parking, and improved linkages between businesses and recreational areas was completed in the study corridor. Currently, Streetscape Phase 1 has been completed, with work on-going for Streetscape Phase 2 at the time of this RSA. The Plan adds additional sidewalks to Route 179 (Bridge Street) on the east side of

the roadway between Main Street and River Street. The project also is replacing an existing crosswalk across Route 179 (Bridge Street) with a re-aligned crosswalk and RRFB system. RSA participants noted that this current work will still leave a sidewalk gap between River Street and Center Street on the east side of the roadway due to right-of-way and topography constraints.

Exhibit 7: Route 179 (Bridge Street) improvements recommended near River Street.



2.4 2008 Pedestrian and Vehicular Safety Committee Recommendations

This recommendations report preceded many of the recent changes in the Collinsville area. This includes a traffic signal installed at Route 179 (Bridge Street) and Main Street, reduction of curb cuts, realignment of North Street approach, addition of sidewalks on the east side of the roadway, and improvement to the crosswalk at River Street. Some recommendations in this report have not been implemented, such as:

- Route 179 (Bridge Street) traffic calming. The report suggests that the use of alternative pavement material in contrasting material and color on the shoulder be considered.
- Route 179 (Bridge Street) and Center Street improvements including the addition of a left-turn lane in the westbound direction and the reconstruction of the sidewalk on Center Street to reduce sidewalk grading issues.
- Along the Farmington River Trail, consideration of a physical barrier to separate trail users from traffic.
- Route 179 (Bridge Street) and Route 565 (Maple Avenue). The report suggests that an all-way stop be considered, or a roundabout be considered. Alternatively, if existing traffic control is maintained, the report suggests that the median on Route 179 (River Road) be modified such that it serves as a pedestrian refuge island.
- Route 565 (Maple Avenue) at Dyer Avenue and High Street. The report recommends that a pedestrian activated light be considered at this intersection but notes very limited sight lines for pedestrians.
- Reduction of speed limit on Route 565 (Dowd/Maple Avenue) in the area between Atwater Road and Route 44 (Albany Turnpike) from the existing 35 MPH speed limit to 30 MPH. Reduction of the speed limit on Route 179 (Bridge Street) and Route 565 (Maple Avenue) between Main Street and Atwater Road from the existing 30 MPH speed limit to 25 MPH.

2.5 1996 Collinsville Scenic Corridor Management Plan

Among this plan's recommendations include:

- A review of the geometric design of the intersection of Route 179 (Bridge Street) and Center Street.
- Consider realignment of the Route 179 (Bridge Street) and Route 565 (Maple Avenue) such that Route 179 is the through street. Signalization or all-way stop control was suggested as an alternative.
- The consideration of traffic islands on Route 565 (Maple Avenue) at Dyer Avenue and at Thayer Avenue to reduce traffic speeds in the Maple Avenue neighborhood.
- Consideration of a different shoulder material such as a pea stone tack coat shoulder.
- Consideration for a one-way restriction on Center Street. One-way northbound (towards Route 179) was suggested with a right-out only restriction. Eastbound traffic would be redirected to River Street.
- Alignment of the Farmington River Trail behind 41 Bridge Street along the River to provide greater separation of the trail from the roadway.
- Village gateways and street trees incorporating landscaping to create a sense of place for motorists on the corridor.

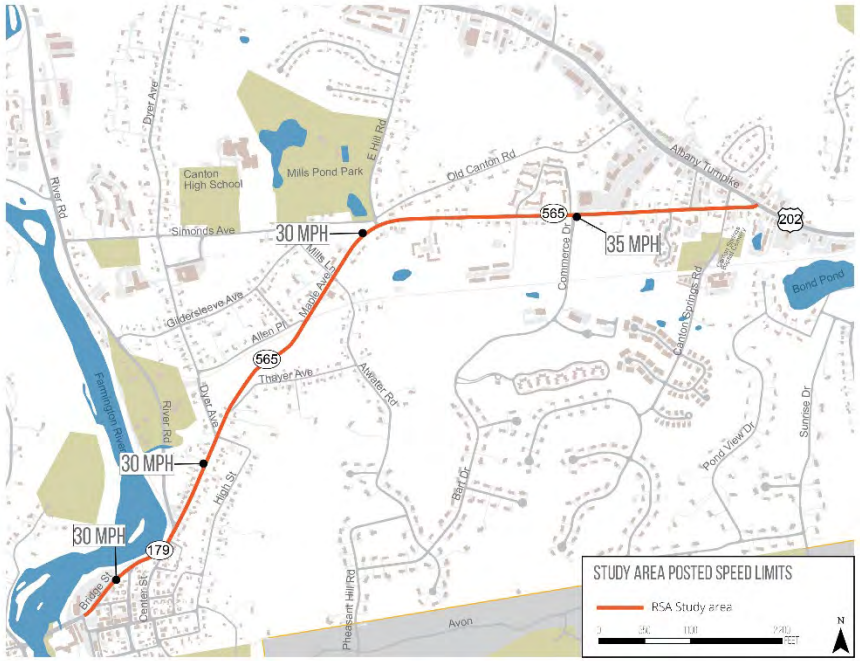
3 PRE-AUDIT MEETING

3.1 Pre-Audit Information

The RSA team conducted a pre-audit meeting in the afternoon of Monday, September 19, 2022. The RSA team presented a brief presentation that included an overview of the Canton RSA goals and purpose, the study area, and key existing conditions findings. Key themes discussed during the pre-audit meeting are presented below.

Speeds: Speed limits in the study area range between 30 miles per hour (mph) on along Route 179 (Bridge Street) and Route 565 (Maple Avenue) south of Atwater Road, and 35 mph on Route 565 (Dowd and Maple Avenue) north of Atwater Road to its terminus at Route 44 (Albany Turnpike). In the neighboring residential areas, the speed limit is 25 mph. Route 179 (River Road) to the north has a speed limit of 40 mph. Exhibit 8 displays speed limits in the study area.

Exhibit 8: Study Area Speed Limits

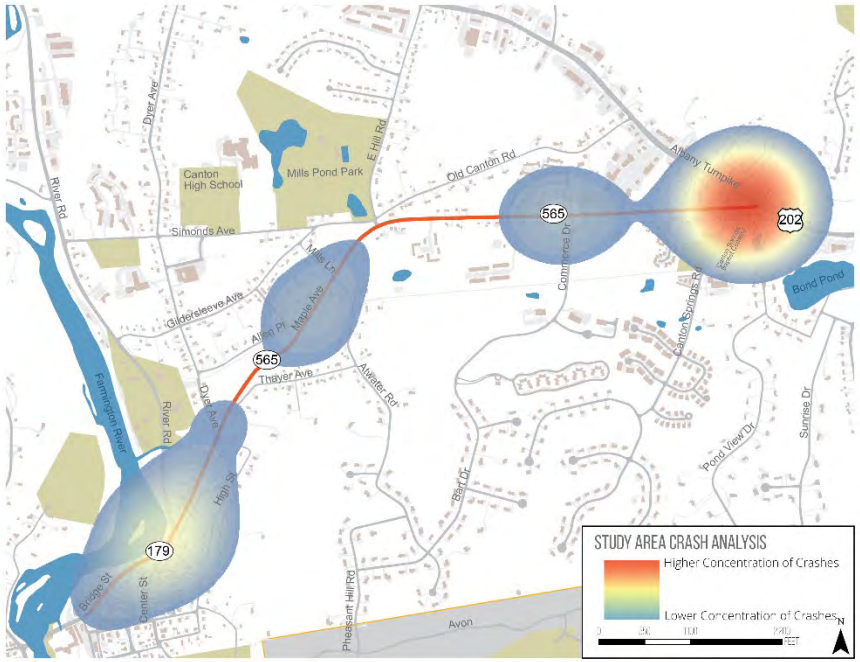


Crashes: Based on data retrieved from the Connecticut Crash Data Repository (CTCDR) for the five-year period between January 2017 through December 2021, there were a total of 206 crashes in the Canton RSA study area. Crashes were concentrated in the vicinities of the Route 565 (Dowd and Maple Avenue) / Route 44 (US 202) intersection in the commercial area, the intersection of Route 179 (Bridge Street) between River Road and North Street, the Farmington River trail crossing of Route 565 (Dowd and Maple Avenue), and the stop-controlled intersection of Route 565 (Dowd and Maple Avenue), and Commerce Drive. Exhibit 9 displays the study area crash summary and Exhibit 10 displays a study area crash heatmap.

Exhibit 9: Study Area Crash Summary

Year	Fatality	Serious Injury	Minor Injury	Possible Injury	Property Damage Only	TOTAL
2017	2		5	8	48	**63**
2018		1	2	5	44	**52**
2019			4	2	33	**39**
2020			1	3	18	**22**
2021			1	3	26	**30**
TOTAL	**2**	**1**	**13**	**21**	**169**	**206**

Exhibit 10: Study Area Crash Heatmap



Crashes by Type: The majority of crashes are front to rear crashes, which is common in areas of stopped traffic such as an approach to an intersection, commercial area, or in areas with many driveways. Angle crashes were the next most common crash throughout the corridor and are indicative of conflicting turning movements from vehicles traveling in opposing directions. Single vehicle crashes (crashes shown as "not applicable") are indicative of crashes where motorists veered off the road, ran into a guardrail, etc. Exhibit 11 and Exhibit 12 display the location and breakdown of crashes by type in the corridor.

Exhibit 11: Crashes by Type

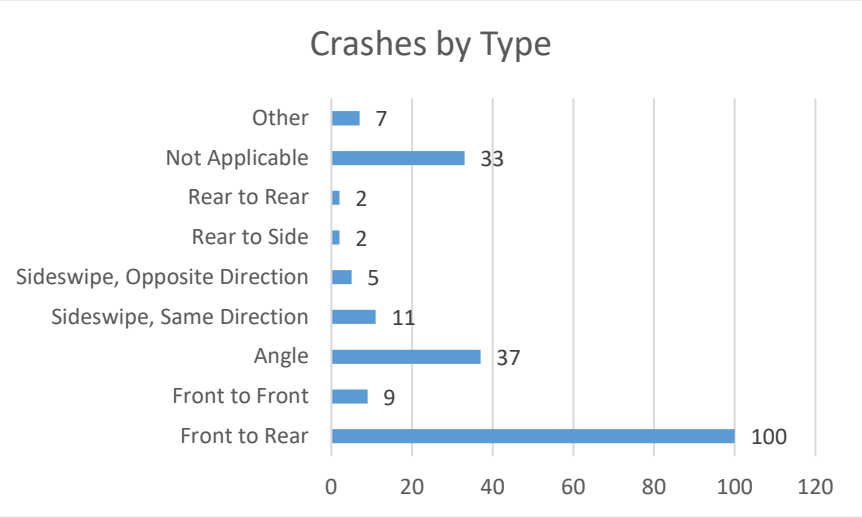
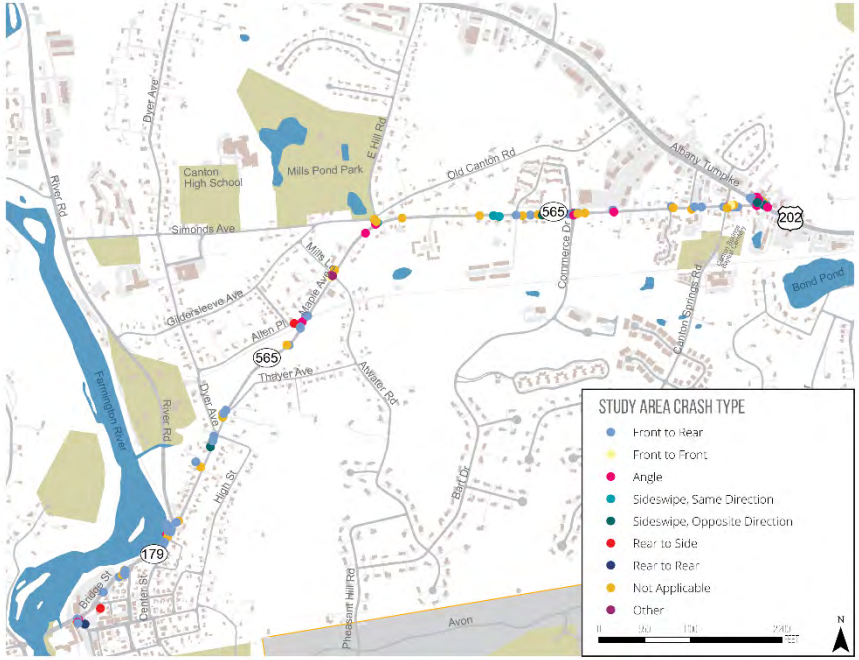


Exhibit 12: Crashes by Type



Crash Severity: There were 35 crashes resulting in injury in the study area, with one of these crashes resulting in serious injury. The serious injury occurred in 2018, at the intersection of Route 565 and Canton Springs Road. Additionally, two crashes resulted in fatalities. One fatal crash occurred in 2017 at the intersection of Route 179 (Bridge Street) and Main Street, while the second fatal crash also occurred in 2017 to the west of Commerce Drive. Many crashes (169) are classified as property damage only. This is typical for single vehicle and front to rear crashes that are prevalent in the study area. Exhibit 13 and Exhibit 14 show crash severity by location and a summary of total crashes by severity.

Exhibit 13: Crash Severity Summary

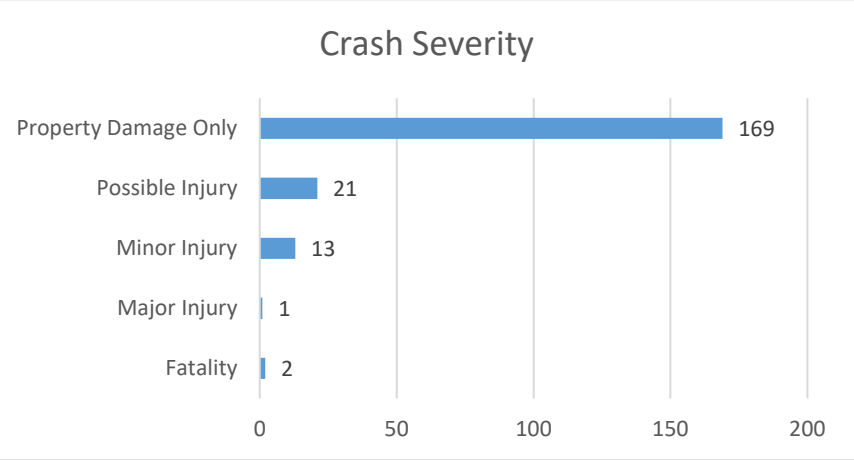
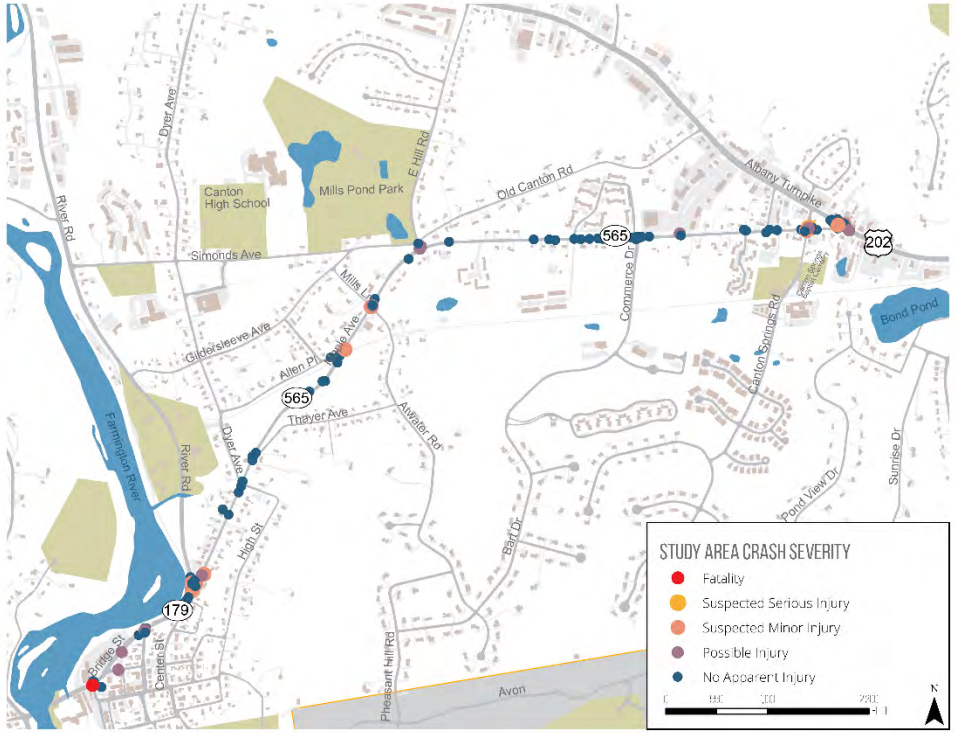
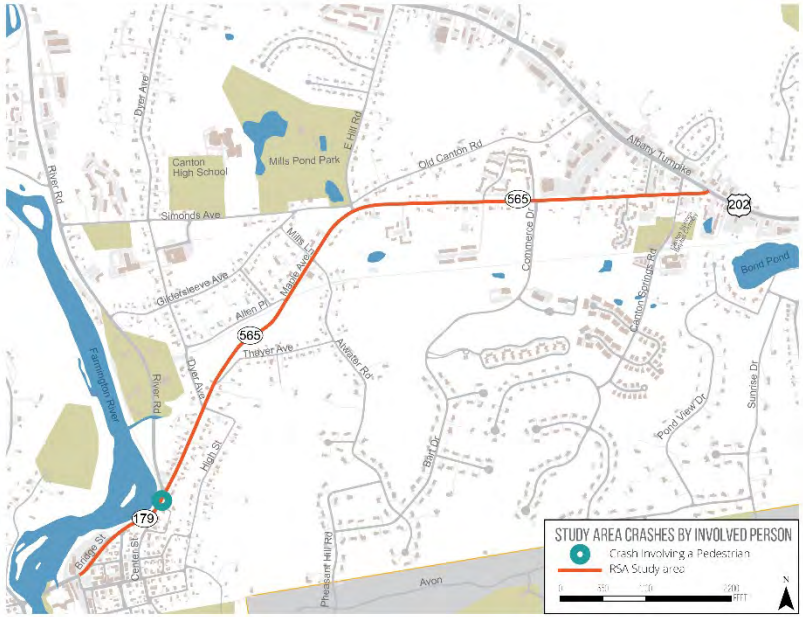


Exhibit 14: Crash Severity by Location



Crashes by Involved Person: There was one crash involving a pedestrian in the study area, which occurred on Route 179 (Bridge Street) near the River Road intersection. There were no crashes involving bicyclists in the study area. Exhibit 15 shows the location of the pedestrian crash.

