COMMUNITY
connectivity program

# Middlebury

Straits Turnpike (Route 63) from Woodside Avenue to Country Club Road – Road Safety Audit

November 15, 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM

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With assistance from AECOM Transportation Planning Group

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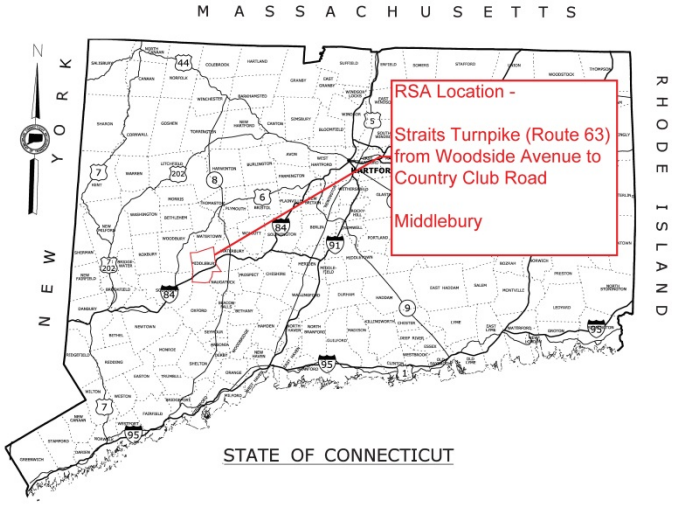
The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this program is conducting Road Safety Audits (RSA's) at 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 Federal Highway Administration (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 Straits Turnpike (Route 63), Middlebury RSA

The Town of Middlebury's First Selectman submitted an application to complete an RSA on Straits Turnpike (Route 63) between Woodside Avenue and Country Club Road to improve safety for pedestrians and bicyclists travelling along the corridor, including those traveling to and from Post University. Route 63, throughout the RSA study area, is a relatively straight roadway that lacks sidewalks throughout the corridor. The lack of sidewalks makes the street challenging for pedestrians and bicyclists.

The existing Middlebury Greenway crosses the town from east to west along Route 64 and ends at the intersection of Route 63 and Woodside Avenue on the east side of town. In the vicinity of its current eastern terminus is a senior housing complex and municipal town park with little league baseball fields. The land use along Route 63 is a mix of retail, commercial, residential and dedicated open space. Pedestrians have been observed walking along Route 63 to access several of businesses in the area. The town is proposing to extend the Middlebury Greenway along Route 63 from its current terminus at Woodside Avenue to Country Club Road to the south. The extension will provide a safe non-motorized connection from the existing Middlebury Greenway to commercial properties and Post University. It could eventually be extended further south to Hop Brook Recreation Area.

The application and supporting documentation are included in Appendix A.

## 1.1 Location

The RSA site is the section of Straits Turnpike between Woodside Avenue to the north and Country Club Road to the south (Figure 1). Figure 2 shows the study corridor in a regional context. Route 63 is classified as a Minor Arterial. The Average Daily Traffic (ADT) on Straits Turnpike is 12,100 vehicles per day (vpd) near the Country Club Road intersection, and 13,600 vpd near the intersection of Woodside Avenue. Route 63 consists of a single lane in each direction, with a double yellow center line with shoulders on both sides of the roadway. South of Country Club Road, passing is allowed in the southbound direction and then further south, it is allowed in both directions.

There are various intersections and driveways along the RSA study corridor, including three signalized intersections.

No sidewalks are provided anywhere within the corridor, except right in front of Maggie McFly's.

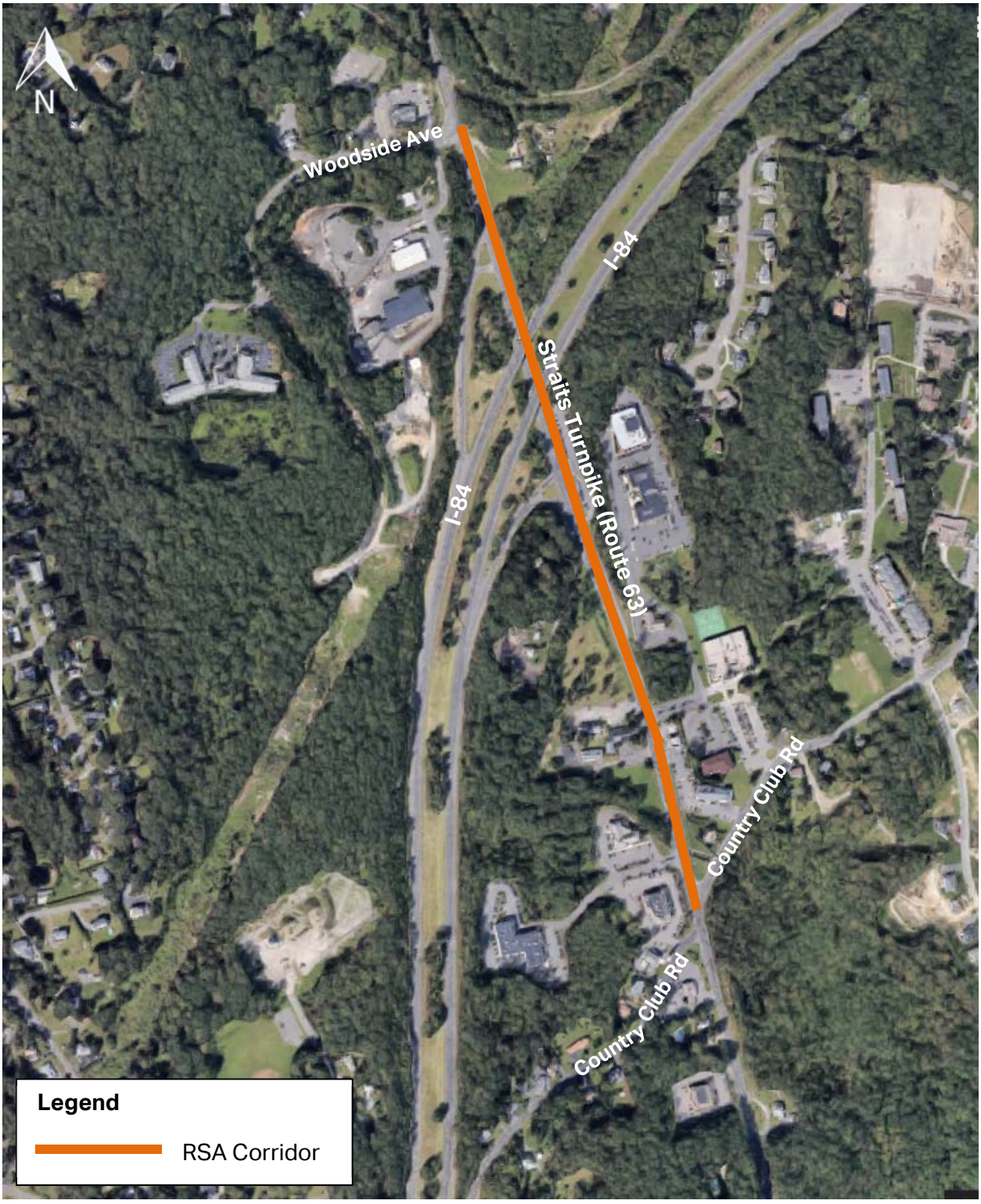



Figure 1. Straits Turnpike (Route 63), Middlebury


**Figure 2. Study Area – Regional Context**

# 2 Pre-audit Assessment

## 2.1 Pre-audit Information

As noted above, traffic volumes are relatively high along the Route 63 corridor. Route 63 runs north and south along the eastern side of Middlebury. Although the crash history in this area is relatively low, there were 10 crashes (22%) that involved injuries between 2012 and 2014 and one fixed object crash that resulted in a fatality. There were no crashes that involved pedestrians or bicyclists. (Table 1 and Table 2).

The most common type of crash was rear-end (21), which represents 47% of the total crashes. Rear-end crashes are typical along congested corridors and at traffic signals.

Figure 3 displays crashes that occurred in this area during 2015. As shown in the figure, a total of seven crashes occurred in the study area in this time period. Two of the crashes were clustered at the signalized intersection of Route 63 and the I-84 eastbound off-ramps and two were located at Route 63 at the Mobil gas station's driveway. Four of the crashes resulted in injury and three resulted in property damage only. Injury crashes are generally the result of higher speed collisions.

| Severity Type | Number of Accidents | |
|---|---|---|
| Property Damage Only | 34 | 76% |
| Injury (No fatality) | 10 | 22% |
| Fatality | 1 | 2% |
| Total | 45 | |

**Table 1. Crash Severity 2012-2014**

Source: UConn Connecticut Crash Data Repository

| Manner of Crash / Collision Impact | Number of Accidents | |
|---|---|---|
| Unknown | 0 | 0% |
| Sideswipe-Same Direction | 3 | 7% |
| Rear-end | 21 | 47% |
| Turning-Intersecting Paths | 8 | 18% |
| Turning-Opposite Direction | 4 | 9% |
| Fixed Object | 4 | 9% |
| Backing | 1 | 2% |
| Angle | 1 | 2% |
| Turning-Same Direction | 2 | 4% |
| Moving Object | 0 | 0% |

| | | |
|---|---|---|
| Parking | 0 | 0% |
| Pedestrian | 0 | 0% |
| Overturn | 0 | 0% |
| Head-on | 0 | 0% |
| Sideswipe-Opposite Direction | 1 | 2% |
| Miscellaneous- Non Collision | 0 | 0% |
| Total | 45 | |

**Table 2. Crash Type 2012-2014**

Source: UConn Connecticut Crash Data Repository

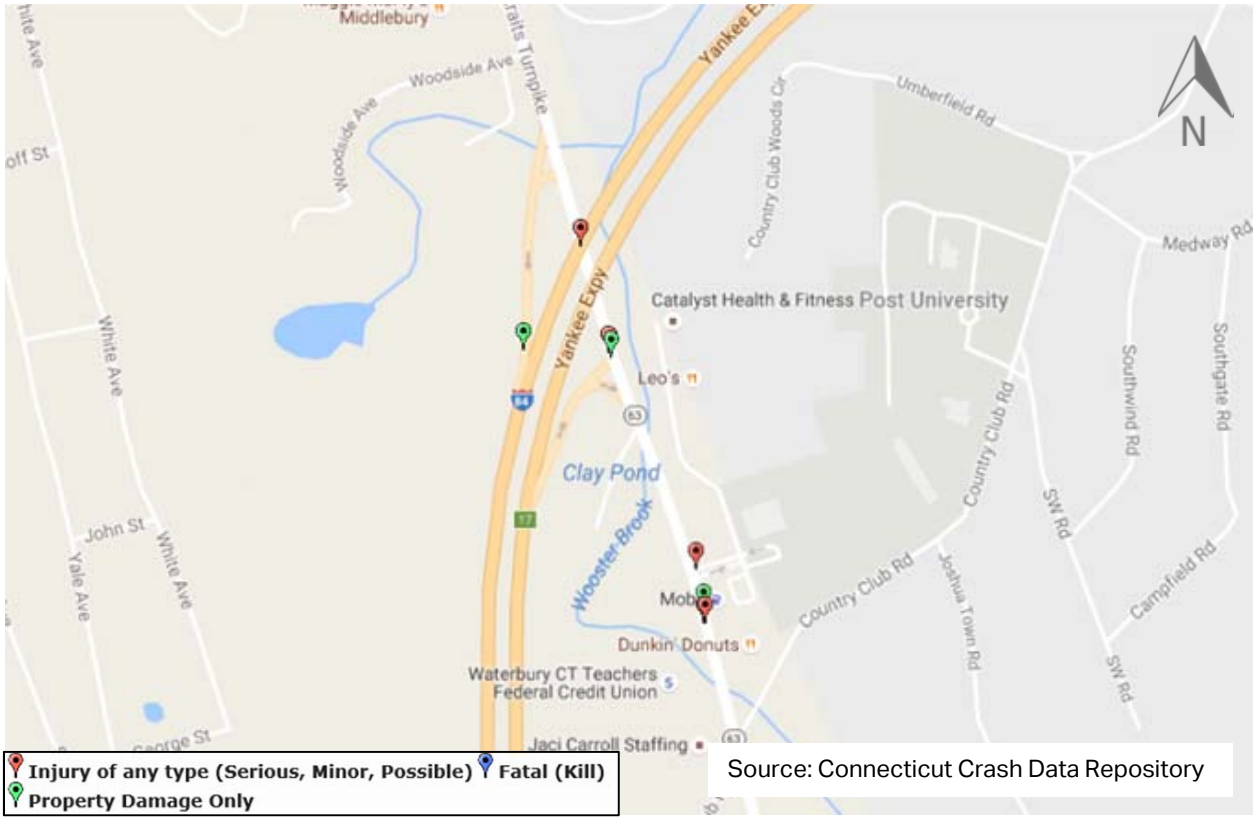



**Figure 3. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)**

Straits Turnpike (Route 63) generally consists of a single lane in each direction, except in the vicinity of the I-84 westbound on-ramps and I-84 eastbound off-ramps, where Route 63 has two lanes in each direction. The travel lanes vary from 11 feet wide in the vicinity of I-84 on-ramps and off-ramps to 12.5 feet wide at Country Club Road to 13 feet wide at Woodside Avenue.

Striped shoulders and bituminous curbing are provided on both sides of the roadway throughout the study corridor. The shoulders are narrow (one-foot wide) in the vicinity of the I-84 on- and off-ramps and vary from one to two feet wide at Woodside Avenue. South of the Park-and-Ride lot, the shoulders become wider (eight and a half feet wide) until the intersection of Route 63 and Country Club Road. There are no sidewalks or pedestrian crosswalks throughout the corridor.

There are several intersections and driveways along the RSA study area. The study corridor has three signalized intersections, which are located at Woodside Avenue; I-84 eastbound off-ramps and park-and-ride lot north driveway; and Country Club Road. Stop signs at unsignalized intersections are provided at the I-84 eastbound off-ramp (to Route 63 south), the park-and-ride lot south driveway, and at the two exit driveways of The Crossroads East (east side) and The Crossroads (west side), which are medium-sized shopping plazas.

Parking is not allowed on either side of Route 63 in the study corridor. The posted speed limit is 40 mph to the north and 45 mph to the south of Country Club Road.

Just north of Country Club Road, there are various commercial properties, including restaurants, a bank, a gas station, shopping plazas, a liquor store, and a health and fitness center. Additionally, a park-and-ride lot with two driveways is located just south of I-84 on the east side of Route 63. Post University is located east of Route 63, with access via Country Club Road.

Figure 4 and Table 3 below show the roadway geometrics for the Route 63 (Straits Turnpike) corridor.

