COMMUNITY
connectivity program

Portland

Main Street (Route 17A) – Road Safety Audit

June 8, 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM

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Acknowledgements:

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

With assistance from AECOM Transportation Planning Group

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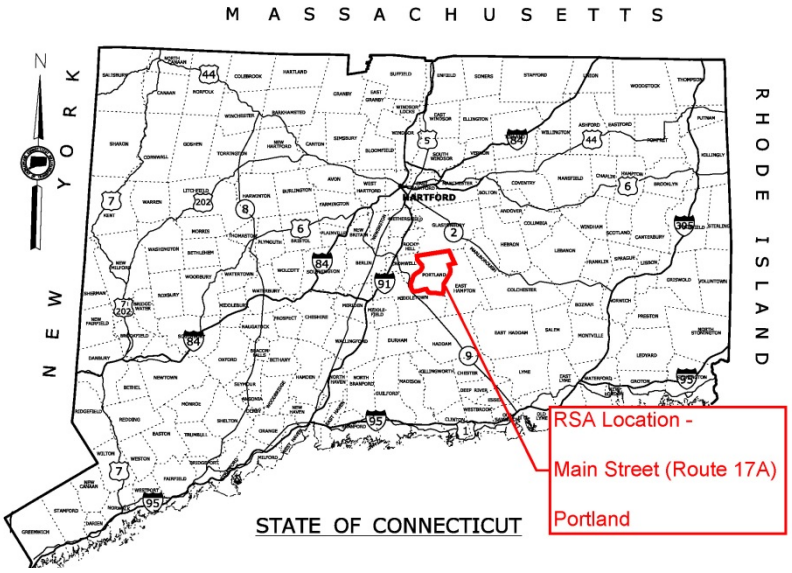
The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this program is conducting Road Safety Audits (RSA's) at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

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

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



1 Introduction to the Portland (Main Street) RSA

The Town of Portland submitted an application to complete an RSA along Main Street (Route 17A) near the Marlborough Street (Route 66) intersection to improve safety for pedestrians and bicyclists. This particular corridor/intersection is located in Portland's Village Center area. Traffic volumes, flow and proximity to the entrance and exit ramps to the Arrigoni Bridge have resulted in what is perceived as a challenging environment for pedestrians and bicyclists. The Town of Portland would like to encourage pedestrian and cyclist use in this area due to the proximity to commercial, retail and recreational uses in the Village Center area.

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

1.1 Location

The site is the intersection of Main Street (Route 17A) and Marlborough Street (Route 66) in the Town of Portland (Figure 1). Route 66 is a Principal Arterial and provides an east-west connection through Portland to the surrounding communities (Figure 2). Route 17A is classified as a Minor Arterial and provides primarily a north-south connection through the center of Portland. As a result, these routes are often used by commuters or motorists travelling through town. The Average Daily Traffic (ADT) on Route 66 near the Route 17A intersection is as high as 28,800. On Route 17A north of this intersection, the ADT is 11,000.

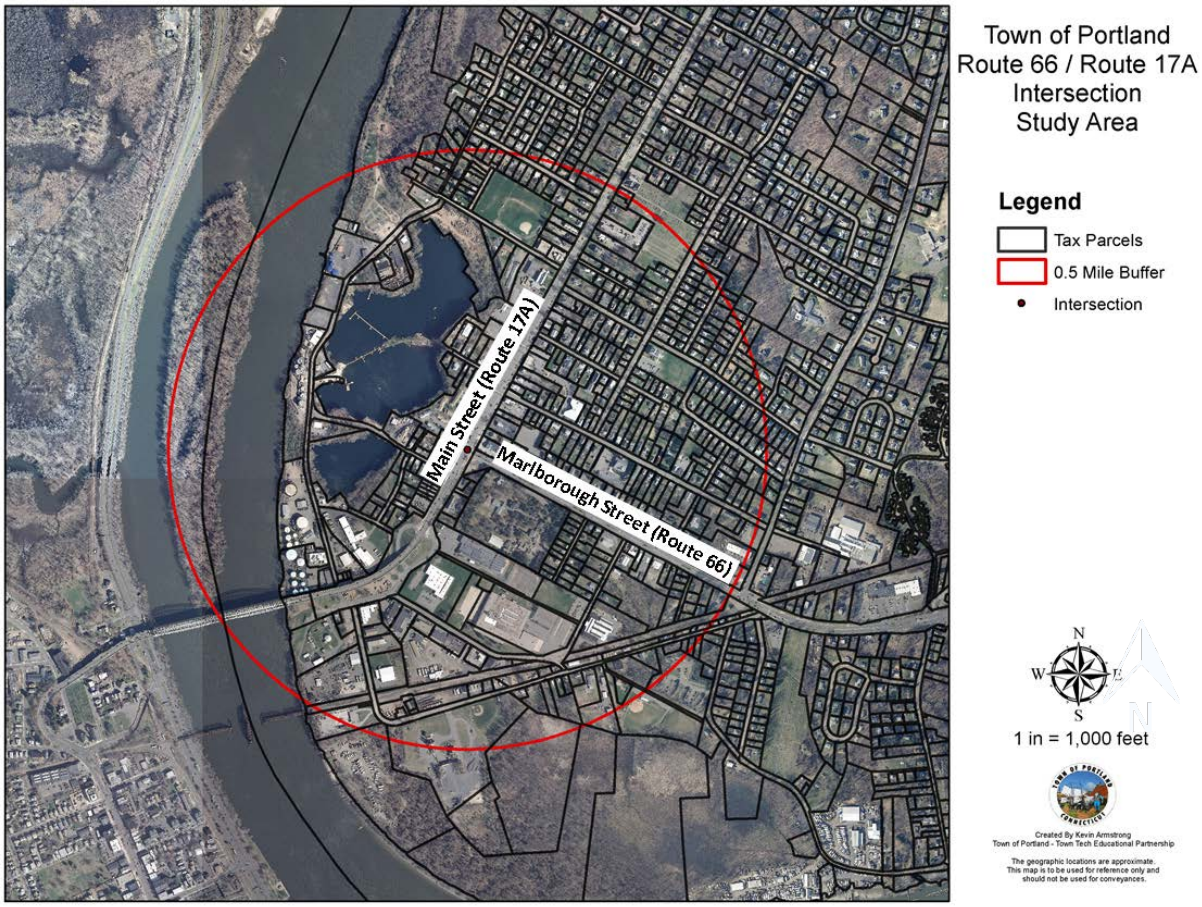


Figure 1. Main Street (Route 17A) and Marlborough Street (Route 66)