Exhibit 15: Crashes by Involved Person



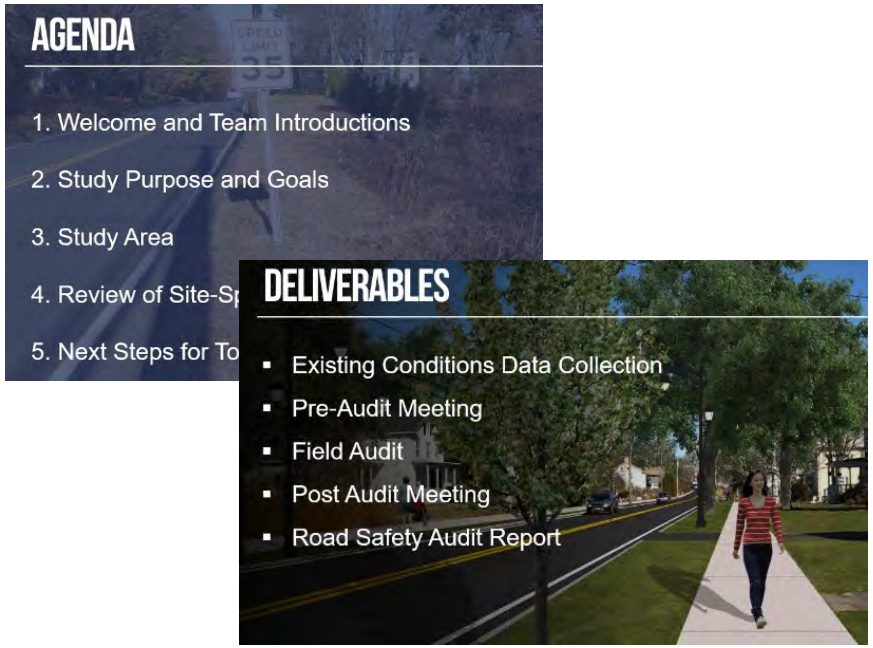
3.2 Pre-Audit Discussion

Immediately following the pre-audit presentation, a discussion followed that highlighted concerns and notes regarding the Canton RSA study area. Highlights from this discussion are presented below:

- Canton used a community connectivity grant to install sidewalks on Commerce Drive south of Route 565 (Dowd Avenue) to Boulder Ridge. Near Route 565 (Dowd Avenue) these sidewalks are on the west side. The project also included crosswalks and RRFBs on the east side of the Commerce Drive intersection.
- In Downtown Collinsville, there has been recent streetscape construction on area roadways. Phase 1 installed streetscape elements on Main Street. Phase 2 is currently in construction and in the final stages. Sidewalks are currently being installed on Route 179 (Bridge Street) on the east side and a relocated crosswalk and RRFB is being installed on River Street.
- Some participants believe there are more crashes than reported in the data. RSA participants discussed that sometimes less serious incidents are not reported to police and thus not included in the data.
- Bicycle and pedestrian crashes are often under reported.
- Route 565 (Maple Avenue) residents have expressed strong concern about speeding.
- High speeds near the intersection of Route 179 (River Road) are a concern.
- RSA participants felt that the focus of this study should be between the intersection of Route 179 (Bridge Street) and Main Street and the intersection of Route 565 (Dowd/Maple Avenue) and East Hill Road.

Sample slides from the pre-audit presentation are shown in Exhibit 16.

Exhibit 16: Sample slides from Pre-Audit Presentation



4 RSA ASSESSMENT

The following summary describes observations and discussion regarding issues and concerns throughout the Canton RSA study area. Exhibit 17 shows RSA participants engaging in conversation during the RSA. Discussions were held at each of the noted locations below.

Exhibit 17: RSA participants during the RSA Assessment date

4.1 Intersection of Route 179 (Bridge Street) at Main Street

- Vehicle speeds are high in this area. This is especially a concern as the FRT in this area is close to the roadway, and the roadway is potentially in the fall zone for small children.
- This is a crossing location for the FRT. The trail in this area is very busy between bicyclists of different abilities and pedestrians and pedestrian groups. The town hopes that the new sidewalk on the opposite side of Route 179 alleviates some of the demand this trail has.
- The town thinks that some bicyclists may be better served at street level with a bike lane.
- Town may consider a recommendation to widen the trail for runners with a crushed stone shoulder.
- Existing gateway signage is easily missed at this intersection.

4.2 Route 179 (Bridge Street) between Main Street and Center Street

- The town is progressing with the streetscape project in this area, including a realigned crosswalk at River Street. This will also include an RRFB.
- The sidewalk constructed at 30 Bridge Street driveway (Collinsville Motorcars) will be constructed at grade and be marked as a crosswalk.
- North Street is in the process of being realigned to T-up this intersection as much as feasible.
- The town is working to make the current boat launch public. There will be an associated public parking area for this as well. This will be a boat launch for canoes and kayaks.
    - Note – much of the riverfront land is owned by CTDOT but used for parking by a nearby business (Collinsville Canoe and Kayak). There is also CTDOT ROW to the Farmington River Trail. This is an old rail ROW to an old bridge across the Farmington River.

- The current streetscape project will leave a gap in the sidewalk between River Street and Center Street. The town would like to consider this in the future.
- The landscape buffer between the road and the trail is very narrow, sometimes non-existent, between River Street and Route 179 (River Road). The town has painted a 4-inch white line to delineate the curb for trail users, but this is an area of concern, especially with the volumes of trail users in this area. The town would be interested in any widening of the trail, widening of the buffer, and additional separation or vertical protection between the trail and the roadway. CTDOT indicated that the guide rail should not be positioned between the trail and the roadway due to the width this would remove from the trail.

4.3 Intersections of Route 179 (Bridge Street) at Center Street and Route 179 (Bridge Street)/Route 565 (Maple Avenue) at Route 179 (River Road)

- The area between Center Street and Route 179 (River Road) is the busiest section of this corridor with a lot of turning movements.
- The majority of turning movements at the intersection of Center Street are a southbound left turn to Center Street and a right turn from Center Street to Route 179 (Bridge Street) northbound.
- RSA participants felt that the unsignalized intersection of Center Street generally functions okay for thru vehicular traffic.
- The crosswalk at Center Street is widely used as a connection for the Farmington River Trail. Participants noted that the sidewalk on Center Street has grades that make crossing challenging at this location. Exhibit 18 displays the unsignalized crossing.
- Visibility of the crosswalk is reduced due to the poor condition of the pavement markings and the sign placement for the southbound Bridge Street approach and curvature of the roadway. There is an existing sidewalk ramp on the FRT side of the crosswalk, but no ramp on the Center Street side, likely due to the narrow width of the existing sidewalk and steep grade. Exhibit 19 displays this location.
- The speed limit is 30 mph at the intersection. and participants felt that traffic routinely exceeds the posted speed limit by a significant margin creating an unsafe environment for other roadway users.
- Participants were interested in a raised crosswalk at Center Street.
- Road guide signs are covered by trees in this area.
- Participants were concerned that there is insufficient lighting at the crosswalk across Route 179 (River Road)
- Participants discussed many alternatives for the intersection of Route 179 (River Road) including:
  - Realignment of Route 179 (River Road) to reduce crossing distances.
  - Realignment of the intersection such that Route 179 (River Road and Bridge Street) is the major roadway.
  - All-way stop
  - A roundabout
  - Modification of the median island to serve as a pedestrian refuge.
- See Exhibit 20 for a view of this intersection looking south.

Exhibit 18: Crosswalk on Route 179 (Bridge Street) at Center Street

Exhibit 19: New curb ramps at Route 179 (Bridge Street) at Center Street

Exhibit 20: Route 179 (Bridge Street)/Route 565 (Maple Avenue) at Route 179 (River Road) Road Intersection. View looking south

4.4 Route 565 (Maple Avenue) between Route 179 (River Road) and Dyer Avenue and High Street

- This is a residential neighborhood that has experienced challenges related to speeding. Parents do not feel safe allowing children to walk in this area and residents expressed frustration with speeding car traffic.
- Speed limit sign for northbound vehicles north of Route 179 (River Road) is missing.
- RSA participants were concerned with U-turns in driveway in this area. Northbound Maple Avenue motorists often miss the left-turn onto Route 179 (River Road) and use private driveways to perform a U-turn.

- Participants noted that this section of the corridor feels separated from the village. There is a desire for additional placemaking in this area and landscaping.
- Participants were concerned by the high volume of trucks on the roadway. CTDOT representatives noted that a thru truck restriction is not feasible due to CTDOT policy and/or state law.

4.5 Intersection of Route 565 (Maple Avenue) at Dyer Avenue and High Street

- Pedestrians often cross Route 565 (Maple Avenue) at this location as it is a popular walkway route from Dyer Avenue to the Center, where the library and schools are located. The existing crosswalk pavement marking are in poor condition. See Exhibit 21 for a view of the existing crosswalk.
- Sightlines are restricted to and from the south leg of Route 565 (Maple Avenue) due to a vertical curve in advance of the intersection. Vehicle speeds are a concern at this location.

  The current "gateway" signage to the village is at Allen Place. Participants expressed that this is a more desirable location. The town expressed an interest in installing RRFBs at this location

Exhibit 21: Crosswalk at the intersection of Route 565 (Maple Avenue) and Dyer Avenue and High Street. View looking east.

4.6 Intersection of Route 565 (Maple Avenue) at Thayer Avenue

- Thayer Avenue is a narrow two-way roadway that intersects Route 565 (Maple Avenue) at a heavily skewed angle on a steep downward grade. Due to the skew of the intersection, vehicles are unable to turn right out of Thayer without encroaching over the centerline of Maple Avenue; therefore, right-turns from Thayer are prohibited. In addition, the horizontal curve on the southbound approach of Maple Avenue and the steep grade of Thayer Avenue also restricts sightlines turning left from Thayer Avenue.
- Participants indicated that Thayer Avenue acts as a connecting roadway for pedestrians from that neighborhood and other adjacent neighborhoods to the crosswalk at Dyer Avenue to get to the Center. However, there are narrow shoulders and steep grades on Route 565

between Thayer Avenue and Dyer Avenue with no pedestrian facilities. Exhibit 22 shows the intersection of Thayer Avenue and the challenging angle between Route 565 (Maple Avenue) and Thayer Avenue.

- Participants discussed the potential to turn Thayer Avenue into a one-way street uphill, that would outlet at the intersection of Atwater Road. Exhibit 23 shows the narrow right of way for Thayer Avenue.

Exhibit 22: Route 565 (Maple Avenue) at Thayer Avenue intersection, looking North.

Exhibit 23: Thayer Avenue, headed northeast.

4.7 Route 565 (Maple Avenue) between Thayer Avenue and Allen Place

- Drivers often speed throughout this section of Route 565 (Maple Avenue).
- This section of Route 565 (Maple Avenue) is different from other areas of this corridor; the surrounding land use is wooded, has narrow shoulders, and has steep grades on either side of the roadway.
- NOTE – RSA participants avoided walking this section due to the issues noted above and detoured via Dyer Avenue and the Farmington River Trail. This was identified as a feasible alternative to this route, however long term the town would like to evaluate a sidewalk in this section.

4.8 Intersection of Route 565 (Maple Avenue) and Allen Place and the Farmington River Trail Crossing

- This crossing has older pedestrian warning flashing lights. These are oversized signage, but the placement may need to be evaluated to ensure that the view of these signs is not blocked by trees or utility poles and that these signs do not block view of pedestrians. The flashing warning lights are actuated via push button which are set back 15-20 feet from the crosswalk. New push buttons are currently being installed closer to the crosswalk. Exhibit 24 shows the Farmington River Trail Crossing on Route 565 (Maple Avenue). Exhibit 25 shows the opposite end of the crossing, looking north.
- Town studies showed that these warning lights were only actuated approximately 40% of the time, but drivers yield to pedestrians at a 95% rate if these are used. The town has had campaigns to get trail users to use these devices.
- The town would be interested in upgrading this signage to RRFBs. Due to horizontal curvature, an advanced RRFB warning sign might be considered.
- Tree brush restricts sightlines to the Farmington River Trail to the east.
- Participants raised the potential of a median island to facilitate trail crossings and to act as a further traffic calming measure.

Exhibit 24: View of the Farmington River Trail crossing looking east across Route 565

Exhibit 25: RRFB on the western side of the Farmington River Trail crossing

4.9 Route 565 (Maple Avenue) between Allen Place and East Hill Road

- Participants expressed a need for a sidewalk along this section. Atwater Road provides access to and is the most direct route from the high school to the FRT. As a result, there are a significant number of pedestrians crossing here, but no crosswalk markings or signs. Speeding at this location is an issue. The possibility of feedback speed limit signage was discussed as a means of reducing driver speeds along the corridor segment.

4.10 Intersection of Route 565 (Dowd/Maple Avenue) at East Hill Road

- This is a busy intersection for both vehicles and pedestrians due to the proximity of the school, especially during arrival and dismissal, when backups and delays are prevalent. The intersection geometry is complex, as the approaches are at varying angles.
- Young children often walk in this area between school and home. Heavily traveled school bus corridor.
- RSA participants noted that this location has the potential for a roundabout to replace the existing unsignalized intersection.
- Exhibit 26 and Exhibit 27 display the intersections of East Hill Road with Old Canton Road and Route 565.

4.11 Route 565 (Dowd Avenue) between East Hill Road and Route 44 (Albany Turnpike)

- The town had limited concerns about this section of the corridor overall. This section has been the focus of some recent work (new RRFBs, a prior RSA near Route 44 intersection etc.).
- Some sections of the sidewalk are in poor condition.

Exhibit 26: Intersection of East Hill Road and Old Canton Road, looking northeast

Exhibit 27: Unsignalized intersection of East Hill Road and Route 565 (Dowd/Maple Avenue)

5 RECOMMENDATIONS

Based on the findings discussed during the RSA, the RSA team compiled a set of recommendations for the study area. These recommendations are organized by study area location. Additionally, the report presents conceptual plans for the area between Center Street and Route 179 (River Road). This location was selected due to the nature of recommendations in this area. Depiction of this area with conceptual plans does not reduce the importance of other areas identified in this report and does not indicate that this area is of higher priority than other recommendations in this report.