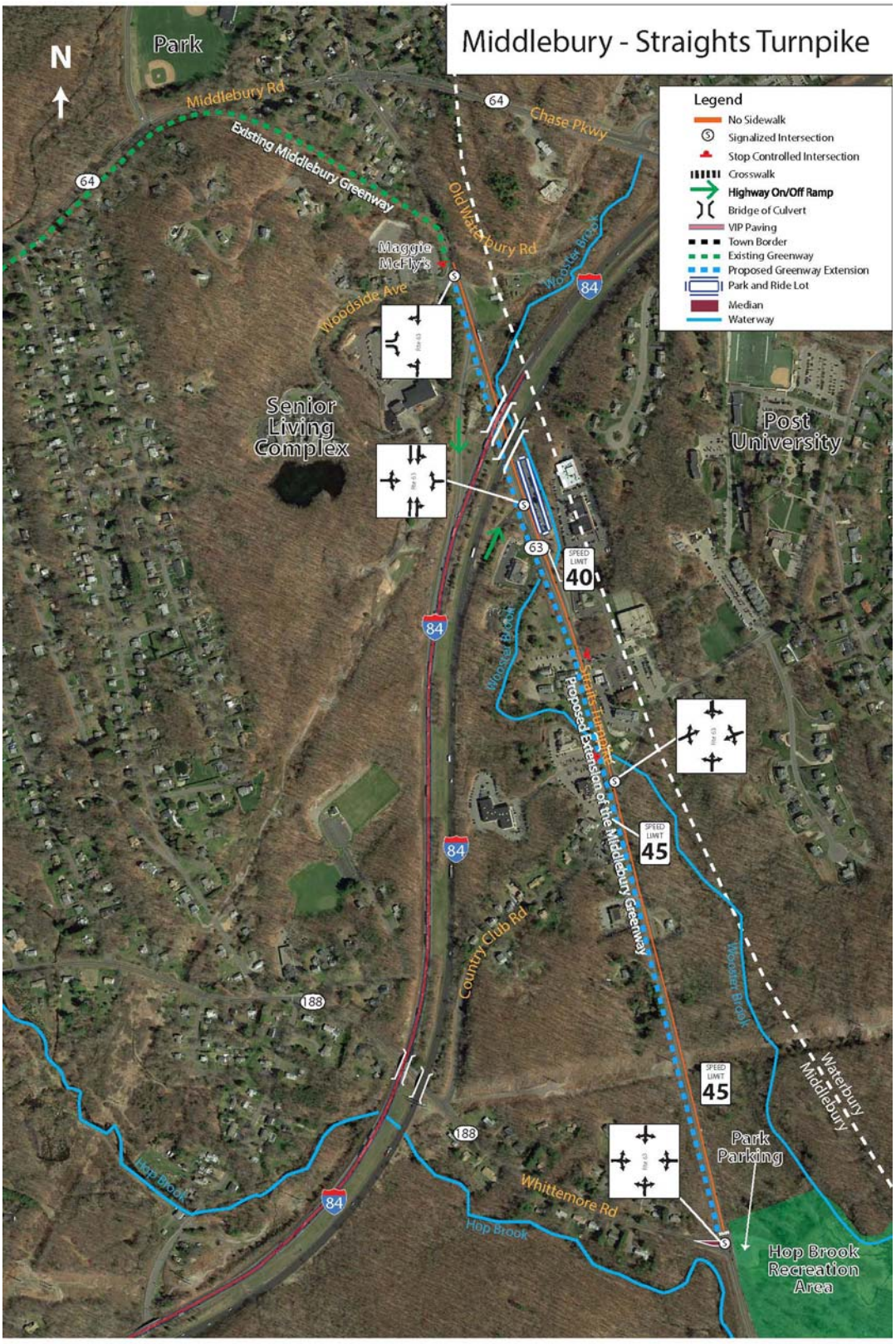



**Figure 4. Straits Turnpike (Route 63) Road Geometrics**

# Middlebury – Straits Turnpike (Route 63)

## Street Inventory

| Street | Direction | No. of Lanes | Lane Width | Sidewalk | | | Curb | Parking | Shoulder | Ramps | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Type | Width | Condition* | | | | Exist | Compliant |
| Route 63 at I-84 exit 17 interchange | NB | 2 | 11′ | No | N/A | N/A | Asphalt | No | 1′ | No | N/A |
| | SB | 2 | 11′ | No | N/A | N/A | Asphalt | No | 1′ | No | N/A |
| Route 63 and Woodside Avenue | NB | 1 | 13′ | No | N/A | N/A | Asphalt | No | 1′ – 2′ | No | N/A |
| | SB | 1 | 13′ | No | N/A | N/A | Asphalt | No | 1′ – 2′ | No | N/A |
| Route 63 and Country Club Road | NB | 1 | 12.5′ | No | N/A | N/A | Asphalt | No | 8.5′ | No | N/A |
| | SB | 1 | 12.5′ | No | N/A | N/A | Asphalt | No | 8.5′ | No | N/A |

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

**Table 3. Street Inventory**

## 2.2 Prior Successful Effort

The Town of Middlebury has made efforts at improving the connectivity and vitality of the Route 63 corridor. The Town has successfully completed most of the Middlebury Greenway, a walking and biking trail converted from an old trolley bed that extends from east to west along Route 64 from Lake Quassapuag on the west side to the Route 63 and Woodside Avenue intersection on the east side of town. Currently the Greenway stretches 4.4 miles, but there is a missing section along Route 63 from Woodside Avenue to Hop Brook Recreation Area (see Figure 5).

**Figure 5: Middlebury Greenway**

**Upcoming Projects/Developments/Relevant Studies in area**

1. *CTDOT Project Number 80-0128,* I-84 Interchanges 17 and 18. This project consists of constructing a new Chase Parkway Extension roadway that would connect Chase Parkway (Route 845) on the north with Route 63 at Woodside Avenue on the south. Route 63 at the intersection of Woodside Avenue and Chase Parkway Extension will be widened to two lanes in each direction. The existing signalized intersection will be modified to accommodate the new roadway and Route 63 widening. This project will also include relocating the existing park-and-ride lot on the east side of Route 63 across from the I-84 eastbound off-ramps to the southeast corner of Route 63/Chase Parkway Extension. Copies of the plans are provided in Appendix B.
2. *CTDOT Project Number 80-0130,* replacing the bridge culvert #06692 at Wooster Brook. This is in final design phase.
3. *CTDOT Project Number 174-0412, install rumble strips.* This project will install rumble strips along the centerline and shoulders on public roadways in District 4. The project is in the Final Design Phase.
4. *Naugatuck River Greenway Economic Impact Study (NVCOG).* This project was initiated in the summer of 2015 and required extensive data collection on regional multi-use trails. Trail counts were conducted using automatic trail counters during the summer and fall of 2015 on sections of the Naugatuck River Greenway in Derby, Naugatuck and Beacon Falls as well as on the Middlebury Greenway. These counts were conducted in part to inform an ongoing study that will determine the economic impacts of the continued development of the Naugatuck River Greenway Trail. The counts themselves will also be of interest to municipalities as they seek to build new

trails and maintain existing trails (see Appendix B). The draft report can be found at http://nvcogct.org/content/naugatuck-river-greenway-economic-impact-study.

5. This project is identified as the Straits Turnpike South Commercial Area in the Town's Plan of Conservation and Development. The area contains primarily small retail uses and commercial space, and is largely impacted by Post University, located immediately to the east in Waterbury. The University leases much of the office space in the area and the commercial uses serve both the staff and students. As the University expands its services, it will demand and need more office space, thereby influencing development trends along Straits Turnpike.

## 2.3 Pre-Audit Meeting

The RSA was conducted on November 15, 2016. The pre-audit meeting was held at 11:00 AM in Middlebury Town Hall located at 1212 Whittemore Road, Middlebury, CT 06762

The RSA team was comprised of staff from AECOM, VN Engineers, the Naugatuck Valley Council of Governments (NVCOG), CTDOT, and Town of Middlebury representatives. The Town representatives including the First Selectman, the Parks and Recreation Department, Public Works, and Police Department. The complete list of attendees can be found in Appendix A. Materials distributed to the RSA Team, including the agenda, audit checklist, ADT counts, crash data and road geometrics, can be found in Appendix C.

The following observations and conditions were discussed prior to conducting the field audit of Route 63 from Woodside Avenue to Whittemore Road:

- The land use along Route 63 is a mix of retail, commercial, residential and dedicated open space.
- The project area lies within the Hop Brook sub-basin of the Naugatuck River and the Hop Brook Lake Recreation Area, which is located along both sides of Route 63 within the project area. This area is owned and maintained by the Army Corp of Engineers and consists of about 249 acres. It protects sections of the Hop Brook and Wooster Brook.
- The Greenway is currently 4.4 miles long, from Lake Quassapuag on the west side to the Route 63 and Woodside Avenue intersection on the east side of town (Figure 6). The missing greenway section is along Route 63 from Woodside Road to Hop Brook Recreation Area.
- Memorial Drive may be considered for a

Figure 6: Middlebury Greenway map

future extension of the Greenway.

- The Town would like the Greenway to continue south on the west side of Route 63, which may be the more viable option. NVCOG indicated that extending the Greenway on the east side may be preferable.
- NVCOG would like to eventually extend the Greenway south to Waterbury.
- The Town has discussed providing a new Greenway or other facility connecting Route 64 to the town center near the Westover School on Route 188.
- A CTDOT project will include constructing a new Chase Parkway Extension roadway terminating on the west at Route 63/Woodside Avenue. This may provide opportunities for the proposed Greenway extension along Route 63. The current plans (see Appendix B) show that the northbound and southbound Route 63 approaches at Woodside Avenue/ Chase Parkway Extension will have two shared lanes (one left-through and one through-right). NVCOG has suggested changing the lane assignment to one exclusive left-turn lane and one shared through-right lane in each direction.
- There are 95,000 annual greenway trail users according to NVCOG tallies in 2015, see Appendix B.
- The Greenway is maintained jointly by the Middlebury Parks and Recreation Department and Department of Public Works. There is no snow removal along the trail.
- In the vicinity of the Greenway terminus is a senior housing complex and municipally-owned town park with little league baseball fields.
- Issues along this corridor to consider for extending the Greenway:
    - Culverts on both sides.
    - Wetlands on the east side.
    - I-84 on- and off-ramps along west side.
    - I-84 bridge abutments along east side are close to curb.
    - Embankment issues on east side.
    - Fewer grade issues on west side.
- CTDOT will be replacing the large culvert under Route 63 near I-84. The Town asked if there would be room to create a wide shoulder that could accommodate bicyclists.
- Route 63 is classified as a minor arterial, it's also known as the Straits Turnpike.
- ADT in this section is 12,100 to 13,800.
- The posted speed limit is 40 mph north of Country Club Road and 45 mph to the south.
- Heavy truck traffic was noted in the area.
- Lighting is not generally good along the corridor, but needs to be improved in the future.
- Southbound traffic is higher due to construction on I-84 in Waterbury. Motorists use this corridor to avoid travelling on I-84.

- There are no pedestrian or cyclist accommodations along this route. There is a narrow shoulder along both sides of the road, intermittently widening according to road dimensions.
- Pedestrians have been observed walking along Route 63 to access several of the businesses in the area.
- Pedestrian travel is common along the shoulder of Route 63, especially along the southern section where Post University is located. Stakeholders commented that students and staff walk to the restaurants and commercial sites just north of Whittemore Road. Pedestrian traffic is highest around lunch time.
- Pedestrians also originate on the northern side of corridor from Memorial Middle School and stakeholders report they walk along Route 63 in the study area.
- There are no pedestrian accommodations or facilities, but the sight lines are generally adequate for road crossing.
- The catch basin grates are bike friendly.
- There are bituminous curbs with low reveal.
- Road pavement and striping are in fair to good condition on Route 63 (Figure 7).
- Police noted that speeding patterns along this corridor are congruent with other areas in town.
- I-84 Exit 17 on- and off-ramps intersect this section of Route 63 on the west side.
- Traffic turning left from northbound Route 63 onto I-84 westbound causes traffic to wait and motorists pull into the adjacent lane to avoid waiting, causing conflicts and crashes, according to stakeholders.

Figure 7: Route 63

# 3 RSA Assessment

## 3.1 Field Audit Observations

**Route 63 and Woodside Avenue**

Figure 8: Route 63 and Woodside Avenue looking south.

- This is a three-way, T-intersection with Woodside Avenue forming the stem of the T on the west side of Route 63 (Figure 8).
- The popular restaurant Maggie McFly's is located on the northwest corner at this intersection.
- The road narrows to two lanes of travel north of the I-84 on-ramp and continues north. The lanes are 13-feet wide with 1 to 2 foot shoulders, except on the east side where the shoulder is wider for a short distance.
- There are separate left- and right-turn lanes on the Woodside Avenue approach.
- The Greenway trail begins north of this intersection on the west side. This is where the trail extension to the south is anticipated to begin (Figure 9).
- There are pedestrian pushbuttons on the northwest and southeast corners, but no pedestrian signal heads.
- There are no crosswalks or handicap ramps.
- There is a sidewalk on the east side that begins at the Greenway and extends on the north side of Woodside Avenue. It provides access via a crosswalk to a pathway on the south side of Woodside Avenue.
- Route 63, north of this intersection, has some vertical curvature and limited sight lines.
- There are no street lights in this area.

Figure 9: Middlebury Greenway Trail north of Woodside Avenue

**Route 63 at I-84 exit 17 Interchange**

- This section of Route 63 is four lanes wide, with two northbound and two southbound lanes (Figure 10).
- There are narrow shoulders on each side of the road.
- The lanes measure 11-feet wide.
- The I-84 bridge abutments are obstacles to extending the Greenway on either side of Route

Figure 10: Route 63 and I-84 Exit 17 interchange

63 (Figure 10). They measure as follows:
    - East side curb to bridge abutment - 4.5 feet.
    - West side curb to bridge abutment - 8.5 feet (Figure 11).

Figure 11: I-84 abutments on west side of Route 63

- I-84 crosses over Route 63. The I-84 westbound on-ramp is located north of the bridge. It has two separate short roadways (bordering a triangular island) to accommodate southbound right turn and northbound left turn traffic from Route 63.
- The I-84 eastbound off-ramp splits into two approaches at Route 63 to accommodate southbound right turn and northbound left turn traffic (Figure 12). The eastbound off-ramp is signalized as part of a four-way signal with the park-and-ride lot north driveway on the east side.

Figure 12: I-84 eastbound off-ramp

- The park-and-ride lot will be relocated to the intersection of Route 63/Woodside Avenue as part of the CTDOT project to construct Chase Parkway Extension. At this point there are no plans to reuse the existing park-and-ride lot.
- The park-and-ride lot south driveway is one-way exit only and is stop sign controlled.
- There are no sidewalks, crosswalks or handicap ramps in this area.
- There are street lights in the park-and-ride lot.

**Route 63 between I-84 and Country Club Road**

- Route 63 narrows form four to two lanes south of the park-and-ride lot on the east side of Route 63.
- There is steep slope and potentially wetlands on the east side of Route 63 south of the park-and-ride lot. This area has a guiderail.
- Just south of the Nature Goods Market at 860 Straits Turnpike on the east side, the utility poles shift from the west side of Straits Turnpike to the east side. There is a retaining wall along the Nature Goods Market frontage, which may be an issue for constructing the Greenway on the east side at this location. The shoulders are wider on both sides in this area.
- Just south of this area there appears to be wetlands with steep slope and guiderail on the east side of Route 63. The utility poles are located right behind the guiderail.
- There are four commercial driveways on the east side of Route 63 and three driveways on the west side between the park-and-ride lot and Country Club Road.

- The shoulders are wide on both sides of Route 63 in this area.
- There are no sidewalks, crosswalks or street lights in this area.
- Post University students often cross Route 63 in this area.

Figure 13: Route 63 and Country Club Road

**Route 63 at Country Club Road**

- This is an offset four-way signalized intersection with split phasing on the Country Club Road approaches (Figure 13).
- There is a pedestrian pushbutton on the northeast corner, but no pedestrian signal heads.
- There are no other pedestrian accommodations at this intersection (crosswalks or ramps).
- There is a significant amount of pedestrian traffic from Post University, located east of Route 63.
- Each roadway at this intersection has one lane in each direction.
- The travel lanes measure 12.5 feet in each direction on Route 63.
- Shoulders measure 8.5 feet on both sides of Route 63.
- There are environmental constraints on both sides of Route 63 that are issues for developing a Greenway. North of the intersection there is a large culvert (Wooster Brook) on both sides of Route 63 and riprap on the east side. CTDOT will be replacing this culvert as a separate project (Figure 14). Both sides have steep slopes and embankments (Figure 15).
- South of the intersection there is steep slope on the east side and potential wetlands.
- Hop Brook Recreation Area, owned by the Army Corps of Engineers, is a 536-acre area open to the public for canoeing, hiking, fishing, etc. located south of the intersection across from Route 188. The Town would like to eventually extend the Greenway to the trails located in this recreation area.

