COMMUNITY
connectivity program

East Hartford

Main Street – Road Safety Audit

April 26, 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

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Acknowledgements:

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

With assistance from AECOM Transportation Planning Group

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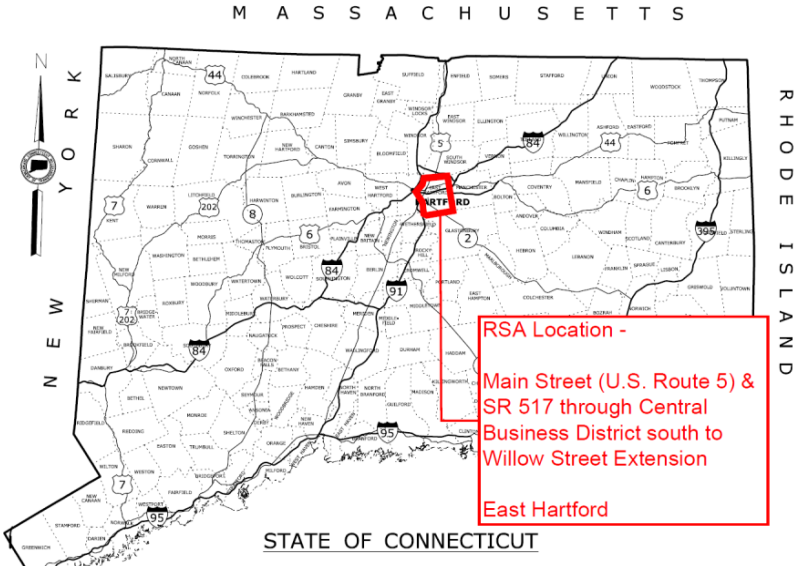
The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this program is conducting Road Safety Audits (RSA's) at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

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

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



1 Introduction to Main Street, East Hartford RSA

The Town of East Hartford submitted an application to complete an RSA on Main Street (US Route 5) throughout the central business district and continuing south onto State Route (SR) 517 to a point immediately south of the intersection of Willow Street and Willow Street Extension, where the East Coast Greenway / Multi-use Trail will intersect with Main Street. The portion of Main Street between the 1-84 overpass and the railroad bridge is typically referred to as the Central Business District (CBD). The existing Hockanum River Linear Trail intersects Main Street in the vicinity of Town Hall and the Pitkin Street intersection. The Town would like to improve connectivity and pedestrian safety between the CBD and the two linear trail systems. A portion of the East Coast Greenway / Multi-Use Trail is currently under construction and a portion of the trail will intersect Main Street at Willow Street Extension.

The Town of East Hartford's application contained a mapping of the corridor. The application and supporting documentation are included in Appendix A.

1.1 Location

The RSA site is the section of Main Street (US Route 5 and SR 517) between Sterling Road/Ranney Street and the intersection with Willow Street and Willow Street Extension (Figure 1). The southern portion of Main Street is in close proximity to major employment centers (Pratt & Whitney; Coca Cola Enterprises; Goodwin College) while the CBD to the north contains numerous businesses of varying sizes. The study area also includes several important municipal facilities, including Town Hall, Raymond Library and the Community Cultural Center. Riverside Health Care and Saint Francis Care also maintain significant facilities in the central business area.

It is important to note that United Technologies Corporation is currently working with its developer to establish a mixed-use development at Rentschler Field (located a short distance east of the study corridor). Goodwin College is working to expand it facilities on properties it owns along the west side of Main Street. There is potential for substantial increase in both vehicular and non-motorized traffic in this study area as a result these planned projects.

Main Street (US Route 5 and SR 517) is classified as a Principal Arterial. It has a considerable amount of pedestrian traffic, and includes several CT Transit routes. Pedestrian safety and vehicle speeds are a concern, and red light running has been experienced at the traffic signal at the Town Hall driveway. According to DOT data, the average daily traffic (ADT) of Main Street in the road safety audit study area ranges from 13,800 vehicles (south of Brown Street) to 23,000 vehicles (south of Burnside Avenue). Figure 2 shows the road safety audit corridor in a regional context.

Figure 1. Main Street (US Route 5 & State Route 517), East Hartford

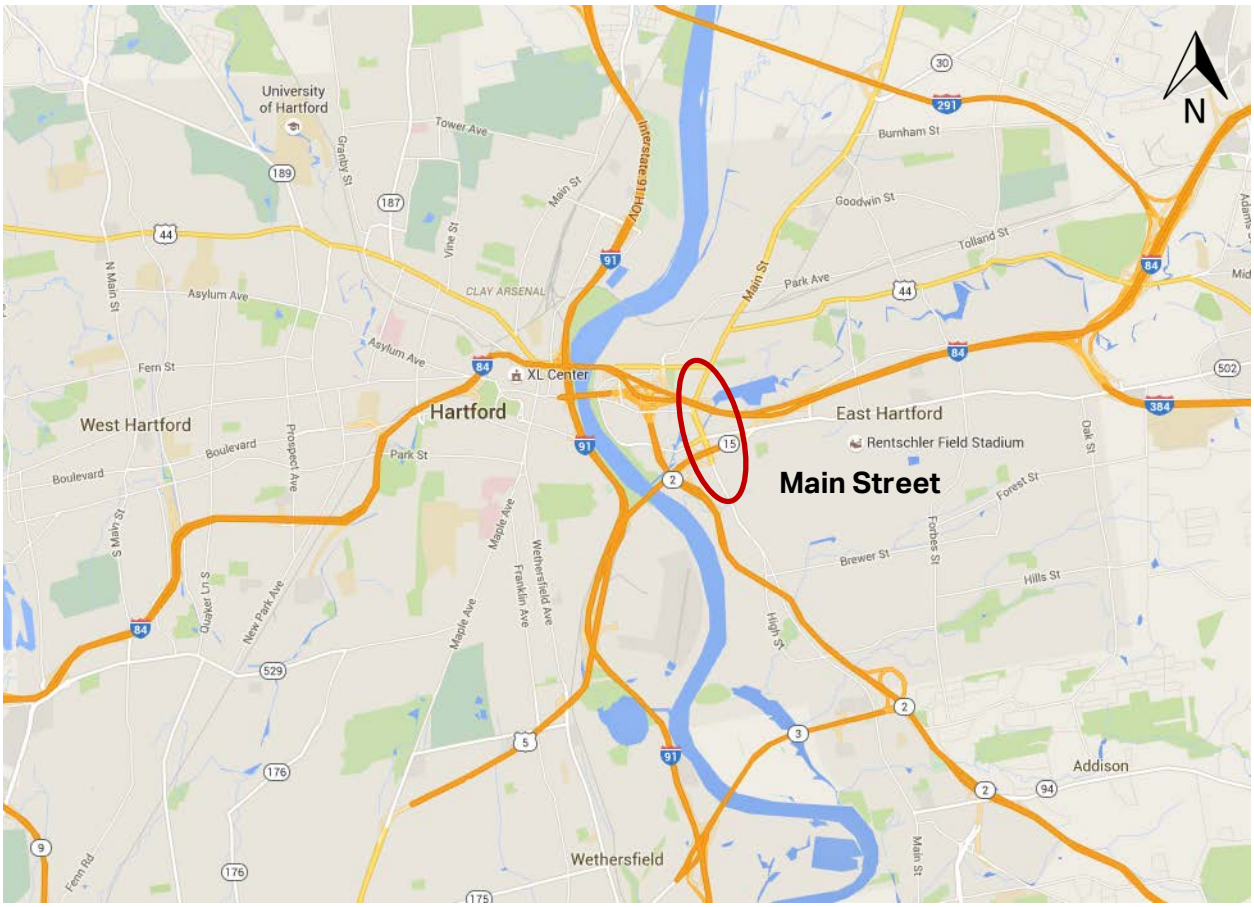


Figure 2. Study Area – Regional Context

2 Pre-audit Assessment

2.1 Pre-audit Information

As noted previously, traffic volumes (up to 23,000 ADT) are significant along the Main Street corridor. A high number of crashes (399) were reported along the study corridor between 2012 and 2014. Table 1 and Table 2 provide data on Crash Severity and Type, respectively. Crash clusters occurred at major intersections, including Burnside Avenue, Chapman Street/Wells Avenue, Governor Street, and Pitkin Street. Over 50% of the crashes occurred between Noon and 5:00 PM. One fatality was reported of a pedestrian crossing Main Street near Burnside Avenue.

Figure 3, Figure 4, and Figure 5 display crashes that occurred in this area in 2015.

Severity Type	Number of Crashes	
Property Damage Only	292	73%
Injury (No fatality)	106	27%
Fatality	1	0.3%
Total	399	

Table 1. Crash Severity

2012-2014

Source: UConn Connecticut Crash Data Repository

Manner of Crash / Collision Impact	Number of Crashes	
Unknown	1	0.3%
Sideswipe-Same Direction	72	18%
Rear-end	166	42%
Turning-Intersecting Paths	49	12%
Turning-Opposite Direction	24	6%
Fixed Object	26	7%
Backing	9	2%
Angle	13	3%
Turning-Same Direction	19	5%
Moving Object	4	1%
Parking	5	1%
Pedestrian	7	2%
Overturn	2	1%
Head-on	0	0%
Sideswipe-Opposite Direction	2	1%
Total	399	

