



COMMUNITY
connectivity program

Scotland

Town Village District, Route 14 – Road Safety Audit

May 9th, 2016



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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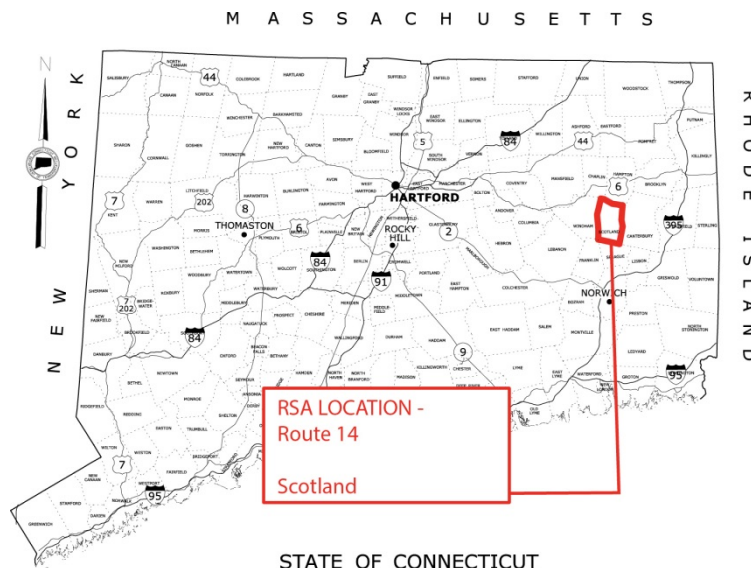
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The Connecticut Department of Transportation (CTDOT) is undertaking a Community Connectivity Program that focuses on improving the state's transportation network for all users, with an emphasis on bicyclists and pedestrians. A major component of this 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 and severity.

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

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



1 Introduction to Route 14, Scotland RSA

The Town of Scotland submitted an application to complete an RSA in the Town Village District of Route 14 to improve safety for pedestrians and bicyclists and create a user friendly town center that facilitates development and promotes commerce. This study area, which includes Brook Road, Huntington Road (State Routes 14 and 97), Devotion Road (State Route 97) and Center Street, all provide access to the town green, which hosts numerous events in the summer. The Scotland Elementary School, public library, and fire department are all located on Brooks Road and serve as parking locations during events. To access the town green they must cross Route 14. During events the town hall (located on Devotion Road) bathroom facilities remain open to the public. There is no crosswalk or safe connection however, between the town green and the town hall. Steep grades and high traffic speeds on Route 14, combined with moderate traffic levels for a rural community, has created safety concerns for pedestrians through this area as there are no sidewalks, restricted sightlines, and only one crosswalk near St. Margret Church and the Post Office.

The Town of Scotland'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 RSA site is located in the Town Village District of Scotland which includes the section of Huntington Road (State Route 14) between the Huntington Homestead Museum and approximately 500 feet east of the post office (State Routes 14 and 97) (Figure 1). The Average Daily Traffic (ADT) on Route 14 just west of the Route 14 and Route 97 intersection is 4,400 and just east of the post office is 4,200. This indicates that most traffic is through traffic. This section of Route 14 contains a number of driveways, adding complexity to walking and bicycling maneuvers through the area. The section of Devotion Road (Route 97) includes the parking area for the town hall to the intersection with Route 14. The ADT on Route 97 is 1,500. Both Routes 14 and 97 consist of a single travel lane in each direction, separated by a double yellow center line and painted shoulder lines. The striped shoulders range from 3 feet to 4 feet wide.

The site also includes two local roads; all of Center Street and Brook Road from the intersection with Route 14 to the Scotland Elementary School. Center Street has a double yellow centerline but no shoulder lines. Brook Road has no lane markings.

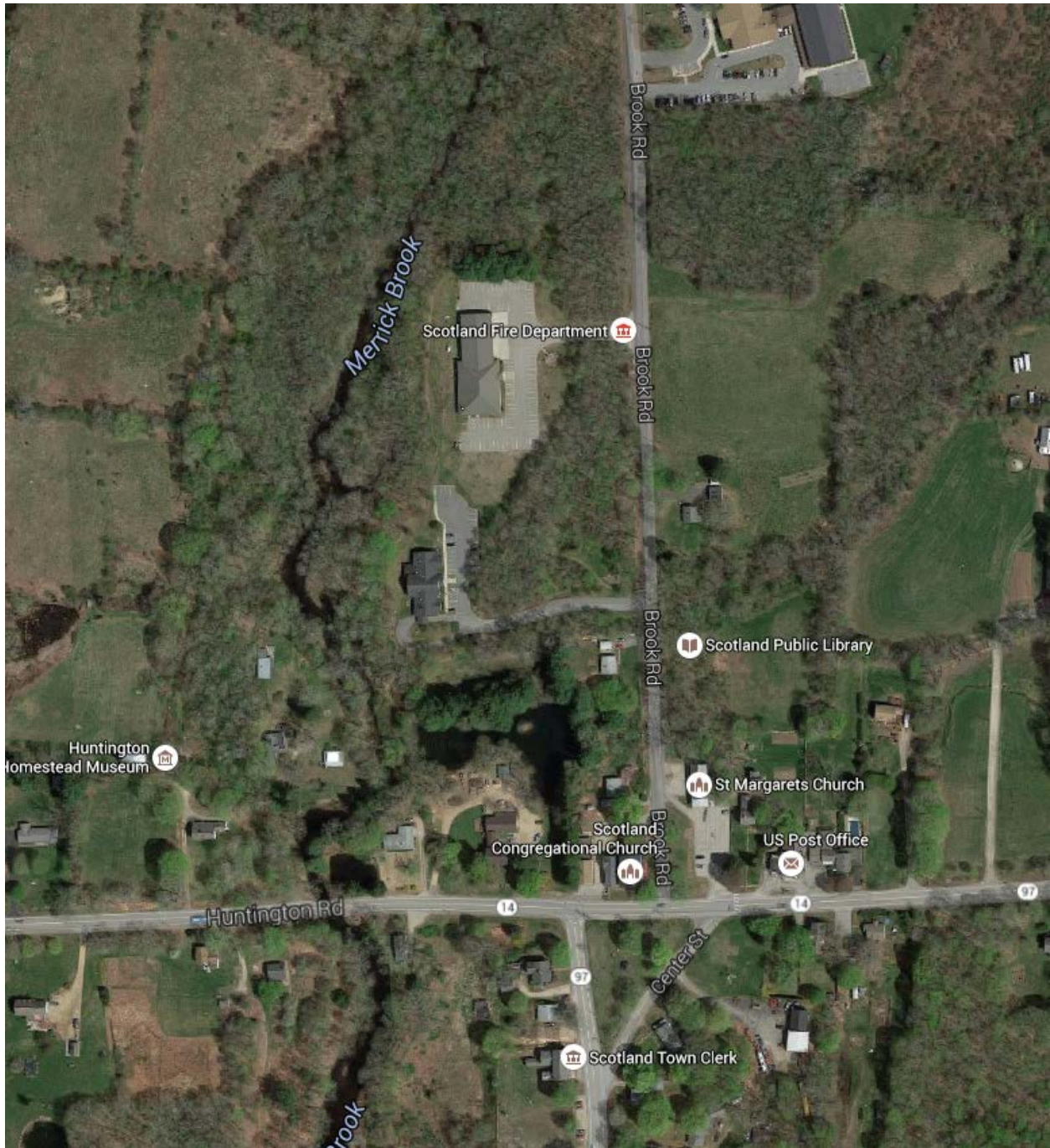


Figure 1. Town Village District, Scotland Town Green

2 Pre-audit Assessment

2.1 Pre-audit Information

As noted above, traffic volumes are moderate along this corridor, given the rural nature of this town. Route 14 is one of the primary east/west facilities in the area. Although the crash

history in this area is relatively low, the percentage of crashes that involved a fixed object or occurred at night or in inclement weather is relatively high. This may indicate sightline issues and higher speeds. Figure 2 displays crashes that occurred in this area during 2015, while Table 1 and Table 2 provide information on crashes between 2012 and 2014.

Severity Type	Number of Accidents	
Property Damage Only	8	62%
Injury (No fatality)	5	38%
Fatality	0	0%
Total	13	

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	0	0%
Rear-end	2	15%
Turning-Intersecting Paths	1	8%
Turning-Opposite Direction	0	0%
Fixed Object	5	38%
Backing	0	0%
Angle	2	15%
Turning-Same Direction	2	15%
Moving Object	0	0%
Parking	0	0%
Pedestrian	0	0%
Overturn	0	0%
Head-on	0	0%
Sideswipe-Opposite Direction	1	8%
Total	13	

Table 2. Crash Type 2012-2014

Source: UConn Connecticut Crash Data Repository

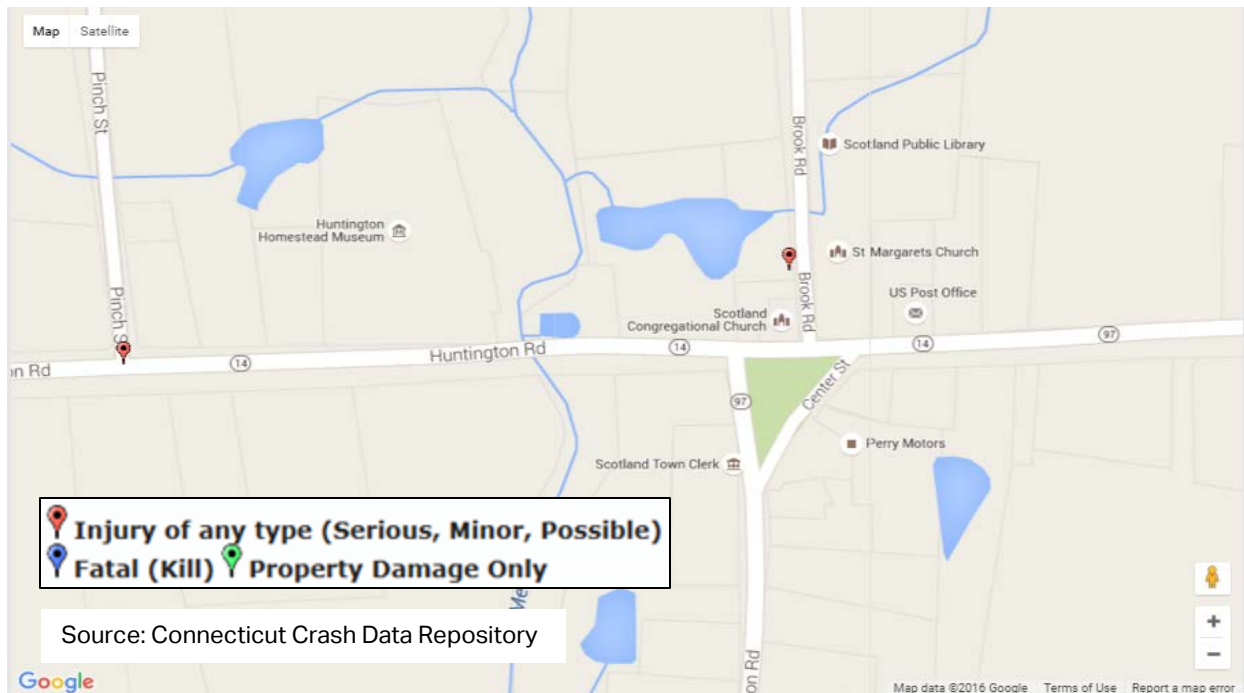


Figure 2. Crashes that Occurred in 2015 (Connecticut Crash Data Repository)