Figure 14: Culvert on east side of Route 63

Figure 15: Embankment on east side

## 3.2 Post Audit Workshop - Key Issues

- The Town has a portable speed trailer that can be used in the Route 63 corridor to help reduce traffic speeds.
- New traffic and pedestrian volume counts should be conducted along the study corridor.
- Adding crosswalks and pedestrian signals at the Route 63/Country Club Road intersection should be evaluated.
- The Town should coordinate with the Naugatuck Valley Council of Governments to conduct a transportation study for the corridor to evaluate options.
- Lighting should be improved along Route 63.

# 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 costlier 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 or more years when funding is available.

## 4.1 Short -Term

1. Town to coordinate with NVCOG to conduct new traffic and pedestrian counts along the Route 63 corridor. This should include both roadway and intersection turning movement counts.
2. Town to place portable speed radar sign at strategic locations along Route 63 corridor (Figure 16).
3. Town to coordinate with CTDOT on the Route 63/Wooster Brook culvert project to consider providing widened shoulders for better pedestrian and bicycle accommodation.
4. Town and NVCOG to coordinate with CTDOT so that the planned intersection improvements at the intersection of Route 63/Woodside Avenue and the planned Chase Parkway Extension do not preclude potential Greenway extension alternatives. In addition, CTDOT should provide signal conduit for construction of pedestrian signals in the future along with crosswalks and handicap ramps.
5. Town to coordinate with CTDOT to restripe travel lanes on Route 63 to 11 feet when Route 63 is repaved. This will provide wider shoulders which can better accommodate pedestrians and bicyclists.
6. Town and NVCOG to coordinate with CTDOT to evaluate alternative lane utilization for the Route 63 approaches at the planned Chase Parkway Extension project at Woodside Avenue. Changing the currently proposed northbound and southbound approach lanes on Route 63 from two shared lanes to one exclusive left-turn lane and one shared through-right lane should be evaluated.

Figure 16: Speed radar sign

7. Town to coordinate with developers to provide sidewalk for connection to future Greenway as needed.
8. NVCOG and Town to explore funding alternatives for the Greenway extension.

Figure 17 depicts these recommendations.

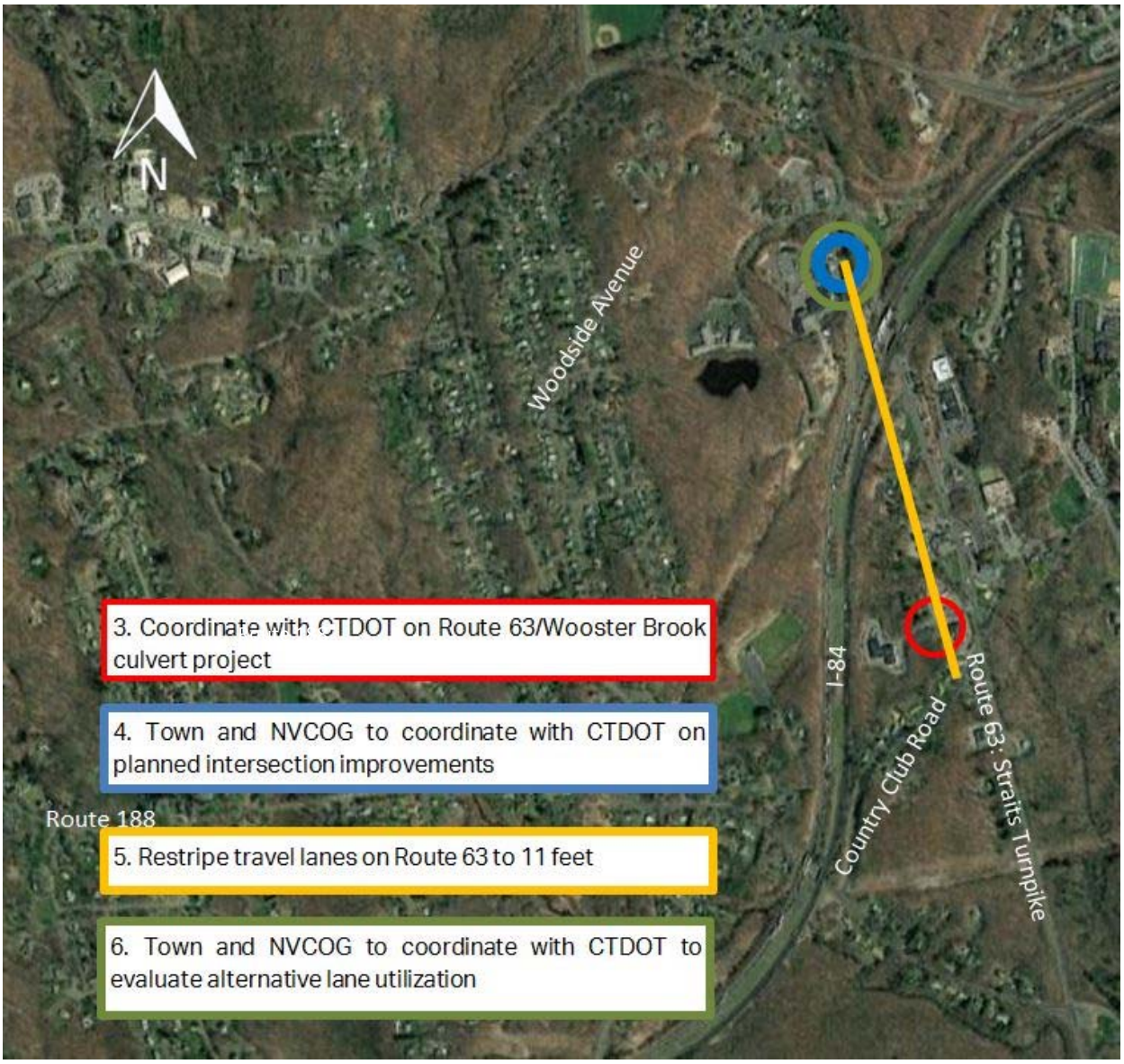



**Figure 17: Short-Term Recommendations**

## 4.2 Medium-Term

1. Town to coordinate with NVCOG and CTDOT to conduct an alternatives analysis for extending the Greenway south from Woodside Avenue to Country Club Road. There are constraints/issues of both sides of Route 63 such as crossing I-84 interchange ramps, steep slopes, wetlands, utility poles, and available right-of-way. The benefits and costs of each alternative should be evaluated.
2. Town Wetlands Department to coordinate with other Town departments and staff to determine the feasibility of extending the Greenway along either side of Route 63.
3. Town to coordinate with CTDOT to evaluate providing pedestrian signals and crosswalks at the intersection of Route 63/Country Club Road.
4. Town to coordinate with NVCOG to evaluate alternatives for extending the Greenway south to Naugatuck.
5. Town to coordinate with CTDOT to consider using the relocated park-and-ride parking lot for Greenway users parking.

Figure 18 depicts these recommendations.

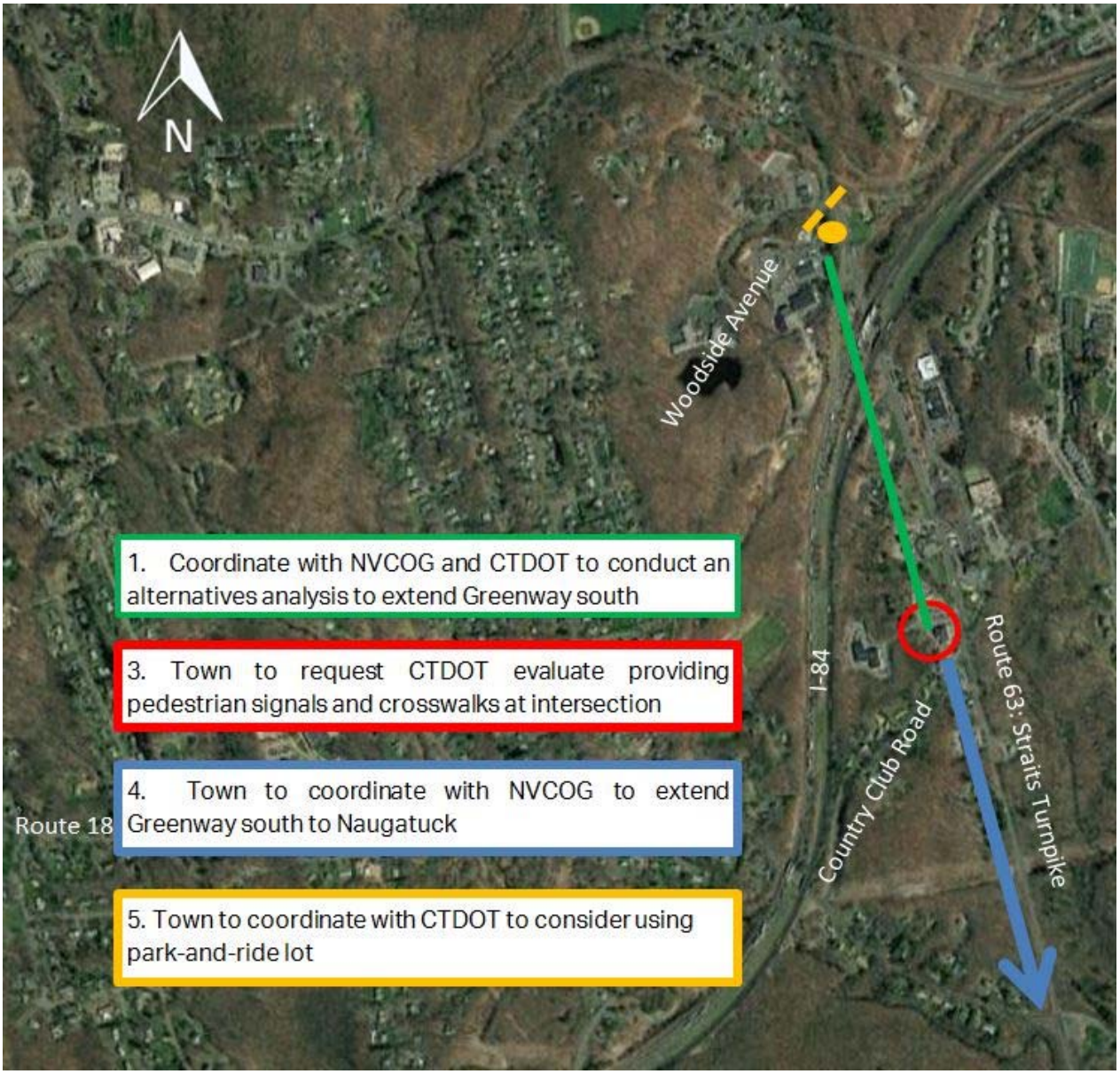



**Figure 18: Medium-Term Recommendations**

## 4.3 Long-Term

1. Town to select a preferred alternative for extending the Greenway south along Route 63 and secure funding to design and construct the project. Lighting should be an element of the project.
2. When Town extends the Greenway, install a visual and protective barrier between Route 63 and the Greenway where needed (such as under I-84) for pedestrian and motorist separation (Figure 19).
3. Town to coordinate with CTDOT to install a crosswalk(s) at the intersection of Route 63/Woodside Avenue that connects the current terminus of the Greenway on the northwest corner of the intersection with the Greenway extension on the south side of the intersection. Consider installing an advance "signal ahead" sign for southbound traffic due to limited sight lines and vertical curve.

**Figure 19: Pedestrian barrier**

4. Town to coordinate with CTDOT to investigate options to realign the offset four-way intersection of Route 63 and Country Club Road.
5. Town to coordinate with CTDOT to consider alternatives for accommodating pedestrian crossings in the vicinity of Wooster Brook on the south end of the corridor.
6. Town to develop concept plans for providing a Greenway extension or other facility between the town center area and Route 64 via Route 188.
7. Town to coordinate with the US Army Corps of Engineers to discuss linking the Middlebury Greenway extension to the trails at the Hop Brook Recreation Area (Figure 20).

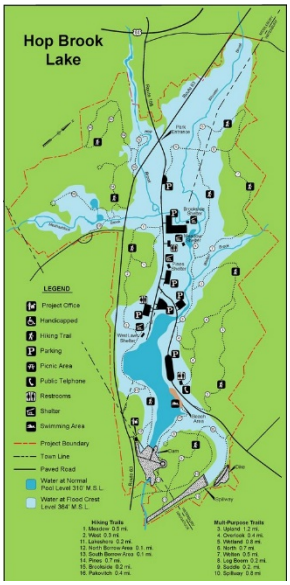



**Figure 20: Hop Brook Lake**

Figure 21 depicts these recommendations.

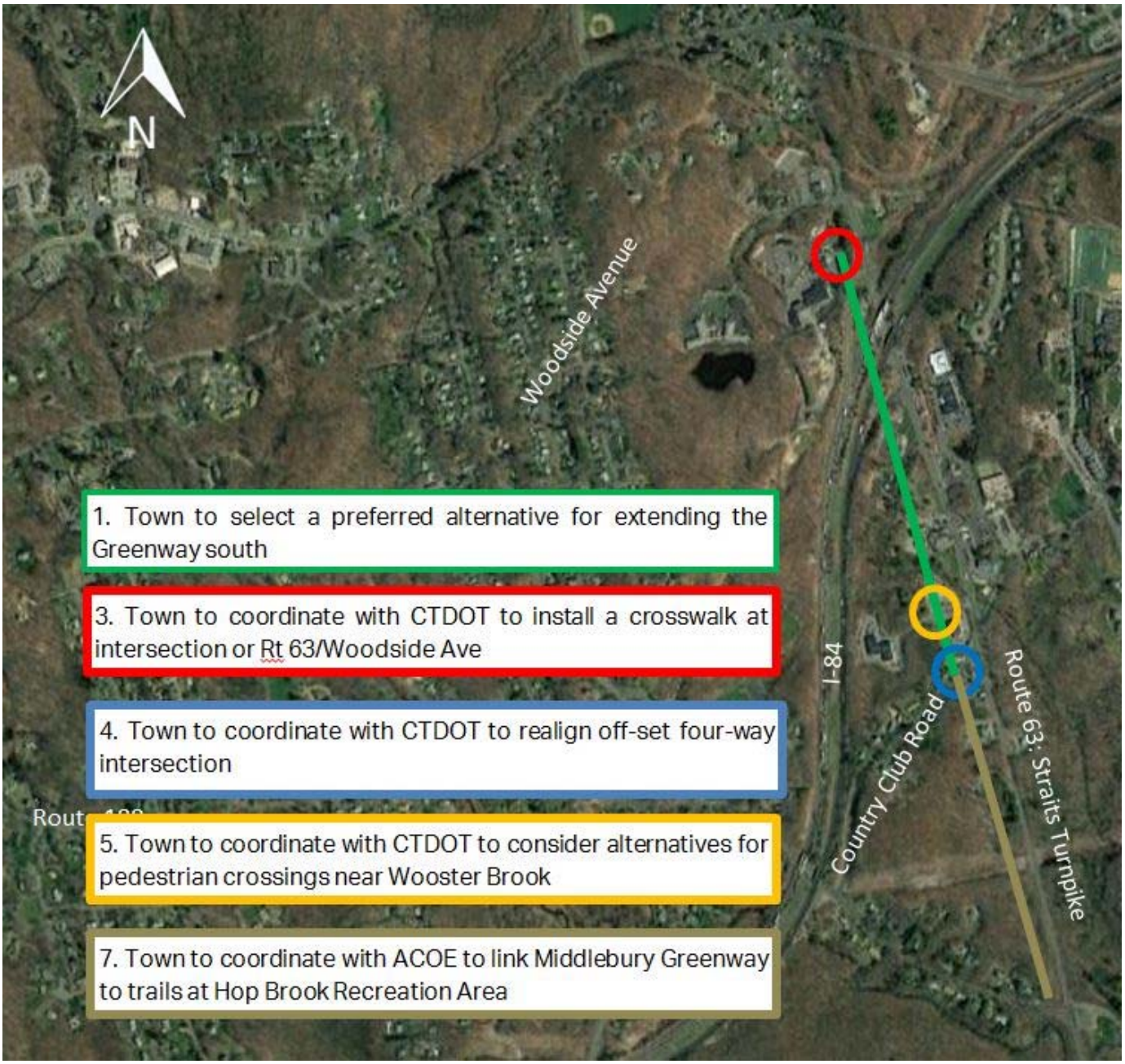



**Figure 21: Long-Term Recommendations**

## 4.4 Summary

This report documents the observations, discussions, and recommendations developed during the successful completion of the Town of Middlebury RSA. It provides Middlebury with an outlined strategy to improve the transportation network for all road users on Route 63 in the center of town, particularly focusing on pedestrians and cyclists. Moving forward, Middlebury may use this report to prepare strategies for funding and implementing the improvements, and as a planning tool for recommendations into future development in this area.