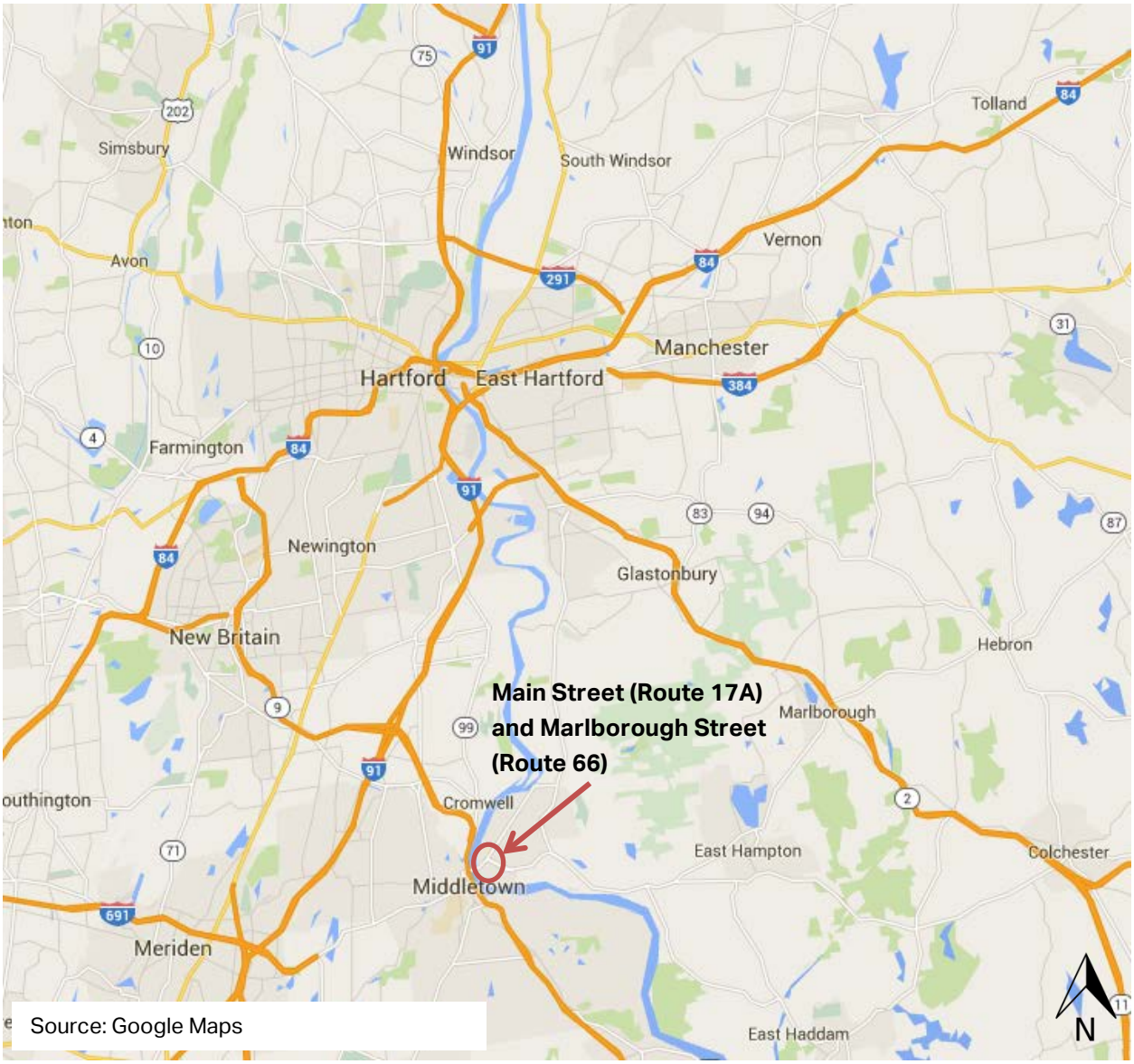


Figure 2. Route 17A and Route 66- Regional Context

Main Street is a state owned and maintained facility and in general runs in a northeast/southwest direction through Portland. Marlborough Street (Route 66), also a state owned and maintained facility, is aligned in a relatively straight east/west direction through the Portland.

2 Pre-Audit Assessment

2.1 Pre-Audit Information

Between 2012 and 2014 there were 141 crashes in the RSA area. A majority of crashes in this area of were rear end collisions. Table 1 and Table 2 provide additional information on the

type of collision as well as the severity of the crash. While a majority of crashes, 82%, resulted in property damage only, 25 crashes did result in injuries. Figure 3 displays crashes that occurred in this area during 2015. Crashes are evenly dispersed throughout the RSA area, however there is a noticeable cluster of crashes at the Route 66 and Route 17A intersection.

Severity Type	Number of Crashes	
Property Damage Only	116	82%
Injury (No fatality)	25	18%
Total	141	

Table 1. Crash Severity

2012-2014

Source: UConn Connecticut Crash Data Repository

Manner of Crash / Collision Impact	Number of Crashes	
Unknown	0	0%
Sideswipe-Same Direction	10	7%
Rear-end	89	63%
Turning-Intersecting Paths	15	11%
Turning-Opposite Direction	2	1%
Fixed Object	14	10%
Backing	2	1%
Angle	0	0%
Turning-Same Direction	6	4%
Moving Object	0	0%
Parking	0	0%
Pedestrian	0	0%
Overturn	0	0%
Head-on	1	1%
Sideswipe-Opposite Direction	2	1%
Total	141	

Table 2. Crash Type

2012-2014

Source: UConn Connecticut Crash Data Repository

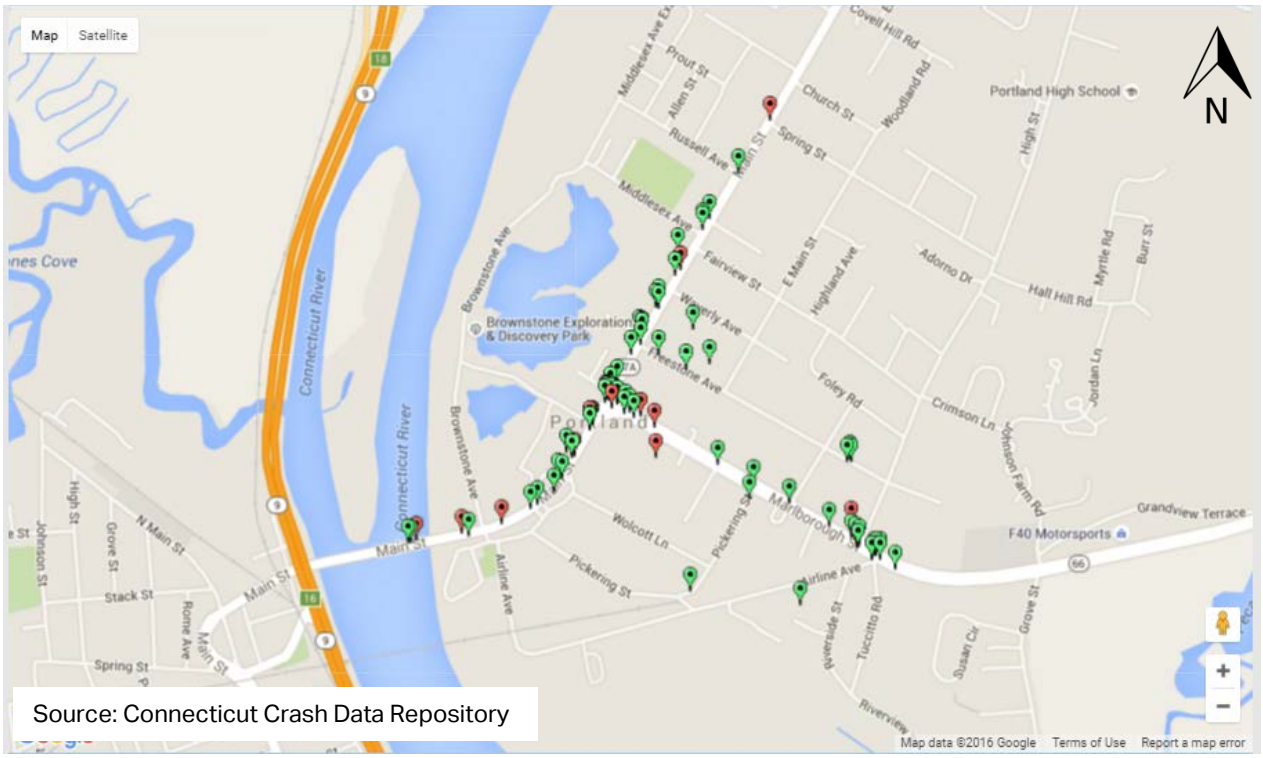


Figure 3. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

The intersection of Main Street and Marlborough Street is a 3-way intersection controlled by a traffic signal. The northbound approach comes from the Arrigoni Bridge with two travel lanes. Prior to the traffic signal, a dedicated right turn lane, separated from the intersection by a triangular channelizing island turns onto Marlborough Street. Southbound traffic also approaches the intersection with two through lanes. There is no separate left turn lane. On Marlborough Street, two lanes approach the intersection, with a dedicated left turn lane and a second lane for both left and right turns. Roadway geometrics for study area roadways and intersections are shown in Figure 4. An inventory of existing conditions of the intersection can be found in Table 3.