All recommendations for all locations are divided into short-term, medium-term, and long-term recommendations.

- Short-term recommendations: These are improvements that are simpler and could be completed on a quick timeline. These recommendations are low-cost alternatives such as striping and signage. These recommendations generally do not require extensive engineering or construction costs. More extensive recommendations which have funding previously committed may be included. These projects are defined as those that may be complete within two years.
- Medium-term recommendations: These are improvements that may require more substantial engineering than those generally included as short-term recommendations. These may require establishment of funding in capital improvement plans, or a dedicated funding item. However, these recommendations are generally simpler than long-term recommendations and generally do not include ROW acquisition etc. These projects are defined as those that may be completed in two-to-five years.
- Long-term recommendations: These are improvements that require substantial study and engineering. These recommendations generally require significant funding for implementation and may require several years of planning to budget. These projects are defined as those recommendations that may take five years or longer to complete.

It should be noted that any work within the State ROW to be done by non-State forces will require an encroachment permit from the District 4 Permit Office and/or an official request from the Canton Local Traffic Authority (Canton Chief of Police).

Exhibit 28 and Exhibit 29 display the recommendations of the overall study area on a map. Exhibit 38 display the conceptual long-term plan for Route 179 (Bridge Street) between Center Street and River Road.

Exhibit 28– Overall map

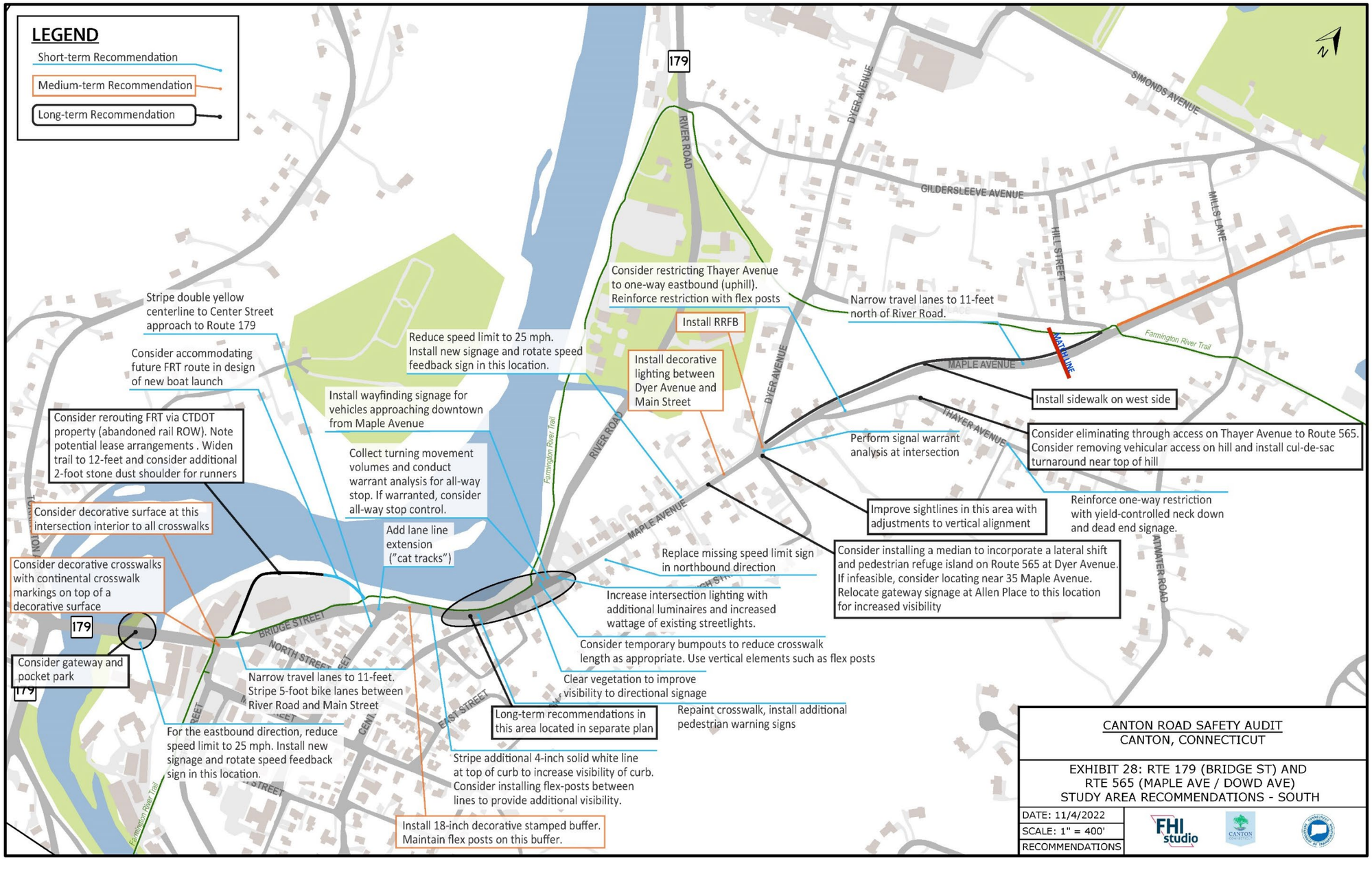
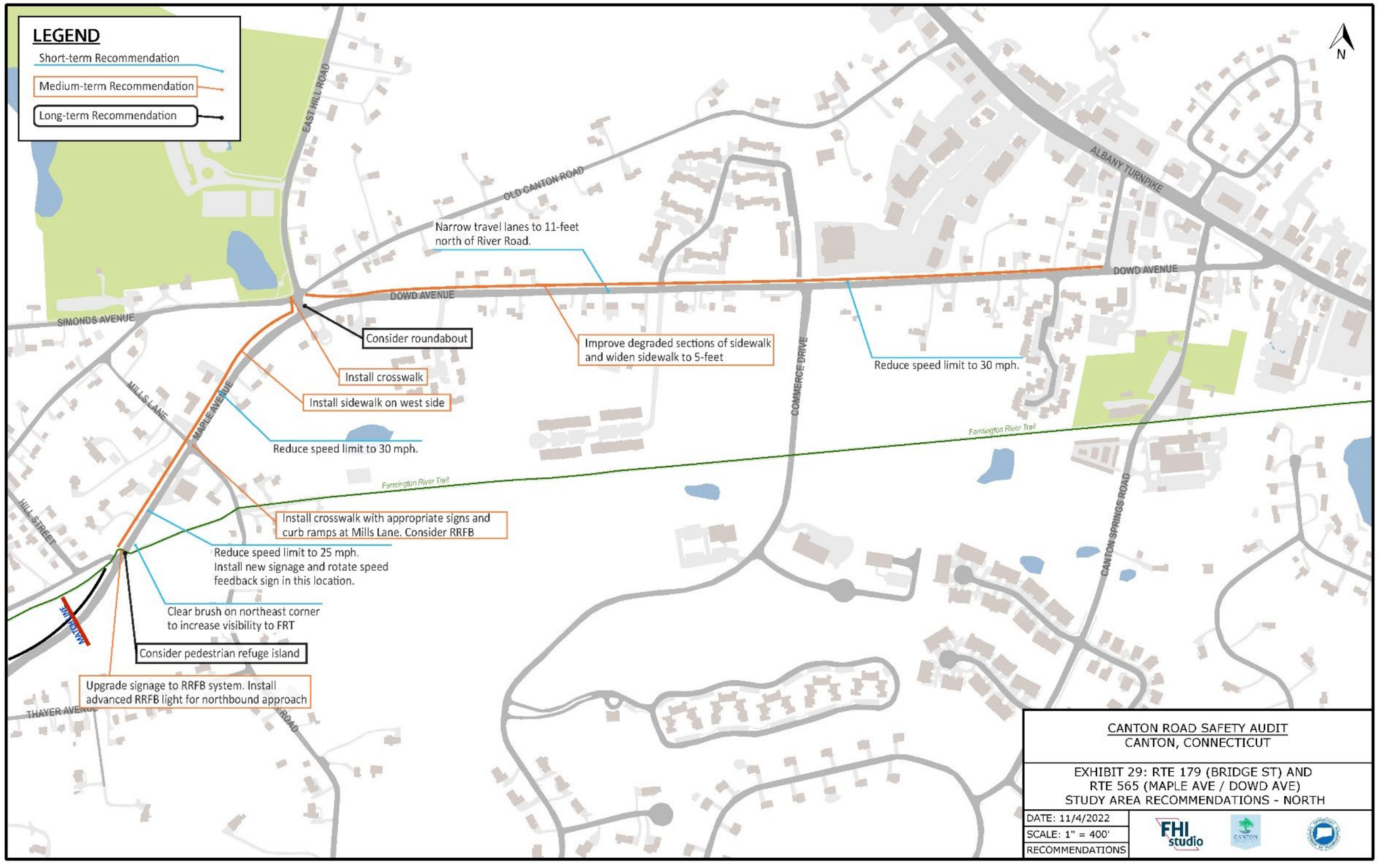


Exhibit 29– Overall map



5.1 Intersection of Route 179 (Bridge Street) at Main Street

Short-term

1) Reduce the speed limit from the existing 30 mph to 25 mph. Install speed limit signage east of bridge. Rotate speed feedback sign in this location.
2) Narrow travel lanes to CTDOT standard 11-feet. Stripe 5-foot bike lanes on Route 179 (Bridge Street) between Torrington Avenue and Route 565 (Maple Avenue).

Medium-term

1) Consider adding decorative stamped asphalt to the crosswalks and/or center of the intersection. See Exhibit 30 for an example.
2) Install decorative lighting on Route 179 (Bridge Street) and Route 565 (Maple Avenue) between Torrington Avenue and Dyer Avenue. Match existing light fixtures used in downtown as shown in Exhibit 31.

Long-term

1) Consider relocating and expanding downtown gateway signage. Existing gateway signage is easily missed and east of signal at Main Street. Consider locating signage further east, such as land between the Sergeant Michael Dubiel Memorial Bridge and the bridge to the east as shown in Exhibit 32. Consider locating a pocket park on this location with views to the Farmington River as well. Note potential property impacts.
2) At the existing gateway signage location at the parking lot on the southeast side of the intersection, locate branded directional signage for navigation in town.

Exhibit 30: Stamped decorative asphalt throughout an intersection and crosswalks on Columbus Boulevard in Hartford, CT Source: Google Maps Streetview

Exhibit 31: Decorative lighting in Downtown Collinsville. Source: Kent + Frost

Exhibit 32: Consider this location for a pocket park between these two bridges. Locate gateway signage in this location to give visual cues to motorists entering Downtown from this direction. Source: Google Maps Streetview

5.2 Route 179 (Bridge Street) between Main Street and Center Street

Short-term

1) Reduce the speed limit from the existing 30 mph to 25 mph.
2) Narrow travel lanes to CTDOT standard 11-feet. Stripe 5-foot bike lanes on Route 179 (Bridge Street) between Torrington Avenue and Route 565 (Maple Avenue).
3) Consider accommodating Farmington River Trail rerouting in the design of new public boat launch.
4) Increase visibility of sidepath edge between Center Street and River Street. Stripe additional 4-inch solid white line at the top of curb. Consider installing flexible delineators in between two lines to provide additional visibility (to be installed and maintained by town). See Exhibit 33 for an example of a flexible delineator.

Medium-term

1) Install decorative lighting on Route 179 (Bridge Street) and Route 565 (Maple Avenue) between Torrington Avenue and Dyer Avenue.
2) Install 18-inch decorative stamped asphalt buffer on the Farmington River Trail. Maintain flexible delineators on this buffer. Maintain 4-inch white line on either side of buffer. See Exhibit 34 for an example of a stamped asphalt buffer on a trail.

Long-term

1) Consider rerouting the Farmington River Trail via CTDOT property to align with the Farmington River behind 41 Bridge Street (Collinsville Canoe & Kayak). Note potential lease arrangements which may need modification. Due to high trail usage, widen trail to 12-feet. Additionally, consider providing additional 2-foot stone dust shoulder on each side for runners. See Exhibit 35 for an example of a stone dust shoulder.
2) Between River Street and Center Street, install sidewalk on southeast side of Route 179 (Bridge Street) and widen the Farmington River Trail and buffer. To accommodate the proposed cross-section, install a small retaining wall as necessary. Remove the on-street bike lane due to enlarged trail width. Consider the following cross-section in this area:

a) 6-foot sidewalk (southeast side)
b) 2-foot shoulder
c) 11-foot travel lane northbound
d) 11-foot travel lane southbound
e) 2-foot shoulder
f) 3-foot buffer with wood guiderail
g) 12-foot shared use path (Farmington River Trail)

Exhibit 33: White flexible delineator Source: Uline Corporation

Exhibit 34: Stamped asphalt on the Bloomfield Greenway.

Exhibit 35: A multi-use trail in Burlington, VT widened with crushed stone shoulder. This area is heavily used by runners who often prefer a softer running surface.

5.3 Intersections of Route 179 (Bridge Street) at Center Street and Route 179 (Bridge Street)/Route 565 (Maple Avenue) at Route 179 (River Road)

Short-term

1) Reduce the speed limit from the existing 30 mph to 25 mph.
2) Narrow travel lanes to CTDOT standard 11-feet. Stripe 5-foot bike lanes on Route 179 (Bridge Street) between Torrington Avenue and Route 565 (Maple Avenue).
3) Add line extensions ("cat-tracks") through intersection of Center Street
4) Add double yellow center line to Center Street approach to Route 179
5) Collect 12-hour turning movement counts to perform all-way stop warrant analysis at the intersection of Route 179 (Bridge Street)/Route 565 (Maple Avenue) at Route 179 (River Road). Data suggests an all-way stop may be warranted based on the following data:
    a) Crashes – between 2017 and 2021, this intersection averaged approximately 9.2 crashes per year. This is above Manual of Uniform Traffic Control Devices (MUTCD) guidance of 5 crashes per year.
    b) Traffic Volume – The closest CTDOT ADT location with directional hourly volumes is station CNTN-006 near Route 44. This station has similar ADT as Route 179 (River Road) near this intersection. Station CNTN-006 shows southbound volumes over 200 vehicles per hour (MUTCD threshold) for 13 hours of the day. This is over the MUTCD threshold of 8 hours of the day. However, this count location is from 2013 and a few miles to the north.
6) If warranted, install an all-way stop at the intersection of Route 179 (Bridge Street)/Route 565 (Maple Avenue) at Route 179 (River Road).
7) Restripe intersection to reduce crosswalk width as appropriate.
8) Install additional street light luminaire on the existing utility pole immediately to the northwest of the intersection, and on the existing utility pole to the northeast. Consider increased wattage of streetlights for lights at this intersection.
9) Clear brush that impedes the visibility of existing directional signage in the northbound approach of intersection.

Medium-term

1) Install decorative lighting on Route 179 (Bridge Street) and Route 565 (Maple Avenue) between Torrington Avenue and Dyer Avenue.
2) Install wayfinding signage for vehicles approaching downtown. Existing signage is not visible for vehicles approaching southbound on Route 565 (Maple Avenue). Refer to Exhibit 36 for existing signage visible for vehicles approaching via Route 179 southbound.

Long-term

1) Consider geometric changes at the intersection of Route 179 (Bridge Street) and Center Street which could include:
    a) Addition of a left-turn lane to Center Street
    b) A mini-roundabout to be compatible with potential roundabout to the north at the intersection Route 179 (River Road)
    c) Pedestrian refuge island
    d) Note – One-way options are not recommended due to shift of traffic to other streets in the downtown (e.g. River Street).
2) Reduce sidewalk grade on Center Street and install curb ramp for crossing of Route 179 (Bridge Street). Consider relocating sidewalk to

east side of Center Street if necessary for geometric changes at this intersection. (Note, relocating sidewalk to east side would align sidewalk with existing sections of sidewalk south of North Street).