Table 2. Crash Type

2012-2014

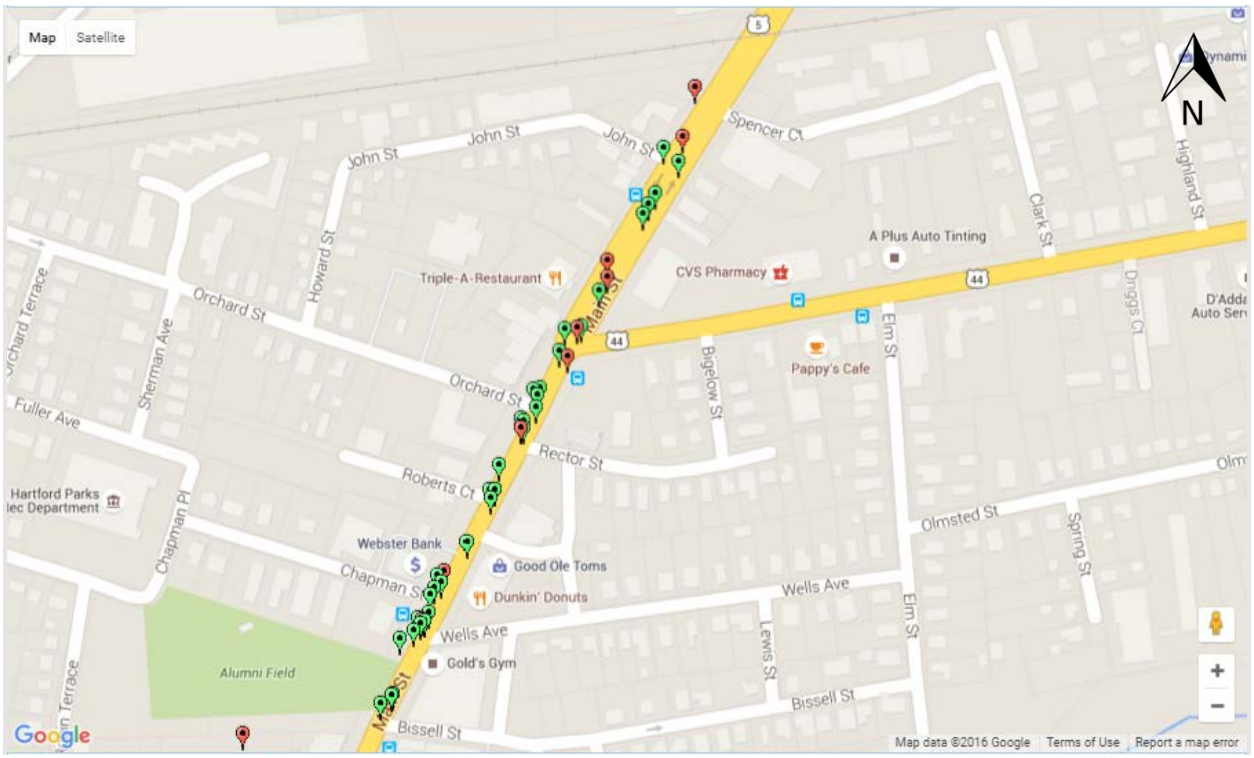


Figure 3. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

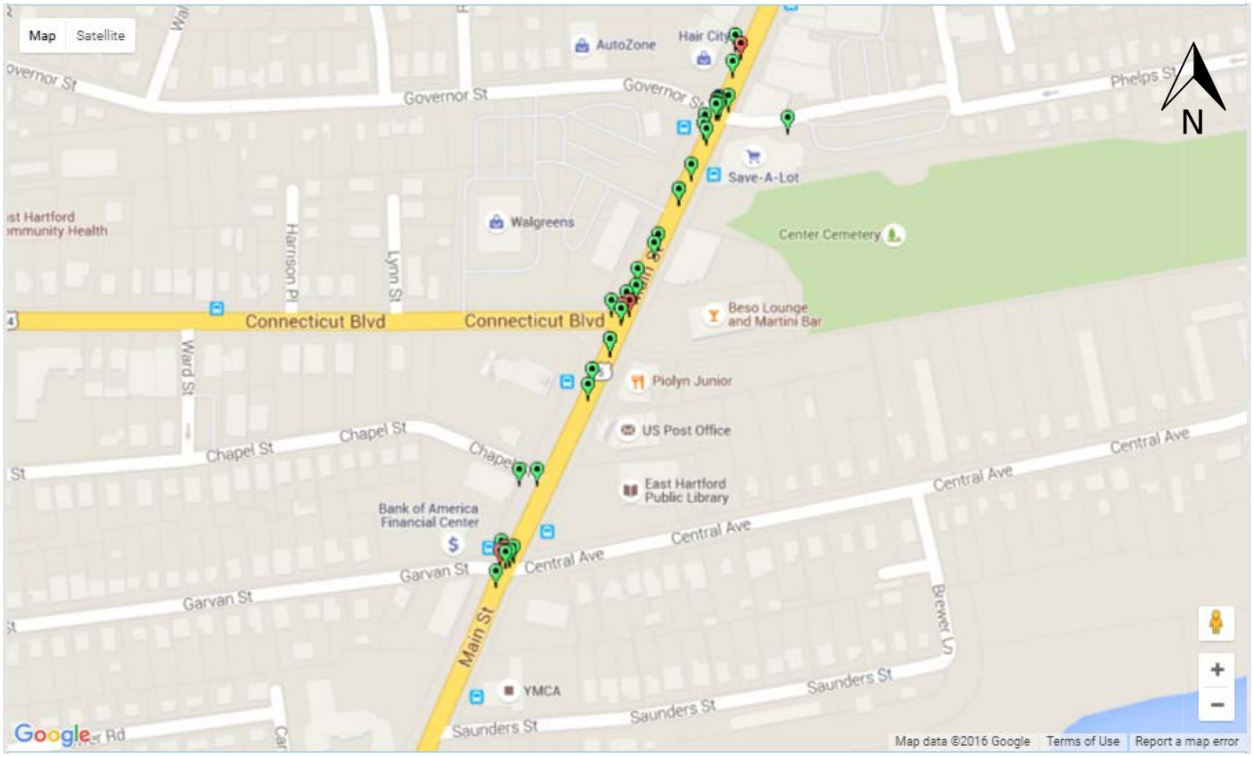


Figure 4. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

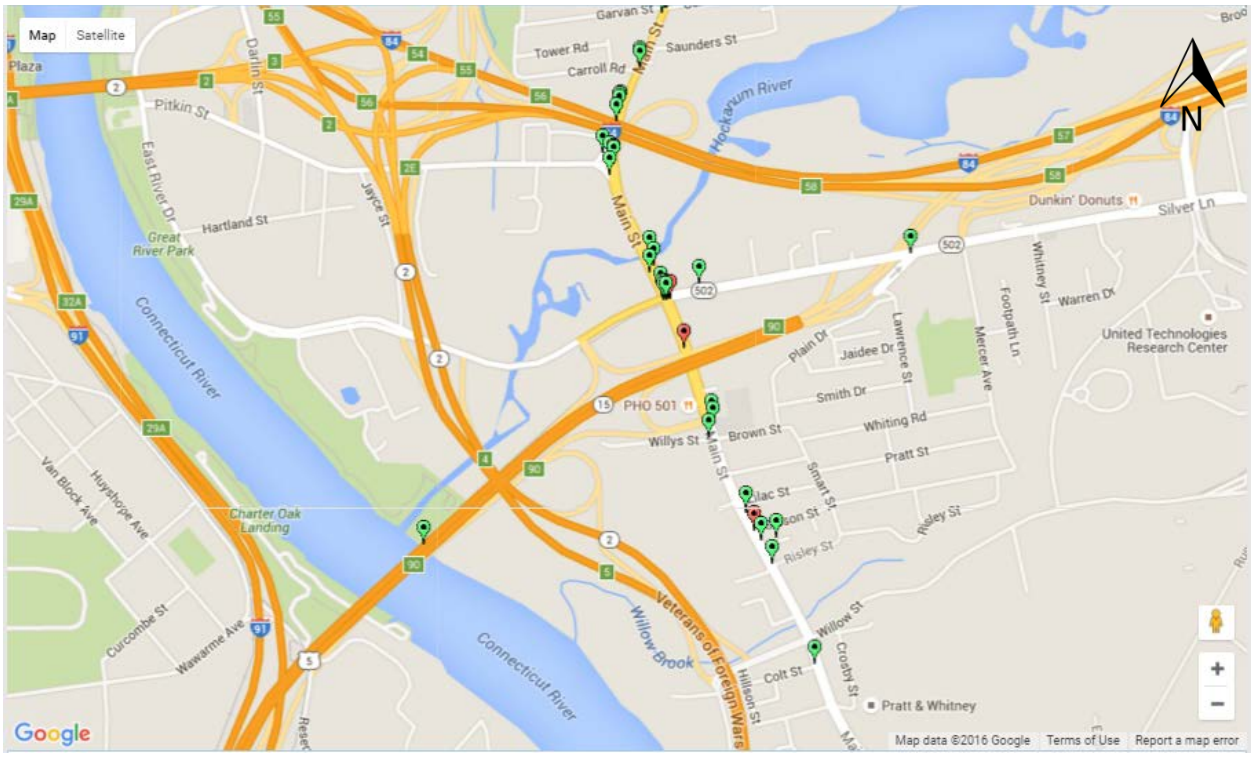


Figure 5. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

There are 13 signalized intersections within the study corridor, with many of them closely spaced on the northern segment of Main Street. Some intersections, such as Chapman Street/Wells Avenue have off-set side street alignments. The State is planning to replace signals at many of the intersections along the Main Street corridor. The LTA should work with the CTDOT Traffic to evaluate which signals may be replaced and determine schedule.

There are many driveway curb cuts to private businesses located along the corridor and several CT Transit bus stops for Routes 83 & 95.

Figure 6 shows roadway geometrics along the study corridor and Table 3 summaries roadway inventory information.