COMMUNITY
connectivity program

# Appendix A

CONNECTICUT DEPARTMENT OF TRANSPORTATION

AECOM
Built to deliver a better world

# Welcome to the Community Connectivity Program Application


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

## 1. Applicant contact information

| | |
|---|---|
| **Name** | Ed St. John |
| **Title** | First Selectman |
| **Email Address** | firstselectman@middlebury-ct.org |
| **Telephone Number** | (203) 758-2439 |

## 2. Location information

| | |
|---|---|
| **Address** | 726-842 Straits Turnpike |
| **Description** | Extend Middlebury Greenway along Route 63: Woodside Avenue to C |
| **City / Town** | Middlebury |

**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)**

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

The extension of the Middlebury Greenway could provide access to Post University in Waterbury

**5. Approximate mile radius around the location**

Greater than a ½ mile

Other (Please Specify)

About 3,000 ft length bet. Woodside Ave & Country Club Rd; plus 2,700 ft to Hop Brook

## 6. Community Sites
## (Please select all that apply)

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

The extension of the Middlebury Greenway could provide access to Post University in Waterbury

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

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

**If Yes please describe (please specify)**

Post University is about 1,200 ft from Route 63; several small retail shopping centers, multi-story office buildings and restaurants are located along Route 63

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

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

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

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

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

No

**If Yes please describe and list all projects.**

## 12. Environmental Concerns:

Waterway (rivers, lakes, ocean, etc...)

**If Yes please describe and list.**

The project area lies within the Hop Brook sub-basin of the Naugatuck River and the Hop Brook Lake Recreation Area is located along both sides of Route 63 within the project area. This area is owned and maintained by the federal government and consists of about 249 acres. It protects sections of the Hop Brook and Wooster Brook.

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

The Middlebury Greenway crosses the entire town from east to west along Route 64; extending about 4.3 miles from Lake Quassapaug on the west side of town to the Route 63 and Woodside Avenue intersection on the east side of town. It connects businesses, parks and neighborhoods, and passes through the town center; and is well used by walkers, runners and bicyclists. The greenway is paved and is generally 10 feet wide. The trail follows an old trolley line and the contours, making hillier and more winding than a typical rail-trail.

Its current eastern terminus is at the intersection of Woodside Avenue and Route 63. In vicinity of this terminus is a senior housing complex and municipal own town park with little league baseball fields. The land use along Route 63 is a mix of retail, commercial, residential and dedicated open space. Pedestrians have been observed walking along Route 63 to access several of businesses in the area.

Route 63 is generally a two-lane road, except in vicinity of the western ramps of I-84. In the section between the westbound on-ramp to I-84 and the eastbound off ramp, Route 63 consists of four lanes to accommodate the movements to and from the interstate. The companion eastern ramps for this interchange are located in the City of Waterbury and are connected to Route 64. Between 2010 and 2014, 190 crashes were recorded along Route 63 between Route 64 and Allerton Farms Road. ADTs on Route 63 range between about 13,600 vehicles per day near the intersection with Route 64 and 9,900 vpd north of Route 188. The shoulder is relatively wide through the area (except in the vicinity of the I-84 interchange), and, because the road is flat and straight, vehicle speeds are fairly high and likely exceed posted speed limits.

The proposed project will extend the Middlebury Greenway along Route 63 from its current terminus at Woodside Avenue to Country Club Road. The extension will provide a safe non-morotized connection from the existing Middlebury Greenway to commercial properties, Post University and Hop Brook Lake Recreational Area.

Google Map: https://www.google.com/maps/@41.536726,-73.0867045,830m/data=!3m1!1e3

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

Yes

The project is area is identified as the Straits Turnpike South Commercial Area in the town's Plan of Conservation and Development. The area contains small retail uses and a large concentration of multi-story office buildings. The area is largely impacted by Post University, located immediately adjacent to the area in Waterbury. The University leases much of the office space in the area and the commercial uses serve both the staff and students of Post University. As the University expands its services, it will demand and need more office space, thereby, influencing development trends along Straits Turnpike.

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

Yes

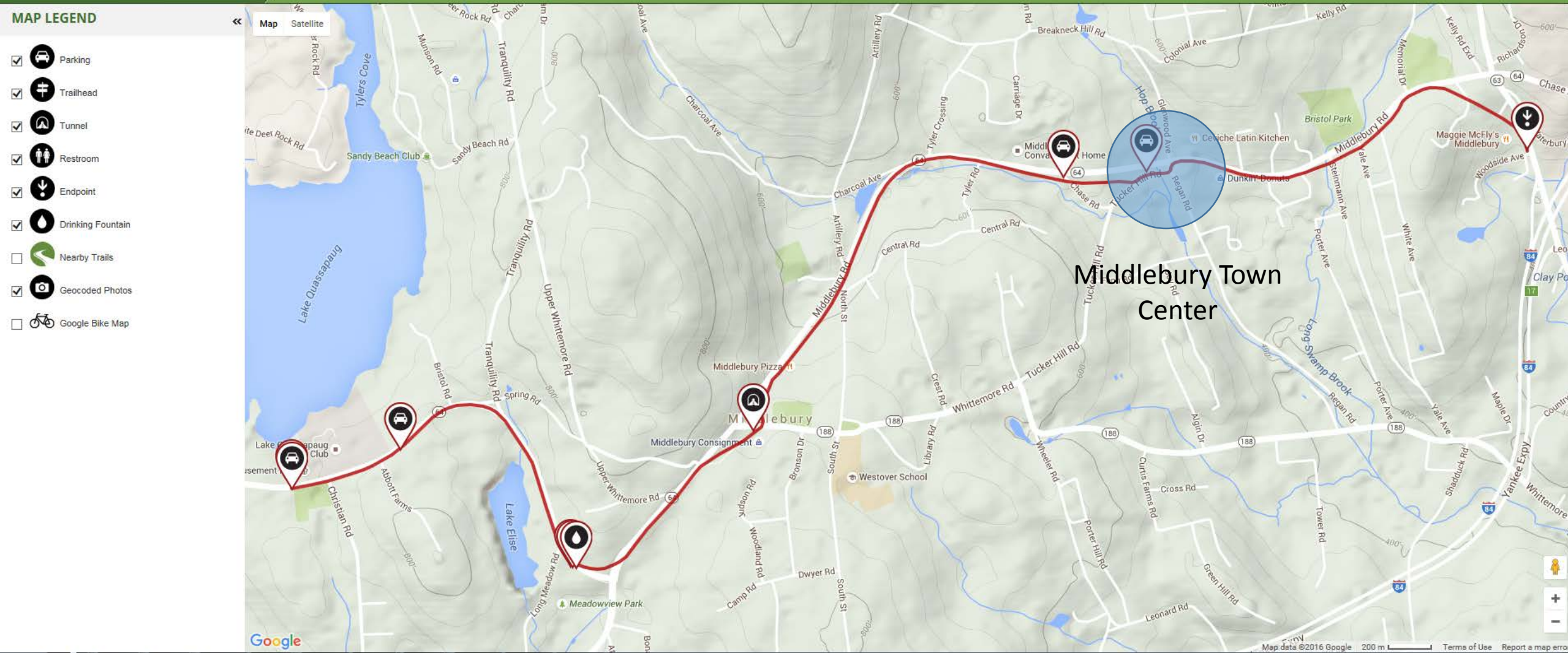
See attached trail counts...

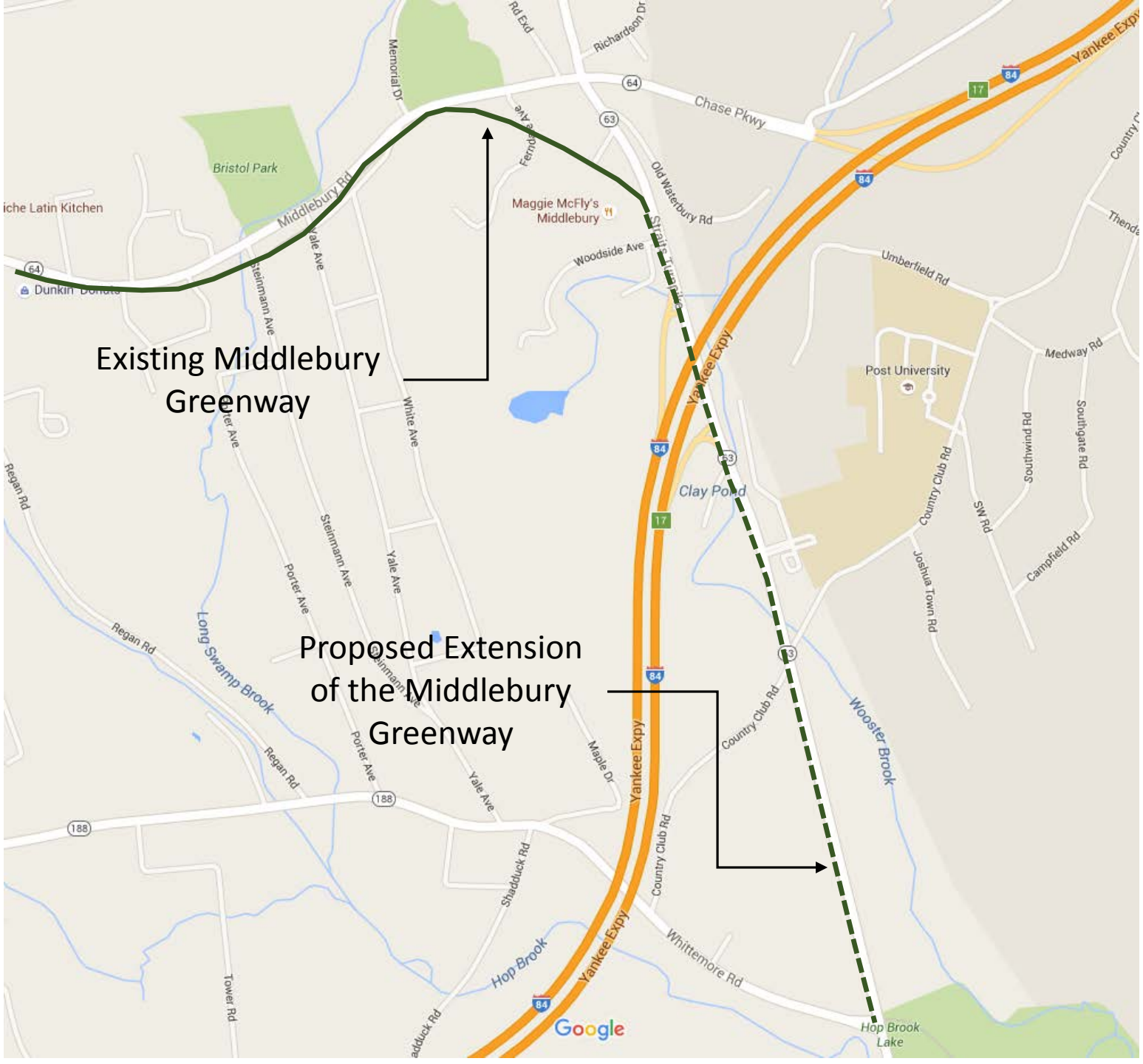
# Thank you for completing the Community Connectivity application.

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

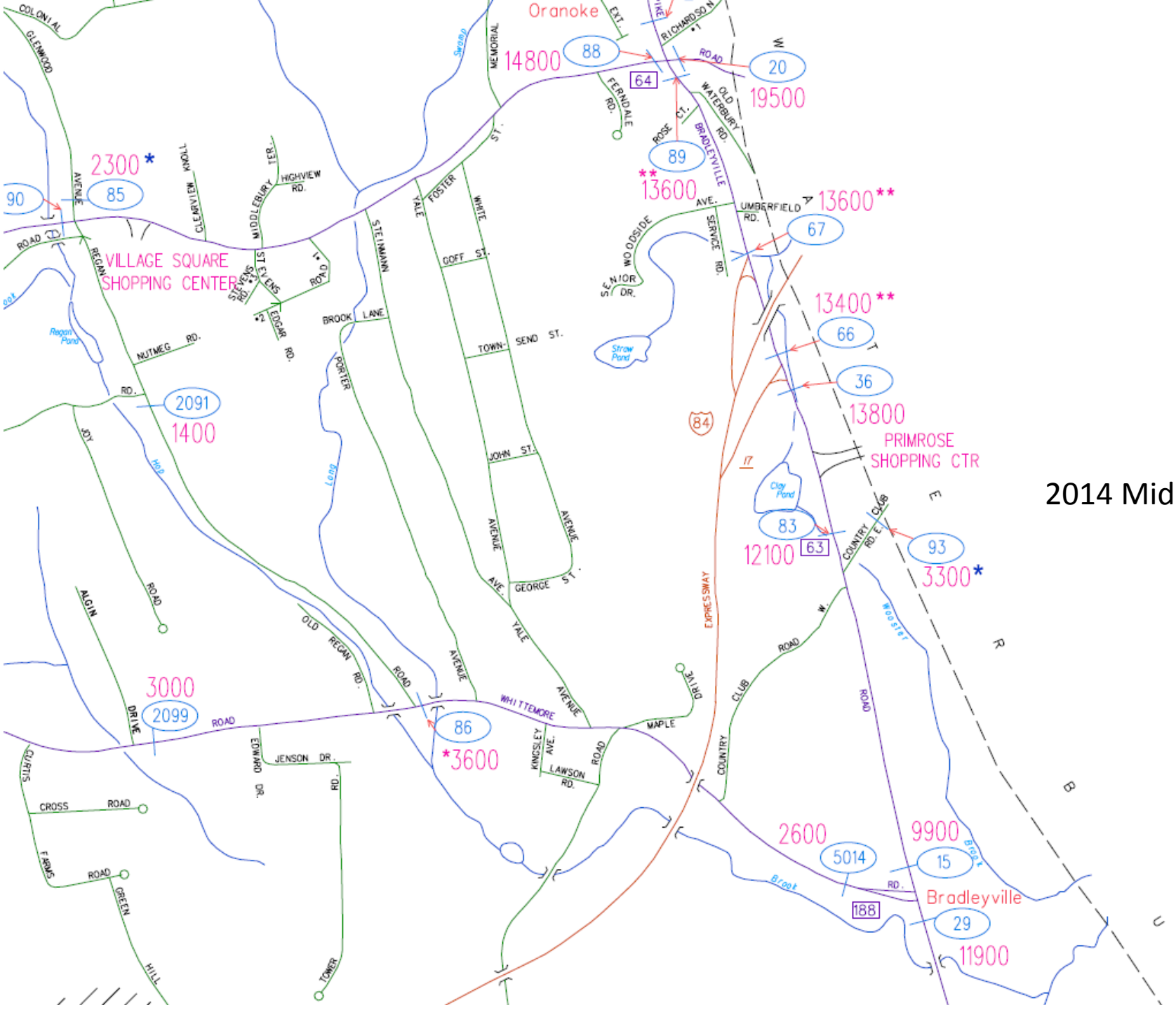
1. Location map (google, GIS) **(Required)**
2. Collision data (If available)
3. Traffic data (ADT or VMT) (If available)
4. Pedestrian/bicycle data (If available)