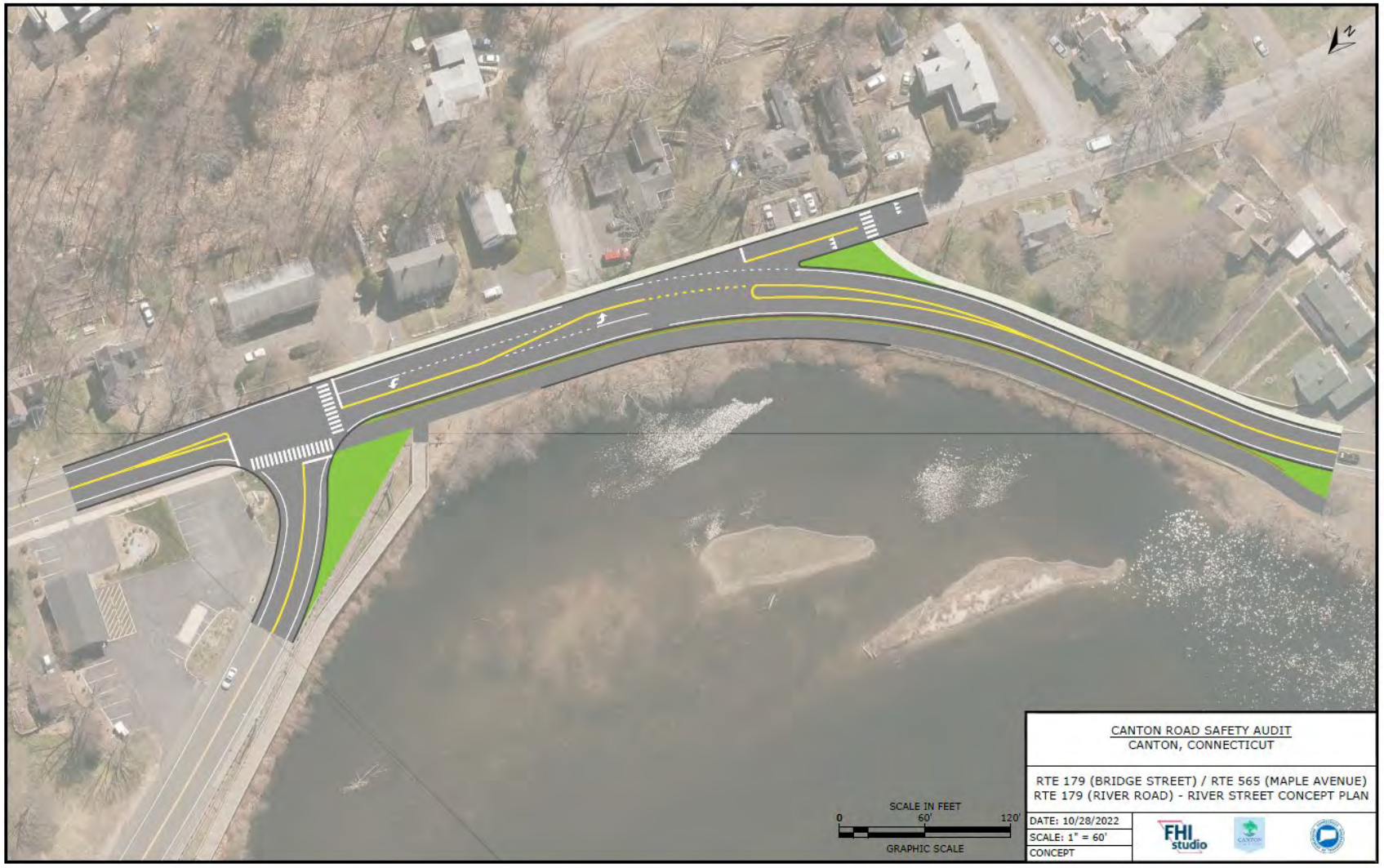
3) Consider geometric changes at the intersection of Route 179 (Bridge Street)/Route 565 (Maple Avenue) at Route 179 (River Road) such as:
   a) Roundabout. See Exhibit 37 for an example of a modern roundabout in Glastonbury, CT.
   b) Realignment of Route 179 (River Road) to T-up this approach to Route 565 (Maple Avenue) and reduce crossing distances.
   c) Note – Previous recommendations to realign Route 179 (Bridge Street) to continue to Route 179 (River Road) is not recommended. This realignment alternative would significantly increase the number of left-turning vehicles from a minor approach (in this alignment, there would be many vehicles turning from Route 565 [Maple Avenue] southbound to Route 179 [Bridge Street]). This movement has the greatest number of conflict points and could increase crash risk.

Exhibit 36: Decorative gateway and directional signage visible for traffic entering from Route 179 (River Road) southbound. Consider adding similar signage for other entry points to downtown including from Route 565 (Maple Avenue) southbound and Route 179 (Bridge Street) northbound.

Exhibit 37: A modern roundabout in Glastonbury, CT serves a safer intersection control compared to a conventional signalized intersection[1] but also reduces vehicle travel speeds and serves as a gateway for motorists entering the town center.

[1]Roundabouts overall have been found to have a 78% reduction in crashes resulting in fatality or injury compared to signalized intersections. This is based on Federal Highway Administration research: safety.fhwa.dot.gov/provencountermeasures/roundabouts

Exhibit 38


CANTON ROAD SAFETY AUDIT
CANTON, CONNECTICUT
RTE 179 (BRIDGE STREET) / RTE 565 (MAPLE AVENUE)
RTE 179 (RIVER ROAD) - RIVER STREET CONCEPT PLAN
DATE: 10/28/2022
SCALE: 1" = 60'
CONCEPT
SCALE IN FEET
0
60'
120'
GRAPHIC SCALE
FHI studio

5.4 Route 565 (Maple Avenue) between Route 179 (River Road) and Dyer Avenue and High Street

Short-term

1) Reduce the speed limit from the existing 30 mph to 25 mph. Rotate speed feedback sign in this location.
2) Replace missing speed limit sign in the northbound direction north of Route 179 (River Road)
3) Narrow travel lanes to CTDOT standard 11-feet.

Medium-term

1) Install decorative lighting on Route 179 (Bridge Street) and Route 565 (Maple Avenue) between Torrington Avenue and Dyer Avenue.

Long-term

1) Install median island to incorporate lateral shift for southbound vehicles entering downtown. Relocate existing village gateway signage at Allen Place to this median for increased visibility. Locate median island in a level location of this roadway, approximately near Harrington Court and 35 Maple Avenue. See Exhibit 39 and Exhibit 40 for examples.

Exhibit 39: A lateral shift on Steele Road in West Hartford, CT serves to slow traffic entering a neighborhood.

Exhibit 40: A small median island serves as a gateway on Route 195 in Tolland, CT prior to motorists arriving at the Town Green. Source: Google Maps Streetview

5.5 Intersection of Route 565 (Maple Avenue) at Dyer Avenue and High Street

Short-term

1) Reduce the speed limit from the existing 30 mph to 25 mph.
2) Narrow travel lanes to CTDOT standard 11-feet.

Medium-term

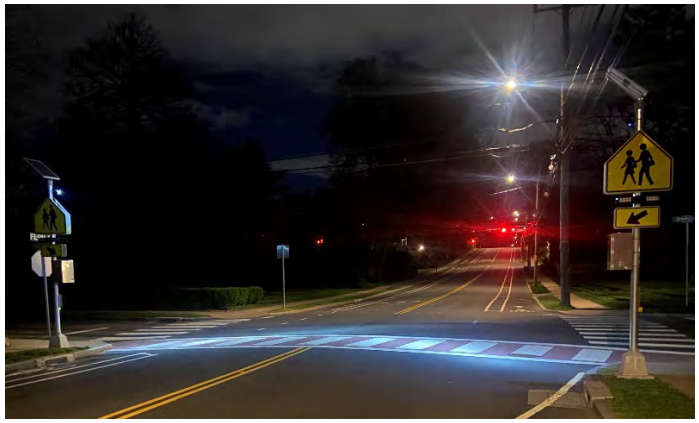
1) Install decorative lighting on Route 179 (Bridge Street) and Route 565 (Maple Avenue) between Torrington Avenue and Dyer Avenue.
2) Install RRFB at the existing crosswalk at this location. See Exhibit 41 for an example of an RRFB and Exhibit 42 for an example of additional lighting which can be installed with an RRFB system.

Long-term

1) Improve sightlines with adjustments to vertical alignment in this area. Consider raising this intersection and reducing the vertical curve to the south.

Exhibit 41: An example of RRFB (Source: CTDOT)

Exhibit 42: An example of a crosswalk high intensity light integrated with an RRFB at night in West Hartford, CT. Note – The yellow flashers are not activated in this photo to demonstrate the crosswalk light.



5.6 Intersection of Route 565 (Maple Avenue) at Thayer Avenue

Short-term

1) Reduce the speed limit from the existing 30 mph to 25 mph.
2) Narrow travel lanes to CTDOT standard 11-feet.
3) Consider one-way restriction between Route 565 (Maple Avenue) and 9 Thayer Avenue in the eastbound (uphill) direction.
4) Install "Do Not Enter" signage to the southwest of 9 Thayer Avenue. Consider reducing roadway width to 14-feet with temporary flexible delineators to reinforce one-way restriction. See Exhibit 43 for an example.

5) Reinforce one-way restriction with "Dead End" signage on Thayer Avenue at Atwater Road. Consider a yield-controlled neck down to reinforce signage. See Exhibit 44 for an example of a neck down.

Medium-term

1) Make temporary roadway changes with flexible delineator permanent.

Long-term

1) Close Thayer Avenue at Route 565 (Maple Avenue). Install cul-du-sac turnaround at top of hill between 9 and 11 Thayer Avenue. Maintain abandoned section as driveway for 5 Thayer Avenue and pedestrian and bicycle access to Route 565 (Maple Avenue).

Exhibit 43: Temporary flexible delineators enforce one-way restriction in East Hartford, CT.

Exhibit 44: A yield-controlled neck down can serve as a gateway to slow traffic entering a neighborhood. This is suggested on Thayer Avenue at Atwater Road to reinforce one-way restriction on Thayer Avenue at Route 565 (Maple Avenue). This can also be tested temporarily with flexible delineators. Source: Federal Highway Administration

5.7 Route 565 (Maple Avenue) between Thayer Avenue and Allen Place

Short-term

1) Reduce the speed limit from the existing 30 mph to 25 mph.
2) Narrow travel lanes to CTDOT standard 11-feet.

Long-term

1) Install sidewalk on west side

5.8 Intersection of Route 565 (Maple Avenue) and Allen Place and the Farmington River Trail Crossing

Short-term

1) Clear brush on northeast corner of trail crossing to increase visibility to Farmington River Trail to east.
2) Reduce the speed limit from the existing 30 mph to 25 mph.
3) Narrow travel lanes to CTDOT standard 11-feet.

Medium-term

1) Upgrade pedestrian signage to RRFB system. Install advanced RRFB light for northbound approach due to limited visibility of this crossing.

Long-term

1) Consider installing a pedestrian refuge island. See Exhibit 45 for an example.

Exhibit 45: A pedestrian refuge island on US Route 4 in Lebanon, NH

5.9 Route 565 (Maple Avenue) between Allen Place and East Hill Road

Short-term

1) Between Allen Place and Atwater Road, Reduce the speed limit from the existing 30 mph to 25 mph. Rotate speed feedback sign in this location for southbound vehicles.
2) Between Atwater Road and East Hill Road, Reduce the speed limit from the existing 35 mph to 30 mph.

3) Narrow travel lanes to CTDOT standard 11-feet.

Medium-term

1) Install sidewalk on west side.
2) Install crosswalk at Mills Lane and appropriate signage.

5.10 Intersection of Route 565 (Dowd/Maple Avenue) at East Hill Road

Short-term

1) Reduce the speed limit from the existing 35 mph to 30 mph.
2) Narrow travel lanes to CTDOT standard 11-feet.

Medium-term

1) Connect sidewalk proposed to south to existing sidewalk with additional crosswalk across Simonds Avenue.

Long-term

1) Consider alternative changes to this intersection such as a roundabout. Note heavier "left-turn" volumes that may be created with that design.

5.11 Route 565 (Dowd Avenue) between East Hill Road and Route 44 (Albany Turnpike)

Short-term

1) Reduce the speed limit from the existing 35 mph to 30 mph.
2) Narrow travel lanes to CTDOT standard 11-feet.

Medium-term

1) Widen all sidewalk sections to 5-feet. (Existing sidewalk sections as narrow as 3-feet in some areas).

6 SUMMARY

This report documents the observations, discussions, and recommendations developed during the completion of the Town of Canton's RSA. It provides the Town with an outlined strategy to improve the transportation network for all users in the study area, particularly focusing on pedestrians and cyclists. Moving forward, the Town of Canton and CTDOT may use this report to prepare strategies for funding and implementing the improvements. This report provides Canton with a toolkit to plan for including these multi-modal recommendations into future development within the study area.

The aforementioned Community Connectivity Program: Road Safety Audit Report is an objective review intended for the municipality use to help assess the existing conditions within a predetermined area of town selected by the municipality. The conclusions of this report are advisory and intended for general planning purposes to help identify bicycle, pedestrian and non-motorized transportation needs that encourage walking and bicycling, as well as assists in developing recommendations to improve the existing conditions. The contents of this report are not intended to be legally binding, but rather offer recommendations to improve safety in the vicinity of the audit location and create a more appealing transportation alternative.

APPENDICES

A: Pre-Audit Presentation

B: Walk Audit Materials

CANTON ROAD SAFETY AUDIT

Dowd and Maple Avenue (Route 565) and Bridge Street (Route 179)

COMMUNITY connectivity program

FHI studio

SEPTEMBER 2022

INTRODUCTIONS

AGENDA

1. Welcome and Team Introductions
2. Study Purpose and Goals
3. Study Area
4. Review of Site-Specific Data and Issues
5. Next Steps for Tomorrow’s Site Visit Audit

PROJECT TEAM

- Connecticut Department of Transportation (CTDOT) is sponsoring
- Town of Canton
- FHI Studio is conducting the Road Safety Audit reporting
- Support from CRCOG

PURPOSE AND GOALS OF THE ROAD SAFETY AUDIT

Safety assessment of existing walking and biking routes

Improve transportation network for all users by making conditions safer and more comfortable for pedestrians and cyclists

Identify the issues that may discourage or prevent walking and bicycling

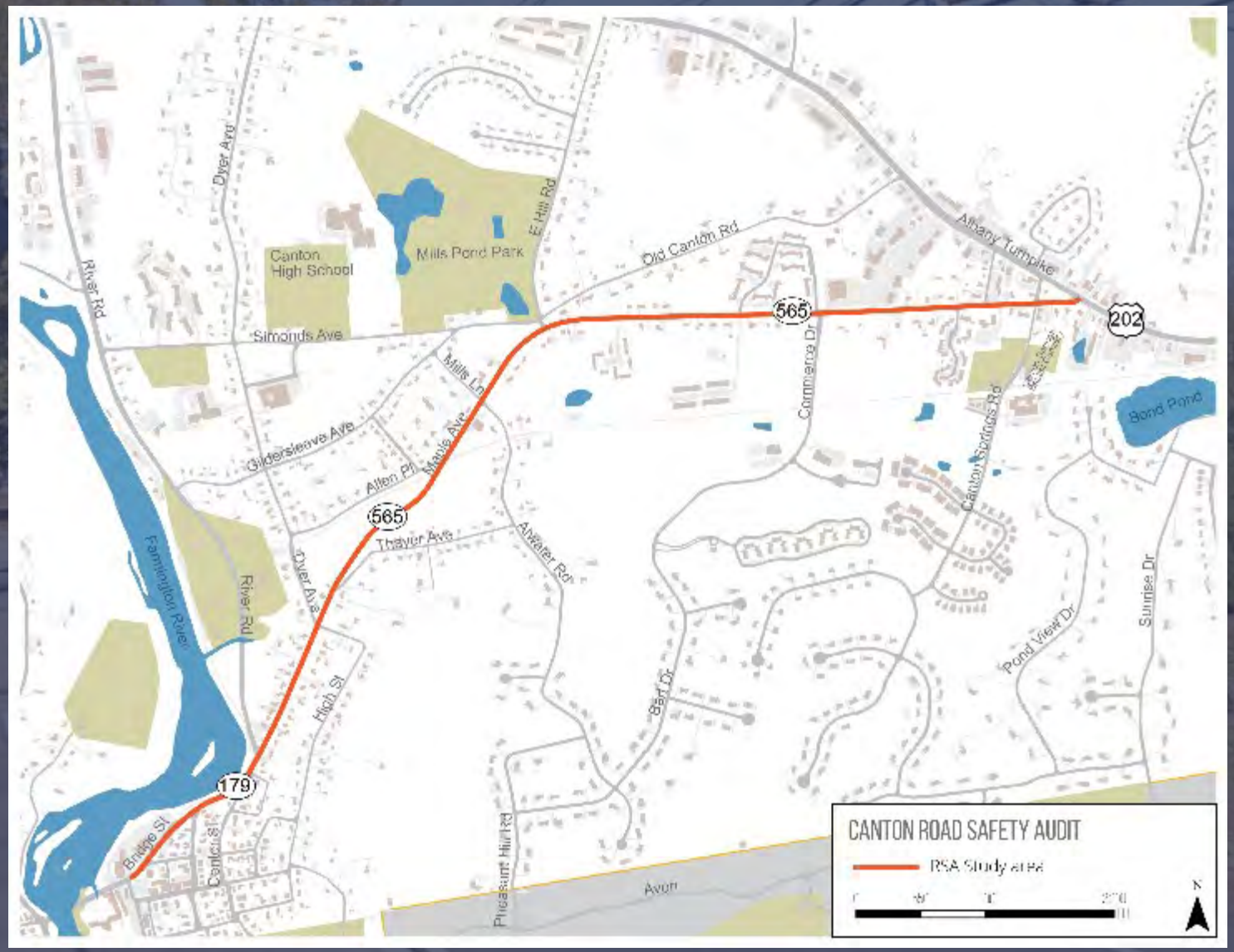
Identify next steps, evaluate feasibility of proposed improvements, and potential funding sources.