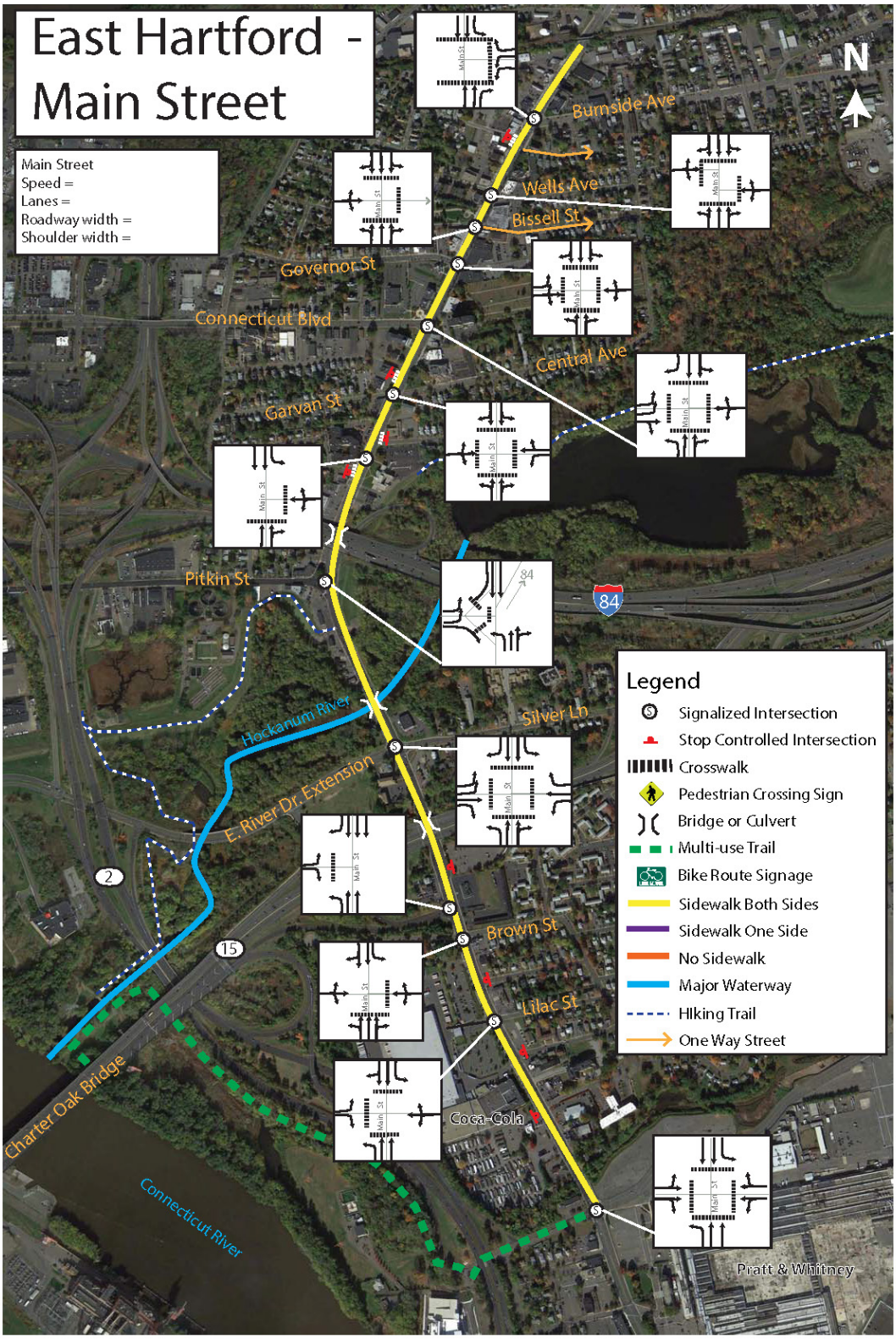


Figure 6. Main Street Road Geometrics

East Hartford - U.S. Route 5 and SR 517

Street Inventory

From	To	Distance	Lane width	Sidewalk				Curb	Parking	Shoulder	Ramps	
				Side	Type	Width	Condition				Exist	Compliant
Willow Street	Risley Street	700 ft	12'	East	Concrete	5'	Fair	Granite	No	2'	Yes	No
				West	Concrete	5'	Fair	Granite	No	2'	Yes	No
Risley Street	Brown Street	0.25 miles	12'	East	Concrete	5'	Fair	Granite	No	2'	Yes	No
				West	Concrete	10'	Good	Granite	No	2'	Yes	No
Brown Street	Rent a Center	0.65 miles	12'	East	Concrete	4'-5'	Fair-Good	Granite	No	2'-6'	Yes	No
				West	Concrete	5'-7	Fair-Good	Granite	No	2'-6'	Yes	Some
Rent A Center	Chapel Street	0.20 miles	12' - 17'	East	Concrete	5'	Fair-Good	Granite	Yes	None	Yes	No
				West	Concrete	5'	Fair-Good	Granite	Yes	None	Yes	No
Chapel Street	Spencer Street	0.56 miles	12'-25'	East	Concrete	6'-18'	Good	Granite	Yes	None	Yes	Yes
				West	Concrete	10'-18'	Good	Granite	Yes	None	Yes	Some
Spencer Street	Sterling Road	450 ft	11'-14'	East	Concrete	6'	Fair-Good	Granite	Yes	8'	Yes	No
				West	Concrete	7'	Fair-Good	Granite	Yes	2'-8'	Yes	No

Table 3. Street Inventory

***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.**

2.2 Prior Successful Effort

The entire RSA study corridor has sidewalks on both sides of the street. To improve pedestrian amenities, East Hartford recently installed benches, trash receptacles, bicycle racks, and planters along a portion of the corridor (Figure 7.)

Figure 7. Pedestrian Amenities on Main Street

2.3 Pre-Audit Meeting

The RSA was conducted on April 26, 2016. The Pre-Audit meeting was held at 8:30 AM in the Town Hall located at 740 Main Street in East Hartford.

The weather for the audit was overcast with periods of light to modelarte rain. After the Pre-Audit Meeting was concluded, the RSA Team broke into two groups, one headed south of Town Hall and one headed north of Town Hall.

The RSA Team was comprised of staff from CTDOT, staff from AECOM, representatives from several East Hartford departments including Engineering, Department of Public Works, Planning, and Parks & Recreation. The complete list of attendees can be found in Appendix B.

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

- Main Street is a wide roadway with 4-5 travel lanes with additional turn lanes at intersections and on-street parking.
- Traffic volumes are relatively high, between 13,800 and 23,000 ADT.
- The north and south segments are somewhat different. The south section serves lower density land uses and generally lower pedestrian and traffic volumes when compared with the north section. The north section serves the CBD with higher pedestrian and traffic volumes, several signalized intersections and on-street parking. There is no center median in the north section.
- Many pedestrians cross mid-block, away from crosswalks.
- Exclusive left-turn lanes are not provided at all intersections.
- Some motorists use the on-street parking lanes to make right turns.
- There are intersections with off-set side street alignments.
- There are no pedestrian signals at Pitkin Street. Missing crosswalks; it has a pedestrian push button.
- Not all signalized intersections have audible pedestrian signals.
- CTDOT has jurisdiction for roadway maintenance.

- Some signals on the north segment are synchronized.
- No pavement markings for shoulders, on-street parking or bicycle lanes.
- The Town has recently installed new benches, trash receptacles , bicycle racks and planters.
- Some businesses keep their front doors closed and use their back doors as their main entrance.
- Many bicyclists (both commuters and recreation) use the Main Street corridor.
- The Town has performed a sidewalk contour study.
- Sidewalks are wide in the CBD (12-20'). However, street lighting does not adequately light most sidewalk sections.
- Most ramps are not ADA compliant.
- Bump-outs were installed at some intersections in the past, but were removed due to maintenance concerns.
- There is a gap in the multi-use trail between Willow Street and Silver Lane and Simmons Street. There may be an opportunity to address it as part of the separate CTDOT Route 15 project.
- Several signs are mounted on light poles.
- Several curb cuts are along the corridor.
- Variation in the type, condition and height of curb.
- Pedestrians cross the I-84 Westbound entrance ramp at Pitkin Street intersection; there is no pedestrian signal or crosswalk.
- The section under I-84 is not adequately lit.
- No left turn lane on Main Street at Governor Street.

3 RSA Assessment

3.1 Field Audit Observations

North Segment

- The total roadway width ofMain Street at Burnside Avenue measured 84 feet wide.
- Three southbound lanes reduce to two after Connecticut Boulevard. There is one sign "right lane must turn right ahead", but it is often blocked by a bus at the adjacent stop.
- Poor pavement condition.
- Motorists sometimes run through the signal at the Town Hall, no advance warning signs.
- Moderate pedestrian volumes even though it was a seasonably cold day with rain.
- No pedestrian signal across Town Hall roadway (Figure 8).
- No pavement markings for shoulders or on-street parking.
- On-Street parking prohibited on the west side on Main Street in the lower portion of the north segment.
- Sidewalk condition generally varies between fair and good at most places.
- Low curb reveal.
- No audible pedestrian signals at Garvan Street/Central Avenue.
- Worn crosswalk pavement markings at several locations.
- Many street name signs are missing.
- Several CT Transit bus stops located in close proximity. There was no discussion during the audit of which specific stops would be candidates for elimination/consolidation.
- At Governor Street, shared Main Street northbound left-through creates congestion and conflicts for motorists, no detectable pedestrian warning strips.

Figure 8. No Pedestrian Signal at the Intersection of Town Hall and Main Street

Figure 9. Poor Pavement and Crosswalk Conditions at Willis Street

Figure 10. No Detectable Pedestrian Warning Strips at Rector Street

- No crosswalk on the north side of Bissell Street and no detectable pedestrian warning strips.
- At Chapman Street/Wells Avenue, off-set side street alignment where vehicles move on the same signal phase creating conflicts and safety issues. No pedestrian signal heads or detectable warning strips. Traffic Signals at Chapman Strete/Wells Avenue and Bissell Street are too close. Need to study or re-evaluate the potential for elimination or coordinating signals.
- Low mounted one-way sign north of Wells Avenue.
- No detectable pedestrian warning strips at Rector Street (Figure 10).
- At Orchard Street, two No Left Turn signs mounted on a Stop sign pole is a safety issue for pedestrians. To make a left turn onto Main Street, motorists turn right on Main Street, left on Rector Street, left on Bigelow Street, left on Burnside Avenue and right on Main Street (Figure 11).
- At Roberts Court, the handicap ramp is misaligned to direct pedestrians into Main Street (Figure 12). No detectable pedestrian warning strips.
- Eliminate On-Street Parking – most is unused.
- Patio seating possible; widen sidewalks to reduce traffic speed.
- Traffic Signal Poles need an update (existing are wood poles).
- No exclusive left turnb lanes/phasing at key intersection locations.

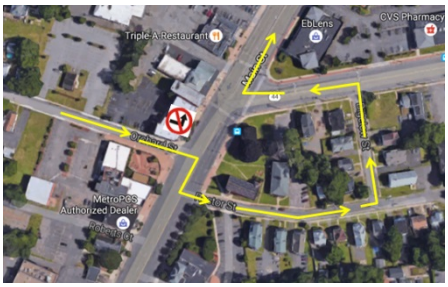


Figure 11. Orchard Street Left Hand Turn Requirements

Figure 12. Misaligned Handicap Ramp at Roberts Court

South Segment

- Poor sidewalk condition.
- Low pedestrian and bicyclists volumes.
- No pavement markings for shoulders or on-street parking.
- Curb in poor condition; broken and low curb reveal.
- No countdown signals in the area.

Figure 13. Poor Sidewalk Condition Between the Town Hall Road and Connecticut Blvd

- Audible pedestrian signals are only at Willow Street/ Main Street and Ensign Street/ Main Street.
- Worn crosswalk pavement markings at several locations.
  Several CT Transit bus stops located in close proximity. There was no discussion during the audit of which specific stops would be candidates for elimination/consolidation.
- Sidewalk ramps are not ADA compliant and no detectable pedestrian warning strips in most areas.
- Several sidewalk ramps inaccessible because of water accumulation due to lack of proper drainage.
- Mid-block crossing and pedestrians crossing under the bridge.
- Possibility of a roundabout at Pitkin Street intersection.
- No crosswalk on I-84 Westbound ramp on east side of Main Street despite sidewalks (Figure 15).
- At Silver Lane – Crosswalk Paint is faded; sidewalk ramps are not ADA compliant, intersection curb radii can be tightened to reduce crosswalk lengths.
- Repaint needed on crosswalk at Brown Street.

Figure 14. CTTransit Bus Stop at Central Ave

Figure 15. No Crosswalk on Ramp

3.2 Post Audit Workshop - Key Issues

Both North and South Segments

- Sidewalk and curb condition varies. Poor drainage in some spots creates puddles on roadway and at handicap ramps.
- Pavement is in poor condition in several sections along Main Street with longitudinal and transverse cracking.
- Many handicap ramps are missing pedestrian detectable warning strips.
- There are many closely spaced CT Transit stops along the Main Street corridor.

- There are few wayfinding signs located within the Main Street corridor.
- Lighting of sidewalk is not adequate in several locations.
- No bicycle facilities.

North Segment

- Lane and on-street parking pavement markings missing.
- Chapman Street and Wells Avenue, off-set side street alignment where vehicles move on the same signal phase creating conflicts and safety issues. No pedestrian signal heads or detectable warning strips.
- Due to heavy traffic and on-street parking in the north segment CBD area, a separated bicycle facility can be considered.
- Several signs were lower than the 7-foot high standard. Some in poor condition; several mounted to street light poles.