There are many driveways for businesses on the both sides of Main Street. The Town of Portland has reported that commercial occupancy in the area has reached nearly 98%. With this renewed vibrancy in the Village Center area, traffic volumes have increased and the town has expressed concerns for pedestrian and cyclist connections and safety.

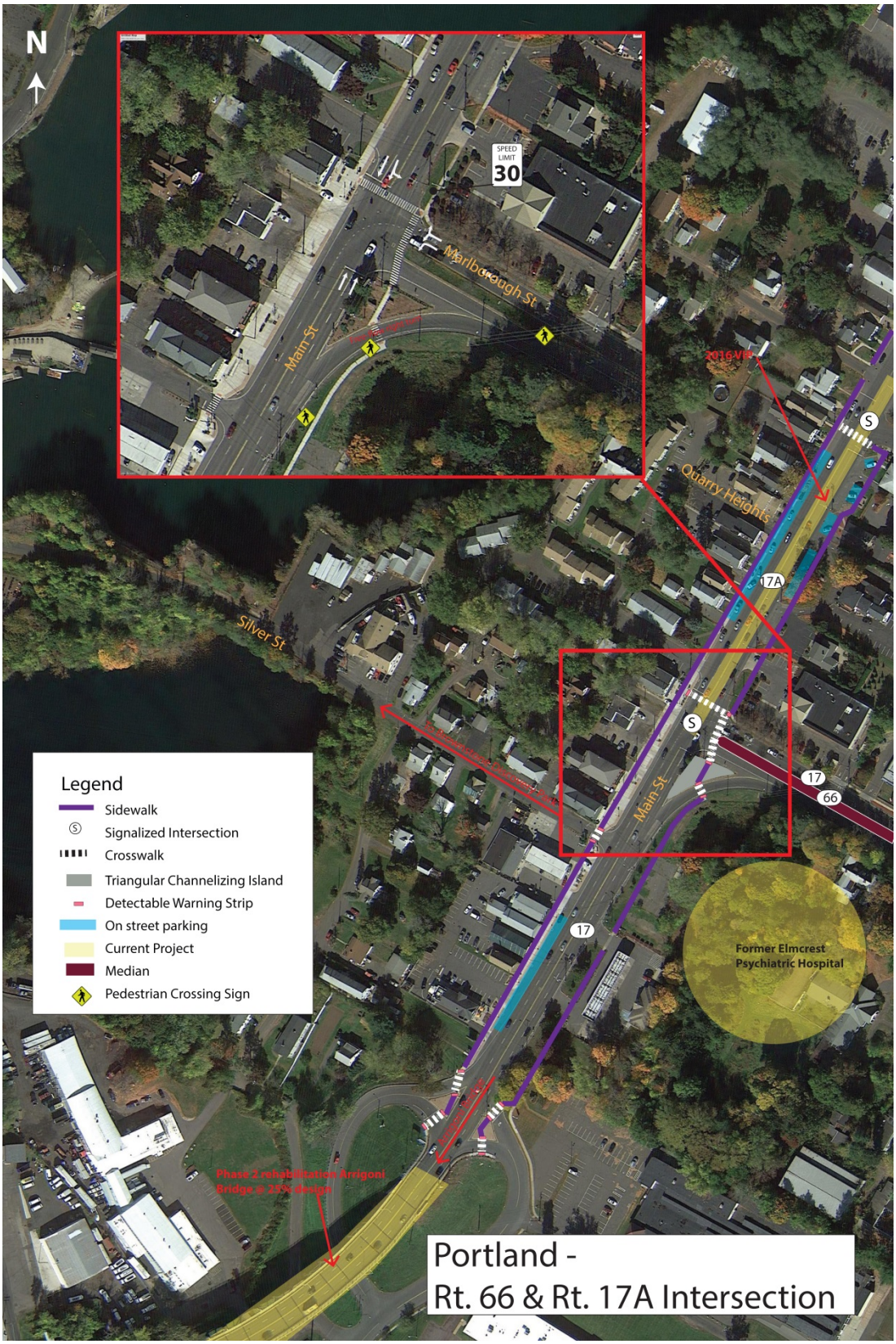


Figure 4. Main Street and Marlborough Street

Portland - Main Street

Street Inventory

Street	Route	Lanes	Avg. Lane Width	Sidewalk				Curb	Parking	Shoulder	Ramps	
				Side	Type	Width	Condition*				Exist	Compliant
Main Street	Route 17A	2 Through	*	NB	Concrete	5'	Good	Concrete	N/O Intersection	2'	Yes	No
		1 Right Turn	*									
		2	*	SB	Concrete	5'	Good	Concrete	Yes	-	Yes	No
Marlborough Street	Route 66	2	12'	EB	No	-	-	Concrete/ Asphalt	No	1' - 2'	Yes	No
		2	12'	WB	Concrete	5'	Fair	Concrete	No	1' - 2'	Yes	No

* Roadway markings removed due to resurfacing.
Total Roadway Width 64' (4 travel lanes and 2 parking lanes) north of intersection and 70 feet (5 travel lanes and 1 parking lane) south of intersection.

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

Table 3. Street Inventory

2.2 Prior Successful Efforts

A number of best practices have already been applied to this area of Portland. Portland has an extensive network of sidewalks in the Village Center area connecting Main Street with surrounding local streets as well as the Arrigoni Bridge. To further improve pedestrian amenities, Portland installed tactile warning strips at several crosswalks along Main Street and Marlborough Street (Figure 5). On Main Street, at the Marlborough Street intersection, the snow shelf has been constructed of concrete pavers, and decorative lights were installed in the snow shelf (Figure 6).

Figure 5. Tactile warning strips

Figure 6. Lights installed in sidewalk

2.3 Pre-Audit Meeting

The RSA was conducted on June 8, 2016. The Pre-Audit meeting was held at 8:30 AM in the Town Hall located at 33 East Main Street in Portland.

The RSA Team was comprised of staff from CTDOT, and AECOM, and representatives from several Portland departments and organizations, including the First Selectman, Public Works Department, Complete Streets Committee, and Economic Development Commission. The complete list of attendees can be found in Appendix B. Materials distributed to the RSA Team, including the agenda, audit checklist, ADT counts, crash data and road geometrics, can be found in Appendix C.

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

- Main Street is currently being repaved by CTDOT as part of the Vendor in Place (VIP) program. This is an opportunity for Portland to make any requests regarding lane width and pavement striping.
- There is a mixed-use development proposed at the intersection of Main Street and Marlborough Street on a property that has been vacant since 2009. Portland is expecting 75,000 sq. feet of commercial space in addition to 240 apartment units. Once constructed, this development will increase vehicular and pedestrian traffic in the Village Center area.
- Portland has expressed concerns over the speed of traffic entering the Village Center area off of the Arrigoni Bridge.
- Portland feels that a significant amount of traffic on Main Street is through traffic as opposed to visitors to the local businesses on Main Street.
- Although there are sidewalks on both sides of the Arrigoni Bridge, Portland has expressed concerns regarding pedestrian and cyclist safety. When traveling towards Main Street from the Arrigoni Bridge, the existing pedestrian crosswalk has poor sight lines due to the curve and slope of Lower Main Street. As a result, pedestrians and cyclists waiting at this crosswalk have difficulty seeing vehicles approaching this crosswalk.
- A regional plan is being conducted for Portland and East Hampton to evaluate the traffic volumes between these two towns. The population of East Hampton is growing faster than Portland, and Portland believes there is a lot of through traffic heading to East Hampton via Main Street.
- Portland received a grant to extend the Airline Trail to the Arrigoni Bridge.
- Portland indicated that their biking community is growing; however, local groups prefer not to use Main Street because it does not feel like a bike-friendly environment.
- Portland would like to see traffic calming measures implemented to help slow traffic down on Main Street.
- The town receives complaints from residents and businesses regarding the speed of traffic.
- The Brownstone School is located just north of the RSA area; however, there are no school zone signs on Main Street to inform motorists to slow down.