For a village center, the posted speeds along Route 14 are high, 40 MPH, and there are no indications or visual cues to slow down through this section. The village center sits in a small valley which creates sightline issues for vehicles turning onto Route 14 and pedestrians trying to cross the street. At places it is difficult to see oncoming cars due to horizontal and vertical curves on Route 14 approaching the center. As a result of the sightline issues, a flashing beacon was added at the intersection of Routes 14 and 97. There is only one pedestrian crosswalk across Route 14 east of Center Street, which does not connect to the green or sidewalk on either side. There are no pedestrian crosswalk signs for this crosswalk. Along Route 14 there is only one short segment with sidewalk between St. Margaret Church and the Scotland General Store. The sidewalk is in poor condition and is not ADA compliant. There are no sidewalks on any other roads. Not having organized and defined walkways and paths poses a problem for the elementary school, which uses the Public Safety Complex for their emergency shelter. In the event of an emergency, students are required to walk in the roadway for approximately 500 feet between the school and the shelter, and cross without using a crosswalk.

The bridge (bridge number 00681) over Merrick Brook on Route 14 creates a pinch point for traffic and has been struck several times. Because of this, CTDOT plans to replace and improve this structure. The project is currently in the 25% design phase and scheduled to begin construction in 2018.

When events are held at the Huntington Homestead Museum on Route 14 many attendees must park in the village district and cross this bridge to access the museum. The bridge does not provide safe pedestrian or bicycle access due to narrow (less than one foot) shoulders on each side.

Figure 3 and Table 3 summarize the roadway geometrics in the study area.

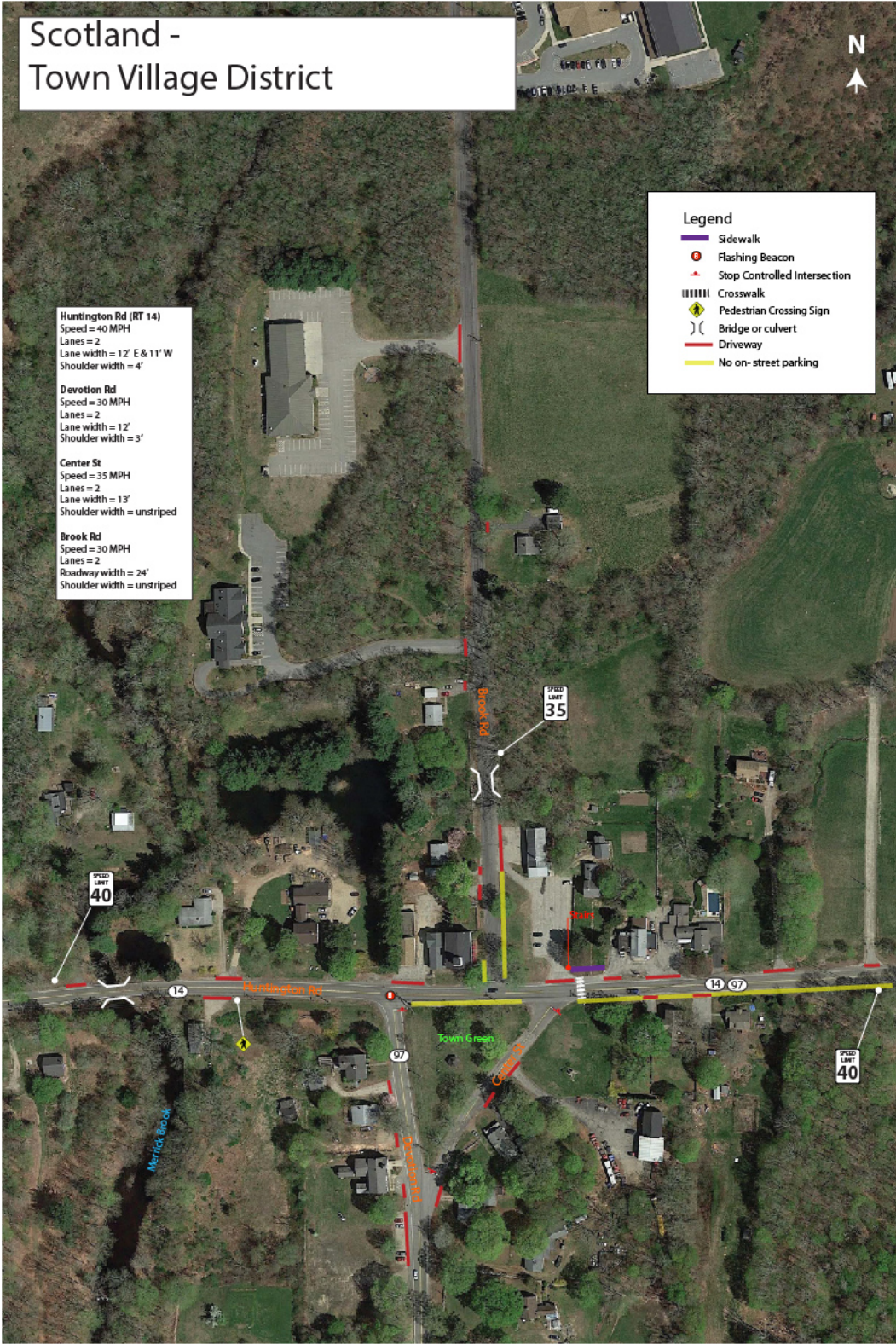


Figure 3. Scotland Town Village Center Road Geometrics

Scotland - Town Village Center Street Inventory

Road	Lane width	Sidewalk				Curb	Speed	Shoulder	Ramps	
		Side	Type	Width	Condition				Exist	Compliant
Huntington Rd (Rt. 14)	11'	North	Stone	3'	Poor	None	40	4'	N/A	N/A
	12'	South	None	None	None	None	40	4'	N/A	N/A
Devotion Rd (Rt. 97)	12'	East	None	None	None	None	30	3'	N/A	N/A
	12'	West	None	None	None	None	30	3'	N/A	N/A
Center St	13'	East	None	None	None	None	35	unstriped	N/A	N/A
	13'	West	None	None	None	None	35	unstriped	N/A	N/A
Brook Rd	12'	East	None	None	None	None	30	unstriped	N/A	N/A
	12'	West	None	None	None	None	30	unstriped	N/A	N/A

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

Table 3. Street Inventory

2.2 Pre-Audit Meeting

The RSA was conducted on May 9, 2016. The Pre-Audit meeting was held at 9:00 AM in the Town Hall located at 9 Devotion Road in Scotland.

The RSA Team was comprised of staff from CTDOT and AECOM, representatives from several Scotland departments including the Board of Selectman and DPW, and NECCOG. The complete list of attendees can be found in Appendix B.

Several items were discussed as general information prior to conducting the Audit in the field:

- The village area is along Route 14 from Pinch Street to the base of the first hill for Route 14.
- Within the next month the town is planning to repave Center Street. Normally the town does not put center lines on town roads so trucks can travel towards the roadway center. It is understood that CTDOT mistakenly painted a centerline on Center Street thinking it was a state road. The town will provide pavement markings in the future.
- The ADT is typical for a rural community. Peak hour traffic volume typically accounts for approximately 10% of the ADT volume. During the summer when school is out the ADT is lower. The proportion of heavy trucks appears high.
- It appears that vehicles have struck the bridge on Route 14 several times. It is a narrow bridge and lacks shoulders. CTDOT elevated its importance and plans to replace and improve the structure. Design of a new bridge is in progress with construction expected to be in 2018. CTDOT has not reached out to the town for their input into the design. The town asked the following questions regarding the bridge:
 - What is the construction phasing plan for the bridge?
 - When will construction be completed?
 - Construction management plans will need to be developed as part of the design process.
- The Route 14/Brook Road intersection has sight line issues. There are trees on both sides of the Brook Road approach that partially block the sightlines.
- Route 14 has a steep slope in both the eastbound and westbound directions approaching the town center.
- With regard to the crash statistics, the following items were noted:
 - There are a low number of crashes but high percentage on injuries (38%), which indicates vehicles are traveling at fast speeds. If a pedestrian or cyclist was struck by a vehicle at 40 MPH or higher they have only a 20% chance of surviving the crash. By comparison, at 30 MPH there is a 50% chance of survival, and at 25 MPH only minor injuries are typical.
 - The percentage of crashes involving a fixed object is high (38%).
 - The percentage of crashes in inclement weather is high (30%).