South Segment

- New brick sidewalk recently installed along Coca-Cola by the Town.
- There are numerous private driveways and many are excessively wide.
- Poor Drainage in some areas.
- At some locations the handicap ramp and crosswalk directs pedestrians near or into travel lanes which is an issue for those in wheel chairs and the sight impaired.
- Excessively large curb radii at the intersection of Main Street/Silver Lane/East River Drive extension.
- Pitkin Street
    - No crosswalk connecting sidewalk on Main Street across the northbound on-ramp to I-84 westbound, high vehicle speeds and wide roadway width.
    - The sidewalk on the east side sits at a low point and collects water.
    - The intersection alignment is expansive and promotes high speeds for right turns from southbound Main Street toward Pitkin Street westbound and from Pitikin Street eastbound to Main Street southbound. Pedestrian crosswalk are located on the connecting roadways for both of these right turn movements.
    - There is no crosswalk or pedestrian signals across Main Street south of the Pitkin Street for eastbound left-turn movements.
    - The visibility and sight lines for motorists approaching the crosswalk on the Main Street southbound exit ramp to Pitkin Street are restricted.
    - No Lighting under the bridge for sidewalks; pedestrians cross Main Street under the bridge because of shorter distance.
    - Bus stops are close to the intersection on both sides.

    - Crosswalks need to be painted and appropriate pedestrian advance warning signs are missing.
- No signage for Linear Trail System – evaluation is required.
- Existing Wayfinding signs are not enough.
- Crosswalks and sidewalk ramps at Silver Lane are in poor condition.
- Worn crosswalk pavement markings at Brown Street. No audible pedestrian signals.
- The pavement condition is fair in most sections with excessive longitudinal and transverse crack in the vicinity of the Hockanum River bridge.
- Safety issues for pedestrians crossing at Silver Lane and East River Drive Extension.

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. Conduct inventory of sidewalk handicap ramps, detectable warning strips and curb height and condition.

2. Provide crosswalks and detectable warning strips at side streets along Main Street corridor as needed. Realign handicap ramp at Roberts Court.

3. Install crosswalk and pedestrian advance warning signs (Figure 16) and crosswalk signs on the east side of Main Street across the on-ramp to I-84 westbound.

Figure 16. Pedestrian Advance Warning Sign

4. Install pedestrian crosswalk across Main Street south of the Pitkin Street eastbound left-turn movements.

5. Evaluate measures to improve visibility and sight lines for the crosswalk on the Main Street southbound exit ramp to Pitkin Street and Blinn Street. This could include flashing beacon options (Figure 17). Evaluate relocating utility poles and overhead wires.

6. Provide signage showing access to trail system (Figure 18).

7. Raise the low mounted one-way sign north of Wells Avenue and relocate the two No Left Turn signs mounted on a Stop sign pole to a new pole.

8. Provide intersection ahead signs on Main approaching the Town Hall intersection (Figure 19).

9. Upgrade traffic and pedestrian signals as part of planned improvement projects at signalized intersections along the Main Street corridor.

10. Evaluate the need for a shared left-through lane for the eastbound Governor Street approach to Main Street and an advance signal phase.

Figure 17. Pedestrian Warning (Rapid Flashing Beacon)

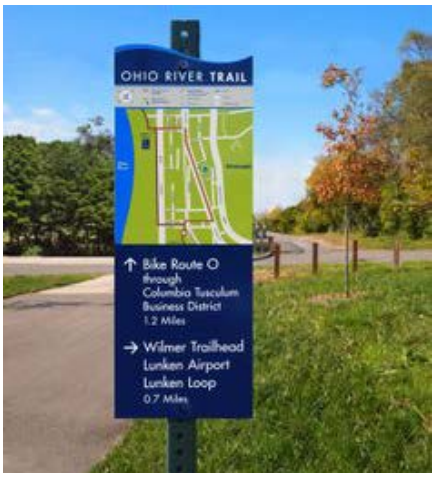


Figure 18. Trail Way Finding Signage

Figure 19. Intersection Ahead

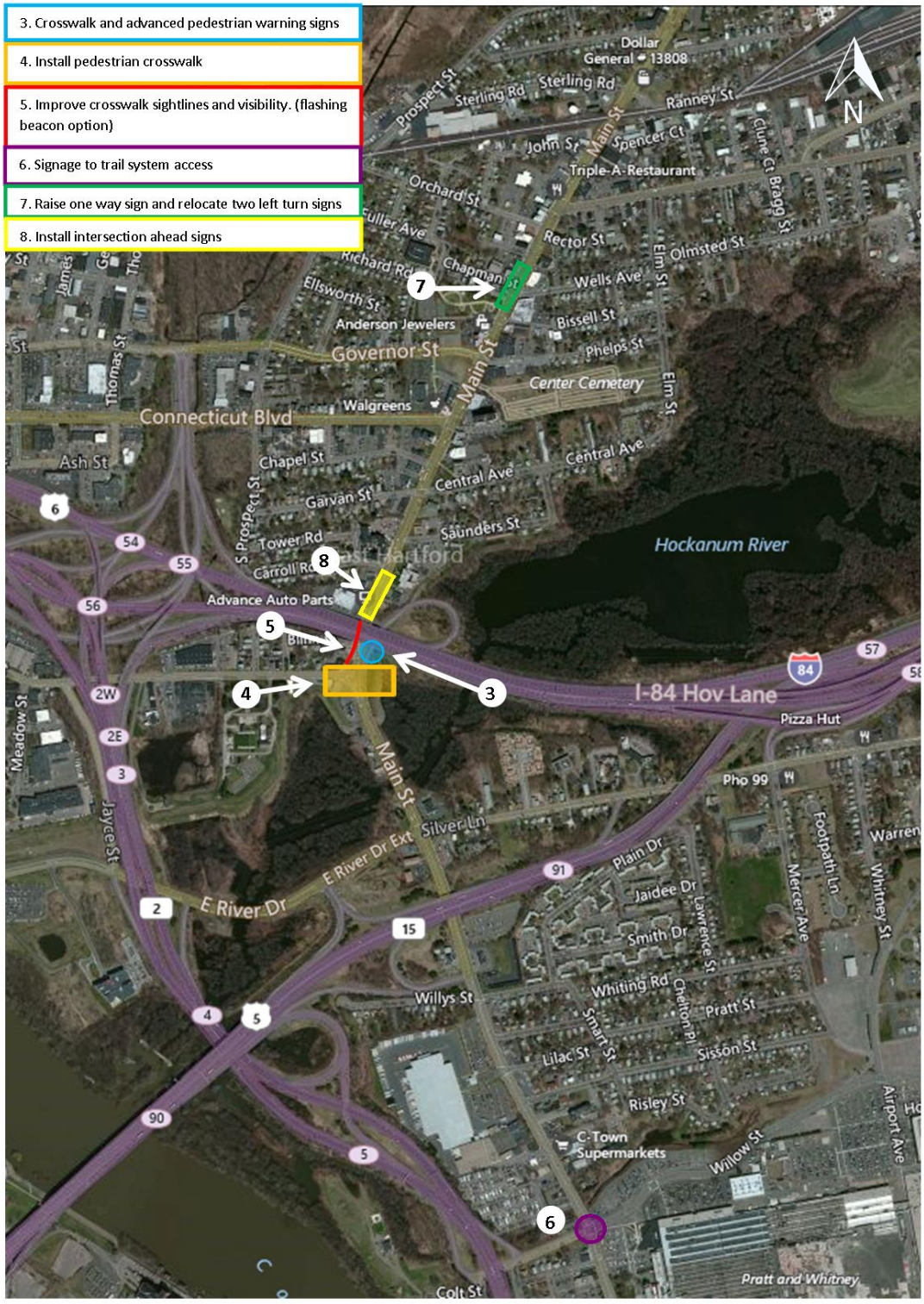


Figure 20. Short Term Recommendations

4.2 Medium Term

1. Install pedestrian signals at Main Street/Pitkin Street intersection (Figure 21).

Figure 21. Pedestrian Signal Head

2. Install pavement markings in conjunction with re-paving Main Street. Drainage issues should be addressed. The State and town should coordinate the placement of new wayfinding signs along the corridor.

3. Install missing pedestrian detectable warning strips warning strips and pedestrian signals on side streets at signalized intersections (Figure 22).

4. Evaluate alternatives for improving sidewalk lighting under I-84.


Figure 22. Pedestrian Detectable Warning Strips

5. Improve lighting to illuminate public park areas – add floodlights.

6. Evaluate the possibility of raising sidewalks on the east side of Main Street south of I-84 to prevent standing water. Need to evaluate grades, coordination with the State and privat property owners and cost.

7. CTDOT to coordinate with CT Transit to evaluate consolidating bus stop locations and bus shelters.


Figure 23. Curb Bump Out

8. Silver Lane/East River Drive:
    a. Relocate Crosswalks.
    b. Tighten curb radius on northeast corner and others as feasible (Figure 23) to slow speeds and reduce pedestrian crossing distance.
    c. Evaluate combining the westbound left and through lanes into a single lane. Traffic volumes may not warrant separate right and through lanes for the westbound

approach, which makes the crosswalk across the east intersection leg exceptionally long. Combining the two lanes would reduce the crosswalk distance and eliminate some impervious area on the northeast corner.

Figure 24. Bike Lane

d. Relocate pedestrian signal buttons.

9. Either a study or re-evaluation should be considered for converting Chapman and Wells to one-way roadways away from Main (Wells EB and Chapman WB) and removal of the traffic signal. Evaluation should include the need to keep a pedestrian signal . and the circulation patterns since both Rector and Bissell Street are currently one-way away from Main Street.These measures would reduce vehicle turning conflicts at the off-set four-way intersection and reduce vehicle delay.

Figure 25. Cycle Track

10. Conduct a master planning effort for the Main Street corridor with focus on the CBD area. This will include developing goals and a vision for improving safety and mobility for all modes. This should include an emphasis on improving pedestrian crossings and bicycle accommodations including consideration of separated facilities such as bicycle lanes (Figure 24) and cycle tracks (separated biycycle facility at sidewalk level) see Appendix D and Figure 25.

    Other elements to consider are on-street versus off-street parking and pedestrian place-making and pocket parks. An analysis should be conducted of interconnecting the traffic signals for the north portion of Main Street that provides progression for vehicle platoons at a consistent speed, e.g. 25 mph. It is in the Town's best interest to start working with the regional planning

commission to help solicict funding for possible projects within the area .

11. Evaluate and upgrade traffic signal poles as needed.

Figure 26. Medium Term Recommendations

4.3 Long Term

1. Reduce pavement width on the on-ramp to I-84 westbound by necking down the roadway or extending the curb and landscaping the gore island. This will help to reduce vehicle speeds and pedestrian crossing distance.
2. Evaluate alternative alignments to tighten intersection to improve safety for all modes including a traditional T-intersection alignment and a roundabout.
3. Cosntruct raising sidewalks on the east side of Main Street south of I-84 to prevent standing water.