3 RSA Assessment

3.1 Field Audit Observations

- There is overgrown vegetation on the corner of the Main Street and Marlborough Street intersection in front of Rite Aid. The overgrown brush is blocking the pedestrian push button as well as the Town's welcome sign (Figure 7).
- There are angled parking spaces located on Main Street.
- The pedestrian crossing phase at the Main Street and Marlborough Street intersection is exclusive. However, there are no pedestrian crossing signals at the crosswalk on Marlborough Street.
- Existing pedestrian crossing signals are not ADA compliant and signal heads do not have a countdown.
- During the field audit, several pedestrians were observed crossing Main Street mid-block without the aid of a crosswalk or crossing signal (Figure 8).
- Most crosswalks have the tactile warning strips.
- There are advanced pedestrian crossing signs located on Main Street ahead of the crosswalk on Marlborough Street.
- Left turns are prohibited at some driveways on Main Street to reduce turning movement conflicts. During the audit, several vehicles were observed making left turns anyway.
- Pedestrian crossings are prohibited across Main Street in front of the Arrigoni Bridge (Figure 9).
- At the Main Street intersections with Lower Main Street and Marlborough Street, there are triangular channelizing islands. These are used as pedestrian refuges when crossing the streets.
- The crosswalk at the Arrigoni Bridge and Lower Main Street intersection is located on a curve and slope. Figure 10 depicts the limited visibility between

Figure 7. Overgrown vegetation

Figure 8. Pedestrian crossing mid-block

Figure 9. No pedestrian crossing sign

pedestrians and approaching vehicles at this crosswalk (Figure 10). Pedestrians must also cross without the aid of a crossing signal. There are no advanced pedestrian crosswalk warning signs located on the Arrigoni Bridge to alert motorists of potential crossing pedestrians and cyclists (Figure 11).

Figure 10. View of approaching vehicles at the Arrigoni Bridge and Lower Main Street crosswalk

Figure 11. Pedestrians crossing the Arrigoni Bridge and Lower Main Street crosswalk

3.2 Post-Audit Workshop - Key Issues

1. Portland is interested in a potential road diet on Main Street. Main Street currently has two through lanes in each direction. Reducing Main Street to one lane in each direction might result in traffic congestion or vehicles queuing onto the Arrigoni Bridge. At the time of the RSA, Main Street was being repaved (Figure 12) as part of the Vendor in Place (VIP) program through CTDOT.

Figure 12. Main Street

2. Portland is concerned regarding the speed of vehicles on the Arrigoni Bridge. Portland would like vehicles to slow down as they enter the Village Center area. On the opposite end of the bridge, Middletown has a traffic signal which controls the speed and flow of traffic prior to entering their downtown area. Portland believes that motorists travel faster as they approach the Village Center area because of the curve and downhill slope of the bridge (Figure 13).

Figure 13. Vehicles entering Village Center area from Arrigoni Bridge

3. Vehicles have a difficult time turning left into the Quarry Heights development because the traffic signal does not have a dedicated green arrow. The southbound lane also blocks this driveway due to the location of the stop bar (Figure 14). Portland indicated emergency vehicles have a hard time accessing the development from this driveway.

4. The crosswalk at the Arrigoni Bridge and Lower Main Street has limited visibility for both pedestrians and motorists.

5. Numerous driveways along Main Street contribute to conflicting turning movements and traffic flow.

6. Pedestrian crossing signals and timings are not ADA compliant.

Figure 14. Entrance to Quarry Heights

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) Trim overgrown vegetation at the intersection of Main Street and Marlborough Street in front of Rite Aid to increase visibility (Figure 15).

2) Coordinate with neighboring towns to share radar speed control signs to enforce vehicle speeds on the Arrigoni Bridge (Figure 16).

3) Evaluate potential for parking police cruiser on the triangular channelizing island at the Main Street and Lower Main Street intersection (Figure 17). Presence of a police vehicle may reduce vehicle speeds as motorists travel towards the Village Center area.

4) Install advanced warnings signs ahead of crosswalks (Figure 18).

Figure 19 depicts these recommendations.

Figure 15. Trim overgrown vegetation

Figure 16. Example of a radar speed control sign

Figure 17. Park police vehicle on triangular channelizing island to enforce speed