- The percentage of crashes at night is also high given the lower volumes (38%).
 - 25% of crashes occur between 8 pm-12am when ADT is low.
 - Night crashes, wet surface and fixed object incidents are possibly related.
- When an event is happening on the town green, town staff puts traffic cones down the centerline of Route 14 to calm traffic.
- Visibility at night is good coming into the village area.
- The flashing beacon at Devotion Road was installed because the firehouse is nearby and the sight distance is restricted.
- Pedestrian patterns are such that most cross:
 - From St. Margaret church to the green;
 - From the green to town hall. The town hall is open during events for the bathroom facilities.
 - The school's evacuation plan is that students walk from the school across the field and cross Brook Road to the community center. There is no sidewalk or crosswalk on Brook Road. The empty lot next to the school is being converted to playing fields and will include a path from the school and a crosswalk across Brook Road to the community center. It is also expected that people will park at the fields when town events are taking place. A rectangular rapid flashing beacon and a HAWK pedestrian signal were discussed for this location.
- Brook Road is 26' wide.
- How difficult is it to change the posted speed limit on a state road?
 - The town's Legal Traffic Authority (LTA) must request an evaluation through the Office of State Traffic Administration (OSTA) to change the posted speed limit.
 - Currently the posted speed limit on Route 14 is 40 MPH in the village center and 45 MPH outside the village center.
- Reduced lane widths can help slow traffic down, as well as visual cues to indicate that the vehicle is entering a town center. These may include:
 - Crosswalk sign with a flashing beacon; and
 - On street parking as passive traffic calming.

3 RSA Assessment

3.1 Field Audit Observations

- The posted speed limit on Route 97-Devotion Road is 30 MPH.
- There is no crosswalk in front of the town hall, it would need to be ADA compliant and connect to the ramp into the town hall in some way (Figure 4).



Figure 4. Lack of Crosswalk in Front of Town Hall

- The sightline approaching the Route 14 and Devotion Road intersection from Devotion Road is restricted due to a horizontal curve (Figure 5).
- There are no pedestrian crosswalk signs or advance pedestrian warning signs at the crosswalk across Route 14.
- The intersection of Routes 14 and 97 does not appear to warrant a traffic signal but due to sightline issues a flashing beacon was installed by CTDOT.
- There are opportunities to reduce conflicting traffic movements in the center by changing the access/circulation of Center Street. It cannot be closed to traffic completely since it serves three driveways. Dead ending it after the last driveway, realigning it with Brook Road, and converting it to one-way travel were discussed (Figure 6).
- There are no visual cues to motorists to slow down approaching the center.
- There is a high percentage of large commercial vehicles on Route 14.
- The current crosswalk across Routes 14/97, east of Center Street, is not located optimally to encourage pedestrian use. Currently, pedestrians cross Routes 14/97 from the north side to the town green on the south side and do not use the crosswalk. Relocating the crosswalk west of Center Street would encourage more use, eliminate the conflict for vehicles turning right from Center Street to Route 14 and increase the stopping sight distance for vehicles traveling westbound on Routes 14/97 Road (see Figure 7). Due to the curvature of the roadway advance pedestrian warning signs and pedestrian signs and arrow plaques should be in place at the crosswalk. The current crosswalk is not visible in the eastbound direction due to the vertical curvature of the roadway.



Figure 5. Sightline Issue From Devotion Road



Figure 6. Center Street



Figure 7. Crosswalk on Route 14

- The lane widths on Route 14 are 12 feet in the eastbound direction and 11 feet in the westbound direction. Reducing lane widths to 11 feet can help lower speeds.
- The shoulders are four (4) feet wide on Route 14.
- The one sidewalk section on the north side of Route 14 is privately owned and is not ADA compliant.
- The route sign cluster directs vehicles to Center Street to connect with Route 97 (Figure 8). The sign cluster may restrict sightlines for vehicles looking left, turning right from Center Street onto Route 14.
- Route signs are old and faded.
- It was noted that in accordance with the current Manual on Uniform Traffic Control Devices (MUTCD), single yellow center lines are no longer allowed.
- All new crosswalks will need to be ADA compliant with ramps and detectable warning devices for the sight impaired.
- Temporary bollards could be placed in the crosswalk on Route 14 during town events, but the town would have to manage and maintain them.
- The left turn out of Center Street is a difficult maneuver.
- The flashing beacon at Routes 14 & 97 is not LED and has an eight (8) inch head (Figure 9).
- There are street lights on every other pole.
- There is a drainage concern at the town green northeast corner of the Center Street and Route 14 intersection (Figure 10).
- The wide intersection angle and wide pavement area encourages high speeds for vehicles making a left turn from Route 14 westbound onto Center Street southbound. This is a safety issue for pedestrians



Figure 8. Sign Cluster at Center Street and Route 14 Intersection



Figure 9. Flashing Beacon at Route 97 & 14



Figure 10. Drainage Issues at Center Street and Route 14

crossing in this area.

- There are private advertising signs in front of the general store that block the sight line for vehicles exiting the parking lot of St. Margaret Church. Tree vegetation also blocks the view of oncoming traffic from the east.
- Landscaping could help calm traffic. Trees must be three (3) inches in diameter or smaller with canopies that are at least eight (8) feet from the ground.
- A bump out at the current crosswalk location on Route 14 could help slow travel speeds and improve motorist's awareness and visibility for pedestrians.
- The Merrick Brook Bridge has narrow lanes and no shoulders, making it difficult for pedestrians and bicyclists to cross. Large vehicles often encroach into the oncoming lane (Figure 11).
- There is a pedestrian crossing sign just east of the bridge but no crosswalk nearby.
- The town would like to see a sidewalk on the north side of the bridge.



Figure 11. Merrick Brook Bridge



Figure 12. Bike Compliant Catch Basin

3.2 Post Audit Workshop - Key Issues

- The catch basins are bicycle friendly (Figure 12).
- The town center is in a valley, which creates some sight line issues.
- There are a high number of trucks on Route 14.
- An issue is that pedestrians are present in the town center area only intermittently. Therefore, motorists do expect to typically see pedestrian crossing Route 14.

- The sign cluster on Route 14 facing eastbound, east of Route 97, blocks the sight line for motorists. It blocks the view of motorists turning right from Route 97 to Route 14 eastbound.
- There are no visual cues to motorists that indicate you are entering a village center area and should slow down. There is a need to bring reduce the speed in the town green area.
- Given the roadway geometrics in the area, all pedestrian crosswalks will need advance warning signage and pedestrian crosswalk signs.
- The current crosswalk across Route 14 does not serve pedestrian desired lines or connect to where people are going.
- The pavement on the north side of Route 14 flares out between the general store and St. Margaret Church driveways to provide a safety area for turning into the church parking lot. However, it encourages motorists to make the turn at high speeds (Figure 13). A bump out would keep the vehicles in the lane longer, which would slow traffic, but due to grades may also increase rear end collisions.
- Four (4) foot (minimum) shoulders must be maintained for bicycle accommodation.
- A two (2) foot grass strip/ between curb and sidewalk is desired. This would create a snow shelf and provide an added sense of security for pedestrians. The short segment of existing sidewalk on Route 14 has a grass strip (Figure 14).
- What are the next steps for the town?
 - This report will help the town to prioritize projects, which can be the first step in the process to develop design concepts, eventually leading to design and construction.



Figure 13. Safety Area for Turning into Church and Store



Figure 14. Current Sidewalk Segment

- The town can apply for design and construction funds through the Northeastern Connecticut Council of Governments Region and other sources.
- If the town has some available funds from the town aid road program, it could use some of the money to complete small projects.
- The end product (the report) can be used to help leverage federal funds.

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. Relocate the destination sign cluster by the intersection of Routes 97 and 14 to improve the sight line for motorists.
2. Apply to CT DOT to conduct an Office of the State Traffic Administration Review on Route 14 through the Village Town Center. The results of the study may be used to change the current posted speed limit on Route 14 from 40 MPH to 30 or 35 MPH.
3. Paint triangles (Shark Teeth) leading to the crosswalk across Route 14 so that it is more visible.

4. Place removable bollards at the center of the crosswalk to calm traffic during events. Scotland will need to maintain these bollards. They could be put up just for events or left for the entire summer.
5. Install advance pedestrian and crosswalk signage for both directions at the existing Route 14 crosswalk.
6. Update signage, in particular route markings, with proper retro reflectivity.
7. Relocate the Route 97 signs on Center Street, which currently indicate that Center Street is State Route.
8. Change the formation of the routes signs so they are not as wide, but taller to improve sight lines.
9. Restripe Route 14 to provide 11 foot lanes in both directions.
10. In conjunction with the repaving of Center Street by the town, extend the curb on the town green side out to tighten up the intersection and help with drainage.
 - a. Evaluate the right-of-way at the potential curb bump out. Also examine drainage impact if curbing and streetscape was added.
11. The town will coordinate with CTDOT on the redesign of the Merrick Brook Bridge to incorporate pedestrian and bicycle accommodations. This could be achieved through widening shoulders, adding a sidewalk or adding a multiuse path. All options should be looked at and evaluated.
12. Work with St Margaret Church to add signage that encourages motorists to exit onto Brook Road.
13. The town should coordinate with the General Store to remove or relocate private signs that restrict sight lines.
14. Cut back tree limbs in the right of way that block sight lines, in particular the maple trees in front of the Post Office.
15. Replace the existing flashing beacon at the intersection of Huntington Road (Rt. 14) and Devotion Road (Rt. 97) with larger LED lenses for better visibility.
16. Landscape only with trees that have a three (3) inch diameter or less and canopies that are at least eight (8) feet from the ground.

Figure 15 depicts some but not all of these recommendations.