**Submit Application**


MAP LEGEND
Parking
Trailhead
Tunnel
Restroom
Endpoint
Drinking Fountain
Nearby Trails
Geocoded Photos
Google Bike Map
Map
Satellite
Middlebury Town Center
Lake Quassapaug
Tylers Cove
Lake Elise
Middlebury
Middlebury Pizza
Middlebury Consignment
Westover School
Meadowview Park
Sandy Beach Club
Bristol Park
Maggie McFly's Middlebury
Ceviche Latin Kitchen
Dunkin' Donuts
Google
Map data ©2016 Google
200 m
Terms of Use
Report a map error


Existing Middlebury Greenway
Proposed Extension of the Middlebury Greenway
Bristol Park
Maggie McFly's Middlebury
Middlebury Rd
Chase Pkwy
Old Waterbury Rd
Woodside Ave
Yankee Expy
Umberfield Rd
Medway Rd
Post University
Clay Pond
Country Club Rd
Southwind Rd
Southgate Rd
SW Rd
Campfield Rd
Joshua Town Rd
Wooster Brook
Long Swamp Brook
Hop Brook
Hop Brook Lake
Whittemore Rd
Shadduck Rd
Tower Rd
Regan Rd
Porter Ave
Yale Ave
Steinmann Ave
White Ave
Maple Dr
Memorial Dr
Richardson Dr
Google


End of Existing Middlebury Greenway
Proposed Extension of the Middlebury Greenway
Maggie McFly's Middlebury
Woodside Ave
Straits Turnpike
Yankee Expy
Country Club Woods Cir
Umberfield Rd
Medway Rd
Post University
Country Club Rd
Southwind Rd
Southgate Rd
Leo's
Wooster Brook
Mobil
Dunkin' Donuts
Joshua Town Rd
SW Rd
Campfield Rd
Jaci Carroll Staffing
84
63




2014 Middlebury ADT Map
CTDOT

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF POLICY AND PLANNING
PLANNING INVENTORY AND DATA

## TRAFFIC RECORDER DATA

TOWN OF MIDDLEBURY ROUTE 63 DIRECTION B

NORTH OF ROUTE 188

| DAY | SUN | MON | TUE | WED | THU | FRI | SAT |
|---|---|---|---|---|---|---|---|
| DATE | 0 | 0 | 0 | 06/25/2014 | 06/26/2014 | 0 | 0 |
| TYPE | | | | | | | |
| HOUR | | | | | | | |

2014 ADT = 9900 ACF = NA

**********

| | | | | | | | |
|---|---|---|---|---|---|---|---|
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| 01A | 0 | 0 | 0 | 0 | 37 | 0 | 0 |
| 02A | 0 | 0 | 0 | 0 | 13 | 0 | 0 |
| 03A | 0 | 0 | 0 | 0 | 27 | 0 | 0 |
| 04A | 0 | 0 | 0 | 47 | 0 | 0 | 0 |
| 05A | 0 | 0 | 0 | 211 | 0 | 0 | 0 |
| 06A | 0 | 0 | 0 | 413 | 0 | 0 | 0 |
| 07A | 0 | 0 | 0 | 663 | 0 | 0 | 0 |
| 08A | 0 | 0 | 0 | 733 | 0 | 0 | 0 |
| 09A | 0 | 0 | 0 | 556 | 0 | 0 | 0 |
| 10A | 0 | 0 | 0 | 590 | 0 | 0 | 0 |
| 11A | 0 | 0 | 0 | 664 | 0 | 0 | 0 |
| 12P | 0 | 0 | 0 | 658 | 0 | 0 | 0 |
| 01P | 0 | 0 | 0 | 649 | 0 | 0 | 0 |
| 02P | 0 | 0 | 0 | 718 | 0 | 0 | 0 |
| 03P | 0 | 0 | 0 | 768 | 0 | 0 | 0 |
| 04P | 0 | 0 | 0 | 880 | 0 | 0 | 0 |
| 05P | 0 | 0 | 0 | 972 | 0 | 0 | 0 |
| 06P | 0 | 0 | 0 | 722 | 0 | 0 | 0 |
| 07P | 0 | 0 | 0 | 585 | 0 | 0 | 0 |
| 08P | 0 | 0 | 0 | 418 | 0 | 0 | 0 |
| 09P | 0 | 0 | 0 | 297 | 0 | 0 | 0 |
| 10P | 0 | 0 | 0 | 225 | 0 | 0 | 0 |
| 11P | 0 | 0 | 0 | 119 | 0 | 0 | 0 |
| TOT | 0 | 0 | 0 | 10888 | 135 | 0 | 0 |

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF POLICY AND PLANNING
PLANNING INVENTORY AND DATA

TRAFFIC RECORDER DATA

TOWN OF MIDDLEBURY ROUTE 63 DIRECTION B

SOUTH OF I-84 EB OFF RAMP(EXIT 17)

| DAY | SUN | MON | TUE | WED | THU | FRI | SAT |
|---|---|---|---|---|---|---|---|
| DATE | 0 | 0 | 0 | 07/02/2014 | 07/03/2014 | 0 | 0 |
| TYPE | | | | | | | |
| HOUR | | | | | | | |

2014 ADT = 13800 ACF = NA

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| 04A | 0 | 0 | 0 | 58 | 0 | 0 | 0 |
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| 07A | 0 | 0 | 0 | 875 | 0 | 0 | 0 |
| 08A | 0 | 0 | 0 | 1005 | 0 | 0 | 0 |
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| 03P | 0 | 0 | 0 | 1136 | 0 | 0 | 0 |
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| 05P | 0 | 0 | 0 | 1306 | 0 | 0 | 0 |
| 06P | 0 | 0 | 0 | 791 | 0 | 0 | 0 |
| 07P | 0 | 0 | 0 | 650 | 0 | 0 | 0 |
| 08P | 0 | 0 | 0 | 485 | 0 | 0 | 0 |
| 09P | 0 | 0 | 0 | 365 | 0 | 0 | 0 |
| 10P | 0 | 0 | 0 | 218 | 0 | 0 | 0 |
| 11P | 0 | 0 | 0 | 133 | 0 | 0 | 0 |
| TOT | 0 | 0 | 0 | 14897 | 129 | 0 | 0 |

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF POLICY AND PLANNING
PLANNING INVENTORY AND DATA

## TRAFFIC RECORDER DATA

TOWN OF MIDDLEBURY ROUTE 63 DIRECTION B

NORTH OF I-84 EB OFF RAMP (EXIT 17)

| DAY | SUN | MON | TUE | WED | THU | FRI | SAT |
|---|---|---|---|---|---|---|---|
| DATE | 0 | 0 | 0 | 07/02/2014 | 07/03/2014 | 0 | 0 |
| TYPE | | | | | | | |
| HOUR | | | | | | | |

2014 ADT = 13400 ACF = 0.99

**********

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| 02A | 0 | 0 | 0 | 0 | 17 | 0 | 0 |
| 03A | 0 | 0 | 0 | 27 | 0 | 0 | 0 |
| 04A | 0 | 0 | 0 | 56 | 0 | 0 | 0 |
| 05A | 0 | 0 | 0 | 269 | 0 | 0 | 0 |
| 06A | 0 | 0 | 0 | 541 | 0 | 0 | 0 |
| 07A | 0 | 0 | 0 | 896 | 0 | 0 | 0 |
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| 09A | 0 | 0 | 0 | 945 | 0 | 0 | 0 |
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| 12P | 0 | 0 | 0 | 1009 | 0 | 0 | 0 |
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| 03P | 0 | 0 | 0 | 1104 | 0 | 0 | 0 |
| 04P | 0 | 0 | 0 | 1193 | 0 | 0 | 0 |
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| 06P | 0 | 0 | 0 | 748 | 0 | 0 | 0 |
| 07P | 0 | 0 | 0 | 612 | 0 | 0 | 0 |
| 08P | 0 | 0 | 0 | 472 | 0 | 0 | 0 |
| 09P | 0 | 0 | 0 | 365 | 0 | 0 | 0 |
| 10P | 0 | 0 | 0 | 212 | 0 | 0 | 0 |
| 11P | 0 | 0 | 0 | 98 | 0 | 0 | 0 |
| TOT | 0 | 0 | 0 | 14580 | 128 | 0 | 0 |

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF POLICY AND PLANNING
PLANNING INVENTORY AND DATA

## TRAFFIC RECORDER DATA

TOWN OF MIDDLEBURY ROUTE 63 DIRECTION B

NORTH OF I-84 WB ON RAMP

| DAY | SUN | MON | TUE | WED | THU | FRI | SAT |
|---|---|---|---|---|---|---|---|
| DATE | 0 | 07/07/2014 | 07/08/2014 | 0 | 0 | 0 | 0 |
| TYPE | | | | | | | |
| HOUR | | | | | | | |
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| 02A | 0 | 0 | 23 | 0 | 0 | 0 | 0 |
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| 04A | 0 | 75 | 0 | 0 | 0 | 0 | 0 |
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| 06A | 0 | 574 | 0 | 0 | 0 | 0 | 0 |
| 07A | 0 | 884 | 0 | 0 | 0 | 0 | 0 |
| 08A | 0 | 961 | 0 | 0 | 0 | 0 | 0 |
| 09A | 0 | 836 | 0 | 0 | 0 | 0 | 0 |
| 10A | 0 | 874 | 0 | 0 | 0 | 0 | 0 |
| 11A | 0 | 887 | 0 | 0 | 0 | 0 | 0 |
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| 03P | 0 | 1072 | 0 | 0 | 0 | 0 | 0 |
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| 05P | 0 | 1260 | 0 | 0 | 0 | 0 | 0 |
| 06P | 0 | 882 | 0 | 0 | 0 | 0 | 0 |
| 07P | 0 | 655 | 0 | 0 | 0 | 0 | 0 |
| 08P | 0 | 501 | 0 | 0 | 0 | 0 | 0 |
| 09P | 0 | 362 | 0 | 0 | 0 | 0 | 0 |
| 10P | 0 | 201 | 0 | 0 | 0 | 0 | 0 |
| 11P | 0 | 118 | 0 | 0 | 0 | 0 | 0 |
| TOT | 0 | 14732 | 149 | 0 | 0 | 0 | 0 |

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF POLICY AND PLANNING
PLANNING INVENTORY AND DATA

TRAFFIC RECORDER DATA

TOWN OF MIDDLEBURY ROUTE DIRECTION B

COUNTRY CLUB ROAD EAST - AT WATERBURY TL

| DAY | SUN | MON | TUE | WED | THU | FRI | SAT |
|---|---|---|---|---|---|---|---|
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| HOUR | | | | | | | |
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| 03A | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| 04A | 0 | 9 | 0 | 0 | 0 | 0 | 0 |
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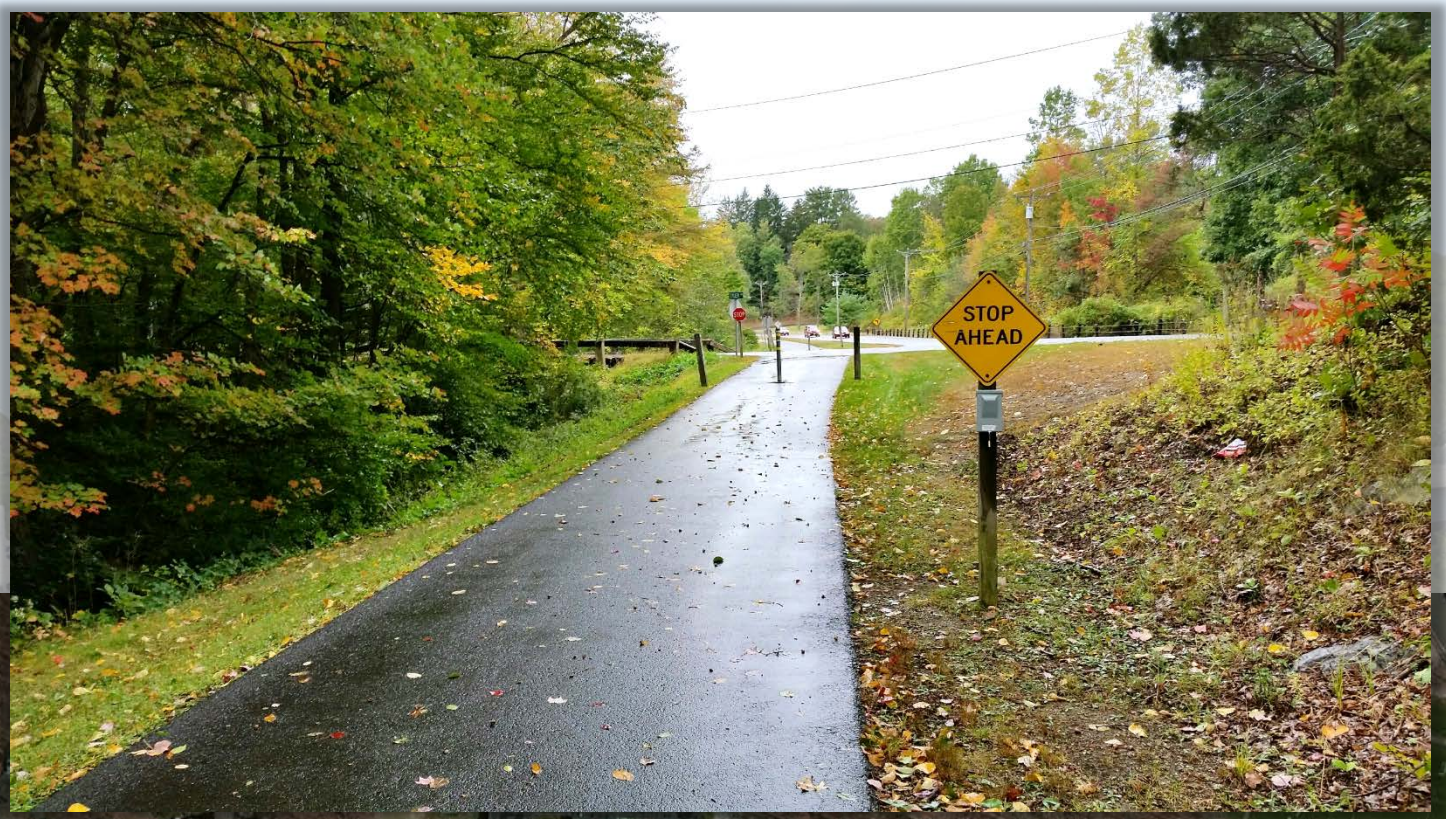
| 02P | 0 | 277 | 0 | 0 | 0 | 0 | 0 |
| 03P | 0 | 277 | 0 | 0 | 0 | 0 | 0 |
| 04P | 0 | 269 | 0 | 0 | 0 | 0 | 0 |
| 05P | 0 | 316 | 0 | 0 | 0 | 0 | 0 |
| 06P | 0 | 183 | 0 | 0 | 0 | 0 | 0 |
| 07P | 0 | 132 | 0 | 0 | 0 | 0 | 0 |
| 08P | 0 | 109 | 0 | 0 | 0 | 0 | 0 |
| 09P | 0 | 75 | 0 | 0 | 0 | 0 | 0 |
| 10P | 0 | 35 | 0 | 0 | 0 | 0 | 0 |
| 11P | 0 | 41 | 0 | 0 | 0 | 0 | 0 |
| TOT | 0 | 3555 | 36 | 0 | 0 | 0 | 0 |