Figure 18. Example of pedestrian sign

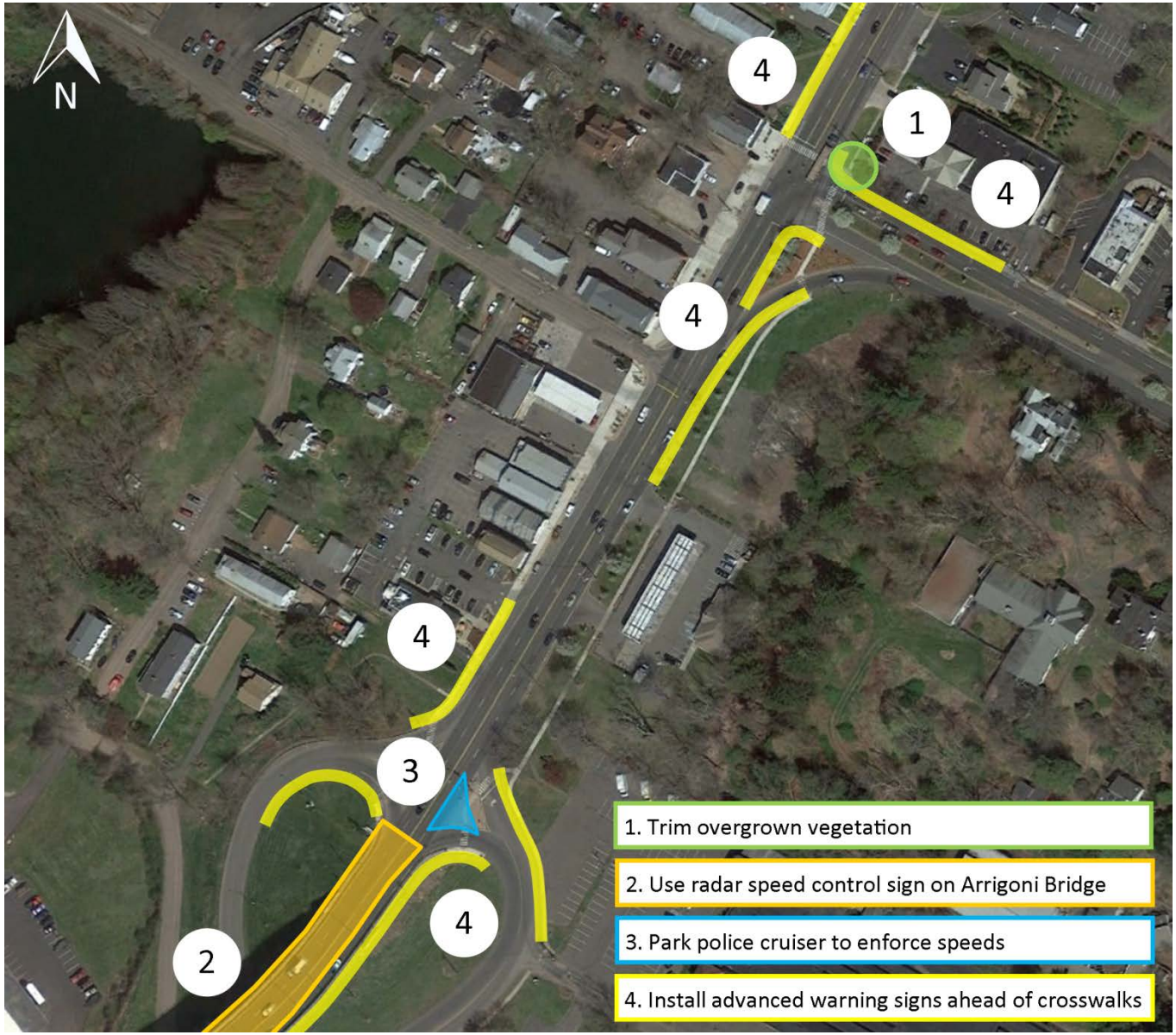


Figure 19. Short Term Recommendations

4.2 Medium Term

1) Upgrade all pedestrian crossings to be compliant with current ADA standards, including:
   a) Tactile warning strips (Figure 20).
   b) Pedestrian signal heads with countdowns (Figure 21).
   c) Audible crossing signals.
2) Evaluate need for pedestrian crossing push button and signal on Marlborough Street at the Main Street intersection (Figure 22).
3) At the Main Street and Marlborough Street intersection, move the stop bar further back for southbound Main Street traffic. Moving the stop bar before the entrance to Quarry Heights (Figure 23) will clear the area for turning vehicles.
4) Consider adjusting traffic signal to include a green arrow phase for vehicles turning left into the Quarry Heights development.

Figure 24 depicts these recommendations.

Figure 20. Tactile warning strip

Figure 21. Countdown signal

Figure 22. Crossing on Marlborough Road at Main Street intersection

Figure 23. Move southbound traffic stop bar before the Quarry Heights entrance

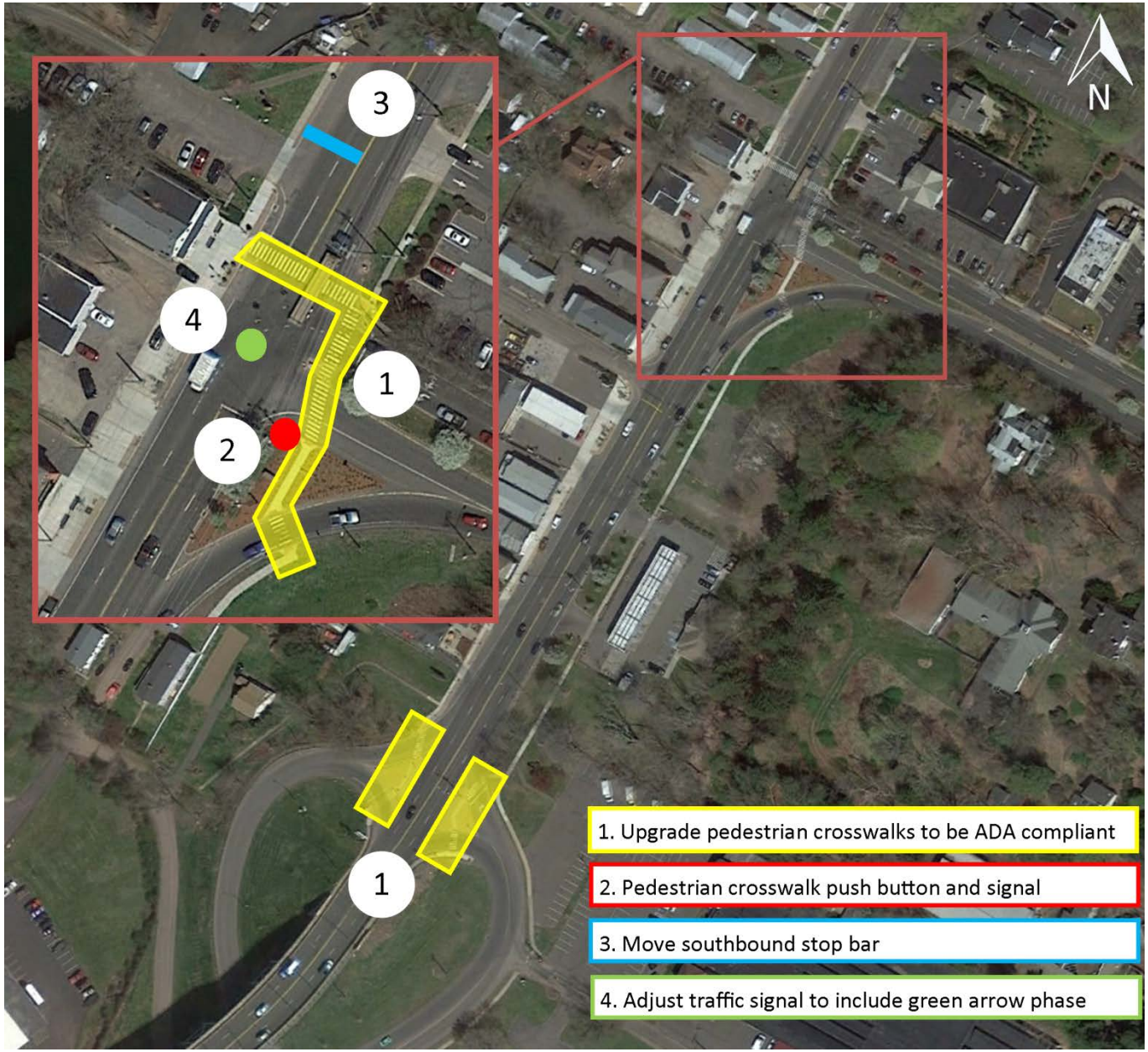


Figure 24. Medium Term Recommendations

4.3 Long Term

1) Realign crosswalk at Lower Main Street near the Arrigoni Bridge to improve visibility (Figure 25).
2) Evaluate feasibility of installing traffic signal near the Arrigoni Bridge ramp in Portland.
3) Evaluate feasibility of a pedestrian bridge near Arrigoni Bridge.
4) Evaluate developing access management plan to consolidate commercial driveways on Main Street and Marlborough Street.
5) Consider reconfiguring on-street angled parking to back-in angle parking (Figure 26).

Figure 25. Realign crosswalk

Figure 26. Reconfigure parking to back-in angle parking

Figure 27 depicts these recommendations.