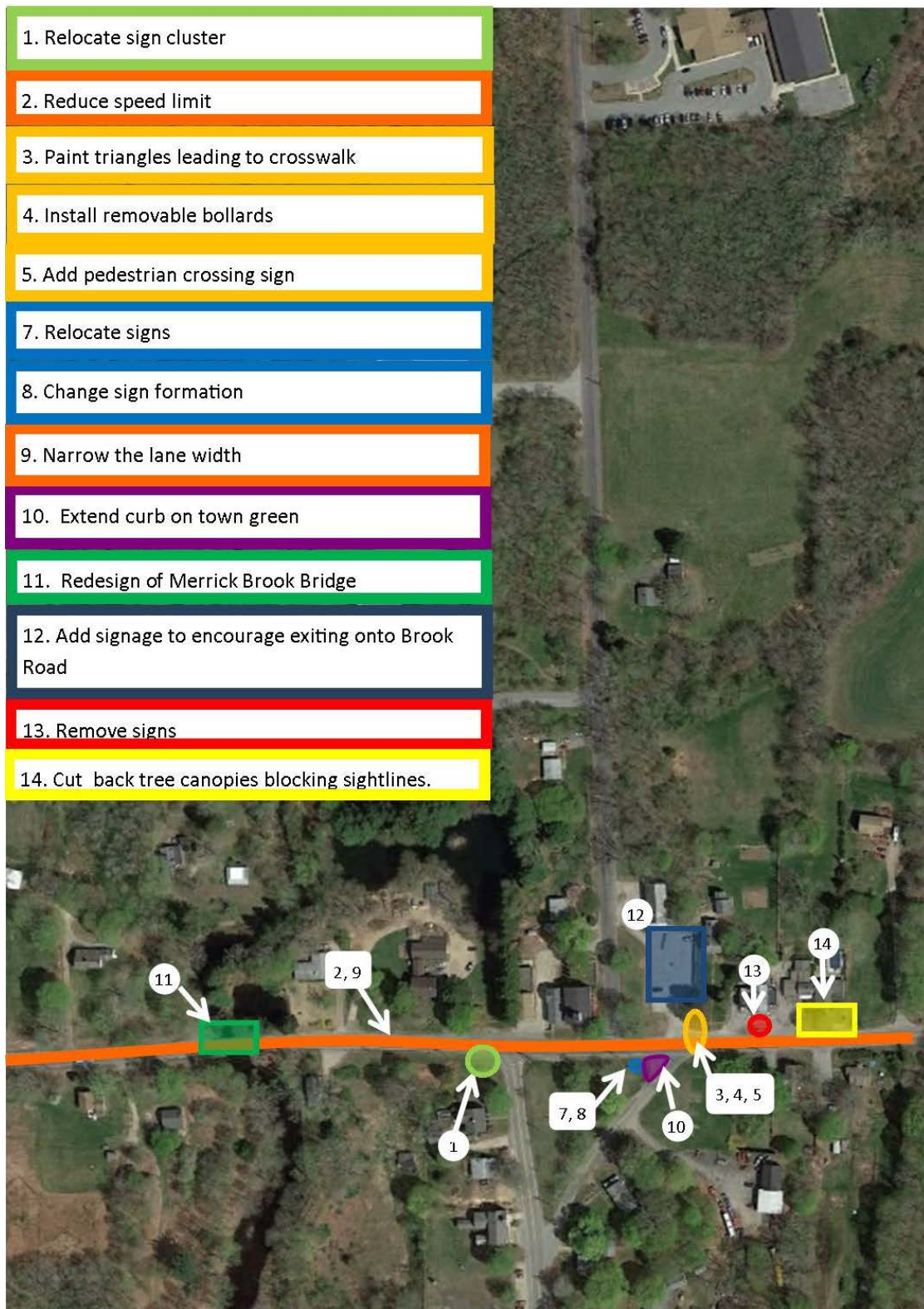


Figure 15. Short Term Recommendations

4.2 Medium Term

1. Relocate the crosswalk on Route 14 east of Center Street to the west of Center Street and make it ADA compliant. Consider a flashing beacon or other active warning system to improve awareness for motorists. Properly sign the crosswalk, including advance warning signs.
2. Install gateway signage to brand the area to let approaching motorists know that they are coming into a town village.
3. Create a sidewalk along the north (westbound) side of Route 14 between Brook Road and the general store. This would include straightening the curb line. Realign the driveway for the general store and bump out the curb (curb extension) between St. Margaret Church and the general store.
4. Evaluate options for redesigning Center Street including:
 - a. Make it one-way northbound.
 - b. Dead end after the last driveway and convert the last section to greenspace to extend the town green.
 - c. Realign Center Street to intersect Brook Road as a four-way intersection. The disadvantage is that it would fragment a section of the town green.
 - d. Work with the automotive shop on Center Street to relocate the driveway onto Route 14 and off of Center Street.
5. Widen the entrance driveway on Brook Street to St. Margaret Church and sign the one on Route 14 as entrance only.
6. Add street lights to every pole in the town center.
7. Reconstruct the Merrick Brook Bridge and add a sidewalk to the north side.
8. Add a crosswalk on Devotion Road in front of town hall. Advance warning signage will be needed due to the vertical curve to the north. Connect the crosswalk to the handicap ramp at the town hall.
9. Town to install crosswalk on Brook Road with appropriate signage in front of the public safety building with a path to school through the proposed athletic fields.
10. Town to provide pedestrian path to connect the library to community building room with wayfinding signage.

Figure 16 depicts some but not all of these recommendations



Figure 16. Medium Term Recommendations

4.3 Long Term

1. Evaluate the impacts of providing a new crosswalk at the intersection of Huntington Road/Devotion Road. This will include evaluation of a new signal.
2. Construct/implement the preferred redesign of Center Street (see Medium Term Measures).
3. Extend the proposed sidewalk from Brook Road to the Huntington House.

Figure 17 depicts some but not all of these recommendations.

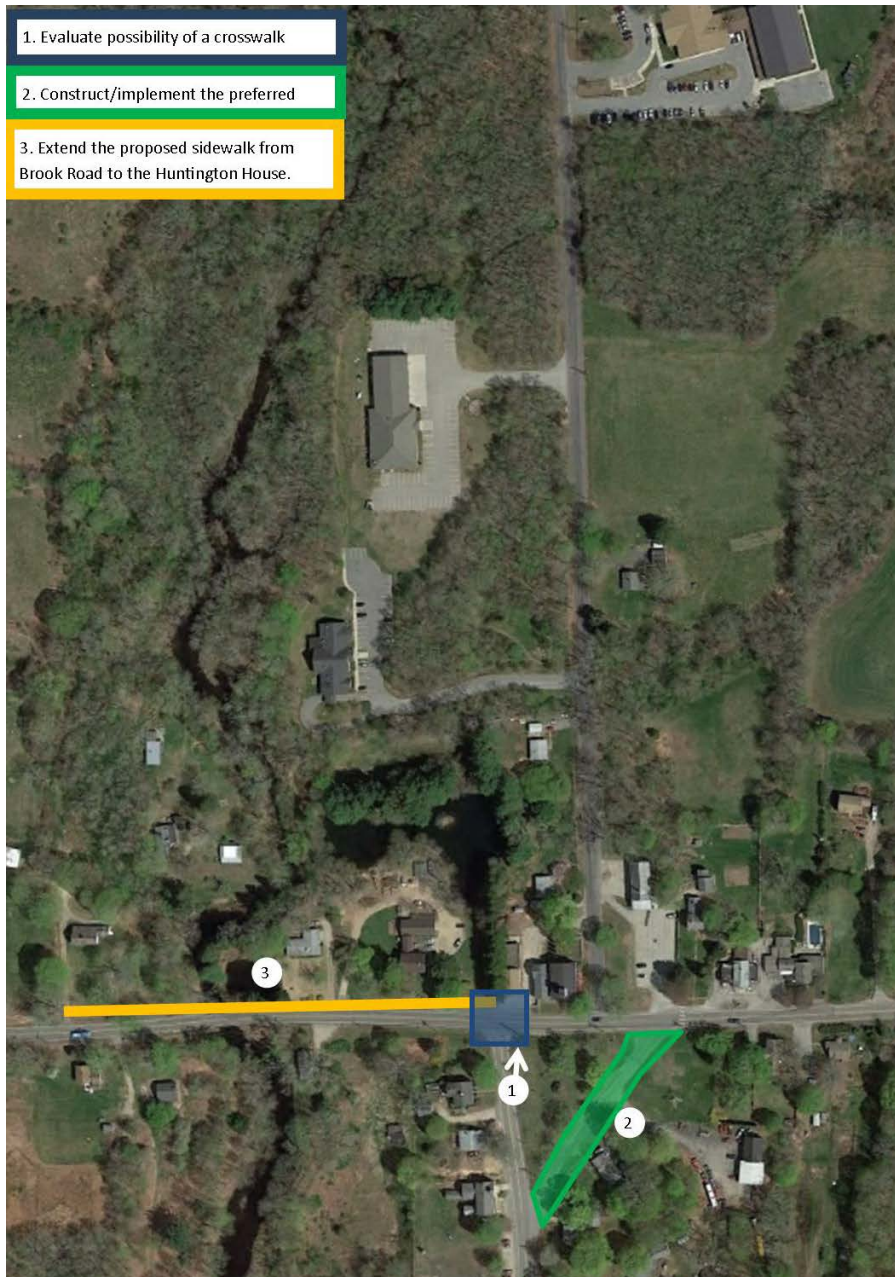


Figure 17. Long Term Recommendations

4.4 Summary

This report outlines the observations, discussions and recommendations developed during the RSA. It documents the successful completion of the Town of Scotland RSA and provides Scotland with an outlined strategy to improve the transportation network at the town village center for all road users in Scotland, particularly focusing on pedestrians and cyclists. Moving forward, Scotland 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 at the town village center.



COMMUNITY
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Appendix A



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	<input type="text"/>
Title	<input type="text"/>
Email Address	<input type="text"/>
Telephone Number	<input type="text"/>

2. Location information

Address	<input type="text"/>
Description	<input type="text"/>
City / Town	<input type="text"/>

3. Roadway type
(Please select all that apply)

State road

Local road

Private Road

Other (please specify)

4. Zoning
(Please select all that apply)

Industrial

Residential

Commercial

Mixed Use

Retail

N/A (not applicable)

Other (please specify)

5. Approximate mile radius around the location

Other (Please Specify)

6. Community Sites
(Please select all that apply)

Community Centers

Business Districts

Restaurant/Bar Districts

Churches

Housing Complexes

Proximity to Schools

Tourist Locations (examples – Casino, Malls, Parks, Aquarium, etc...)