# Greenway Trail Counts

## Summer/Fall 2015

NAUGATUCK VALLEY
COUNCIL of GOVERNMENTS

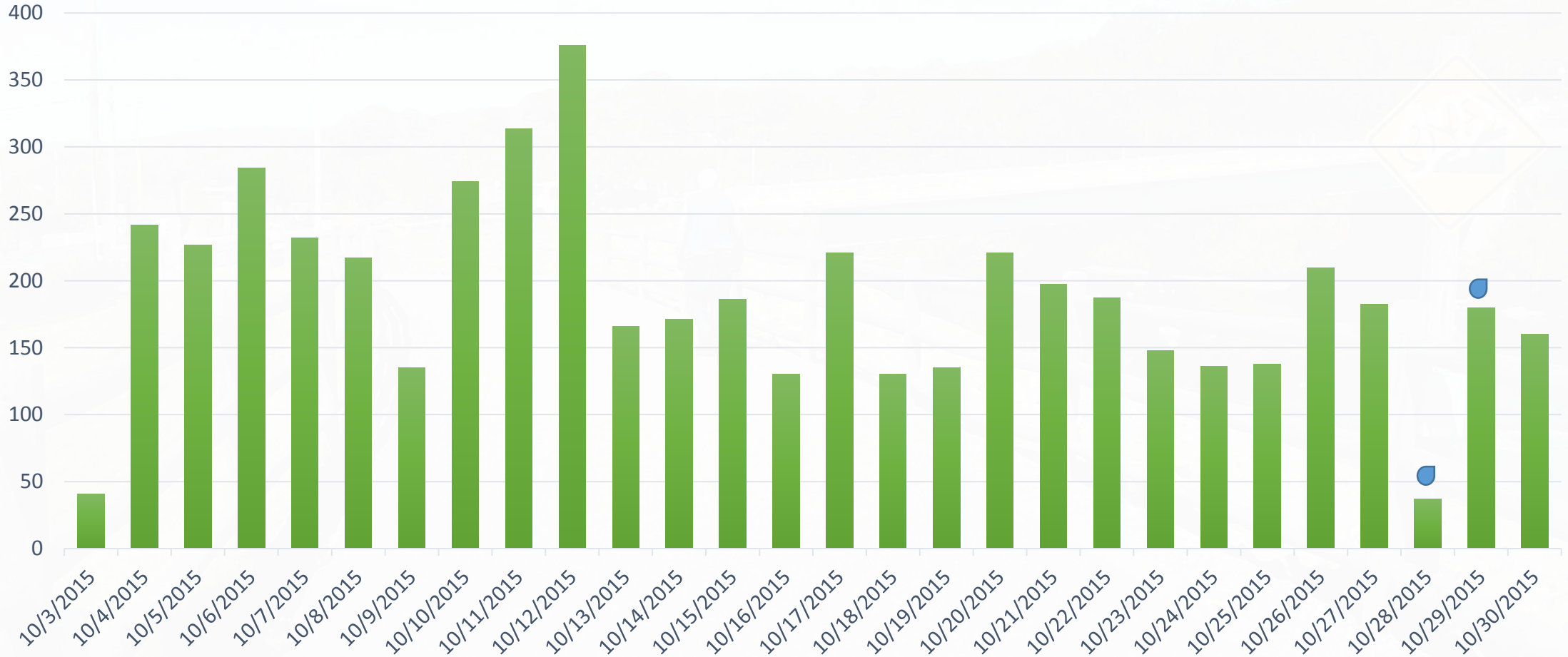
# Middlebury Greenway





NAUGATUCK VALLEY
COUNCIL of GOVERNMENTS

# Middlebury Greenway Adjusted Daily Trail Uses




NAUGATUCK VALLEY COUNCIL of GOVERNMENTS

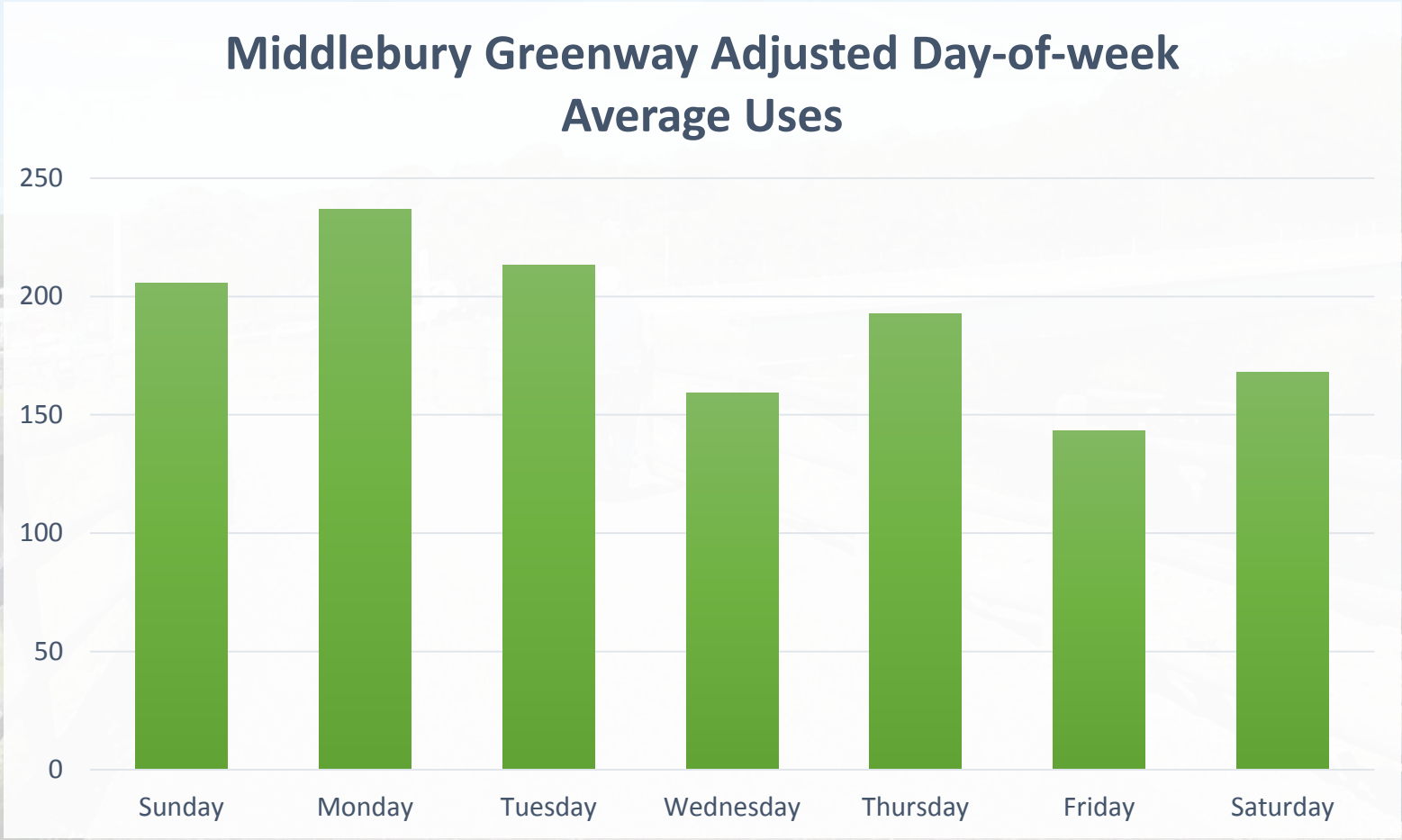
# Middlebury Greenway Use Totals 10/3-10/30

(Adjusted to account for 24% undercount)

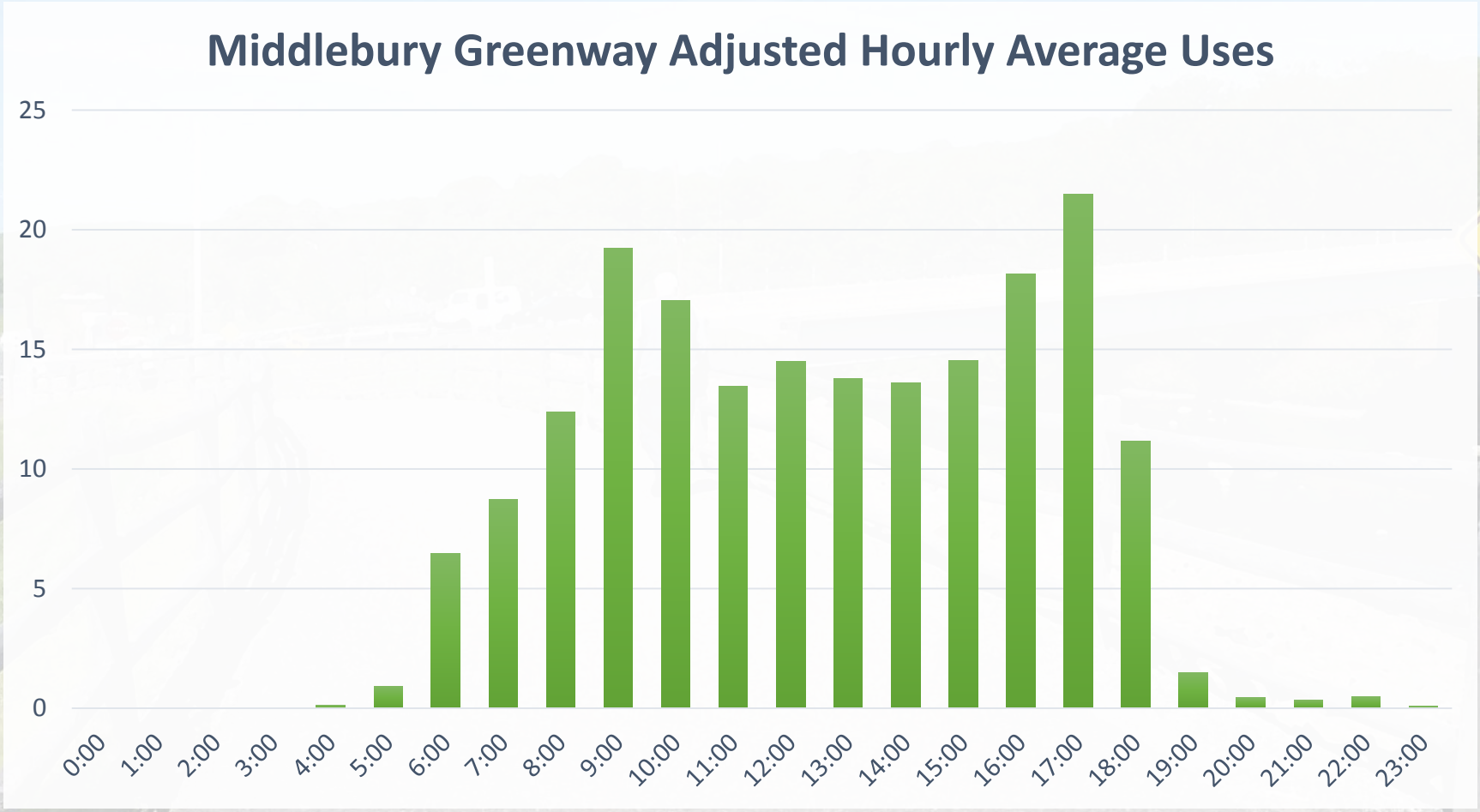
| | |
|---|---|
| 4-Week Total Uses | 5,276 |
| Weekly Average | 1,319 |
| Daily Average | 188 |
| Annual Estimated Uses* | 95,188 |

*Extrapolated using the National Bicycle and Pedestrian Documentation Project Methods: http://bikepeddocumentation.org/