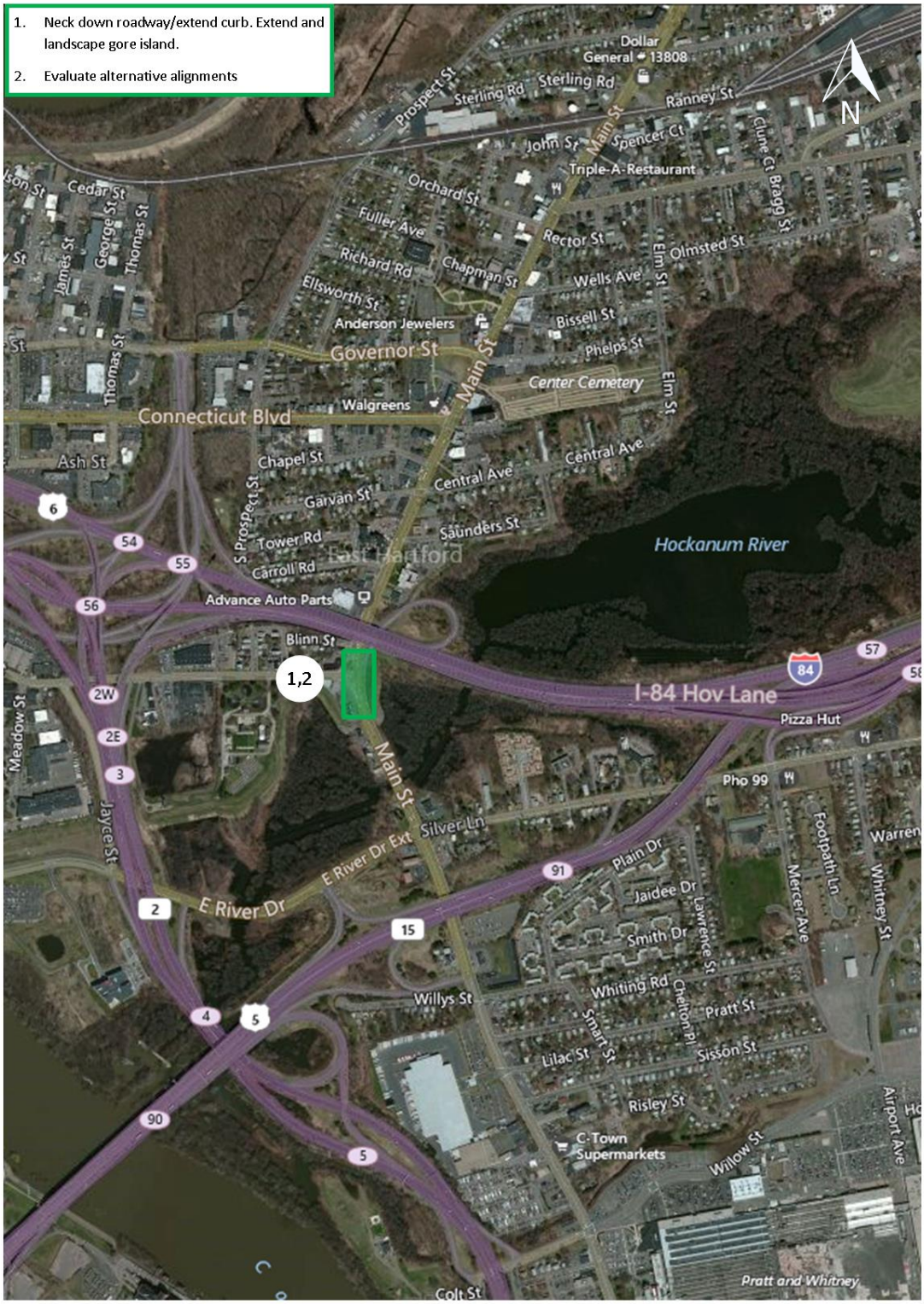


Figure 27. Long Term Recommendations

4.4 Summary

This report documents the observations, discussions and recommendations developed during the successful completion of the Town of East Hartford RSA. It provides East Hartford with an outlined strategy to improve the transportation network for all road users between Sterling Road and Willow Street on Main Street (U.S. Route 5 and SR 517), particularly focusing on pedestrians and cyclists. Moving forward, East Hartford 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 U.S. Route 5/SR 517.

COMMUNITY
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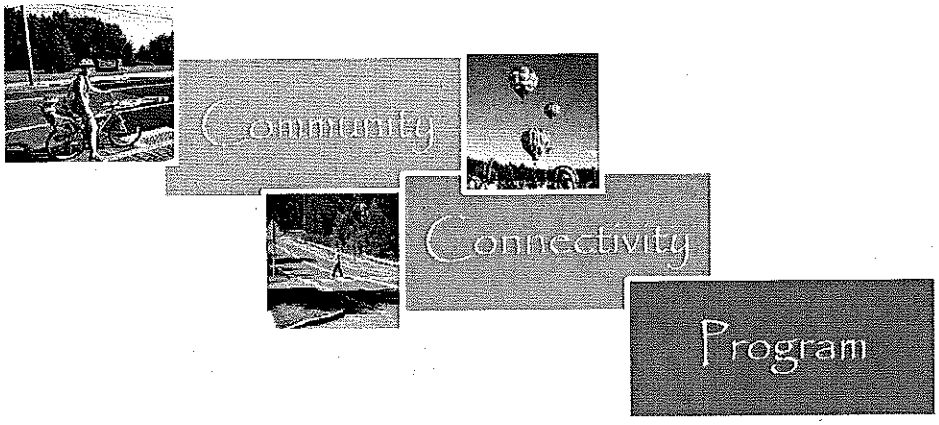
Appendix A

Built to deliver a better world

Welcome to the Community Connectivity Program Application



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

1. Applicant contact information

Name	Denise Horan
Title	Town Engineer
Email Address	dhoran@easthartfordct.gov
Telephone Number	(860) 291-7384

2. Location information

Address	Main Street US Route 5 and SR 517
Description	Central business district south to Willow Street Extension
City / Town	East Harford, CT

3. Roadway type
(Please select all that apply)

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

4. Zoning
(Please select all that apply)

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

Town Hall; E.H. Community Cultural Center, churches

5. Approximate mile radius around the location

Greater than a ½ mile

Other (Please Specify)

Main Street central business district and south; linear project of less than 2 miles

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)

Town Hall; E.H. Community Cultural Center, churches

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

- [x] Yes
- [ ] No

If Yes please describe (please specify)

Retail, Industrial and commercial business line Main Street. Several employment centers on Main St are among the town's largest: Coca Cola, UTC /Pratt & Whitney, Town Hall, Riverside Health Center. Goodwin College has a facility at 1137 Main Street; main campus is located to the southwest of the proposed study area

8. **Educational facilities**
(Please select all that apply)

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

Two Rivers Magnet Middle School is located to the west of the proposed study site;

9. **Transit facilities**
(Please select all that apply)

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

CT Fast Track; also several CT Transit routes including nos. 956, 87, 83, 88, 94, 82

10. Safety Concerns
(Please select all that apply)

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

Pedestrian concerns along Main St; red light running @ town hall signal

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.

Past, current and future transportation and economic development projects in the area include:
•Hockanum River Linear Trail system crosses Route 5 (Main Street) in the vicinity of Town Hall and near the Pitkin Street intersection.
•East Coast Greenway / Multi-Use Trail in the vicinity of the Main Street (SR 517) / Willow Street intersection is currently under construction.
•Future development of the United Technologies / Rentschler Field property
•Operation and future expansion of CT Fast Track
•Future expansion of the East Coast Greenway / Multi-Use Trail system through the Town of East Hartford.

12. Environmental Concerns:

Other

If Yes please describe and list.

Possible brownfields in areas of historic industrial use.

Flood plains adjacent to Willow Brook and Hockanum River.

Drainage along portions of Main Street is a concern to the extent that water can remain in the gutter after rain event.

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

The Town of East Hartford proposes to conduct a road safety audit on Main Street (US route 5) throughout the central business district and continuing south onto SR 517 to a point immediately south of the intersection of Willow Street and Willow Street Extension where the East Coast Greenway / Multi-use Trail will intersect with Main Street. The portion of Main Street between the I-84 overpass north to the railroad bridge is typically referred to as the central business district. The existing Hockanum River Linear Trail intersects Main Street in the vicinity of Town Hall and the Pitkin Street intersection. The Town would like to improve connectivity and pedestrian safety between the central business district and the two linear trail systems. It is important to note the southern portion of the requested road audit study area is in close proximity to major employment centers (Pratt & Whitney; Coca Cola Enterprises; Goodwin College) while the central business district contains numerous businesses of varying sizes . The proposed study area also includes several important community facilities including Town Hall, Raymond Library and the Community Cultural Center. Riverside Health Care and Saint Francis Care also maintain significant facilities in the central business area.
The town's current Plan of Conservation and Development (POCD) considers the intersection of Main Street and Pitkin Street as a primary gateway linking the central business area to the Founders Waterfront special study area.

This request for a road safety audit is the Town of East Hartford's first priority

Main Street (US Route 5 and SR 517) has a considerable amount of pedestrian traffic. Several CT Transit routes operate on Main Street. Pedestrian safety and vehicle speeds are a concern. A considerable amount of red light running has been experienced at the traffic control signal at the Town Hall driveway. According to DOT data, the average daily traffic (ADT) of Main Street in the proposed road safety audit study area varies from 13,800 vehicles (station #13 south of Main / Brown Streets) to 21,000 vehicles (Station # 18 north of Silver Lane).
According to the CT Crash Data Repository a three year accident history within the limits pf the proposed study area reveals a total of 335 accidents. Six involved pedestrians. Of the accidents involving pedestrians two resulting in property damage only and two resulted in injuries (none fatal). Locations of those four accidents were as follows:
5/21/2013Intersection of Governor Street
1/6/20140.10 mile north of Burnside Avenue (US route 44)
1/24/2014150 feet north of John Street
1/24/2014Just south of Brown Street

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

Yes

United Technologies / Rentschler Field is home Pratt & Whitney Division of United Technologies; the University of Connecticut stadium, Cabelela's and is the future home to the Outlet Shoppes at Rentshchler Field under development by the Horizon Group. The United Technologies property, formerly an industrial zone, is now currently zoned as a design development district to encourage mixed use development in the property which was formerly zoned for industrial use. United Technologies Corporation is working with its developer, The Matos Group, to continue developing the 600+ acres of vacant land at Rentschler Field. Pratt & Whitney has entrances to its property on Main Street at the administration building and at Willow Street.

The State of CT DOT plans to expand operations of its CT Fast Track bus rapid transit system east of the Connecticut River. A portion of the existing route is within the proposed study area.
Goodwin College, whose main campus is located on Riverside Drive, owns several properties on the west side of Main Street within the study area. The intersection of Main Street and Willow Street is one of two connection points linking Goodwin College's Riverside Drive campus to Main Street. Goodwin College is currently developing a masterplan to develop its properties on Main Street and int the King Court area.

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

Yes

United Technologies Corporation is currently a major employer in East Hartford and is working with its developer to establish mixed use development into Rentschler Field. The University of Connecticut operates its football stadium at Rentschler Field. UTC and its developer established a masterplan for the development of its considerable land holdings in the Town of East Hartford. Goodwin College is working to expand it facilities on properties it owns along the west side of Main Street. There is potential for substantial increase in both vehicular and non-motorized traffic in the proposed study area.
A portion of the East Coast Greenway /Multi-Use Trail is currently under construction and a portion of the trail will intersect main Street at Willow Street Extension. The Town of East Hartford wishes to improve connectivity between the central business district and the new trail and ensure the safety of the traveling public.

A copy of the location map was prepared in PDF format and is attached to this application.