N/A (not applicable)

Other (please specify)

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

Yes

No

If Yes please describe (please specify)

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)

Other (please specify)

9. Transit facilities

(Please select all that apply)

Bus

Rail

Ferry

Airport

Park and Ride Lot

N/A (not applicable)

Other (please specify)

10. Safety Concerns
(Please select all that apply)

Traffic (volumes & speed)

Collisions

Sidewalks

Traffic Signals

Traffic Signs

Parking Restrictions / Additions

Drainage

ADA Accommodations

Agricultural & Live Stock crossing

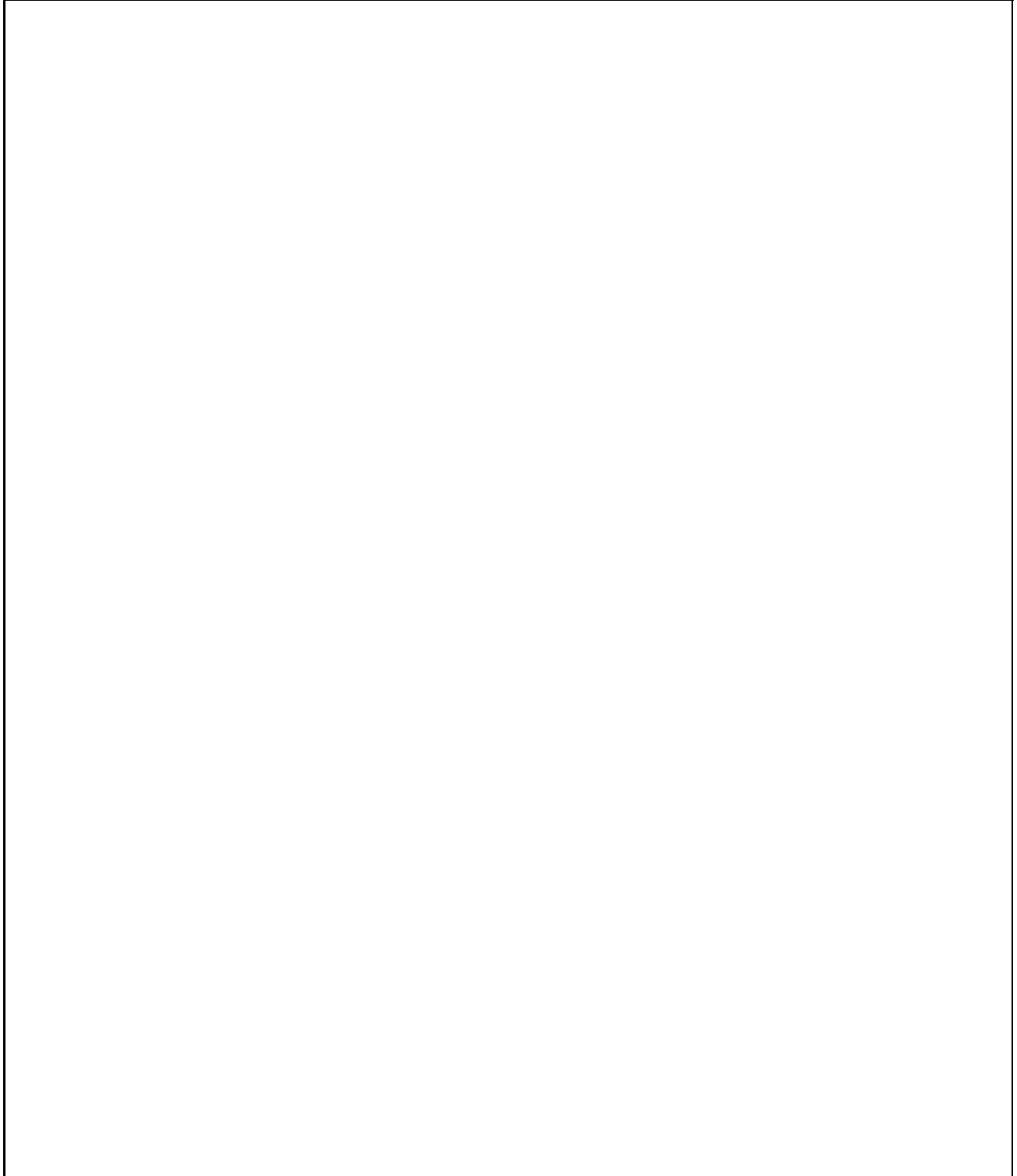
Maintenance issues (cutting grass, leaves, snow removal)

N/A (not applicable)

Other (please specify)

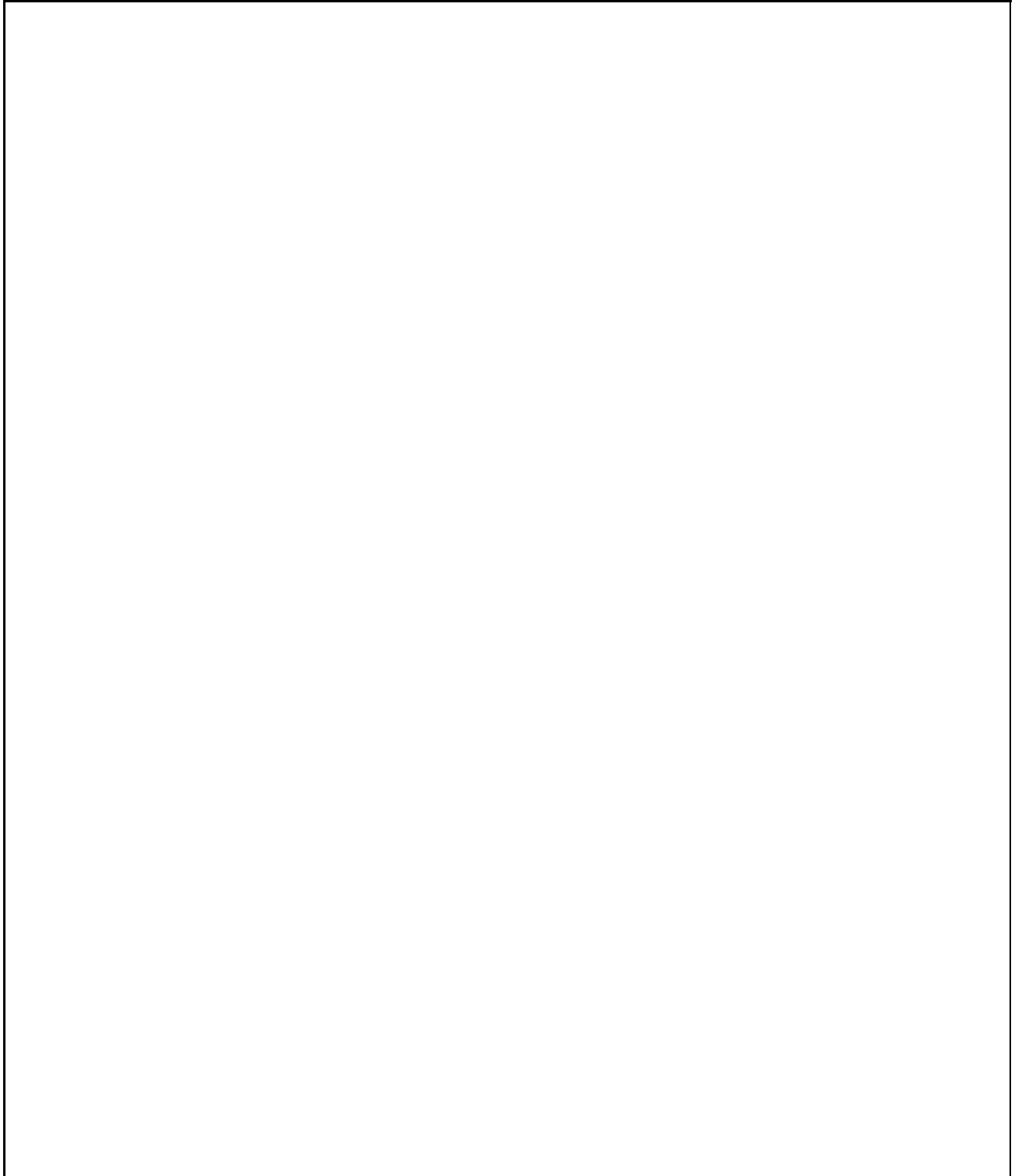
11. Are there any past, current or future transportation/economic development projects near this location (i.e. Federal, State or local projects)?

If Yes please describe and list all projects.

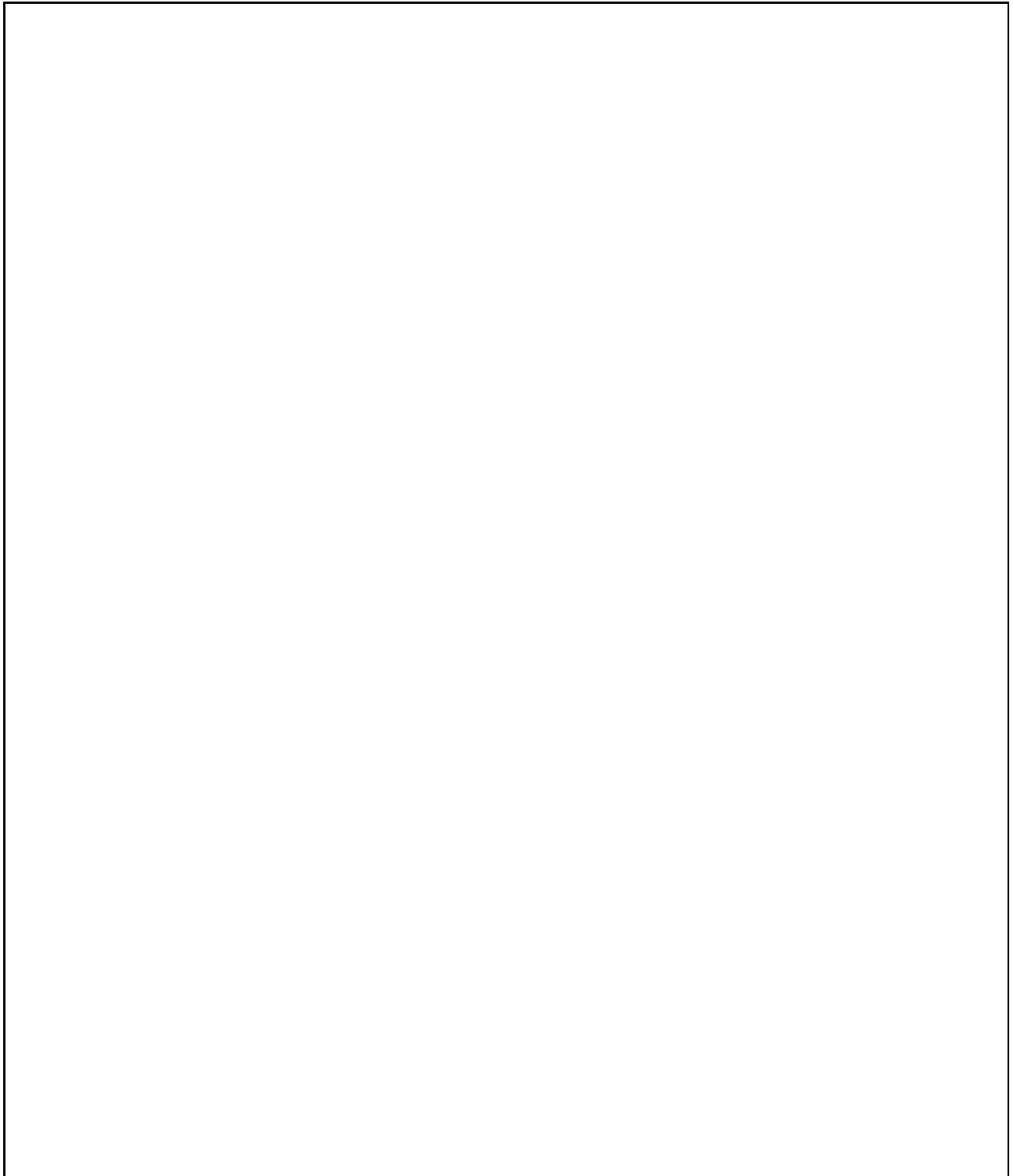
A large, empty rectangular box with a black border, intended for the user to describe and list any past, current, or future transportation or economic development projects near the location. The box is currently blank.