DELIVERABLES

- Existing Conditions Data Collection
- Pre-Audit Meeting
- Field Audit
- Post Audit Meeting
- Road Safety Audit Report

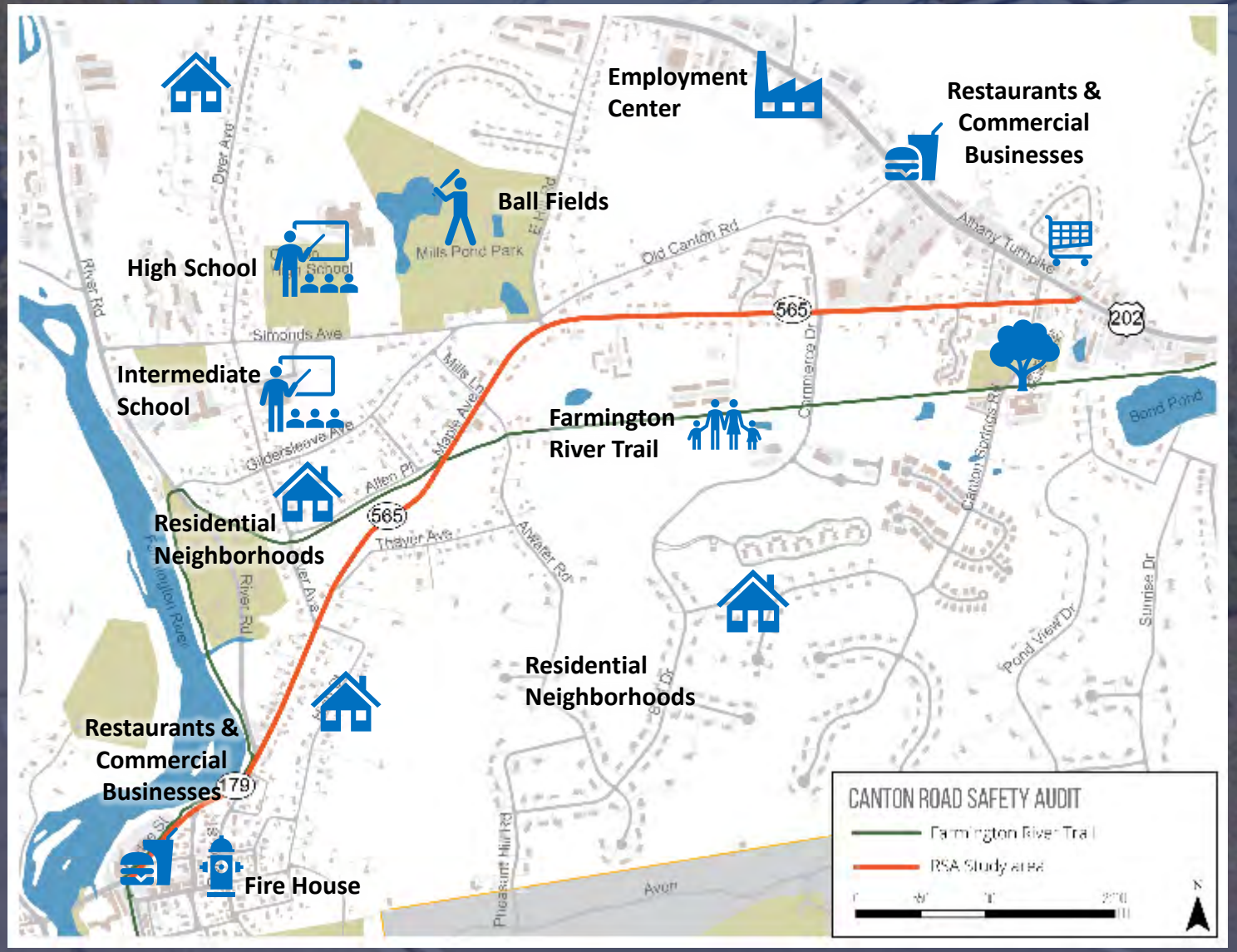
STUDY AREA

- Dowd and Maple Avenue (Route 565) and Bridge Street (Route 179)



POINTS OF INTEREST

- Civic Uses such as Elementary and High School, Library, Town Hall, Fire Department
- Restaurant and Commercial strip
- Grocery Store, Bank, Pharmacy, services
- Residential neighborhoods
- Employment Center



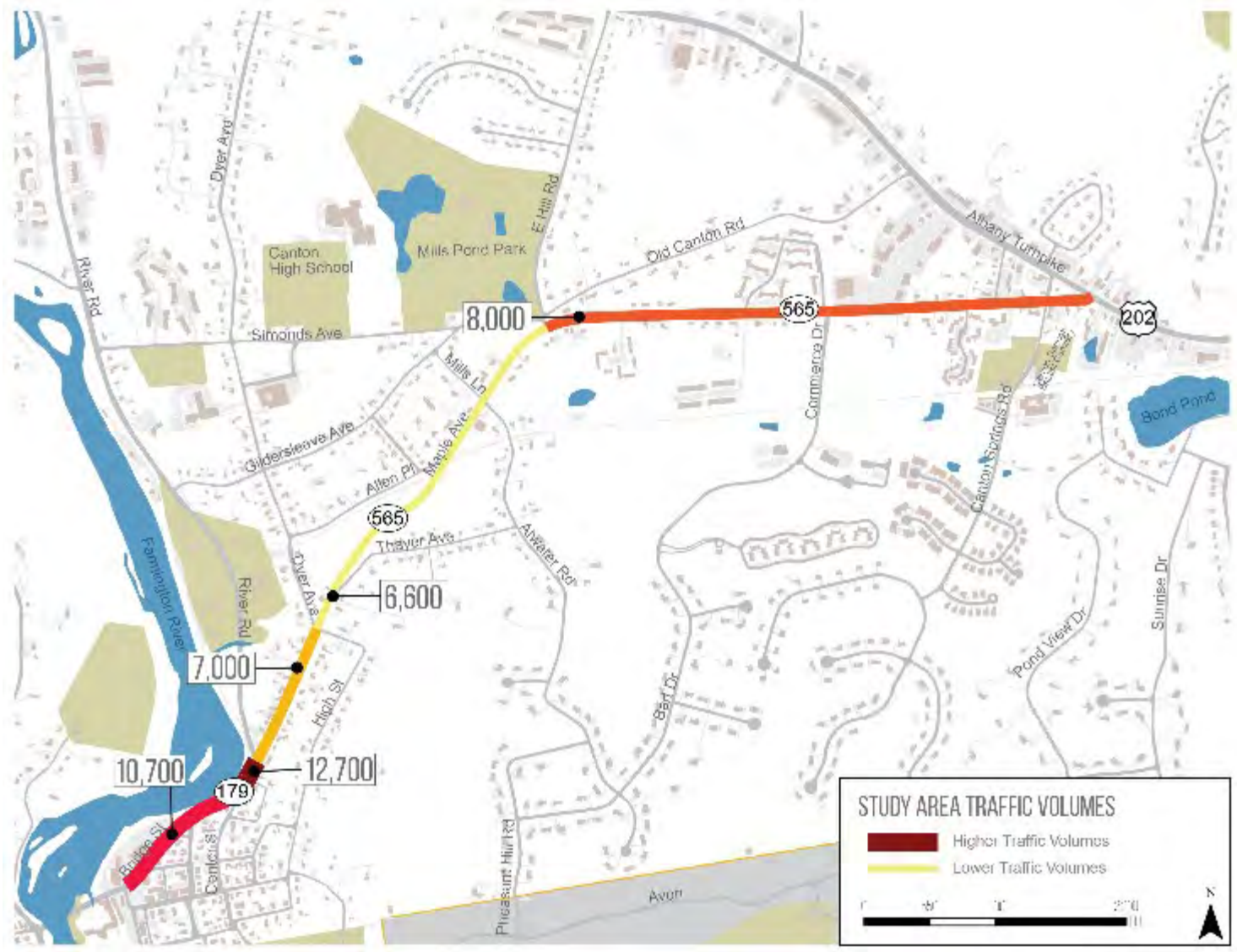
EXISTING CONDITIONS FINDINGS

Route 565 (Dowd and Maple Avenue) and Route 179 (Bridge Street) serve many purposes including:

- Local traffic as well as regional access
- Local residential access
- Restaurants/ Commercial uses
- Business and service industry uses
- Civic uses; Town Hall, Library, Elementary and High School
- Pedestrian and Bicyclist movement to serve local neighborhoods
- Trail across study area and along some parts of study area (Farmington River Trail)

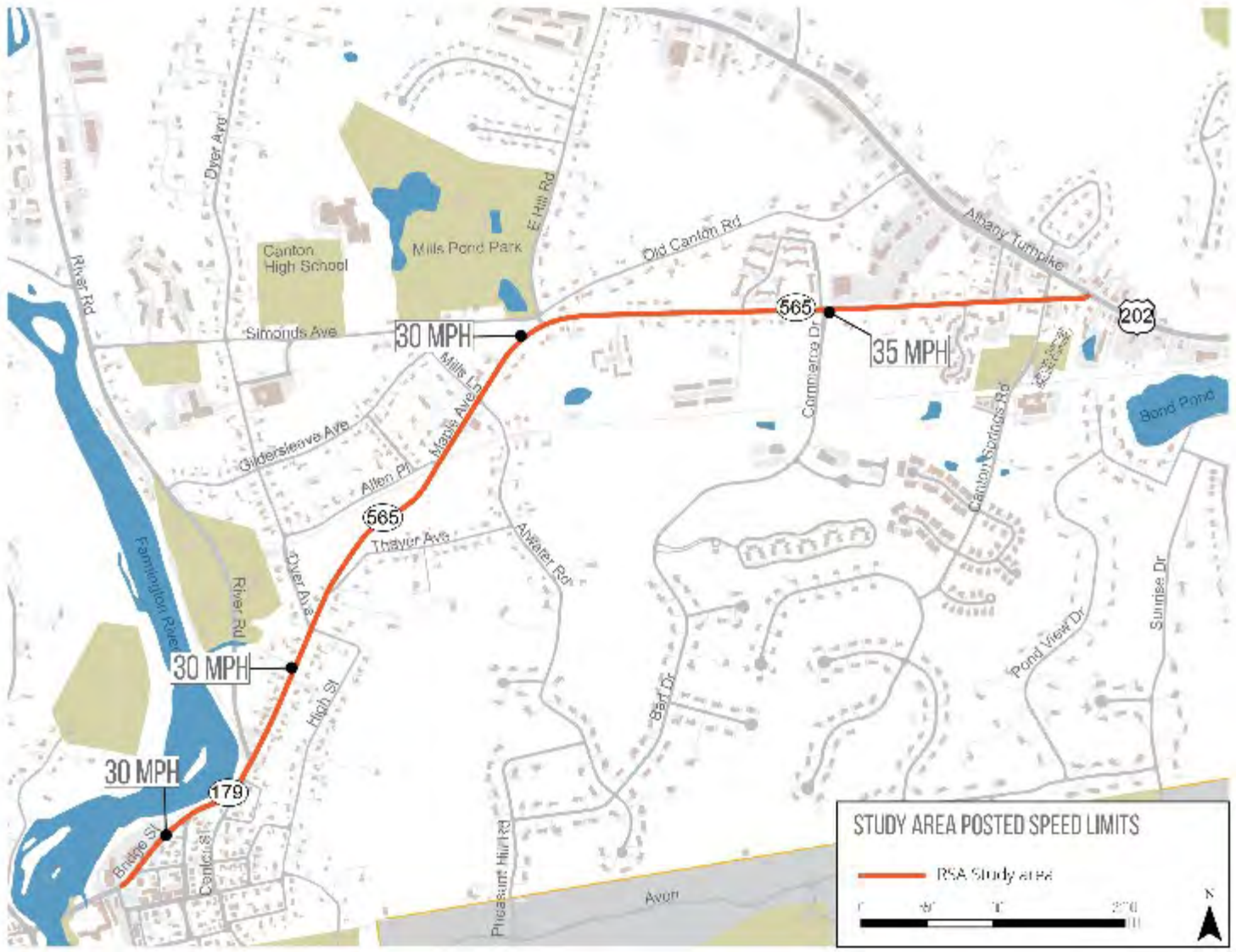
TRAFFIC VOLUMES

- Higher traffic volumes along Route 179 in Collinsville
  - Highest volume is found at the intersection of Route 565 (Dowd/Maple Ave) and River Road
  - Lowest volumes found on along Route 565 (Dowd/Maple Ave) between Mills Ln and Thayer Ave intersections
  - High volumes on 565 approaching the Route 44 (Albany Turnpike) intersection



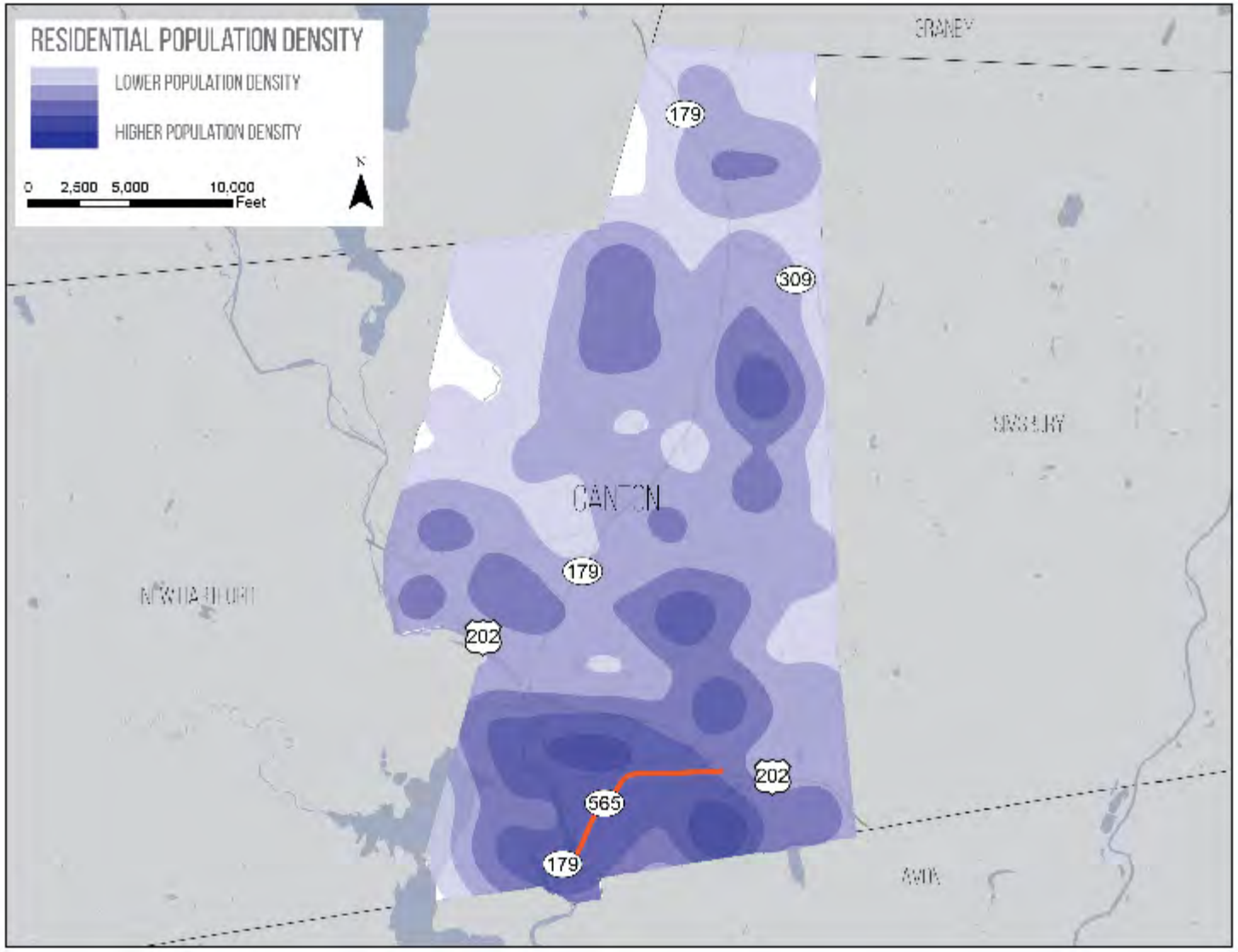
TRAFFIC SPEED LIMITS

- Speed limit in Study Area is 35 MPH along Route 565 between Canton Springs Rd and E Hill Rd
- Speed limit decreases to 30 MPH from E Hill Rd to the end of the study area along Bridge Street
- The surrounding neighborhoods have a posted speed limit of 25 MPH