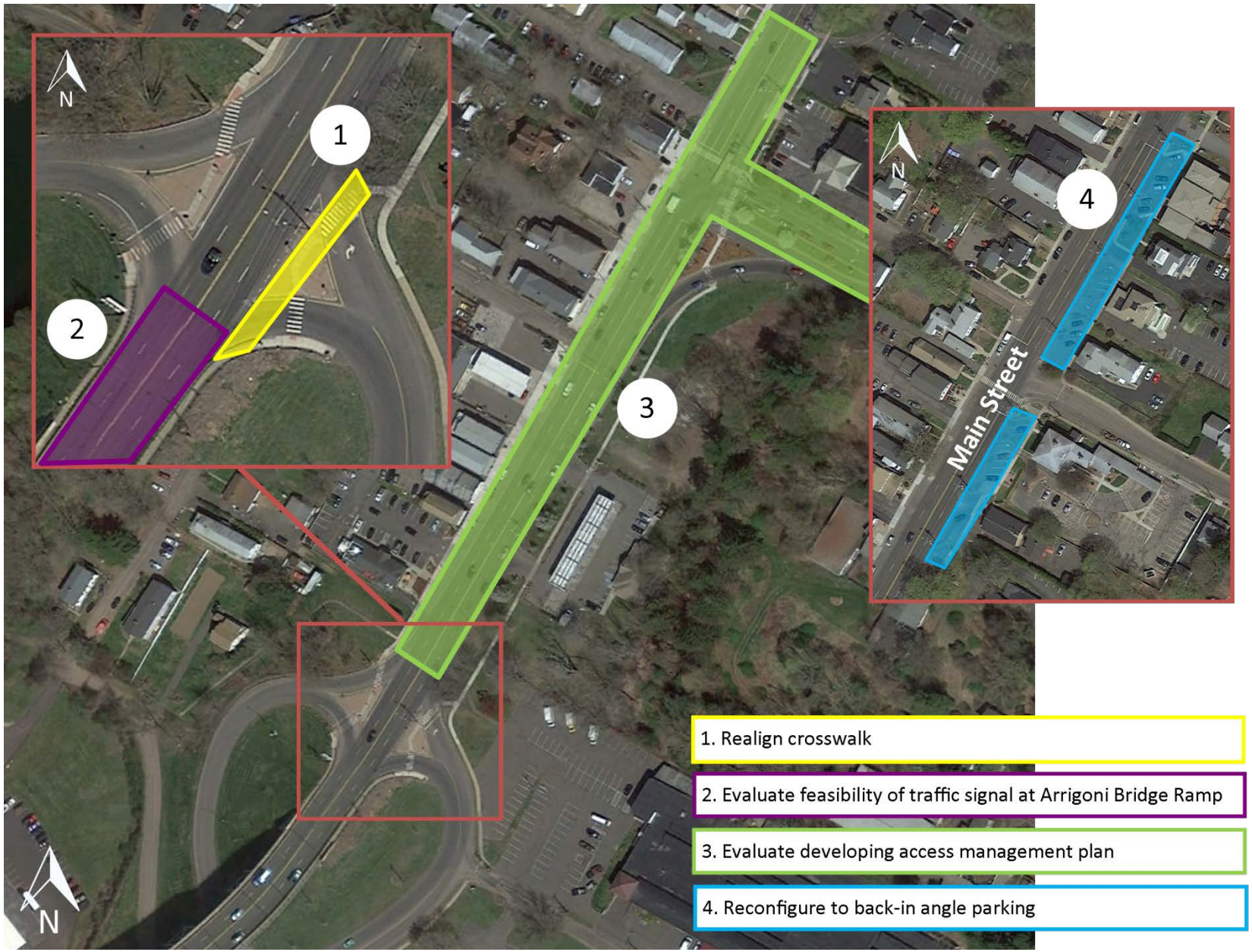


Figure 27. Long Term Recommendations

4.4 Summary

This report outlines the observations, discussions and recommendations developed during the RSA. It documents the successful completion of the Town of Portland RSA and provides Portland with an outlined strategy to improve the transportation network along Main Street, particularly at Marlborough Street and near the Arrigoni Bridge, for all road users, particularly focusing on pedestrians and cyclists. Moving forward, Portland may use this report to prepare strategies for funding and implementing the improvements, and as a tool to plan for including these recommendations into future development in this area.

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Appendix A

CONNECTICUT DEPARTMENT OF TRANSPORTATION

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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	Susan S. Bransfield
Title	First Selectwoman
Email Address	sbransfield@portlandct.org
Telephone Number	(860) 342-6715

2. Location information

Address	Intersection of Marlborough Street (Rt. 66) & Main Street (Rt . 17A)
Description	Approx. 700 linear feet from the north end of the Arrigoni Bridge
City / Town	Portland, 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**
- [x] **Mixed Use**
- [x] **Retail**
- [ ] **N/A (not applicable)**
- [x] **Other (please specify)**

Recreational Facilities

5. Approximate mile radius around the location

½ mile

Other (Please Specify)

6. Community Sites
(Please select all that apply)

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

Recreational Facilities

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

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

If Yes please describe (please specify)

Brownstone Industrial Park, Brownstone Exploration & Discovery Park, Portland Care & Rehab, Town of Portland, US Postal Service, Portland Police & Fire Depts., 3 churches, 2 banks, medical offices, restaurants, retail & service businesses.

8. Educational facilities
(Please select all that apply)

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

There is one public school within the 1/2 mile radius

9. Transit facilities
(Please select all that apply)

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

10. Safety Concerns
(Please select all that apply)

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

Bike Lanes

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

Yes

If Yes please describe and list all projects.

There are three significant economic development projects located within close proximity to the Route 66/Route 17A intersection that is within Portland's Town Center Village District. These projects are a large-scale planned mixed use development, a successful seasonal tourist destination, and a municipally owned public riverfront park/outdoor summer concert venue.

At the southeast corner of the Route 66/17A intersection is the site of the former Elmcrest Psychiatric Hospital, the location of an approved mixed use project known as "Portland TownPlace" . The development, stalled since 2009 due to the downturn in the economy, consisted of 81 housing units and more that 150,000 square feet of commercial tenant space. In 2014, the Town was awarded a Vibrant Communities Initiative Grant from the CT Trust for Historic Preservation to "revision" the project with an updated market analysis and evaluation of several buildings on site for presveration due to their listing on the National Register . The new developer (BRT), who was a stakeholder in the VCI project, responded to the VCI report findings with a mixed-use proposal that is now called "Brainerd Place". The Planning and Zoning Commission expects to receive a formal application from BRT for a proposal that will include at least 200 residential apartment units and in excess of 75,000 square feet of commercial space.

Within walking distance of the Main Street/Marlborough Street intersection is the Brownstone Exploration and Discovery Park (BEDP), a public/private partnership outdoor adventure park that is located within the municipally owned brownstone quarries. The family-friendly recreational facility welcomed ninety five thousand (95,000) guests during the May through September 2015 season. Just northwest of the BEDP is the Town owned "Riverfront Park", a public green-space where a weekly summer concert series attracts 300 to 500 regional visitors.

12. Environmental Concerns:

N/A not applicable

If Yes please describe and list.

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

Recent economic development projects have brought additional vehicular traffic to the Village District area hindering safe bike/ped travel. The presence of increased motor vehicles will continue to make the area less safe for bicyclists and pedestrians, especially during the peak season for the BEDP. The traffic volume, vehicle speed, free-flow right turn from Main Street to Marlborough Street, and the entrance/exit ramps from the Arrigoni Bridge all make it difficult to navigate safely. In addition, several recent approved residential developments in nearby East Hampton are expected to add to the commuter traffic problem and may result in additional back-ups and delays due to accidents on or around the Arrigoni Bridge.

According to Portland's Economic Development Consultant, commercial occupancy in the Main Street/Marlborough Street area has reached nearly 98%, resulting in renewed vibrancy but also increased traffic congestion, parking and sidewalk safety issues. In addition, the new shops, restaurants, and service businesses have created an environment conducive for foot traffic. This benefits the residents living at Quarry Heights, an elderly and disabled housing facility located on the west side of the intersection, who are less likely to drive.

As the Town envisions growth due to the eventual build out of the mixed-use development, the continued success of the Brownstone Exploration & Riverfront parks, and Main Street revitalization, the need to evaluate this area and make improvements for accessibility is imperative to establish a safer, more efficient, inviting, multi-modal transportation network.

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

Yes

The proposed "Brainerd Place" project, located at the southeast corner of the Rt. 17A/Rt. 66 intersection is expected to include at least 200 residential apartment units and approx. 75,000 square feet of commercial tenant space.

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

The Town required, as part of the 2009 approval of the mixed-use development, that public parking be provided on the former Elmcrest property to address the shortage of available parking on the section of Main Street located south of Marlborough Street. This stipulation was to ensure connectivity between the project and the rest of the Main Street shopping district. A proposed bike/ped gateway entrance was located at the northwest corner of the site adjacent to the free-flow right turn lane. The expectation was that the intersection would be improved for safer bike/ped crossing. Since the new mixed-use development proposal will include 2.5 times the number of residential units on the property than originally approved, this gateway location and all other curb-cuts should be re-evaluated for safety .

Thank you for completing the Community Connectivity application.