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:	East Hartford
RSA Location:	Main Street
Meeting Location:	Town Hall
Address:	740 Main Street
Date:	4/26/2016
Time:	8:30 - 2:30

Participating Audit Team Members

Audit Team Member	Agency/Organization
Patrick Zapatka	CTDOT
Stephen Gazillo	AECOM
Jeff Maxtutis	AECOM
Shivani Mahajan	AECOM
Tess Schwartz	DPW
Timothy Bockus	DPW
Paul Forrest	DPW
Jeff Cormier	Town Planner
Denise Horan	Engineering
Douglas Wilson	Engineering
Ted Fravel	Parks Department
Dorian Lockett	Chief of Staff
Jim Uhrig	Parks & Recreation

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Appendix C

Built to deliver a better world

Road Safety Audit – East Hartford

Meeting Location: East Hartford Town Hall
Address: 740 Main Street, East Hartford, CT 06108
Date: 4/26/2016
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
- 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**

- Review Site Specific Data:
  - Average Daily Traffic
  - Crash Data
  - Geometrics
- 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	

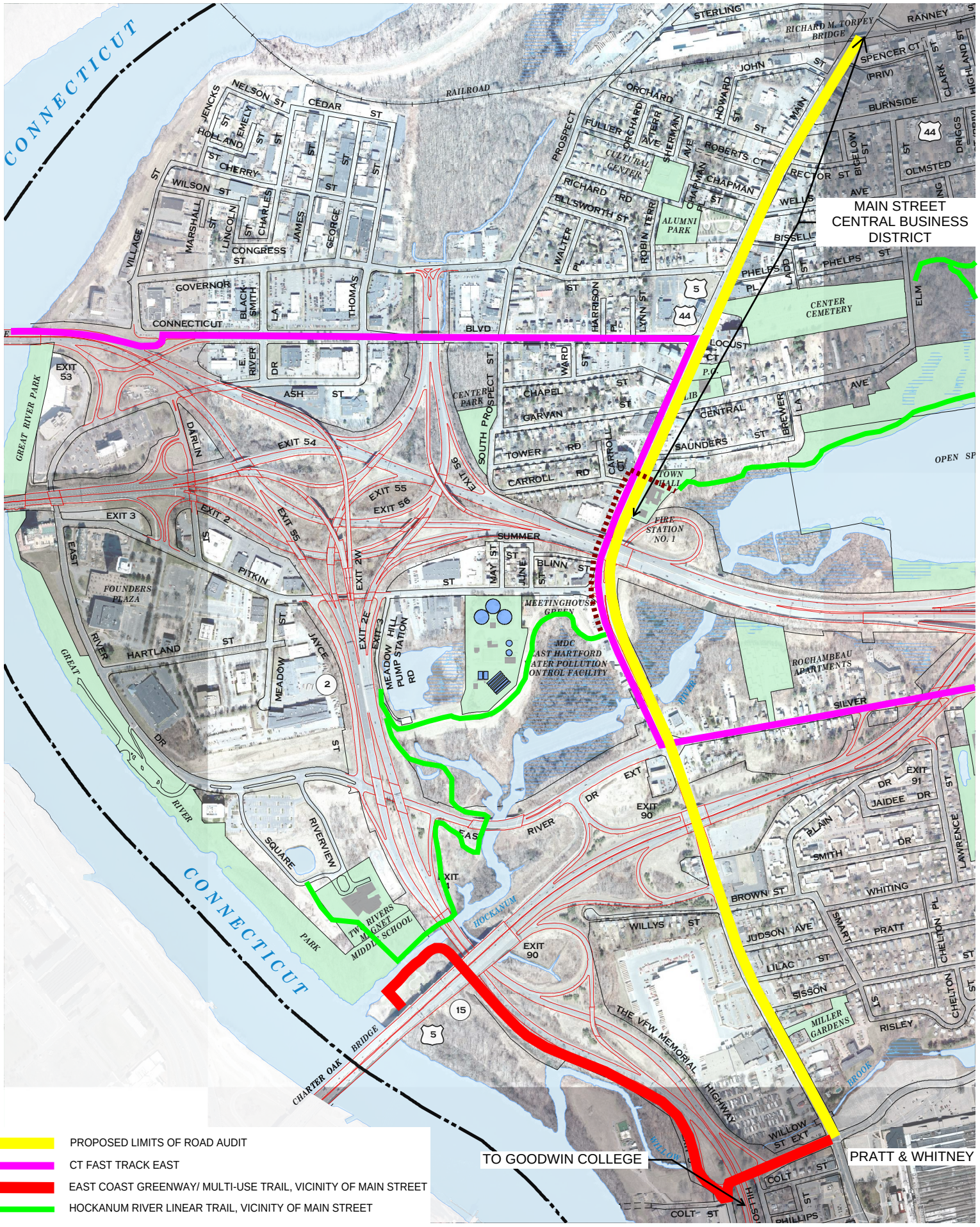
• Pavement
  o Pavement Condition (excessive roughness or rutting, potholes, loose material)
  o Edge drop-offs
  o Drainage issues
• Lighting Adequacy	

• 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	

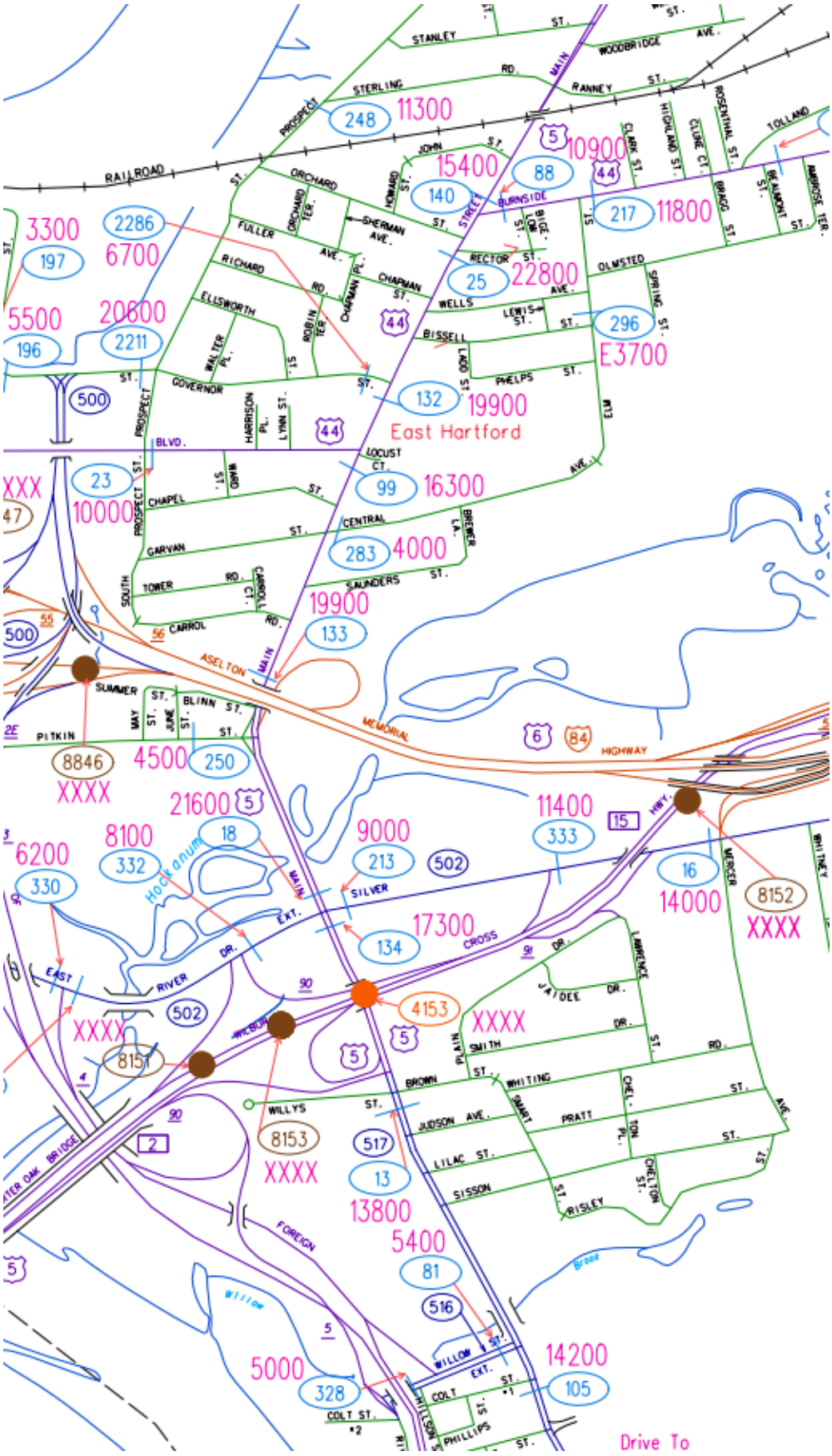
• Pavement Markings
  o Correct and consistent with MUTCD
  o Adequate visibility
  o Condition
  o Edgelines provided	

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



MAIN STREET CBD SOUTH
TO WILLOW STREET
1"=1000'

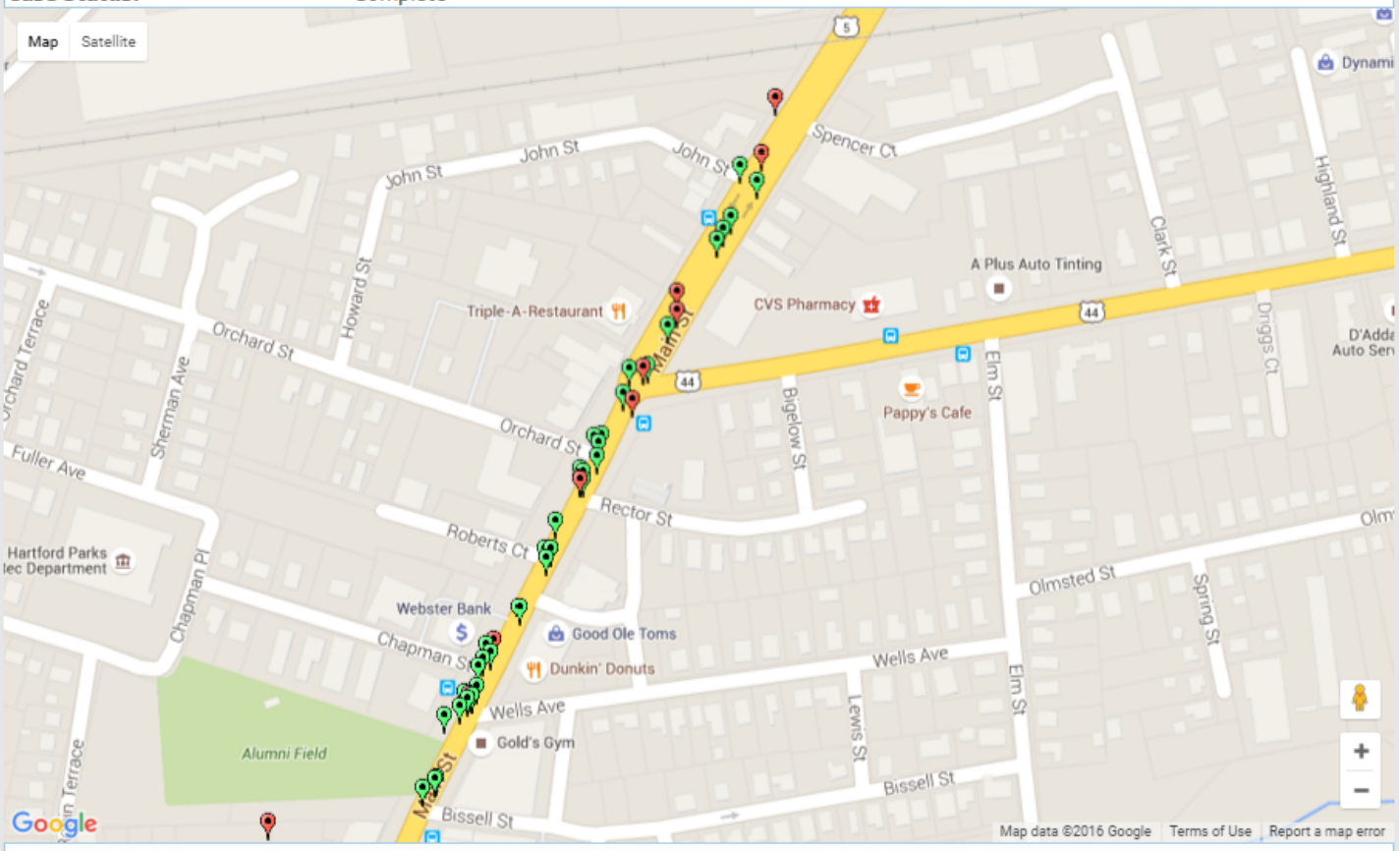
Average Daily Traffic (ADT)