POPULATION DENSITY

- Residential population density is highest in the vicinity of the Canton study area
- Population elsewhere is distributed evenly



ROADWAY GEOMETRY

Canton - RSA - Route 565 (Dowd/Maple Avenue) / Route 179 (Bridge Street)
Street Inventory

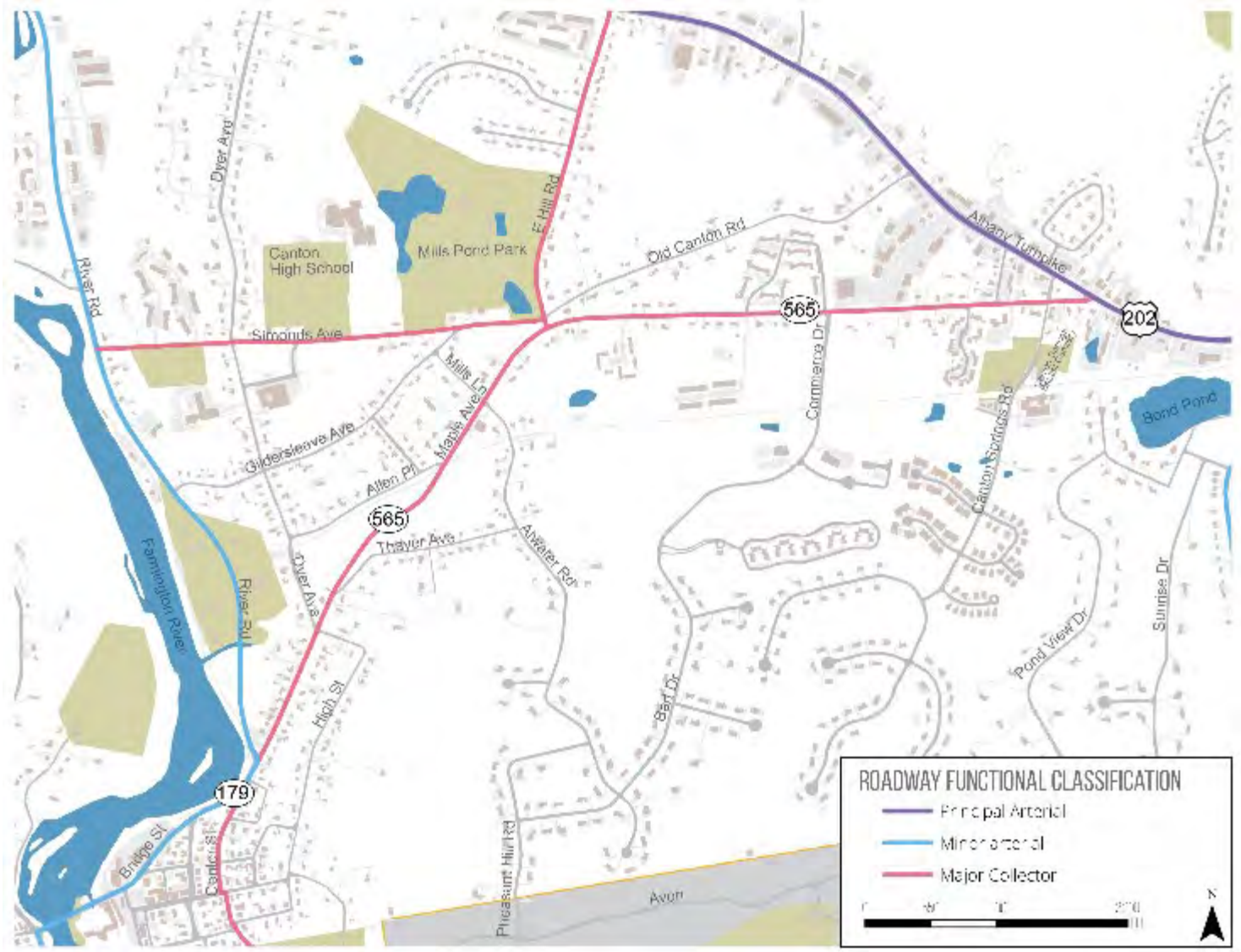
Road	*From*	*To*	*Distance*	*Direction*	*Lanes*	*Lane Width*	*Sidewalk Type*	*Sidewalk Width*	*Sidewalk Condtion*	*ADA Ramps Present*	*ADA Ramps Compliant*	*Curb*	*Parking*	*Shoulder*	*Notes*
Route 565 (Dowd Avenue)	Route 44 (Albany Turnpike)	East Hill Road	4,600'	EB	1	12'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3'	No ADA Ramp at Belden, Canton Hollow, 21 Dowd crosswalks
				WB	1	12'	Concrete	5'	Good	Varies	Yes	Paved	N/A	3'	
Route 565 (Maple Avenue)	East Hill Road	Dyer Avenue	3,300'	EB	1	12'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2'	
				WB	1	12'	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2'	
Route 565 (Maple Avenue)	Dyer Avenue	Route 179 (River Road)	1,200'	EB	1	12'	N/A	N/A	N/A	N/A	N/A	Paved	N/A	2'	No ADA Ramp at Dyer
				WB	1	12'	Concrete	5'	Good	No	No	Concrete	N/A	2'	
Route 179 (Bridge Street)	Route 179 (River Road)	Main Street	1,500'	EB	1	12'	N/A	N/A	N/A	N/A	N/A	Paved	N/A	4'	River Street ADA issues
				WB	1	12'	Paved	10'	Good	Yes	No	Paved	N/A	4'	Multi-use Sidepath

*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.

Highlighted cells indicate values which may warrant further investigation

FUNCTIONAL CLASSIFICATION

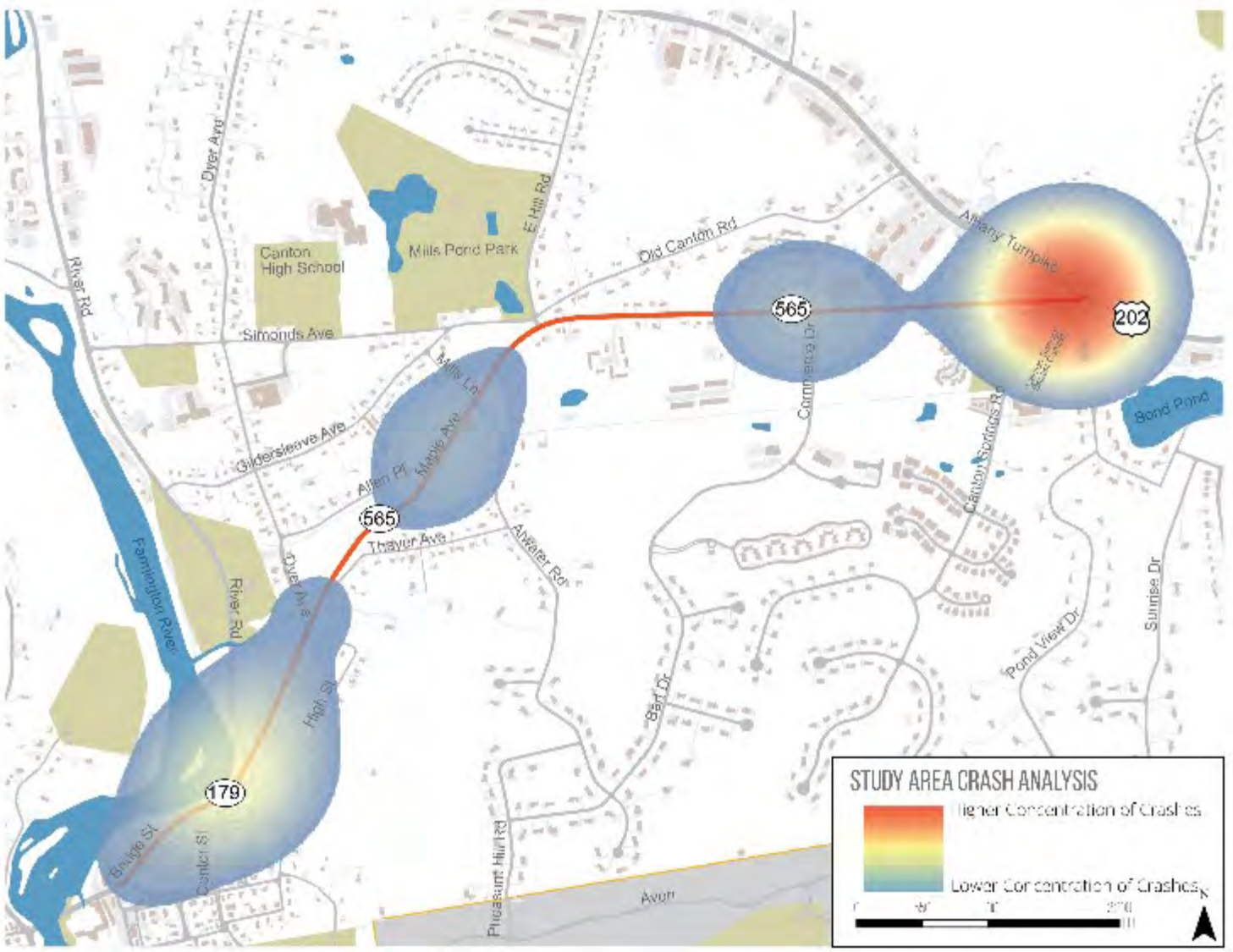
- Route 565 (Dowd/Maple Ave) is a Major Collector
- Route 44 is a Principal Arterial
- River Road is a Minor Arterial
- East Hill Road / Simonds Ave are Major Collectors
- Other streets that intersect Study Area are Local Roads



CRASH ANALYSIS

2017 - 2021

Year	Fatality	Serious Injury	Minor Injury	Possible Injury	Property Damage Only	TOTAL
2017	2		5	8	48	**63**
2018		1	2	5	44	**52**
2019			4	2	33	**39**
2020			1	3	18	**22**
2021			1	3	26	**30**
TOTAL	**2**	**1**	**13**	**21**	**169**	**206**