12. Environmental Concerns:

If Yes please describe and list.

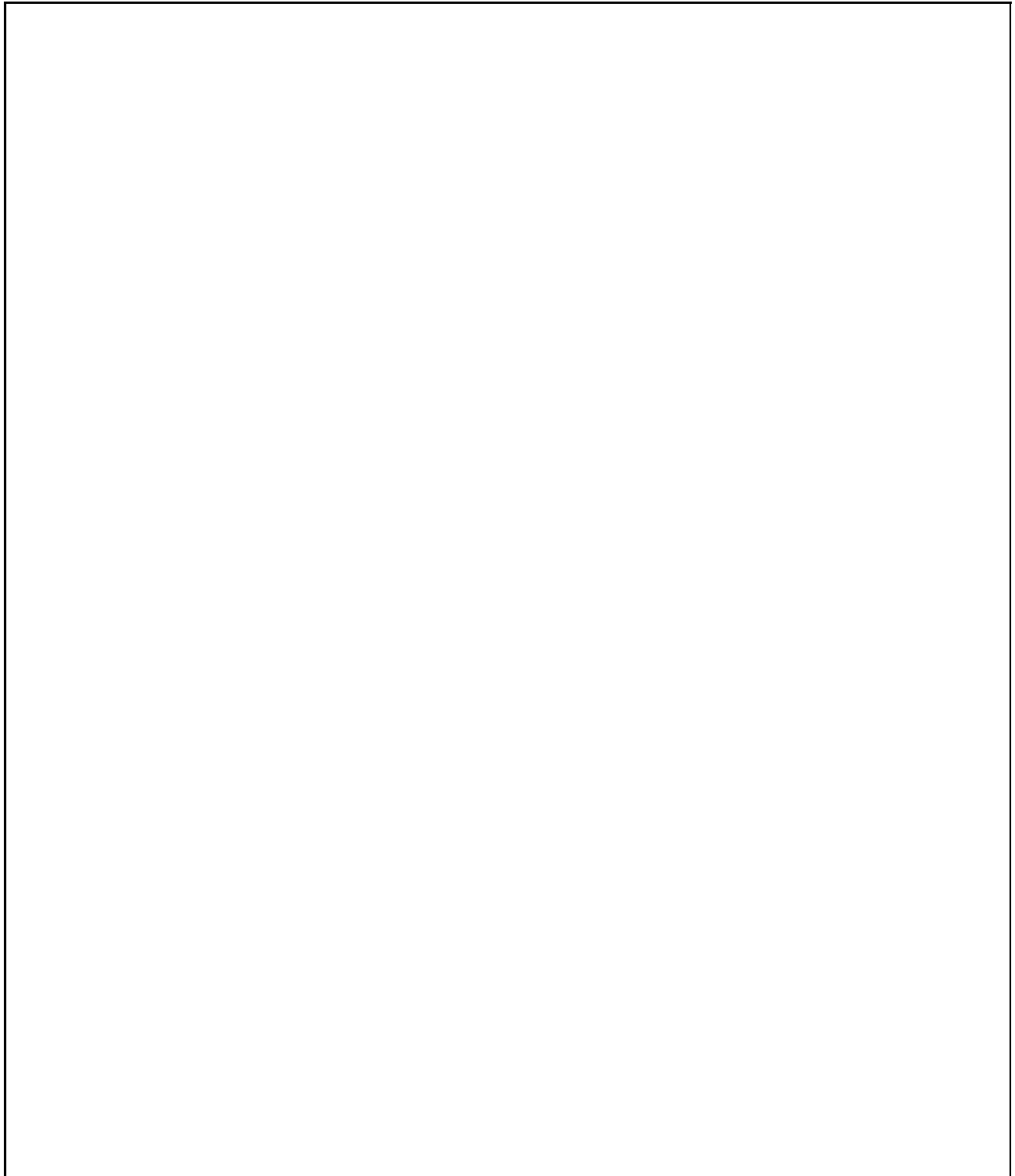
A large, empty rectangular box with a thin black border, intended for the user to describe and list any environmental concerns. The box occupies most of the page's vertical space below the instruction.

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

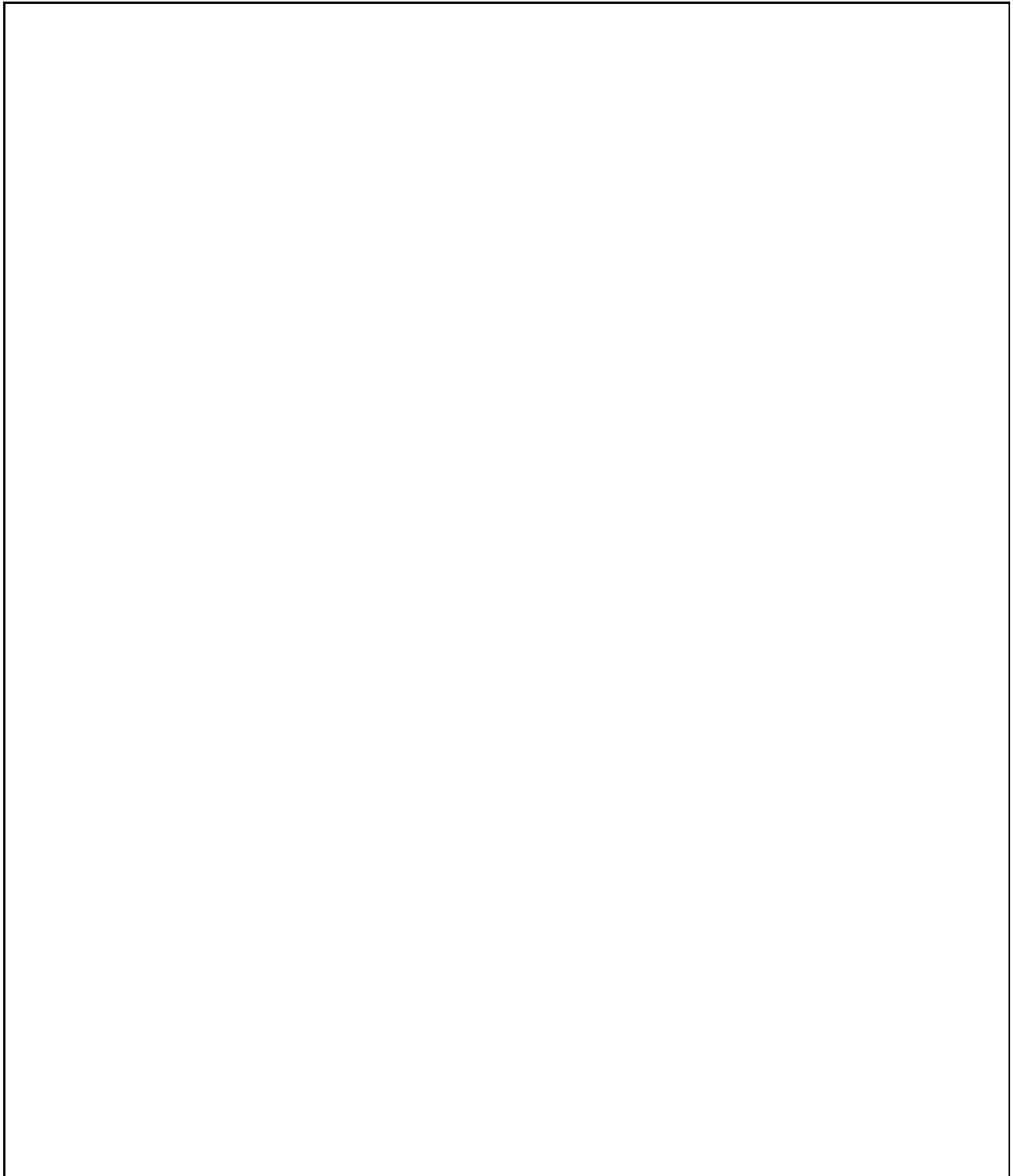
A large, empty rectangular box with a thin black border, intended for the user to provide an explanation for why a location should be considered for an RSA. The box occupies most of the page's vertical space below the question.

14. Are there plans to expand the area?

(Transportation Oriented Development, Economic Development, housing, etc...)



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

A large, empty rectangular box with a thin black border, intended for the user to provide any other pertinent information unique to the location.