2015 Crashes

UCONN Connecticut Crash Data Repository

Search Criteria:	
Dataset:	mmucc
Towns:	East Hartford
Town & Route:	Town:43 Route:5 Intersection:undefined Milepost:34.36-36.39
Town & Route:	Town:43 Route:517 Intersection:undefined Milepost:0.76-1.2
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.

Connecticut Crash Data Repository | User Guide | Contact Us

2015 Crashes

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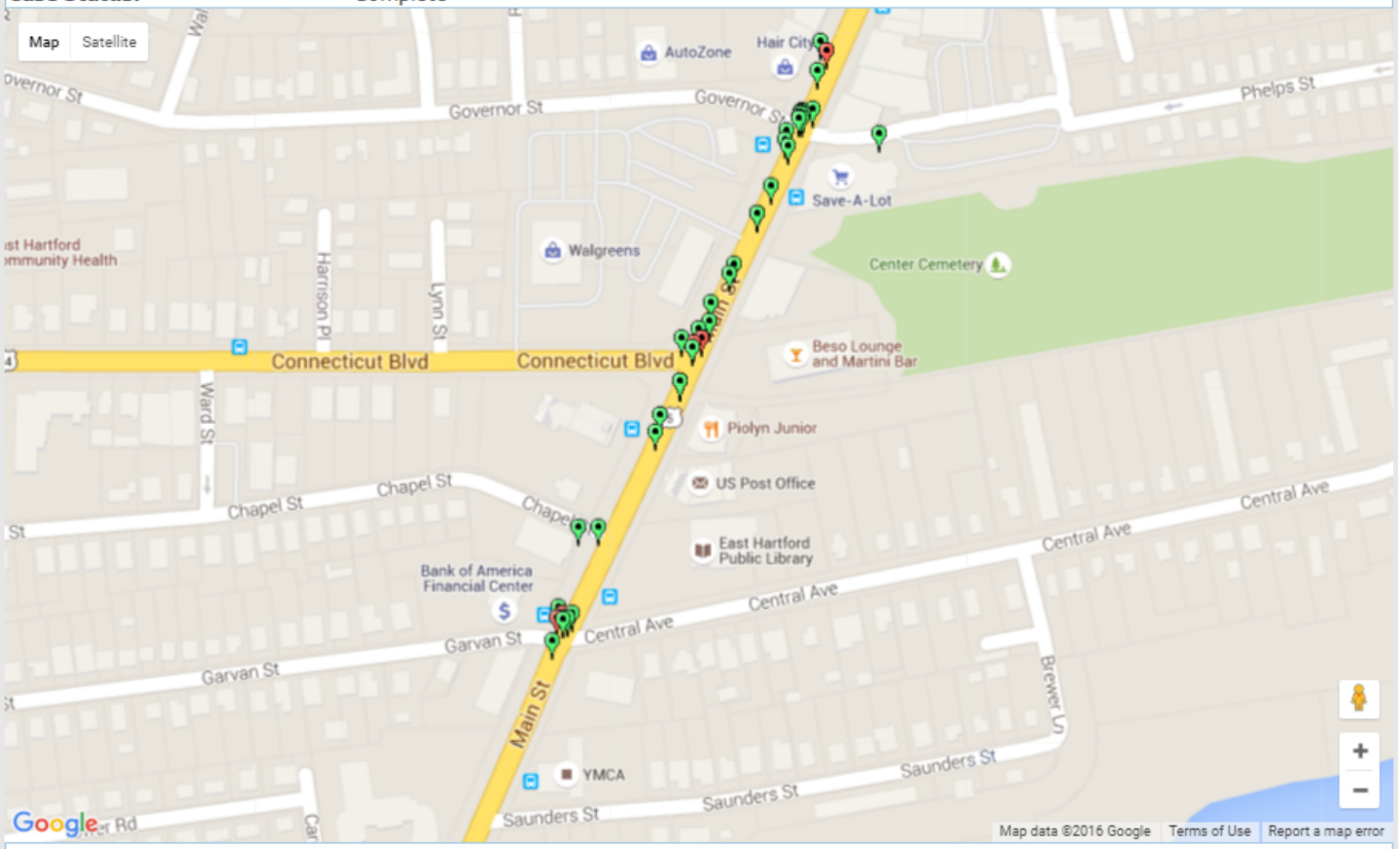
Body Type:	null, null, null
Condition at Time of Crash:	null, null, null
Driver Distracted By:	null, null, null
Non-motorist Distracted By:	null, null, null
Case Status:	Complete



Markers | Heatmap | Select & Query | Query Selection

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

Select All | Deselect All

Connecticut Crash Data Repository - User Guide | Contact Us

2015 Crashes

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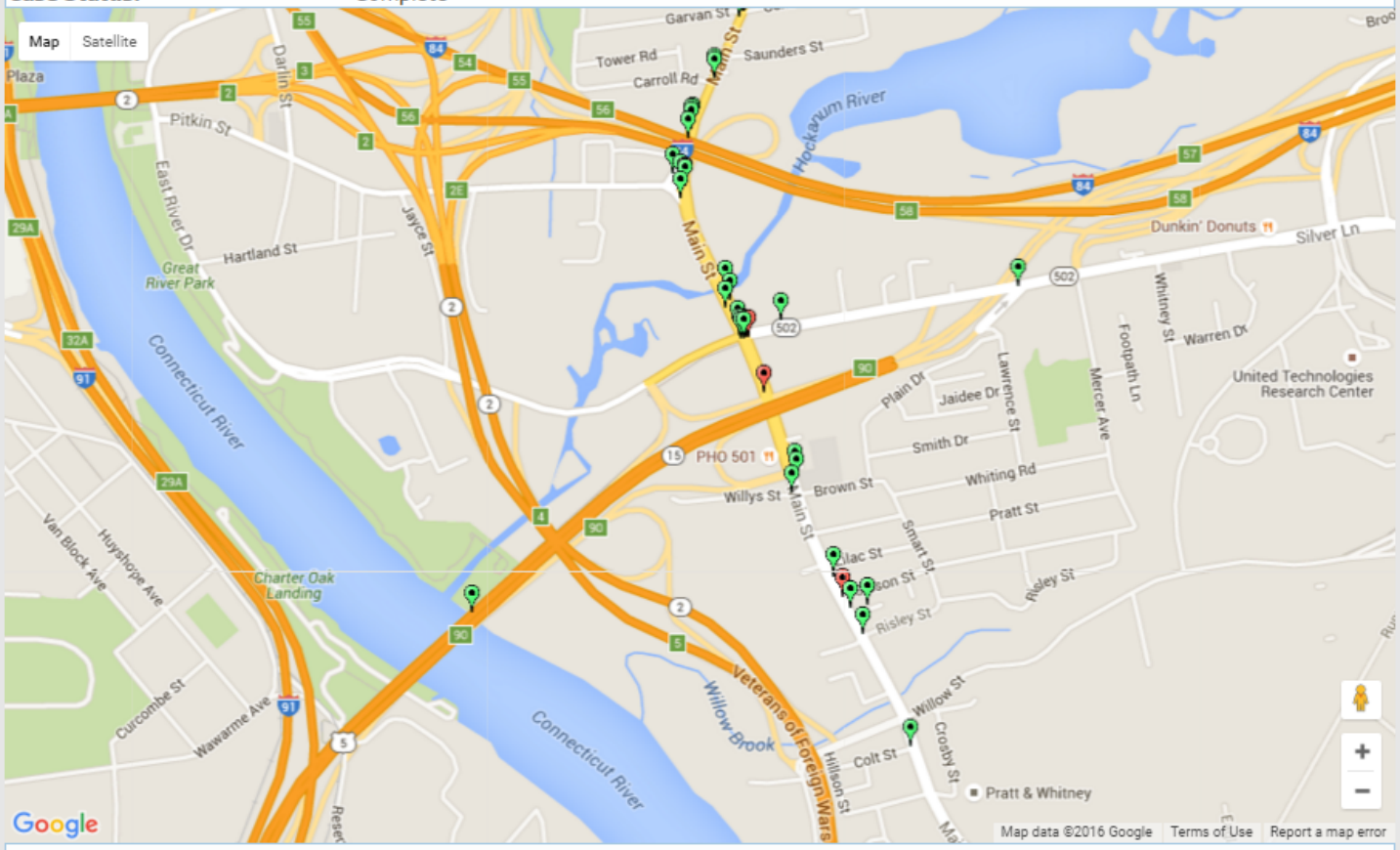
Body Type:	null, null, null
Condition at Time of Crash:	null, null, null
Driver Distracted By:	null, null, null
Non-motorist Distracted By:	null, null, null
Case Status:	Complete



Markers | Heatmap | Select & Query | Query Selection

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

Select All | Deselect All

Road Safety Audit – East Hartford

Crash Summary

Data: 3 years (2012-2014)

7 accidents involved pedestrians:

- **1 fatality**
  - **Pedestrian crossing Main Street near the Burnside Avenue intersection**
- **5 resulted in injuries**
- **1 resulted in property damage only**

4 accidents involved bicyclists

- **3 resulted in injuries**
- **1 resulted in property damage only**

Severity Type	Number of Accidents	
Property Damage Only	292	73%
Injury (No fatality)	106	27%
Fatality	1	0.3%
Total	399	

Manner of Crash / Collision Impact	Number of Accidents	
Unknown	1	0.3%
Sideswipe-Same Direction	72	18%
Rear-end	166	42%
Turning-Intersecting Paths	49	12%
Turning-Opposite Direction	24	6%
Fixed Object	26	7%
Backing	9	2%
Angle	13	3%
Turning-Same Direction	19	5%
Moving Object	4	1%
Parking	5	1%
Pedestrian	7	2%
Overturn	2	1%
Head-on	0	0%