NAUGATUCK VALLEY COUNCIL of GOVERNMENTS




NAUGATUCK VALLEY COUNCIL of GOVERNMENTS



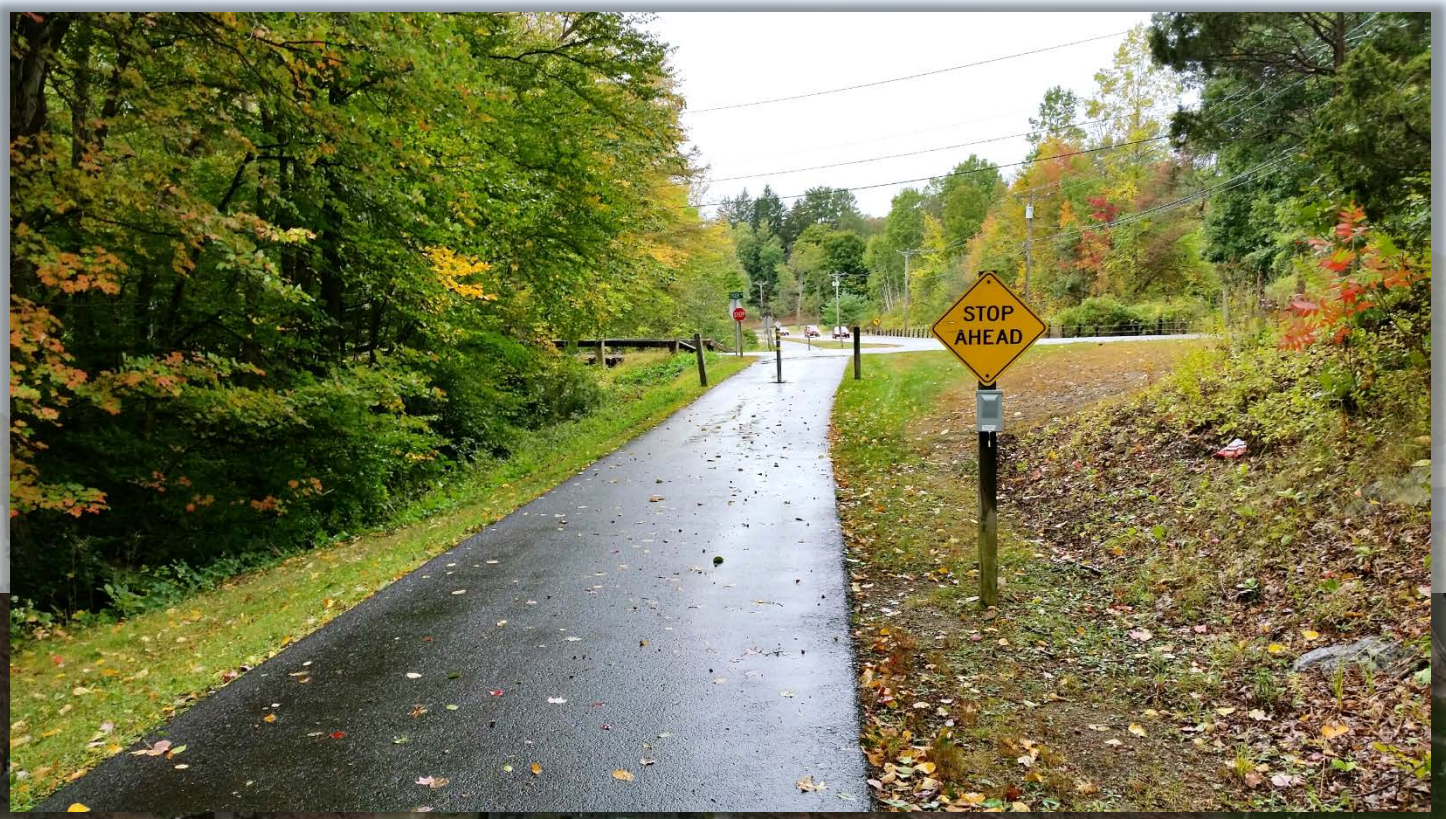

NAUGATUCK VALLEY COUNCIL of GOVERNMENTS

# Greenway Trail Counts

## Summer/Fall 2015

NAUGATUCK VALLEY
COUNCIL of GOVERNMENTS

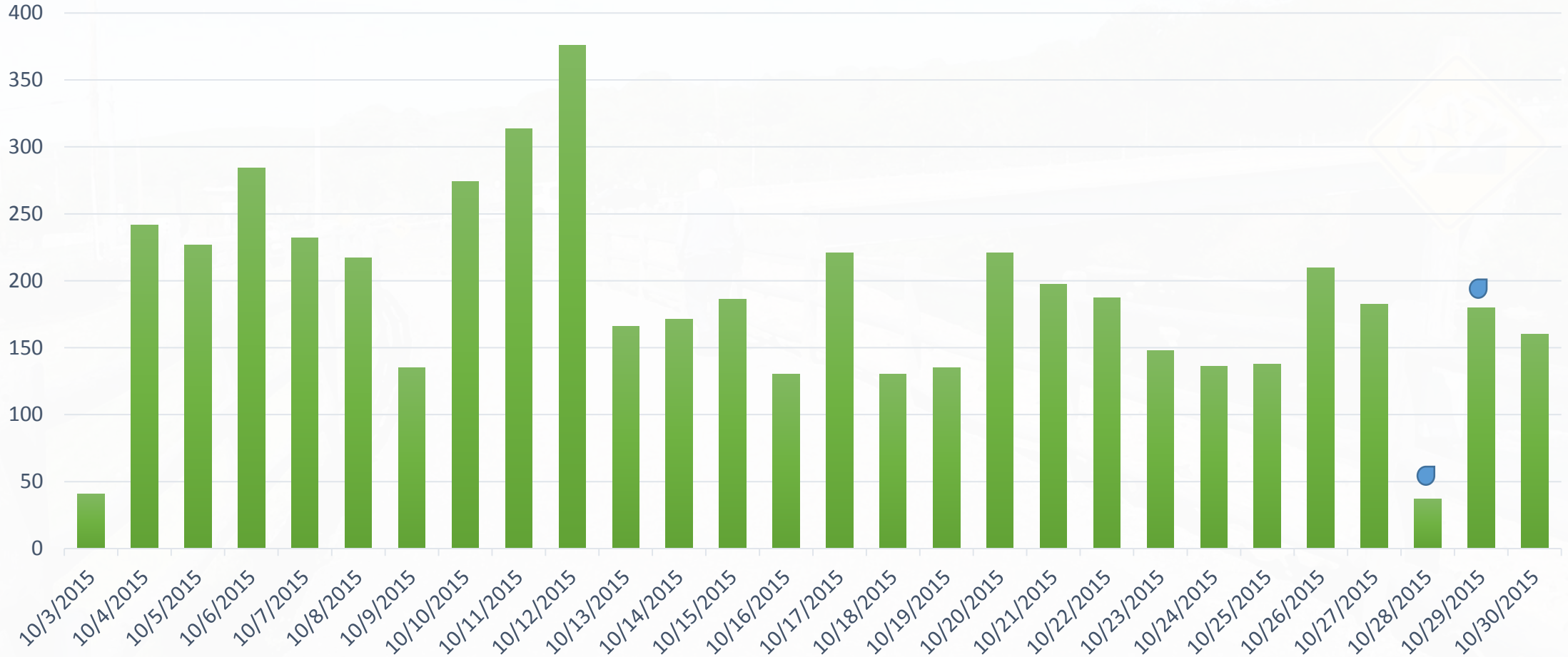
# Middlebury Greenway





NAUGATUCK VALLEY
COUNCIL of GOVERNMENTS

# Middlebury Greenway Adjusted Daily Trail Uses




NAUGATUCK VALLEY COUNCIL of GOVERNMENTS

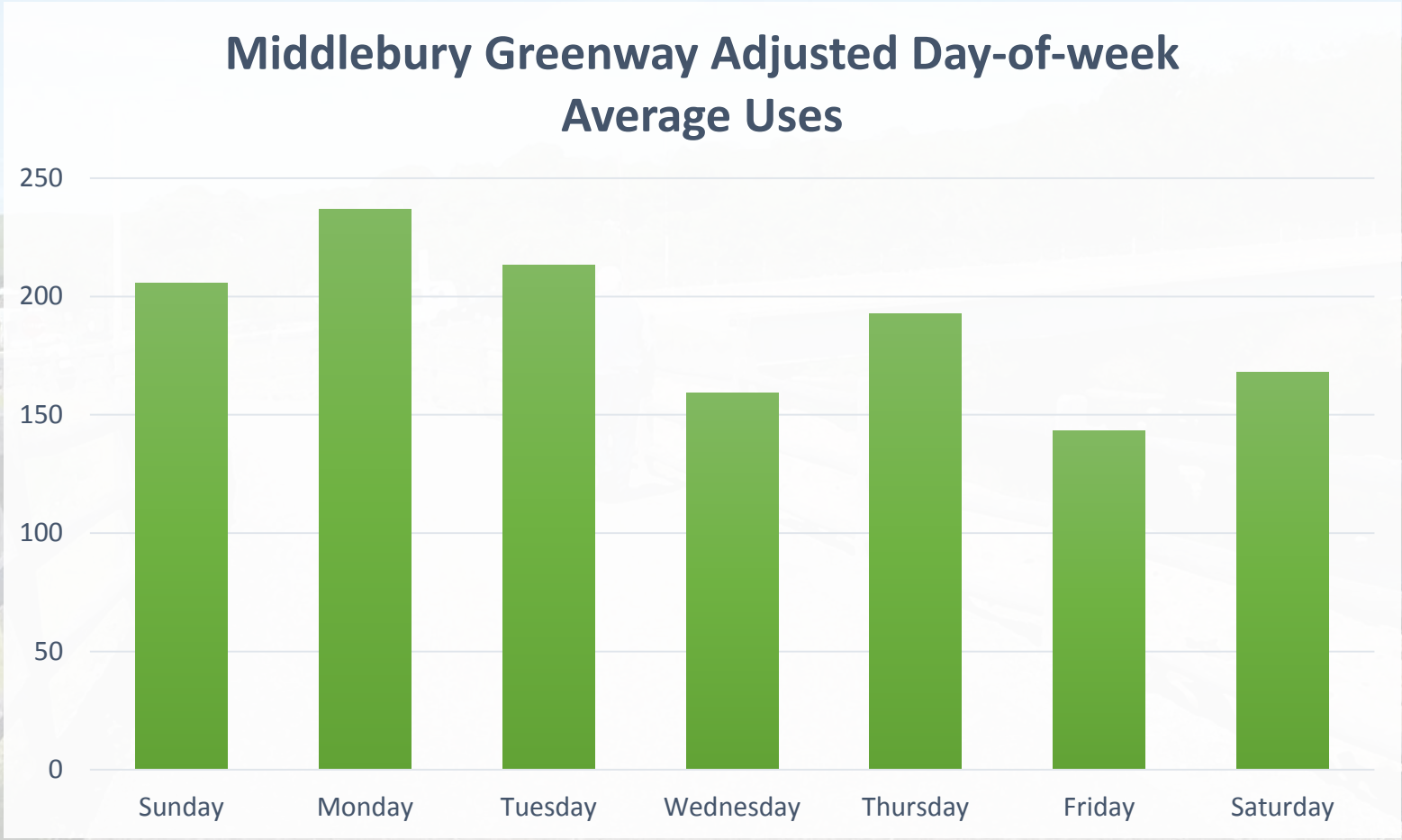
# Middlebury Greenway Use Totals 10/3-10/30

(Adjusted to account for 24% undercount)

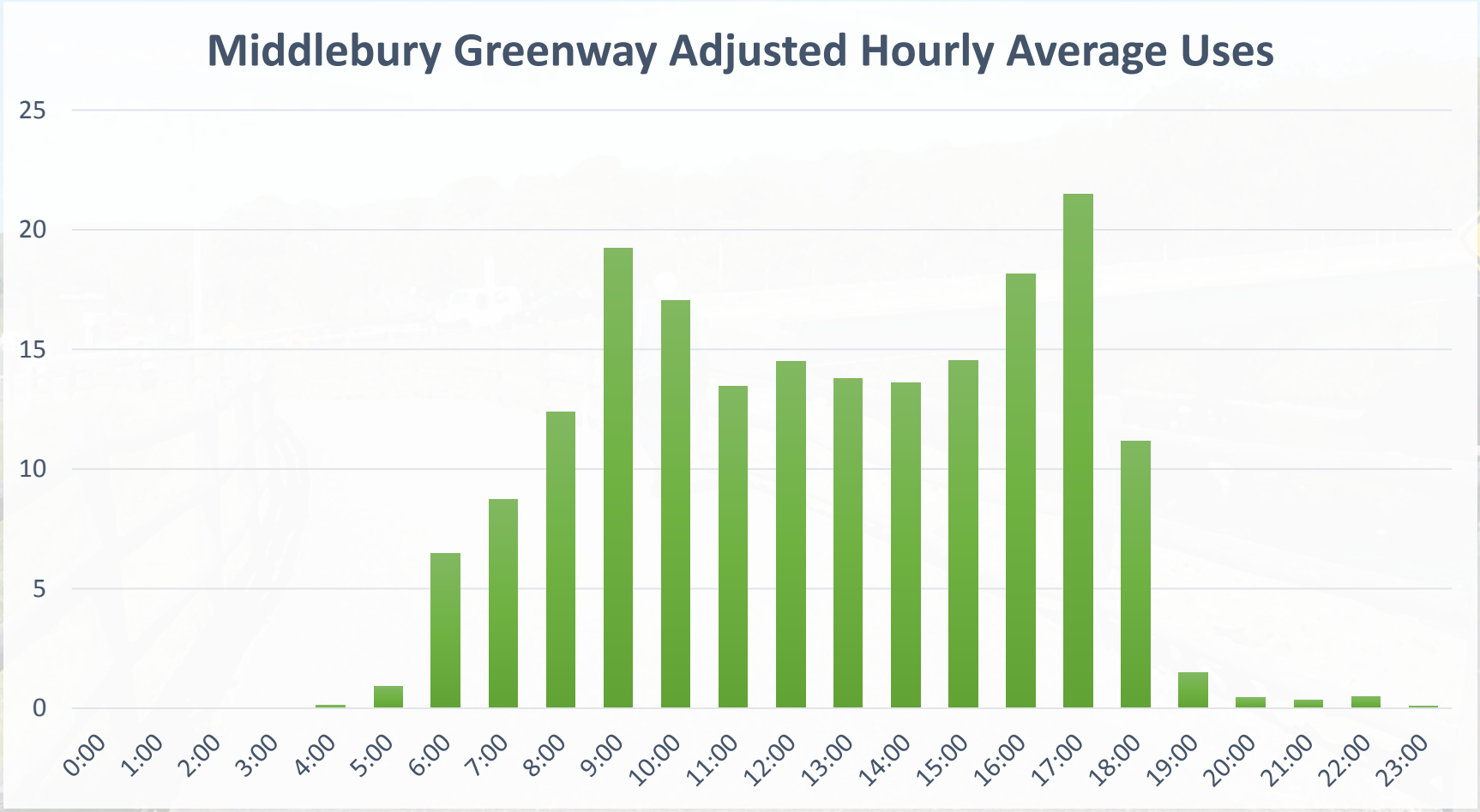
| | |
|---|---|
| 4-Week Total Uses | 5,276 |
| Weekly Average | 1,319 |
| Daily Average | 188 |
| Annual Estimated Uses* | 95,188 |

*Extrapolated using the National Bicycle and Pedestrian Documentation Project Methods: http://bikepeddocumentation.org/

NAUGATUCK VALLEY COUNCIL of GOVERNMENTS




NAUGATUCK VALLEY COUNCIL of GOVERNMENTS




NAUGATUCK VALLEY COUNCIL of GOVERNMENTS

COMMUNITY
connectivity program

# Appendix B

Built to deliver a better world

## Road Safety Audit

| | |
|---|---|
| Town: | Middlebury |
| RSA Location: | Straights Turnpike |
| Meeting Location: | Middlebury Town Hall – 2nd Floor |
| Address: | 1212 Whittemore Road |
| Date: | 11/15/2016 |
| Time: | 11:00 |

## Participating Audit Team Members

| Audit Team Member | Agency/Organization |
|---|---|
| Patrick Zapatka | CTDOT |
| Ryan Acosta | CTDOT |
| Jeff Maxtutis | Aecom |
| Bridget Boucaud | VN Engineers |
| Aaron Buoris | NVCOG |
| Karen Svetz | NVCOG |
| Edward B. St. John | Town of Middlebury |
| Betty Peoulx | Town of Middlebury |
| Daniel Norton | Town of Middlebury |
| Fran Dabbo | Middlebury Police |

COMMUNITY
connectivity program

# Appendix C

Built to deliver a better world

# Road Safety Audit – Middlebury

**Meeting Location:** **Middlebury Town Hall – 2nd Floor**
**Address:** 1212 Whittemore Road
Middlebury, CT 06762
**Date:** 11/15/2016
**Time:** 11:00 AM

## Agenda

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

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

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

**11:00 AM** **Welcome and Introductions**

- Purpose and Goals
- Agenda

**11:15 AM** **Pre-Audit**

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

**12:30 PM** **Audit**

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

**2:30 PM** **Post-Audit Discussion / Completion of RSA**

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

**5:00 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**<br>• Sufficient time to cross (signal)<br>• Signage<br>• Pavement Markings<br>• Detectable warning devices (signal)<br>• Adequate sight distance<br>• Wheelchair accessible ramps<br>  o Grades<br>  o Orientation<br>  o Tactile Warning Strips<br>• Pedestrian refuge at islands<br>• Other | |
| **Pedestrian Facilities**<br>• Sidewalk<br>  o Width<br>  o Grade<br>  o Materials/Condition<br>  o Drainage<br>  o Buffer<br>• Pedestrian lighting<br>• Pedestrian amenities (benches, trash receptacles)<br>• Other | |