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)



COMMUNITY
connectivity program

Appendix B



AECOM
Built to deliver a better world



COMMUNITY
connectivity program

Road Safety Audit

Town: Scotland
RSA Location: Town Green
Meeting Location: Scotland Town Hall
Address: 9 Devotion Road
Date: 5/9/2016
Time: 9:00 AM

Participating Audit Team Members

Audit Team Member	Agency/Organization
Krystal Oldread	AECOM
Kevin Tedesco	CTDOT
Craig Babowicz	CTDOT
Daniel Syme	Town Scotland - First Selectman
Bill D'Appoconio	Town Scotland - head DPW
Samuel Alexander	NECCOG
Jeff Maxtutis	AECOM



COMMUNITY
connectivity program

Appendix C



AECOM
Built to deliver a better world



Road Safety Audit – Scotland

Meeting Location: Scotland Town Hall
Address: 9 Devotion Road, Scotland, CT 06264
Date: 5/9/2016
Time: 9:00 AM

Agenda

- Type of Meeting:** Road Safety Audit – Pedestrian Safety
- Attendees:** Invited Participants to Comprise a Multidisciplinary Team
- Please Bring:** Thoughts and Enthusiasm!!
- 9:00 AM** **Welcome and Introductions**
- Purpose and Goals
 - Agenda
- 9:15 AM** **Pre-Audit**
- Definition of Study Area
 - Review Site Specific Data:
 - Average Daily Traffic
 - Crash Data
 - Geometrics
 - Issues
 - Safety Procedures
- 10:30 AM** **Audit**
- Visit Site
 - As a group, identify areas for improvements
- 12:30 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
<p>Pedestrian Crossings</p> <ul style="list-style-type: none">• Sufficient time to cross (signal)• Signage• Pavement Markings• Detectable warning devices (signal)• Adequate sight distance• Wheelchair accessible ramps<ul style="list-style-type: none">○ Grades○ Orientation○ Tactile Warning Strips• Pedestrian refuge at islands• Other	
<p>Pedestrian Facilities</p> <ul style="list-style-type: none">• Sidewalk<ul style="list-style-type: none">○ Width○ Grade○ Materials/Condition○ Drainage○ Buffer• Pedestrian lighting• Pedestrian amenities (benches, trash receptacles)• Other	



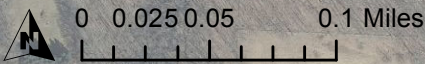
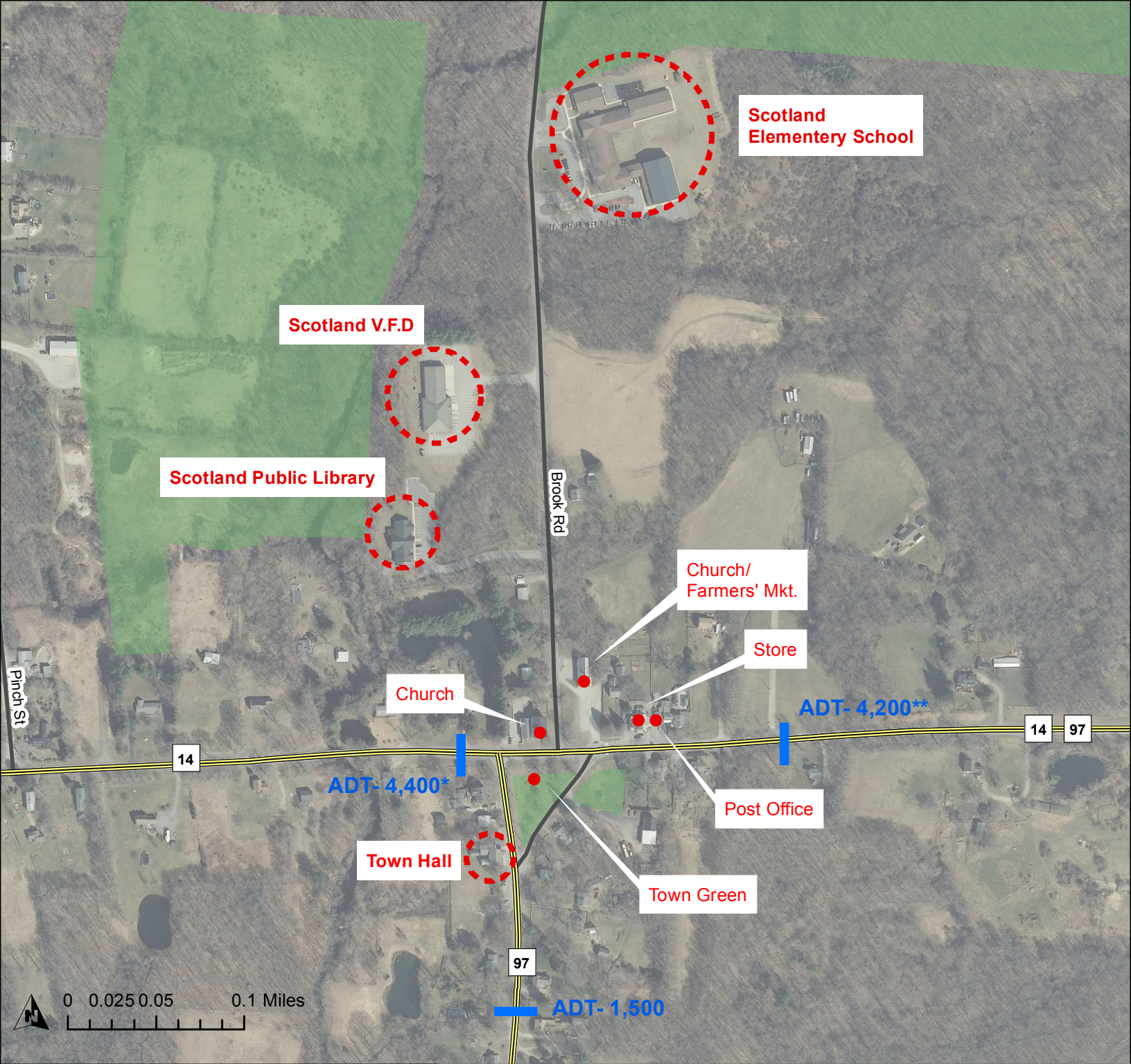
Bicycles <ul style="list-style-type: none">• Bicycle facilities/design• Separation from traffic• Conflicts with on-street parking• Pedestrian Conflicts• Bicycle signal detection• Visibility• Roadway speed limit• Bicycle signage/markings• Shared Lane Width• Shoulder condition/width• Traffic volume• Heavy vehicles• Pavement condition• Other	
--	--




Roadway & Vehicles	
<ul style="list-style-type: none">• Speed-related issues<ul style="list-style-type: none">○ Alignment;○ Driver compliance with speed limits○ Sight distance adequacy○ Safe passing opportunities	
<ul style="list-style-type: none">• Geometry<ul style="list-style-type: none">○ Road width (lanes, shoulders, medians);○ Access points;○ Drainage○ Tapers and lane shifts○ Roadside clear zone /slopes○ Guide rails / protection systems	

<ul style="list-style-type: none">• Intersections<ul style="list-style-type: none">○ Geometrics○ Sight Distance○ Traffic control devices○ Safe storage for turning vehicles○ Capacity Issues	
--	--



<ul style="list-style-type: none">• Pavement<ul style="list-style-type: none">○ Pavement Condition (excessive roughness or rutting, potholes, loose material)○ Edge drop-offs○ Drainage issues• Lighting Adequacy	
<ul style="list-style-type: none">• Signing<ul style="list-style-type: none">• Correct use of signing• Clear Message• Good placement for visibility• Adequate retroreflectivity• Proper support	
<ul style="list-style-type: none">• Signals<ul style="list-style-type: none">○ Proper visibility○ Proper operation○ Efficient operation○ Safe placement of equipment○ Proper sight distance○ Adequate capacity	
<ul style="list-style-type: none">• Pavement Markings<ul style="list-style-type: none">○ Correct and consistent with MUTCD○ Adequate visibility○ Condition○ Edgelines provided	
<ul style="list-style-type: none">• Miscellaneous<ul style="list-style-type: none">○ Weather conditions impact on design features.○ Snow storage	