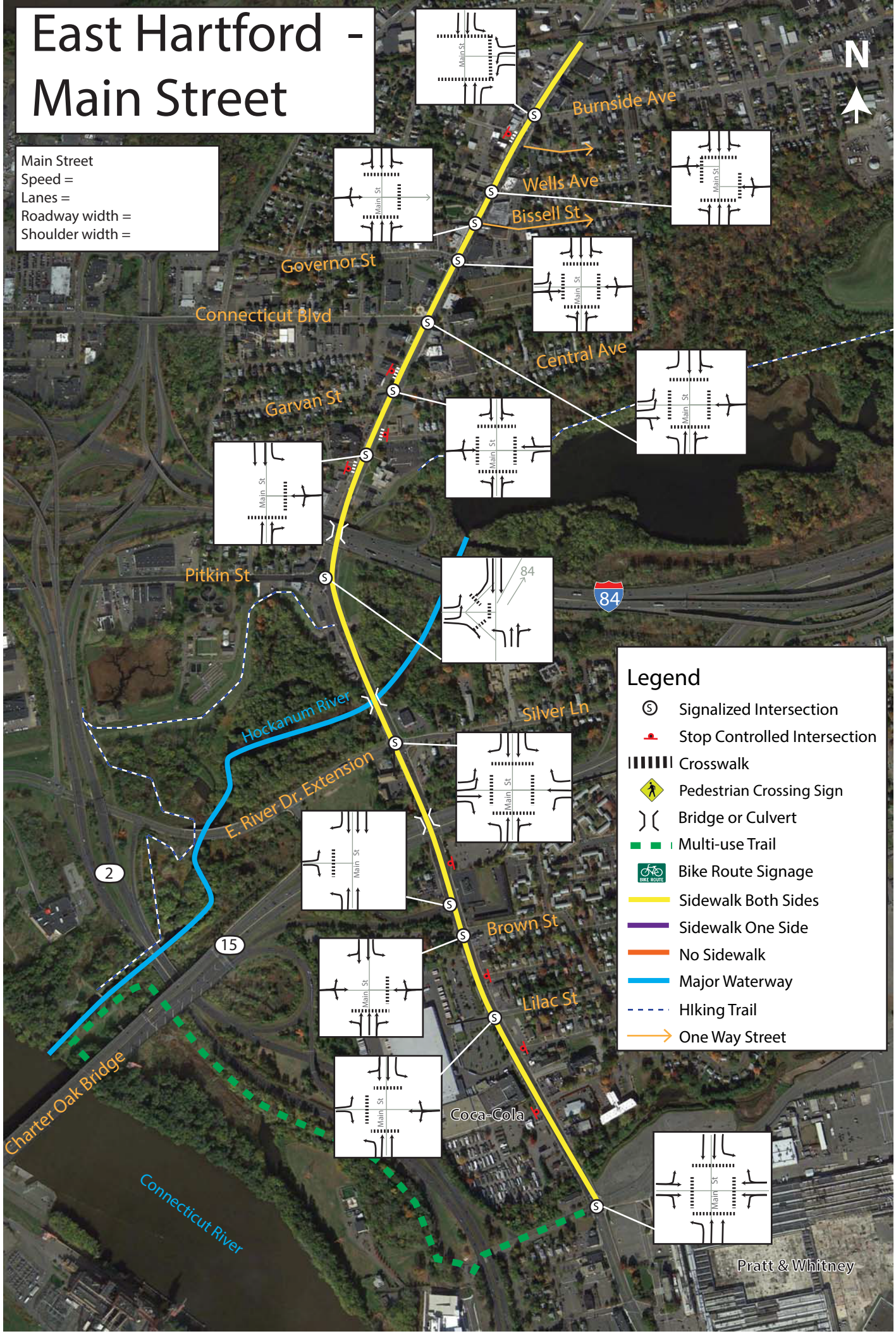
Sideswipe-Opposite Direction	2	1%
Total	399	

Weather Condition	Number of Accidents	
Snow	16	4%
Rain	58	15%
No Adverse Condition	320	80%
Unknown	0	0%
Blowing Sand, Soil, Dirt or Snow	1	0.3%
Other	1	0.3%
Severe Crosswinds	0	0%
Sleet, Hail	2	1%
Fog	1	0.3%
Total	399	

Light Condition	Number of Accidents	
Dark-Not Lighted	6	2%
Dark-Lighted	76	19%
Daylight	315	79%
Dusk	0	0%
Unknown	0	0%
Dawn	2	1%
Total	399	

Road Surface Condition	Number of Accidents	
Snow/Slush	13	3%
Wet	84	21%
Dry	299	75%
Unknown	0	0%
Ice	1	0.3%
Other	0	0%
Sand, Mud, Dirt or Oil	2	1%
Total	399	

Time		Number of Accidents	
0:00	0:59	3	1%
1:00	1:59	9	2%
2:00	2:59	3	1%
3:00	3:59	1	0.3%
4:00	4:59	3	1%
5:00	5:59	4	1%
6:00	6:59	7	2%
7:00	7:59	18	5%
8:00	8:59	27	7%
9:00	9:59	24	6%
10:00	10:59	17	4%
11:00	11:59	24	6%
12:00	12:59	44	11%
13:00	13:59	24	6%
14:00	14:59	38	10%
15:00	15:59	36	9%
16:00	16:59	30	8%
17:00	17:59	42	11%
18:00	18:59	15	4%
19:00	19:59	8	2%
20:00	20:59	6	2%
21:00	21:59	6	2%
22:00	22:59	7	2%
23:00	23:59	3	1%
Total		399	


East Hartford - Main Street
Main Street
Speed =
Lanes =
Roadway width =
Shoulder width =
N
Burnside Ave
Wells Ave
Bissell St
Governor St
Connecticut Blvd
Central Ave
Garvan St
Pitkin St
84
Hockanum River
Silver Ln
E. River Dr. Extension
2
15
Brown St
Lilac St
Coca-Cola
Charter Oak Bridge
Connecticut River
Pratt & Whitney
Legend
Signalized Intersection
Stop Controlled Intersection
Crosswalk
Pedestrian Crossing Sign
Bridge or Culvert
Multi-use Trail
Bike Route Signage
Sidewalk Both Sides
Sidewalk One Side
No Sidewalk
Major Waterway
HIking Trail
One Way Street

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 – East Hartford

Fact Sheet

Functional Classification:

- The Main Street corridor (Route 5 and Route 517) is classified as a Principal Arterial

ADT

- ADT along this corridor spans between 13,800 and 22,800

Population and Employment Data (2014):

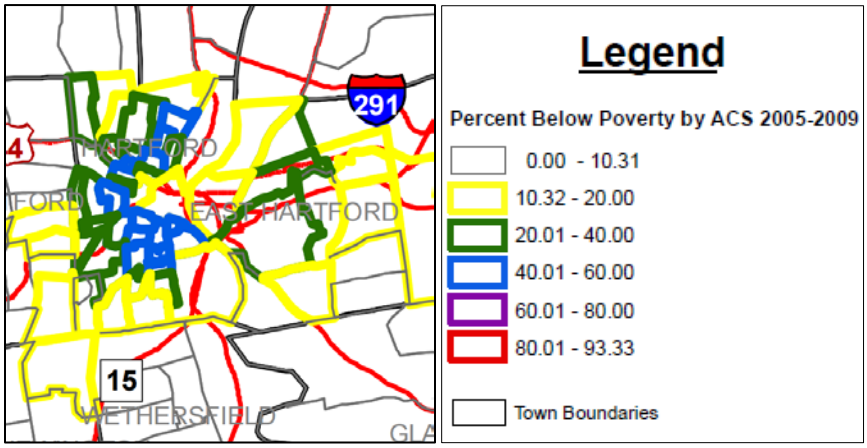
- Population: 51,211
- Employment: 29,624

Urbanized Area

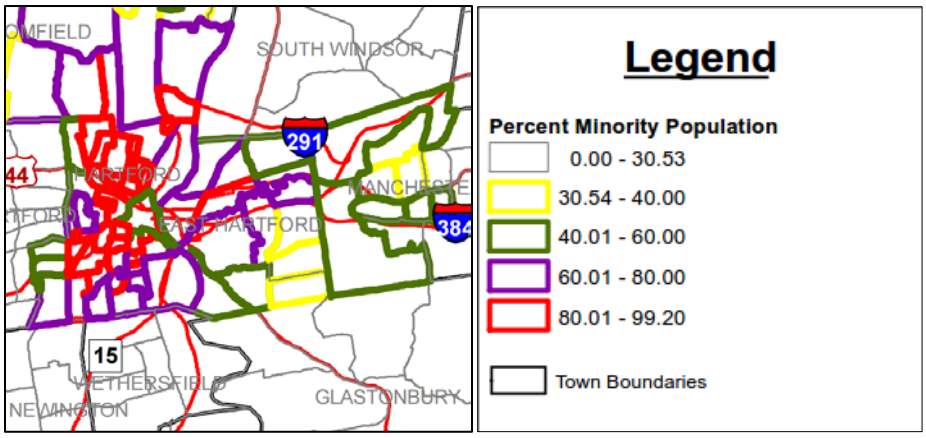
- Main Street Corridor is located within the Hartford Urbanized Area

Demographics

- The statewide average percentage below the poverty line is 10.31%. Along this corridor up to 40% of residents are below the state's poverty level



- The statewide average percentage minority population is 30.53%. There is a higher concentration of minority residents located along the Main Street corridor.



Air Quality

- East Hartford's CIPP number 208
- East Hartford is within the Greater CT Marginal Ozone Area
- East Hartford is within a CO Attainment Area

COMMUNITY
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Appendix D

Built to deliver a better world

A cycle track is also known as a separated bike lane. The Federal Highway Administration (FHWA) defines as A separated bike lane is an exclusive facility for bicyclists that is located within or directly adjacent to the roadway and that is physically separated from motor vehicle traffic with a vertical element. Separated bike lanes are differentiated from standard and buffered bike lanes by the vertical element. They are differentiated from shared use paths (and sidepaths) by their more proximate relationship to the adjacent roadway and the fact that they are bike-only facilities. Separated bike lanes are also sometimes called "cycle tracks" or "protected bike lanes."

Within the common elements of separated bike lanes - dedicated space for cyclists that is separated from motor vehicle travel and parking lanes - practitioners have flexibility in choosing specific design elements. Separated bike lanes can operate as one-way or two-way facilities; their designs can integrate with turning automobile traffic at intersections or can be more fully separated; they can be designed at roadway grade, at sidewalk grade or at an intermediate grade; and they can be separated from the adjacent roadway or sidewalk with a variety of treatments including but not limited to on-street parking, raised curbs or medians, bollards, landscaping, or planters.

Separated bike lanes are one of many bicycle facility types that can be used to create connected bicycle networks. FHWA defines a network as "Interconnected pedestrian and/or bicycle transportation facilities that allow people of all ages and abilities to safely and conveniently get where they want to go." Connected bicycle networks can include all of the facility types. For further information please go the FHWA website.

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page01.cfm