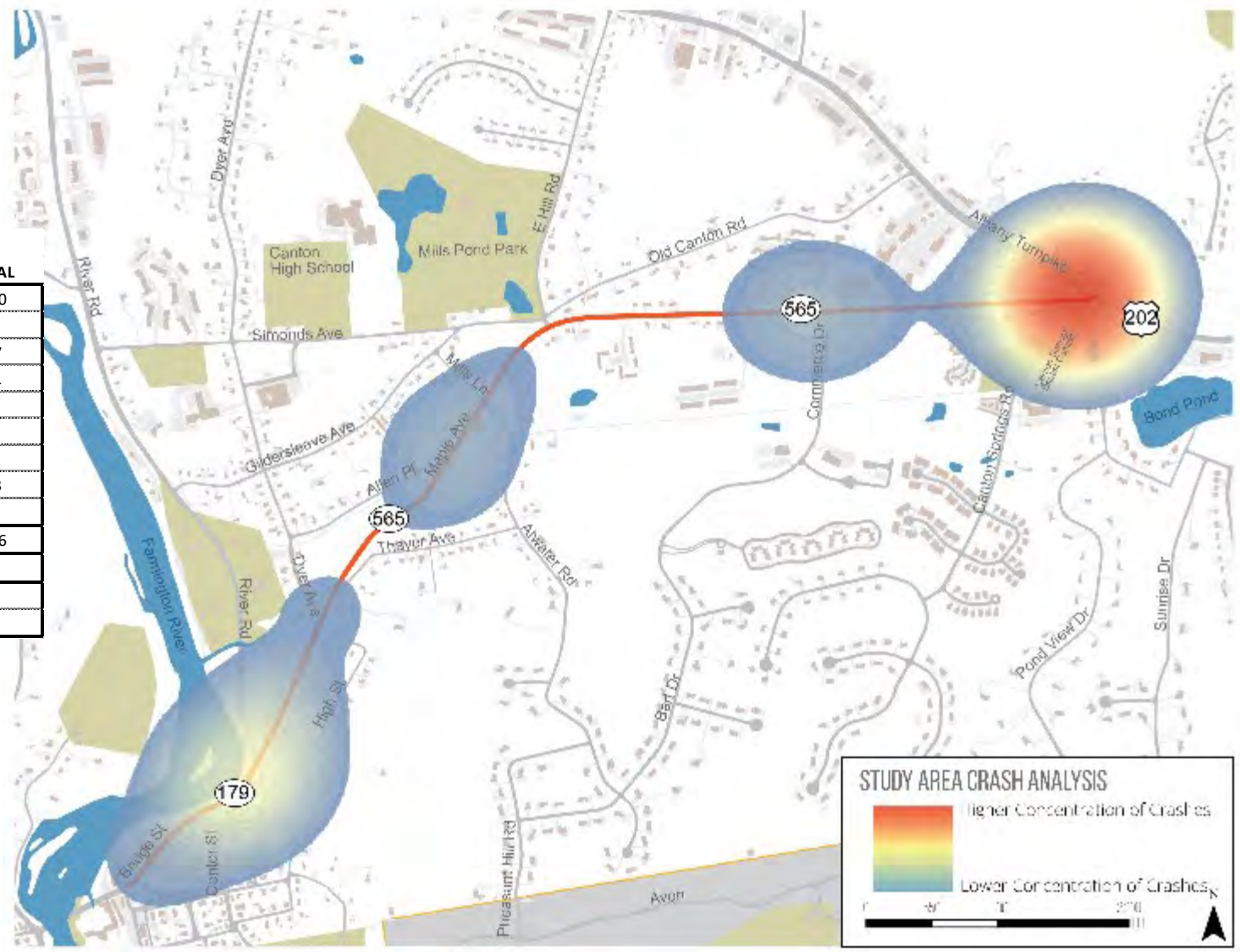


CRASH ANALYSIS

2017 - 2021

Crash Severity

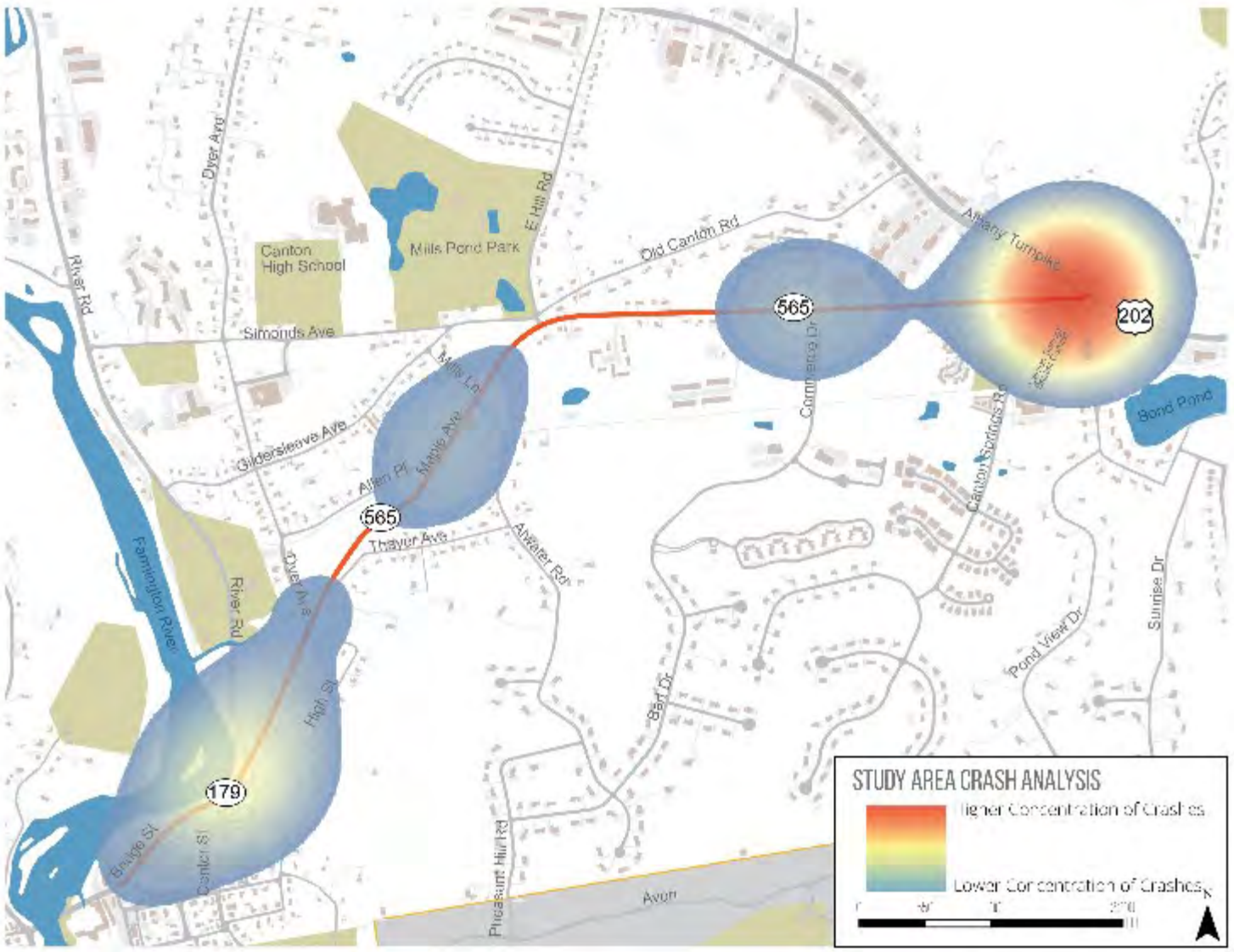
	Fatality	Serious Injury	Minor Injury	Possible Injury	Property Damage Only	TOTAL
Angle			3	8	89	100
Front to front			2	3	4	9
Front to rear	1	1	2	7	26	37
Sideswipe, opposite direction			1		10	11
Sideswipe, same direction			1		4	5
Rear to Side				1	1	2
Rear to Rear					2	2
Not Applicable	1		2	2	28	33
Other			2		5	7
TOTAL	2	1	13	21	169	206
Crashes Involving Pedestrians	0	0	1	0	0	1
Crashes Involving Bicyclists	0	0	0	0	0	0



CRASH ANALYSIS

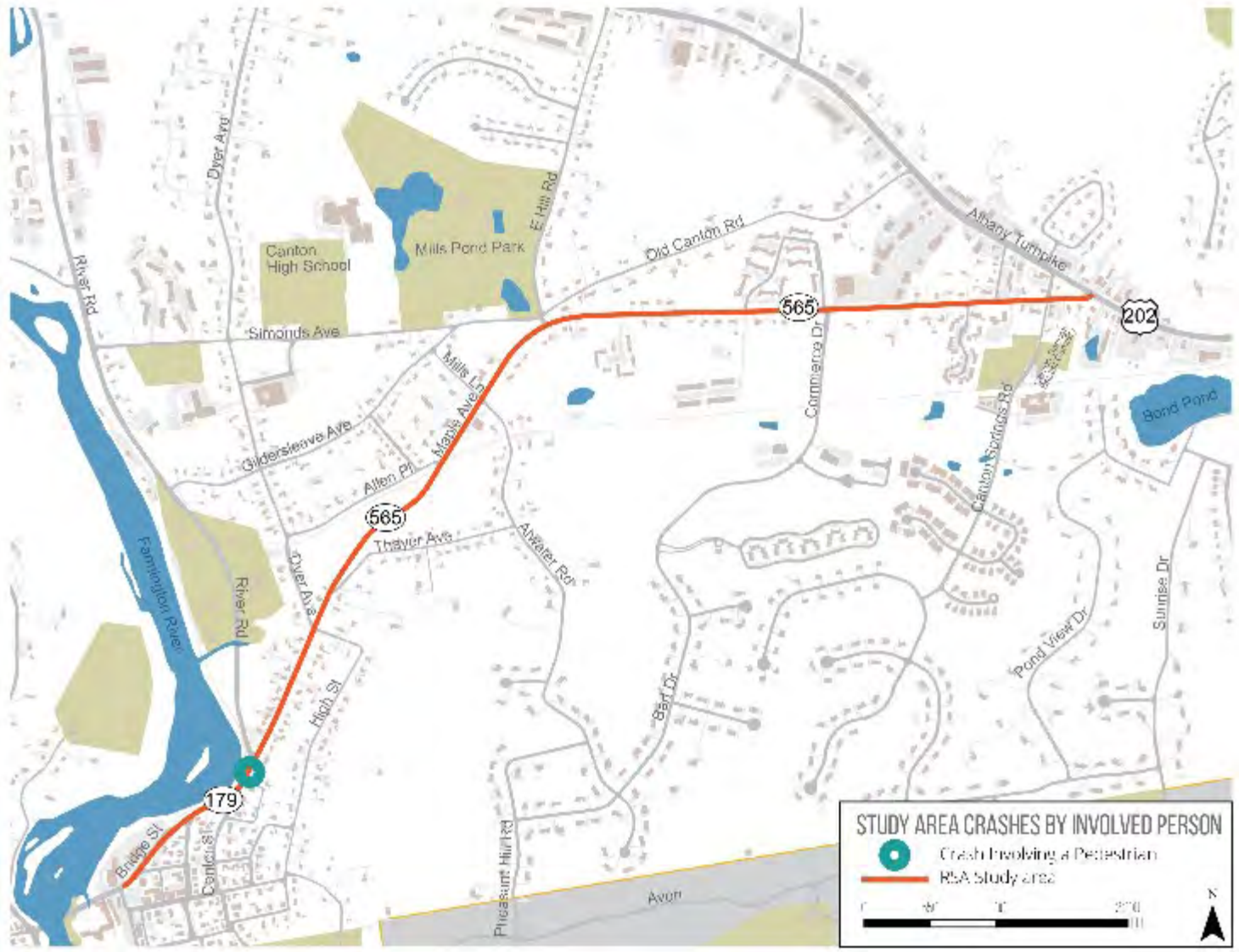
Crash Hotspots (5 Year Crash Total approx.)
206 Total Crashes

- Route 565 (Dowd/Maple Ave) and Route 44 intersection – 88 Crashes
- Near Route 179 (Bridge Street) & Center Street Intersection, downtown Canton – 53 Crashes
- Route 565 (Dowd/Maple Ave) and Commerce Ave area – 24 Crashes
- Route 565 (Dowd/Maple Ave) between Allen Pl (and trail crossing) and Mills Ln– 21 Crashes



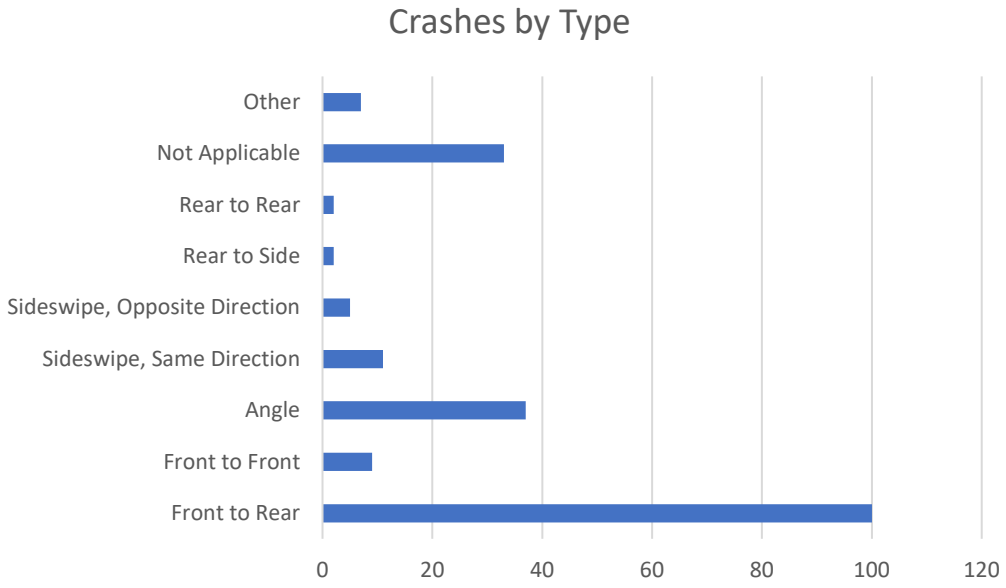
CRASH ANALYSIS – INVOLVED PERSON

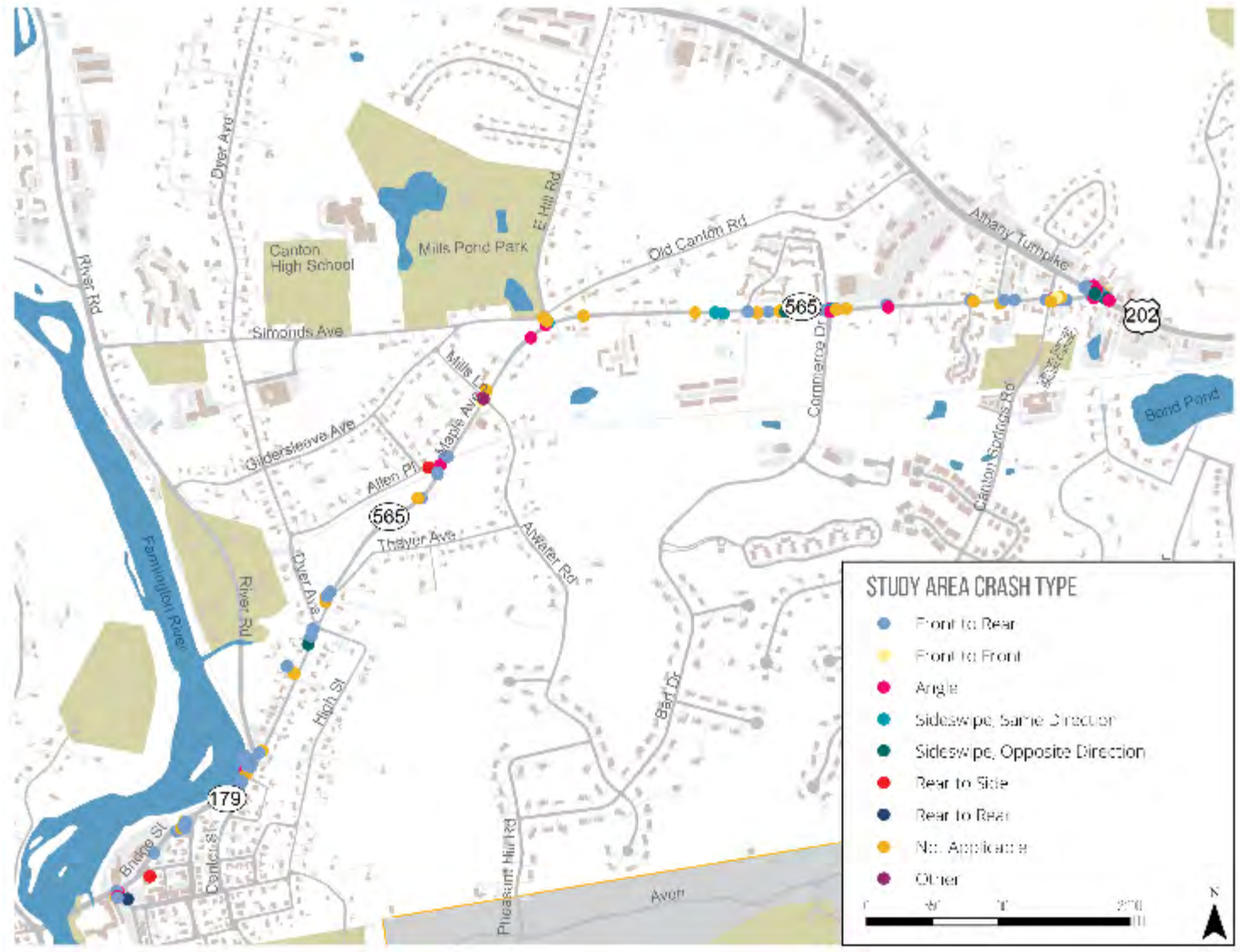
- There was 1 crash involving a pedestrian in the Study Area in 2017
- It occurred on Route 565
- It was not a minor injury crash
- There were no bicyclist crashes in the Study Area



CRASH TYPE

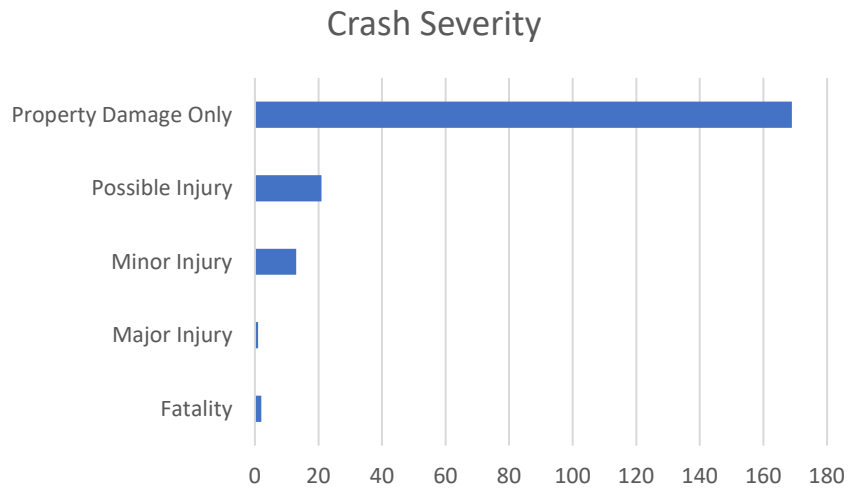
- Majority of Crashes are front to rear, which involve a vehicle with not enough stopping distance between them and the vehicle ahead

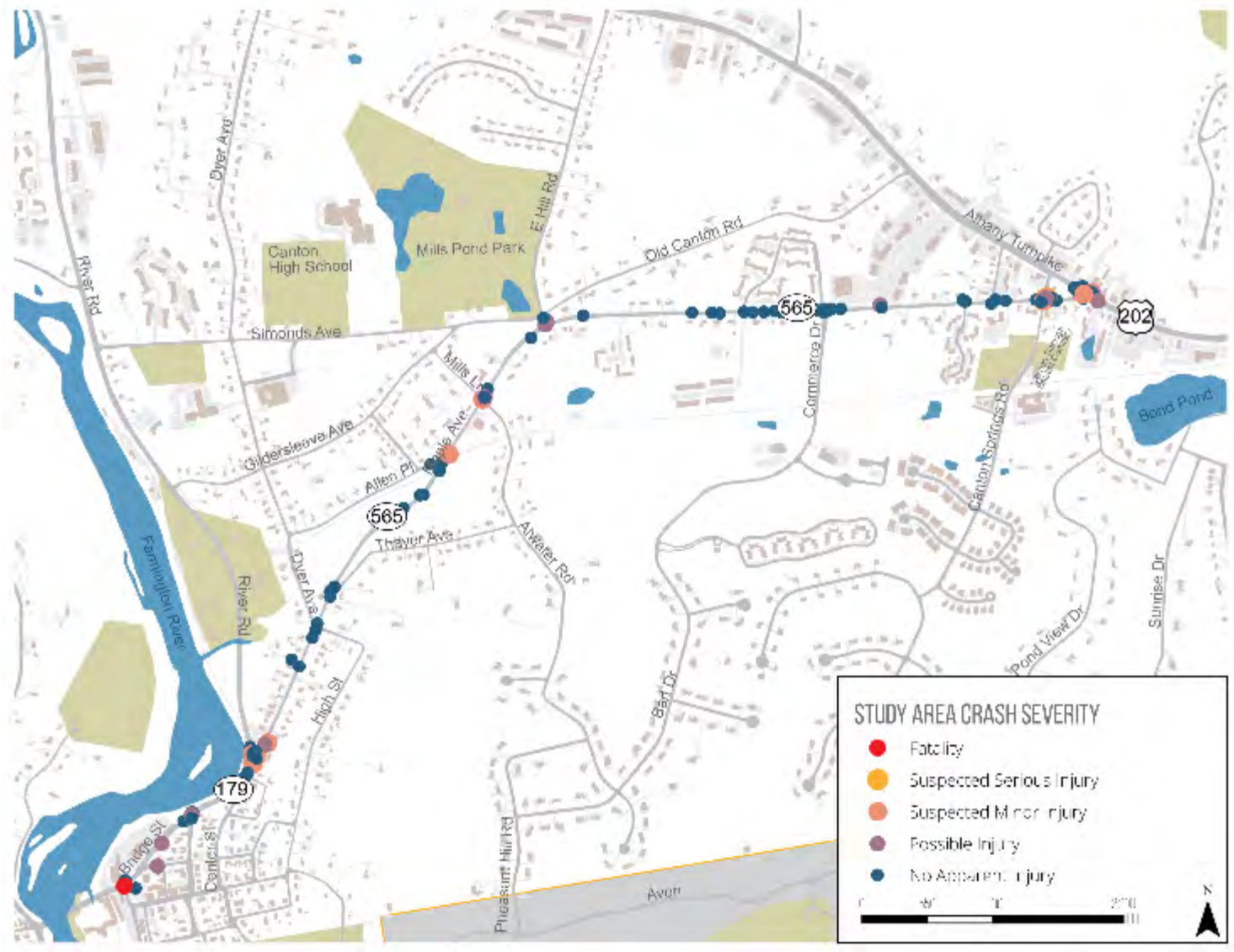




CRASH SEVERITY

- Majority of crashes (169) are classified as No Apparent Injury-Property Damage Only
- There were 21 crashes resulting in a possible injury and 13 minor injury crashes
- There were 2 fatal crashes in 2017 and 1 serious injury crash in 2018