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

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

Submit Application

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Appendix B

Built to deliver a better world

Road Safety Audit

Town: Portland
RSA Location: Rt. 66 & Rt 17A Intersection
Meeting Location: Portland Town Hall
Address: 33 East Main Street
Date: 6/8/2016
Time: 8:30am

Participating Audit Team Members

Audit Team Member	Agency/Organization
Audit Team Member	Agency/Affiliation
Kristin Hadjstylianos	AECOM
Susan Bransfield	Town of Portland
Chantal Fostur	Complete Streets - Portland
Deanna Rhodes	TOP
Alice Schamacher	CSG
Steve Crusberg	CSG, ALT Committee
Rick Kelsey	TOP
Kathy Herron	CSG
Anna Bergeron	CTDOT
Michael Cohen	CTDOT
Bob Herron	CSG, Resident
Elwin Couild	EDC

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Appendix C

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Road Safety Audit – Portland

Meeting Location: Portland Town Hall
Address: 33 East Main Street
Date: 6/8/2016
Time: 8:30 AM

Agenda

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

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

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

8:30 AM **Welcome and Introductions**

- Purpose and Goals
- Agenda

8:45 AM **Pre-Audit**

- Definition of Study Area
- Review Site Specific Data:
  - Average Daily Traffic
  - Crash Data
  - Geometrics
- Issues
- Safety Procedures

10:00 AM **Audit**

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

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

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

2:30 PM **Adjourn for the Day – but the RSA has not ended**

Instruction for Participants:

- Before attending the RSA, participants are encouraged to observe the intersection and complete/consider elements on the RSA Prompt List with a focus on safety.
- All participants will be actively involved in the process throughout. Participants are encouraged to come with thoughts and ideas, but are reminded that the synergy that develops and respect for others' opinions are key elements to the success of the overall RSA process.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.

Audit Checklist

Pedestrians and Bicycles	Comment

Pedestrian Crossings
• Sufficient time to cross (signal)
• Signage
• Pavement Markings
• Detectable warning devices (signal)
• Adequate sight distance
• Wheelchair accessible ramps
  o Grades
  o Orientation
  o Tactile Warning Strips
• Pedestrian refuge at islands
• Other	

Pedestrian Facilities
• Sidewalk
  o Width
  o Grade
  o Materials/Condition
  o Drainage
  o Buffer
• Pedestrian lighting
• Pedestrian amenities (benches, trash receptacles)
• Other	

Bicycles • Bicycle facilities/design • Separation from traffic • Conflicts with on-street parking • Pedestrian Conflicts • Bicycle signal detection • Visibility • Roadway speed limit • Bicycle signage/markings • Shared Lane Width • Shoulder condition/width • Traffic volume • Heavy vehicles • Pavement condition • Other	

Roadway & Vehicles	
• Speed-related issues o Alignment; o Driver compliance with speed limits o Sight distance adequacy o Safe passing opportunities	
• Geometry o Road width (lanes, shoulders, medians); o Access points; o Drainage o Tapers and lane shifts o Roadside clear zone /slopes o Guide rails / protection systems	

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

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

• Signing
  • Correct use of signing
  • Clear Message
  • Good placement for visibility
  • Adequate retroreflectivity
  • Proper support	

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

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

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

Town of Portland
Route 66 / Route 17A
Intersection
Study Area

Legend

- Tax Parcels
- 0.5 Mile Buffer
- Intersection

N

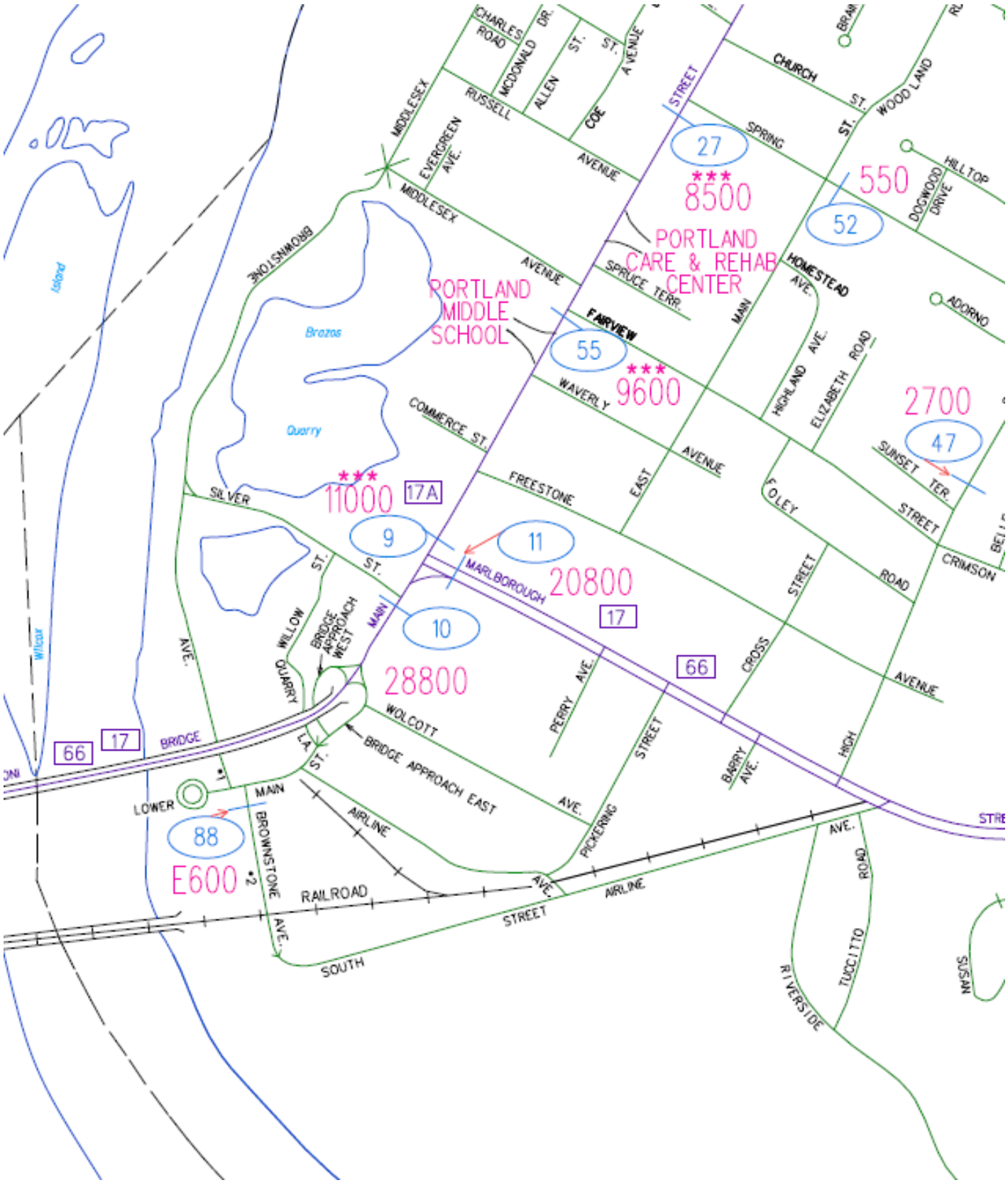
W E

S

1 in = 1,000 feet

Created By Kevin Armstrong
Town of Portland - Town Tech Educational Partnership

Average Daily Traffic (ADT)