-  Civic building
-  Other important building
-  Preserved open space

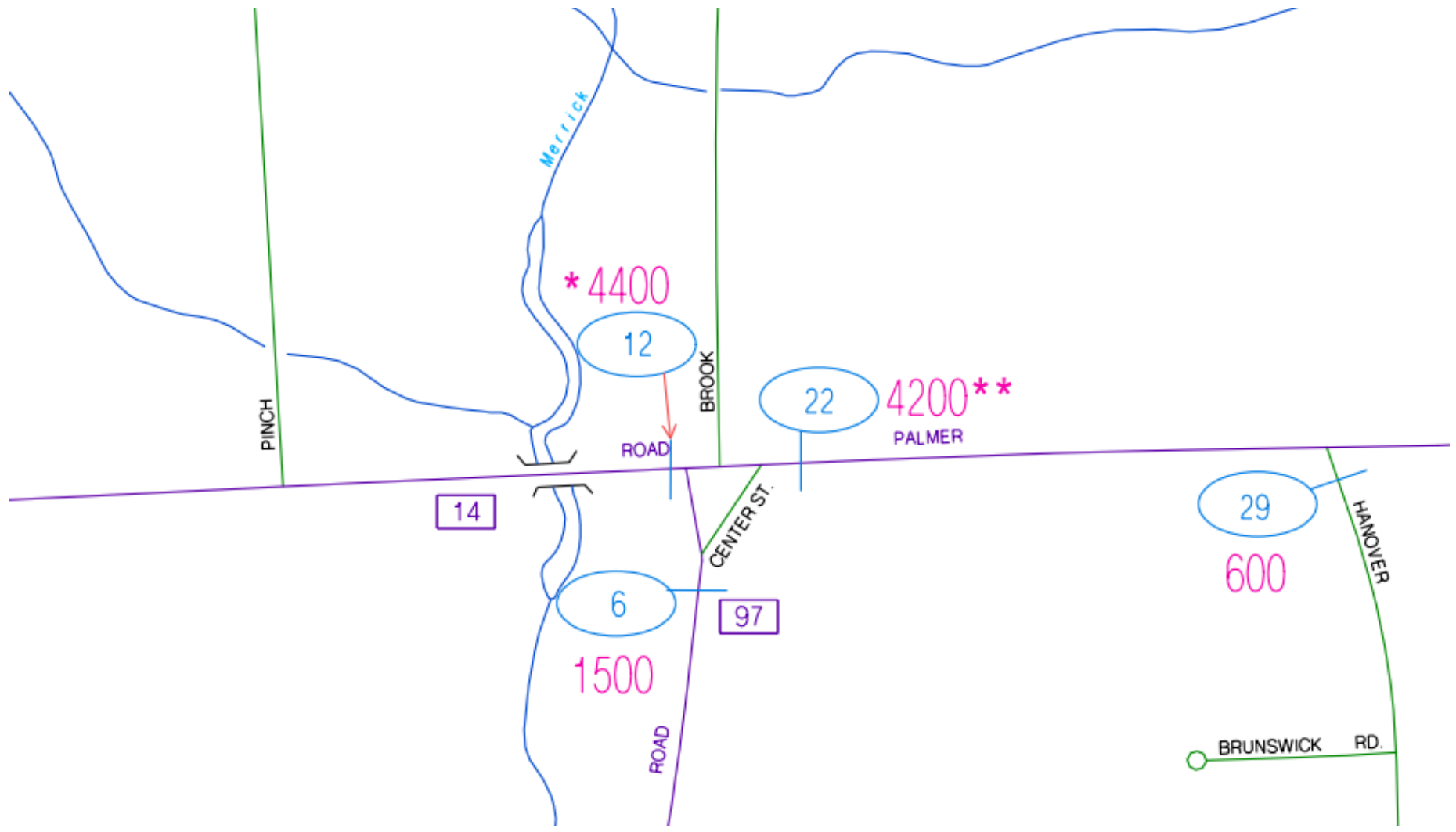
2013 AVERAGE DAILY TRAFFIC (ADT)
 *Projection based on traffic count on Route 14 in Windham
 **Projection based on traffic count on Route 14 in Canterbury

Legend

Sources:
 Connecticut Department of Transportation, 2007-2014 Average Daily Traffic Maps;
 Connecticut Department of Energy and Environmental Protection, Protected Open Space Mapping (POSM);
 United States Census Bureau, 2014 TIGER Roads; CT ECO, 2012 Statewide Leaf-off Orthophotography

This map is to be used for general planning purposes only. Data is not authoritative.

Average Daily Traffic (ADT)



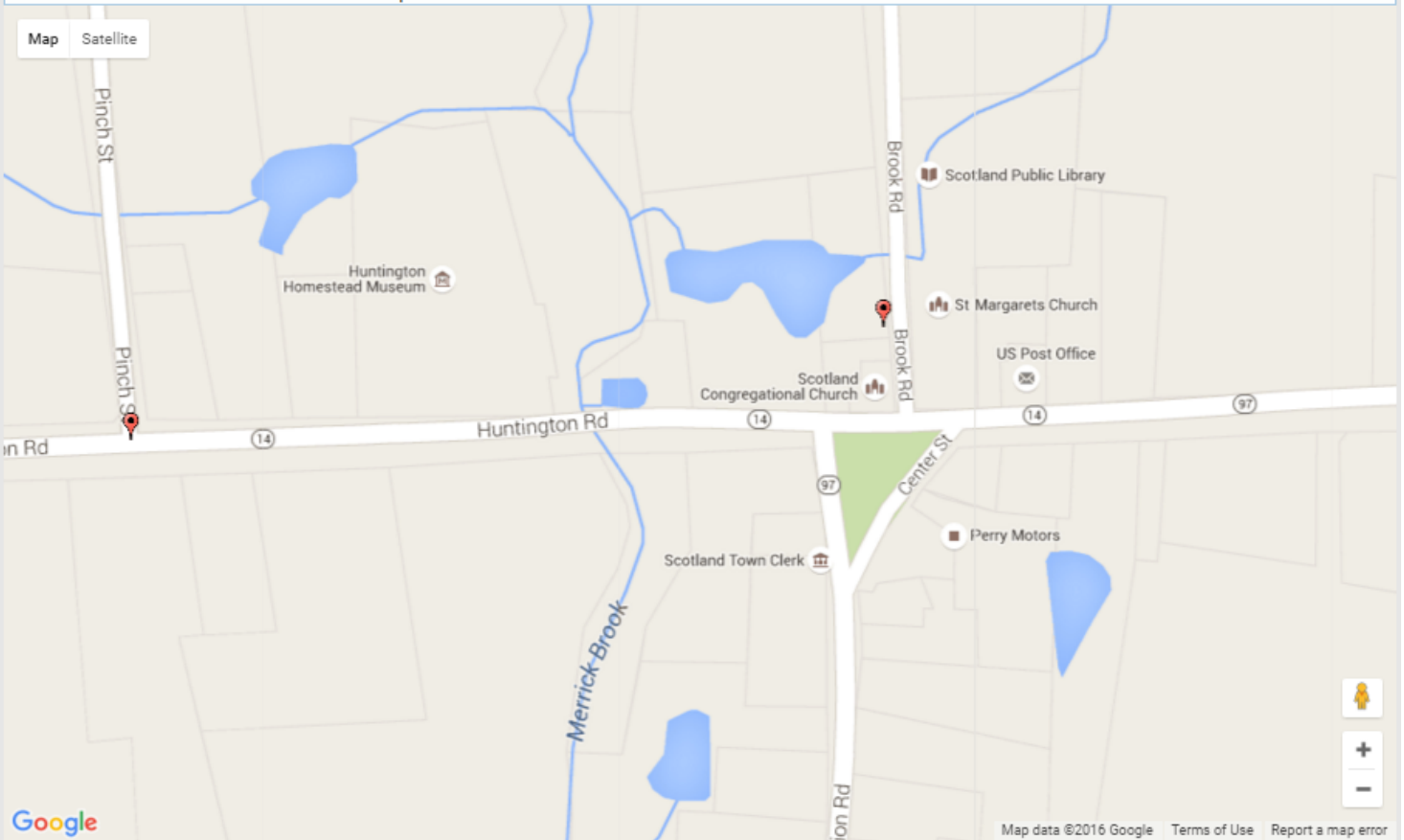
2015 Crashes

UConn

Connecticut Crash Data Repository

Search Criteria:

Dataset:	mmucc
Towns:	Scotland
Crash Severity:	Injury of any type (Serious, Minor, Possible), Fatal (Kill), Property Damage Only
Body Type:	null, null, null
Condition at Time of Crash:	null, null, null
Driver Distracted By:	null, null, null
Non-motorist Distracted By:	null, null, null
Case Status:	Complete



Markers Heatmap Select & Query
Query Selection

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



Road Safety Audit – Scotland

Crash Summary

Data: 3 years (2012-2014)

Severity Type	Number of Accidents	
Property Damage Only	8	62%
Injury (No fatality)	5	38%
Fatality	0	0%
Total	13	

Manner of Crash / Collision Impact	Number of Accidents	
Unknown	0	0%
Sideswipe-Same Direction	0	0%
Rear-end	2	15%
Turning-Intersecting Paths	1	8%
Turning-Opposite Direction	0	0%
Fixed Object	5	38%
Backing	0	0%
Angle	2	15%
Turning-Same Direction	2	15%
Moving Object	0	0%
Parking	0	0%
Pedestrian	0	0%
Overturn	0	0%
Head-on	0	0%
Sideswipe-Opposite Direction	1	8%
Total	13	



Weather Condition	Number of Accidents	
Snow	1	8%
Rain	3	23%
No Adverse Condition	9	69%
Unknown	0	0%
Blowing Sand, Soil, Dirt or Snow	0	0%
Other	0	0%
Severe Crosswinds	0	0%
Sleet, Hail	0	0%
Total	13	

Light Condition	Number of Accidents	
Dark-Not Lighted	5	38%
Dark-Lighted	1	8%
Daylight	7	54%
Dusk	0	0%
Unknown	0	0%
Dawn	0	0%
Total	13	

Road Surface Condition	Number of Accidents	
Snow/Slush	1	8%
Wet	4	31%
Dry	8	62%
Unknown	0	0%
Ice	0	0%
Other	0	0%
Total	13	











Time		Number of Accidents	
0:00	0:59	1	8%
1:00	1:59	0	0%
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	0	0%
7:00	7:59	1	8%
8:00	8:59	2	15%
9:00	9:59	1	8%
10:00	10:59	1	8%
11:00	11:59	0	0%
12:00	12:59	0	0%
13:00	13:59	0	0%
14:00	14:59	1	8%
15:00	15:59	1	8%
16:00	16:59	0	0%
17:00	17:59	1	8%
18:00	18:59	0	0%
19:00	19:59	0	0%
20:00	20:59	2	15%
21:00	21:59	0	0%
22:00	22:59	1	8%
23:00	23:59	1	8%
Total		13	

Scotland - Town Village District



Legend

-  Sidewalk
-  Flashing Beacon
-  Stop Controlled Intersection
-  Crosswalk
-  Pedestrian Crossing Sign
-  Bridge or culvert
-  Driveway
-  No on- street parking

Huntington Rd
Speed = 40 MPH
Lanes = 2
Lane width =
Shoulder width =

Devotion Rd
Speed = 40 MPH
Lanes = 2
Lane width =
Shoulder width =

Center St
Speed = 40 MPH
Lanes = 2
Lane width =
Shoulder width = 0 ft

Brook Rd
Speed = 35 MPH
Lanes = 2
Roadway width =
Shoulder width = unstriped



DRAFT



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 – Scotland

Fact Sheet

Functional Classification:

- Route 14 and Route 97 are classified as a Major Collector

Average Daily Traffic (ADT)

- ADT at this intersection spans between 4,200 and 4,400 on Route 14
- On Route 97, near the Center St. intersection, ADT is 1,500

Population and Employment Data (2014):

- Population: 1,709
- Employment: 127

Urbanized Area

- This location is not within an urbanized area.

Demographics

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

Air Quality

- Scotland's CIPP number 811
- Scotland is within the Greater CT Marginal Ozone Area
- Scotland is within a CO Attainment Area