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

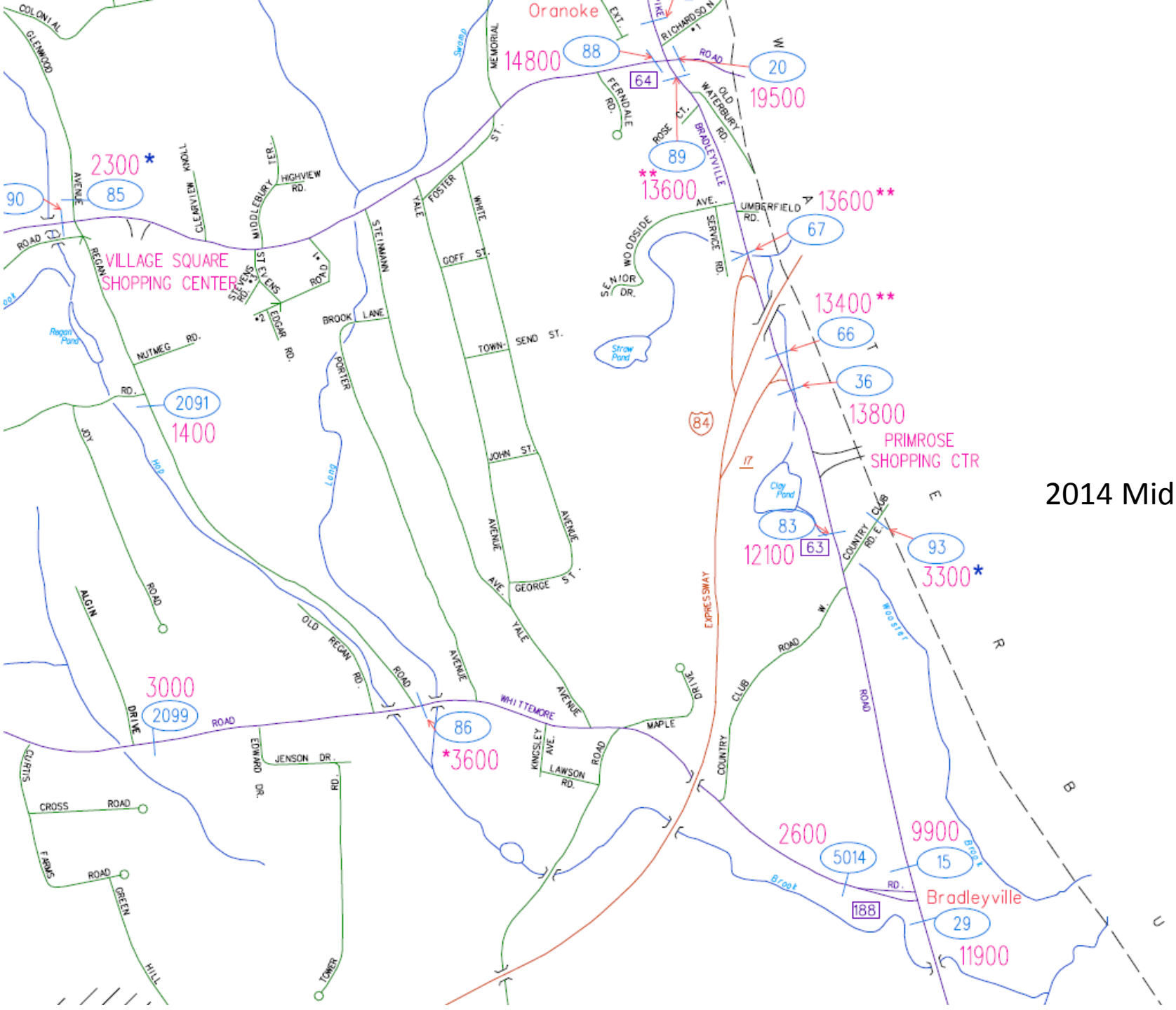
| **Roadway & Vehicles** | |
|---|---|
| • Speed-related issues<br>o Alignment;<br>o Driver compliance with speed limits<br>o Sight distance adequacy<br>o Safe passing opportunities | |
| • Geometry<br>o Road width (lanes, shoulders, medians);<br>o Access points;<br>o Drainage<br>o Tapers and lane shifts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

| | |
|---|---|
| • Intersections<br>o Geometrics<br>o Sight Distance<br>o Traffic control devices<br>o Safe storage for turning vehicles<br>o Capacity Issues | |

| | |
|---|---|
| • Pavement<br>  o Pavement Condition (excessive roughness or rutting, potholes, loose material)<br>  o Edge drop-offs<br>  o Drainage issues<br>• Lighting Adequacy | |
| • Signing<br>  • Correct use of signing<br>  • Clear Message<br>  • Good placement for visibility<br>  • Adequate retroreflectivity<br>  • Proper support | |
| • Signals<br>  o Proper visibility<br>  o Proper operation<br>  o Efficient operation<br>  o Safe placement of equipment<br>  o Proper sight distance<br>  o Adequate capacity | |
| • Pavement Markings<br>  o Correct and consistent with MUTCD<br>  o Adequate visibility<br>  o Condition<br>  o Edgelines provided | |

| | |
|---|---|
| • Miscellaneous<br>  o Weather conditions impact on design features.<br>  o Snow storage | |


End of Existing Middlebury Greenway
Proposed Extension of the Middlebury Greenway
Maggie McFly's Middlebury
Woodside Ave
Straits Turnpike
Yankee Expy
Umberfield Rd
Country Club Woods Cir
Country Club Rd
Medway Rd
Post University
Southwind Rd
Southgate Rd
SW Rd
Campfield Rd
Joshua Town Rd
Leo's
Wooster Brook
Mobil
Dunkin' Donuts
Jaci Carroll Staffing
84
63



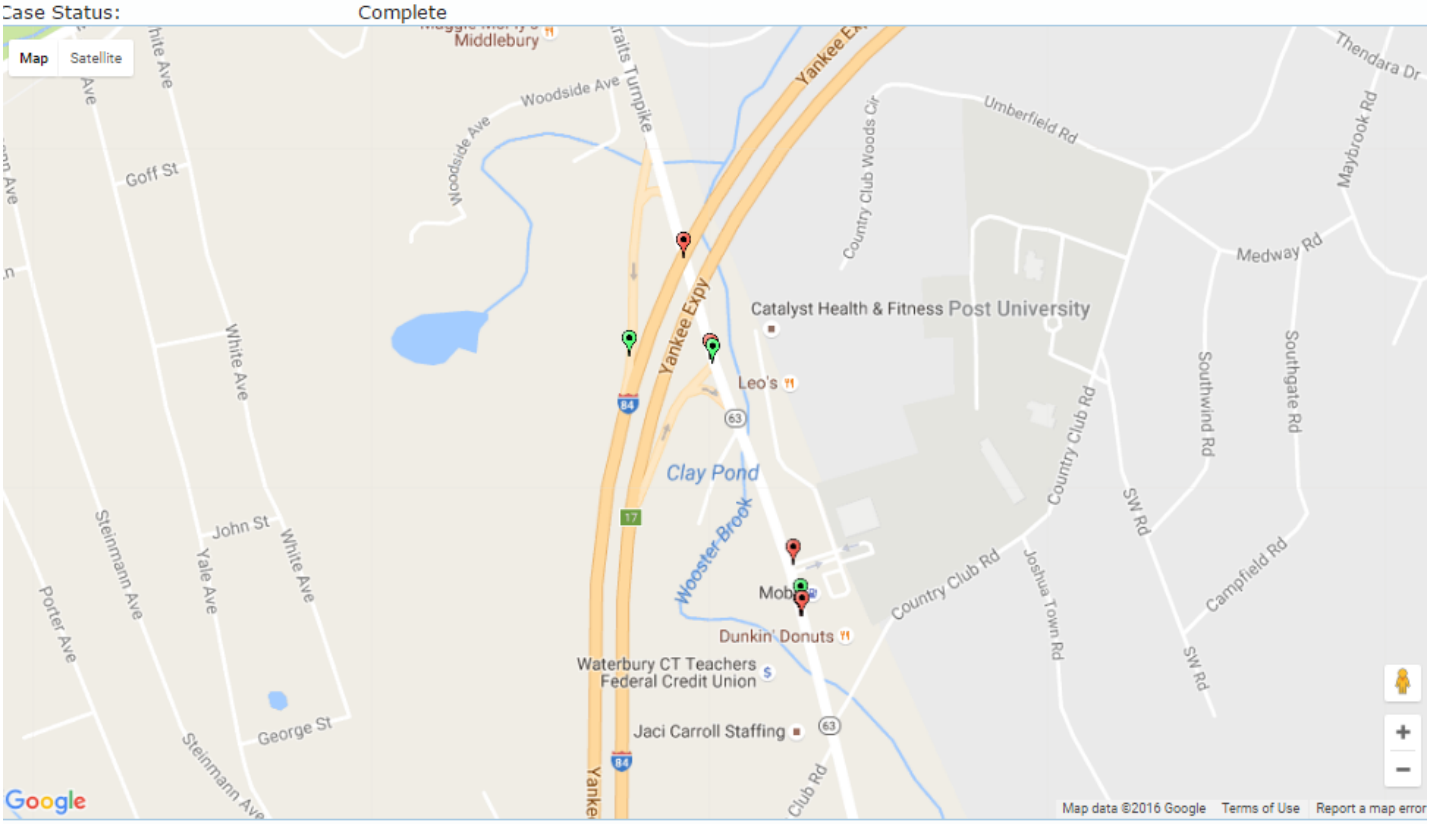

2014 Middlebury ADT Map
CTDOT

# 2015 Crashes

UCONN Connecticut Crash Data Repository

**Search Criteria:**

| | |
|---|---|
| **Dataset:** | mmucc |
| **Date From:** | 01/01/2015 |
| **Date To:** | 12/31/2015 |
| **Towns:** | Middlebury |
| **Town & Route:** | Town:81 Route:63 Intersection:undefined Milepost:18.55-19.1 |
| Crash Severity: | Injury of any type (Serious, Minor, Possible), Fatal (Kill), Property Damage Only |
| Case Status: | Complete |




Markers | Heatmap | Crashes By Route | Select & Query

Query Selection | View Vehicle Vectors

Injury of any type (Serious, Minor, Possible) Fatal (Kill)

Property Damage Only

Route Segment Scale

0 0

Select All

Deselect All

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

# Road Safety Audit – Middlebury

## Crash Summary

Data: 3 years (2012-2014)

There were no crashes that involved pedestrians.

There were no crashes involving bicyclists.

| Severity Type | Number of Crashes | |
|---|---|---|
| Property Damage Only | 34 | 76% |
| Injury (No fatality) | 10 | 22% |
| Fatality | 1 | 2% |
| Total | 45 | |

| Manner of Crash / Collision Impact | Number of Crashes | |
|---|---|---|
| Unknown | 0 | 0% |
| Sideswipe-Same Direction | 3 | 7% |
| Rear-end | 21 | 47% |
| Turning-Intersecting Paths | 8 | 18% |
| Turning-Opposite Direction | 4 | 9% |
| Fixed Object | 4 | 9% |
| Backing | 1 | 2% |
| Angle | 1 | 2% |
| Turning-Same Direction | 2 | 4% |
| Moving Object | 0 | 0% |
| Parking | 0 | 0% |
| Pedestrian | 0 | 0% |
| Overturn | 0 | 0% |
| Head-on | 0 | 0% |
| Sideswipe-Opposite Direction | 1 | 2% |
| Miscellaneous- Non Collision | 0 | 0% |
| Total | 45 | |

| Weather Condition | Number of Crashes | |
|---|---|---|
| Snow | 2 | 4% |
| Rain | 6 | 13% |
| No Adverse Condition | 37 | 82% |
| Unknown | 0 | 0% |
| Fog | 0 | 0% |
| Other | 0 | 0% |
| Blowing Sand, Soil, Dirt or Snow | 0 | 0% |
| Severe Crosswinds | 0 | 0% |
| Sleet, Hail | 0 | 0% |
| Total | 45 | |

| Light Condition | Number of Crashes | |
|---|---|---|
| Dark-Not Lighted | 8 | 18% |
| Dark-Lighted | 7 | 16% |
| Daylight | 29 | 64% |
| Dusk | 0 | 0% |
| Unknown | 0 | 0% |
| Dawn | 1 | 2% |
| Total | 45 | |

| Road Surface Condition | Number of Crashes | |
|---|---|---|
| Snow/Slush | 1 | 2% |
| Wet | 8 | 18% |
| Dry | 36 | 80% |
| Unknown | 0 | 0% |
| Ice | 0 | 0% |
| Other | 0 | 0.0% |
| Total | 45 | |

| Time | | Number of Crashes | |
|---|---|---|---|
| **0:00** | **0:59** | 0 | 0% |
| **1:00** | **1:59** | 1 | 2% |
| **2:00** | **2:59** | 0 | 0% |
| **3:00** | **3:59** | 0 | 0% |
| **4:00** | **4:59** | 0 | 0% |
| **5:00** | **5:59** | 0 | 0% |
| **6:00** | **6:59** | 1 | 2% |
| **7:00** | **7:59** | 1 | 2% |
| **8:00** | **8:59** | 4 | 9% |
| **9:00** | **9:59** | 2 | 4% |
| **10:00** | **10:59** | 0 | 0% |
| **11:00** | **11:59** | 2 | 4% |
| **12:00** | **12:59** | 2 | 4% |
| **13:00** | **13:59** | 2 | 4% |
| **14:00** | **14:59** | 7 | 16% |
| **15:00** | **15:59** | 1 | 2% |
| **16:00** | **16:59** | 5 | 11% |
| **17:00** | **17:59** | 6 | 13% |
| **18:00** | **18:59** | 3 | 7% |
| **19:00** | **19:59** | 1 | 2% |
| **20:00** | **20:59** | 2 | 4% |
| **21:00** | **21:59** | 4 | 9% |
| **22:00** | **22:59** | 1 | 2% |
| **23:00** | **23:59** | 0 | 0% |
| **Total** | | 45 | |

# Middlebury - Straights Turnpike

N

Park

Middlebury Rd

Existing Middlebury Greenway

64

Chase Pkwy

Old Waterbury Rd

Wooster Brook

Maggie McFly's

Woodside Ave

84

Rte 63

Senior Living Complex

Post University

63

SPEED LIMIT 40

Straits Turnpike

Proposed Extension of the Middlebury Greenway

SPEED LIMIT 45

Country Club Rd

188

Hop Brook

Whittemore Rd

Park Parking

Hop Brook Recreation Area

Waterbury

Middlebury

DRAFT

## Legend

- No Sidewalk
- Signalized Intersection
- Stop Controlled Intersection
- Crosswalk
- Highway On/Off Ramp
- Bridge of Culvert
- VIP Paving
- Town Border
- Existing Greenway
- Proposed Greenway Extension
- Park and Ride Lot
- Median
- Waterway

# 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 – Middlebury

## Fact Sheet

**Functional Classification:**

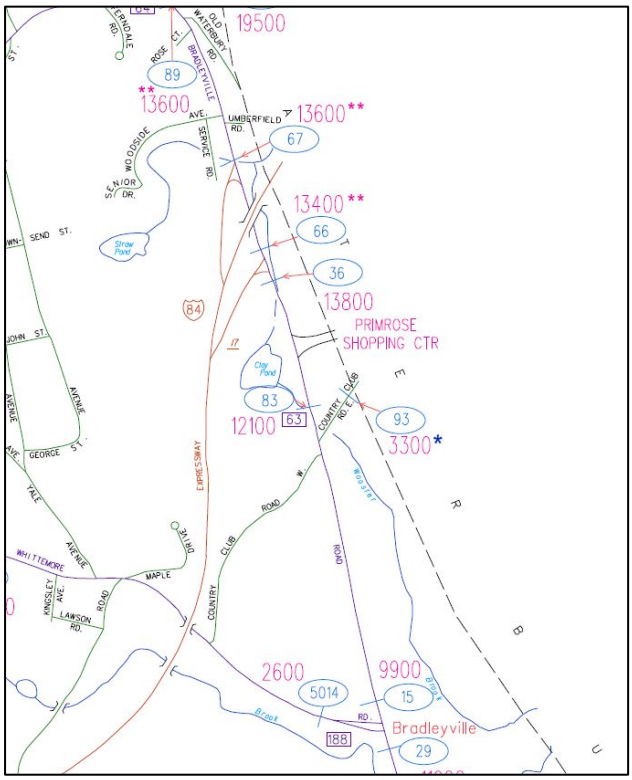
- Route 63 is classified as a Minor Arterial

**ADT**

- ADT on Route 63 in the area ranges from 12,100 to 13,800

**Population and Employment Data (2014):**

- Population: 7,575
- Employment: 3,801




**Urbanized Area**

- Middlebury is in the Waterbury Urbanized Area

**Demographics**

- The statewide average percentage below the poverty line is 10.31%. There are no areas in Middlebury exceeding the state average.

- The statewide average percentage minority population is 30.53%. There are no areas in Middlebury exceeding the state average.

**Air Quality**

- Middlebury's CIPP number 512
- Middlebury is within the NY/NJ/CT Marginal Ozone Area
- Middlebury is within a CO Maintenance Area