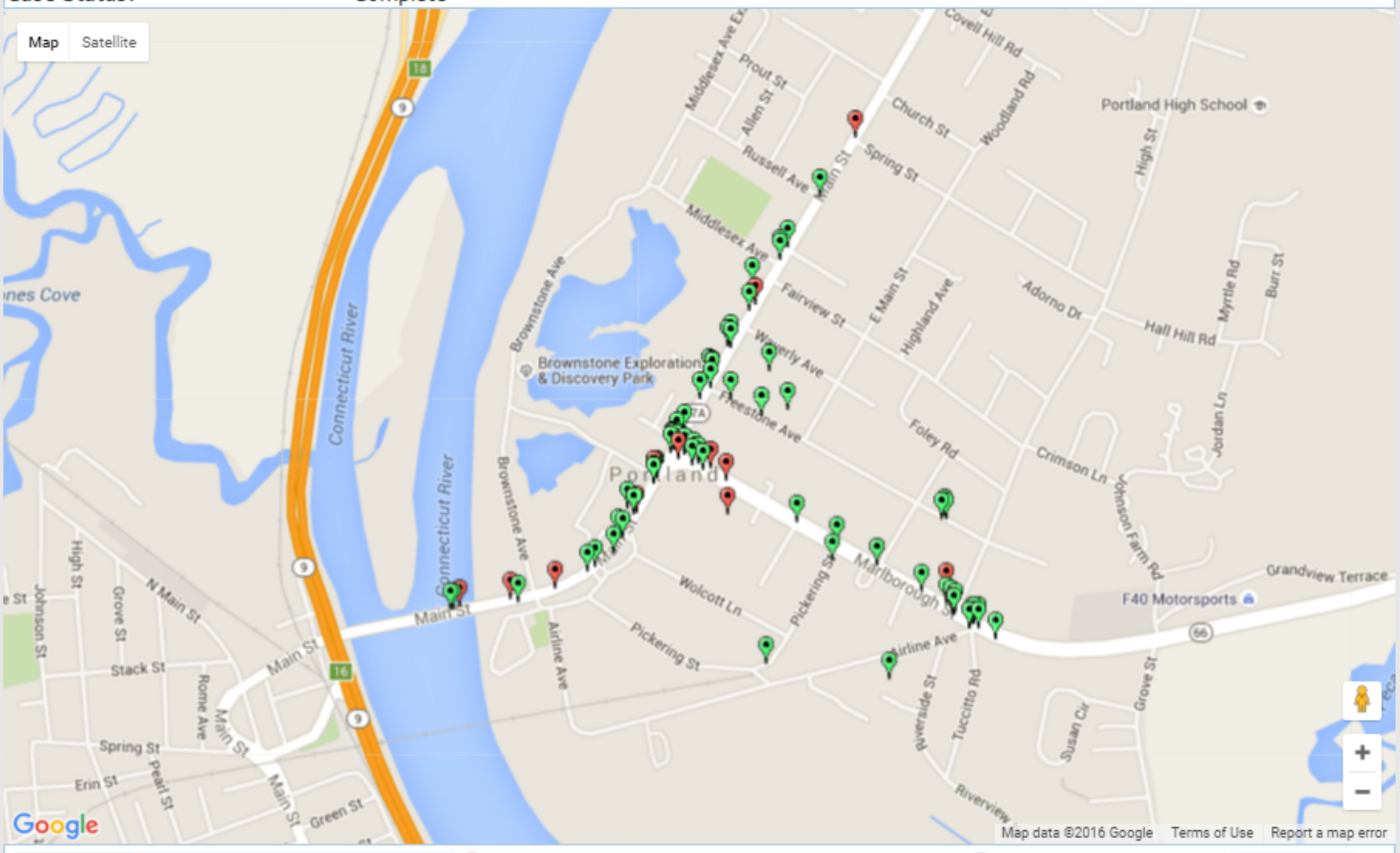


2015 Crashes

UCONN Connecticut Crash Data Repository

Search Criteria:

Dataset:	mmucc
Towns:	Portland
Crash Severity:	Injury of any type (Serious, Minor, Possible), Fatal (Kill), Property Damage Only
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

Road Safety Audit – Portland

Crash Summary

Data: 3 years (2012-2014)

No accidents involved pedestrians.

1 accident involved a cyclist and resulted in an injury.

Severity Type	Number of Accidents	
Property Damage Only	116	82%
Injury (No fatality)	25	18%
Fatality	0	0%
Total	141	

Manner of Crash / Collision Impact	Number of Accidents	
Unknown	0	0%
Sideswipe-Same Direction	10	7%
Rear-end	89	63%
Turning-Intersecting Paths	15	11%
Turning-Opposite Direction	2	1%
Fixed Object	14	10%
Backing	2	1%
Angle	0	0%
Turning-Same Direction	6	4%
Moving Object	0	0%
Parking	0	0%
Pedestrian	0	0%
Overturn	0	0%
Head-on	1	1%
Sideswipe-Opposite Direction	2	1%
Total	141	

Weather Condition	Number of Accidents	
Snow	2	1%
Rain	34	24%
No Adverse Condition	104	74%
Unknown	0	0%
Blowing Sand, Soil, Dirt or Snow	0	0%
Other	0	0%
Severe Crosswinds	0	0%
Sleet, Hail	0	0%
Fog	1	1%
Total	141	

Light Condition	Number of Accidents	
Dark-Not Lighted	1	1%
Dark-Lighted	19	13%
Daylight	117	83%
Dusk	3	2%
Unknown	0	0%
Dawn	1	1%
Total	141	

Road Surface Condition	Number of Accidents	
Snow/Slush	4	3%
Wet	42	30%
Dry	95	67%
Unknown	0	0%
Ice	0	0%
Other	0	0.0%
Total	141	

Time		Number of Accidents	
0:00	**0:59**	0	0.0%
1:00	**1:59**	0	0.0%
2:00	**2:59**	1	0.7%
3:00	**3:59**	0	0.0%
4:00	**4:59**	0	0.0%
5:00	**5:59**	2	1.4%
6:00	**6:59**	2	1.4%
7:00	**7:59**	17	12.1%
8:00	**8:59**	11	7.8%
9:00	**9:59**	3	2.1%
10:00	**10:59**	6	4.3%
11:00	**11:59**	13	9.2%
12:00	**12:59**	11	7.8%
13:00	**13:59**	11	7.8%
14:00	**14:59**	10	7.1%
15:00	**15:59**	6	4.3%
16:00	**16:59**	8	5.7%
17:00	**17:59**	21	14.9%
18:00	**18:59**	6	4.3%
19:00	**19:59**	1	0.7%
20:00	**20:59**	8	5.7%
21:00	**21:59**	2	1.4%
22:00	**22:59**	1	0.7%
23:00	**23:59**	1	0.7%
Total		141	

N

SPEED LIMIT 30

Marlborough St

Main St

Free-flow right turn

Markborough St (Rt 66)
Speed =
Lanes =
Roadway width =
Shoulder width =
Sidewalk width =

Main St (Rt 17A)
Speed =
Lanes =
Roadway width =
Shoulder width =
Sidewalk width =

2016 VIP

Quarry Heights

17A

Silver St

To Brownstone Discovery Park

Main St

17

66

17

Former Elmcrest Psychiatric Hospital

Arrigoni Bridge

Phase 2 rehabilitation Arrigoni Bridge @ 25% design

Legend

- Sidewalk
- Ⓢ Signalized Intersection
- Crosswalk
- Triangular Channelizing Island
- Detectable Warning Strip
- On street parking
- Current Project
- Median
- Pedestrian Crossing Sign

DRAFT

Portland - Rt. 66 & Rt. 17A Intersection

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 – Portland

Fact Sheet

Functional Classification:

- Route 66 is classified as Principal Arterial
- Route 17A is classified as Minor Arterial

ADT

- Route 66 – 20,800 – 28,800
- Route 17A – 11,000

Population and Employment Data (2014):

- Population: 9,483
- Employment: 2,258

Urbanized Area

- Part of this corridor is located within the Hartford Urbanized Area

Demographics

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

Air Quality

- Portland's CIPP number 413
- Portland is within the NY/NJ/CT Marginal Ozone Area
- Portland is within a CO Attainment Area