REVIEW OF PAST/CURRENT WORK

- 2008 - Collinsville Pedestrian Vehicular Safety Study Committee Final Report
- 2016 - Collinsville Village Master Plan
- 2021 – RRFBs at pedestrian crosswalks
- 2022 – CRCOG Roundabout Study – Intersection of Route 179 / 565 considered
- 2023 – 2025 – Route 565 Repaving

SAMPLE IMPROVEMENTS TO IMPROVE SAFETY IN THE STUDY AREA

LANE NARROWING

- Standard CTDOT lane width is 11 feet
- Narrow lane width (as low as 9 feet) can promote slower speeds and provide space for other purposes
- Narrower width may be appropriate in areas with limited daily traffic and truck traffic

A 10-ft lane installed in Hopkinton, NH

BIKE SHARROWS

- Bike sharrow markings in lane can alert motorists to presence of bicyclists in roadway
- Sharrows likely appropriate based on vehicular volumes near beach and target speeds in this area

Bike Sharrow in Concord, NH

BIKE LANES

- Bike lanes and other bike facilities can provide comfortable bike travel in ROW
- A buffer can also be striped to reinforce separation from motorists

Buffered Bike Lane in West Hartford, CT

ON-STREET PARKING

- On-street parking can narrow roadway travel lanes by adding friction to traffic flow
- Parking can provide buffer for pedestrian zones

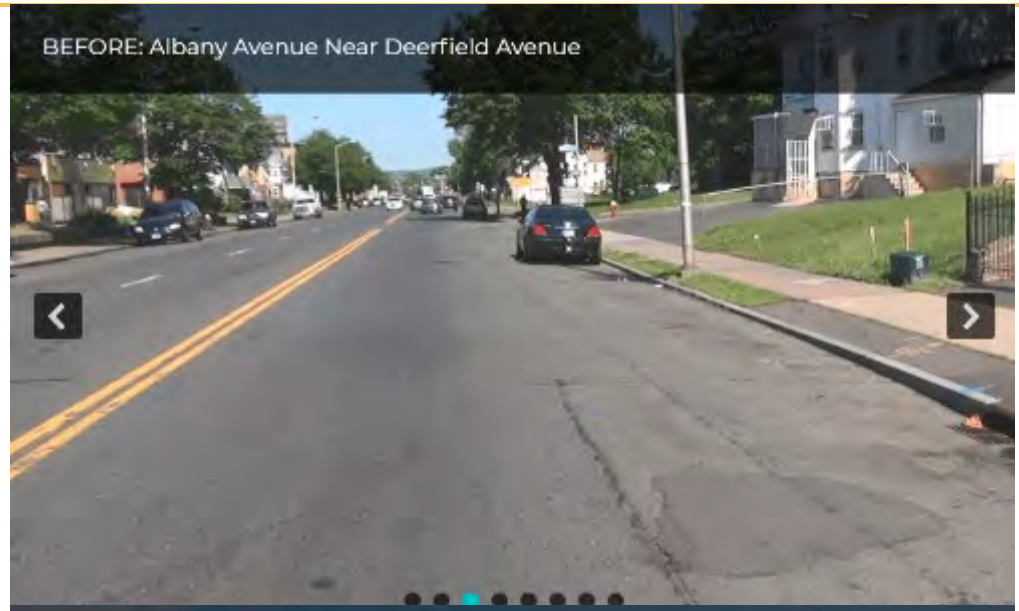
SIDEWALKS

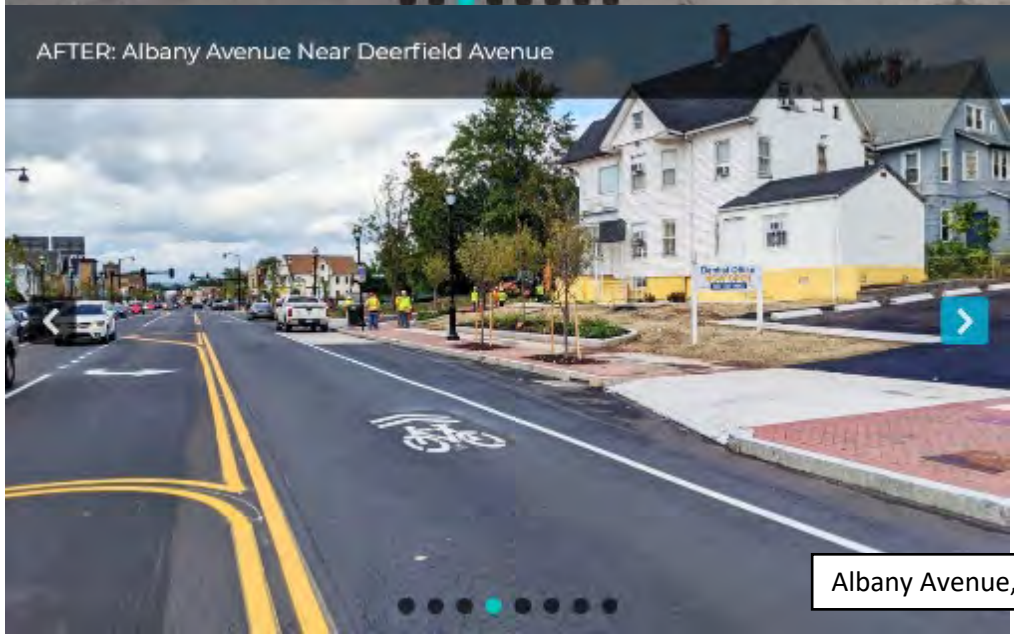
- Sidewalks provide a dedicated space for pedestrians

- 5 feet is preferred minimum width

STREETSCAPE DESIGN

- Streetscape elements can communicate different priorities based on design with use of:
  - Curbing materials
  - Landscaping
  - Lighting
  - Sidewalk / Buffer Materials
  - Other amenities

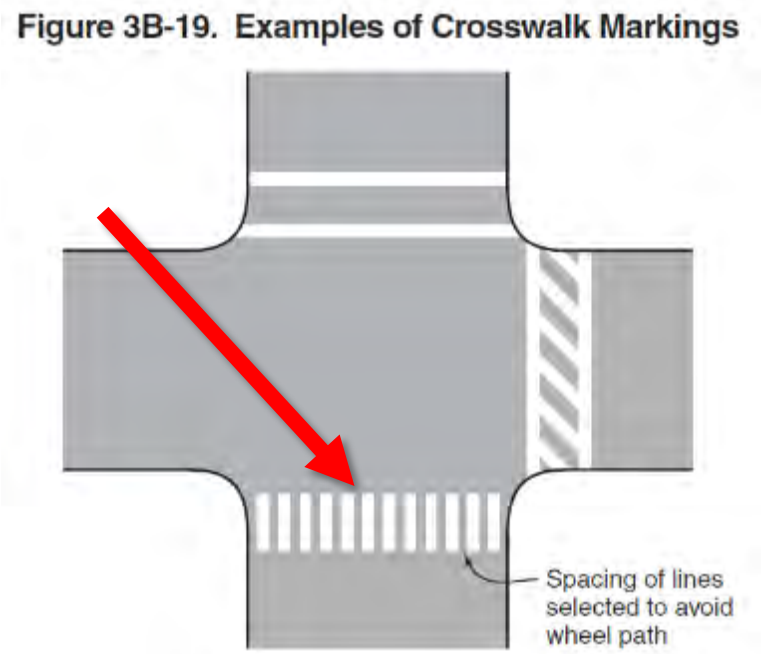




Albany Avenue, Hartford, CT

CROSSWALKS

- Continental crosswalks provide the most visibility for crosswalks
- Continental crosswalks are already standard at many crossings, but some crossings do not have any markings



MUTCD Graphic

RAISED CROSSWALKS

- Improves pedestrian safety by causing motorist speeds to decrease at the crossing.

- Typically between 3 and 6 inches above street level. It is common for a raised crosswalk to be level with the street curb.
  - Height increases the visibility of a pedestrian in a crosswalk to a motorist.

Route 9, Hillsboro, Virginia – Rethink9.com

MEDIAN ISLAND WITH PROTECTED CROSSING

- Raise island wide enough to provide allow pedestrian to cross in two-stages

Route 9, Hillsboro, Virginia – Rethink9.com

RRFB

- RRFB
  - Rectangular Rapid Flashing Beacon
  - Provides enhanced visibility of crosswalks, but is **not** a regulatory signal

Top – RRFB in Bronxville, NY

LIGHTING AT CROSSWALKS

- Lighting conditions at night in areas of pedestrian crossings should be considered

- Lighting can be increased with RRFB systems with a higher intensity light to enhance visibility of crossing

CORNER EXTENSION/BULBOUT

- A curb extension is a horizontal extension of the sidewalk into the street resulting in a narrower roadway and a shorter crosswalks.

- Slows automobile turning speeds, shortens pedestrian crossing distance, and increases pedestrian visibility

Concord, NH – Main Street

ROUNDABOUT

- Slows traffic by requiring horizontal deflection for entering vehicles
- Modern roundabout requires entering vehicles to yield to circulating traffic
- Roundabout provides opportunity for greenspace or gateway signage
- Roundabouts reduce vehicles speeding to make green lights etc.

Meredith, NH – NHDOT
Route 9, Hillsboro, VA

DYNAMIC SPEED FEEDBACK SIGNAGE

- Dynamic speed feedback signs display speeds of oncoming vehicles
- Must be placed with existing speed limit sign (or include such sign on a mobile unit)
- Requires encroachment permit by CTDOT
- Effectiveness
  - Up to 4 MPH average reduction in passenger vehicle speeds (1)
  - Most reductions from 1,000 ft upstream of sign and 300 ft past sign (2)
  - Decreased effectiveness over time (2)

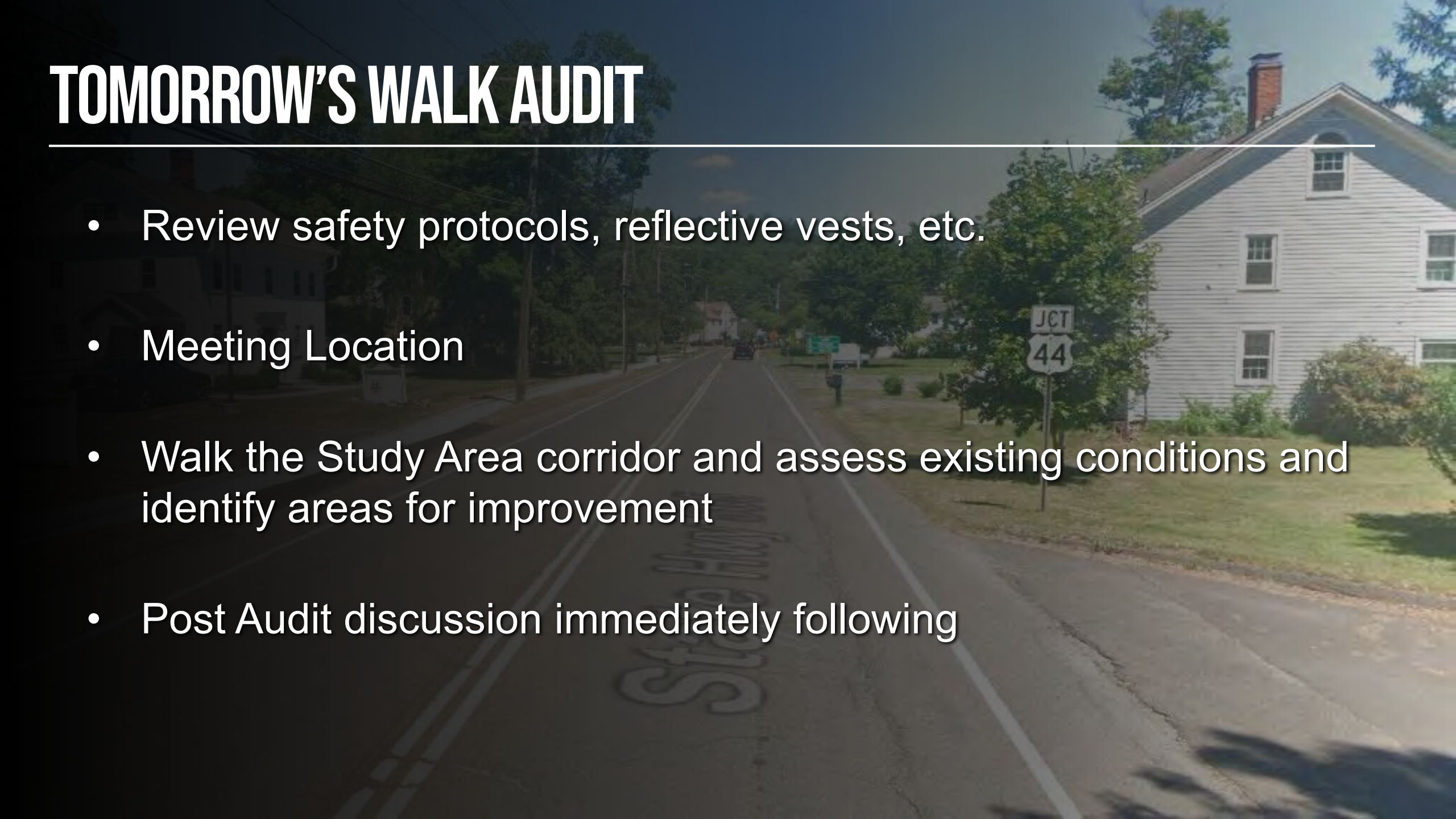
County of San Luis Obispo

(1) Flynn, D. et al. *Dynamic Speed Feedback Signs Are Effective in Reducing Driver Speeds: A Meta-Analysis.* 2020
(2) Santiago-Chaparro, K. et al. *Spatial Effectiveness of Speed Feedback Signs.* 2012

DISCUSSION ON ISSUES IN THE STUDY AREA AND OPPORTUNITIES

TOMORROW'S WALK AUDIT

- Review safety protocols, reflective vests, etc.
- Meeting Location
- Walk the Study Area corridor and assess existing conditions and identify areas for improvement
- Post Audit discussion immediately following




THANK YOU!

Canton Road Safety Audit

Meeting Location: Canton Town Hall

Address: 4 Market Street, Collinsville, CT

Date and Time: September 9th, 10:00 AM

Agenda

1. **Welcome and Introductions**
2. **Review of Road Safety Audit Route**
3. **Audit**
    - Visit Study Area
    - Complete Audit Checklist
    - Identify issues and opportunities for improvements
4. **Post-Audit Discussion**
    - Discussion observations and finalize findings
    - Discuss potential improvements and final recommendations
    - Next Steps

Notes for Participants

- All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, as stakeholders' 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.

Canton Road Safety 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	