

ACTON, MASSACHUSETTS

Strawberry Hill Road

Safety Improvement Report

Prepared for
Town of Acton, MA

Prepared by
Howard Stein Hudson

December 2018



HOWARD STEIN HUDSON

Engineers + Planners



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Introduction

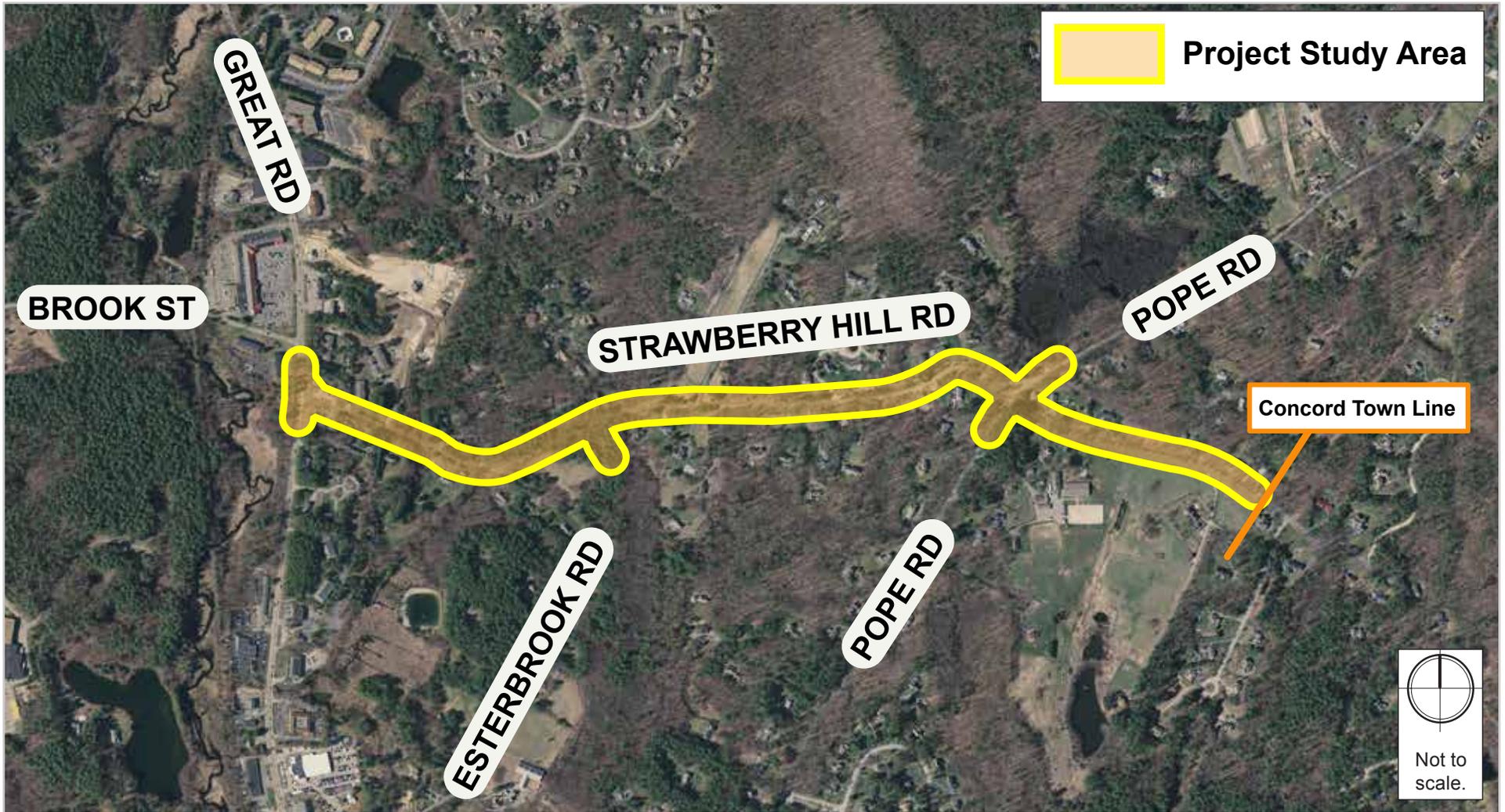
The Town of Acton has contracted with Howard Stein Hudson (HSH) to evaluate existing conditions along the Strawberry Hill Road corridor, from Great Road to the Concord Town Line and to identify potential safety issues. The two main concerns are related to speeding on Strawberry Hill Road and to business parking at the corner of Strawberry Hill Road and Great Road, where after the business' lot is full, patrons park along Strawberry Hill Road.

HSH used speed and crash data information provided by the Town, observations made during a Road Safety Audit conducted on November 15th, 2018, and concerns voiced during a Public Information Meeting held on November 28th, 2018 to identify safety issues and determine any feasible ways to help resolve them.

A locus map provided in **Figure 1** shows the limits of the study area corridor as well as the intersections investigated. This report documents the existing conditions of the corridor and intersections and summarizes the RSA observations and concerns voiced during the Public Information Meeting. The report provides both low cost and high cost recommendations to optimize the efficiency and safety of the intersections, reduce cut-through traffic and speeds, and improve accommodations and safety for pedestrians and cyclists.



Figure 1. *Locus Map*





Existing Conditions

Roadway Descriptions

Great Road (Route 2A) is a two-way urban principal arterial roadway under Massachusetts Department of Transportation (MassDOT) jurisdiction. Great Road runs in a north-south direction from the Groton-Littleton town line to the north to the Acton-Concord town line to the south. Great Road is designated as Route 2A. The curb-to-curb width of the roadway is approximately 34 feet with 11-foot travel lanes and 6-foot shoulders. Within the study area, a hot mix asphalt sidewalk and granite curbing in good condition is provided along the east side of Great Road. The posted speed limit on Great Road within the project area is 40 mph. Though no parking restrictions are posted along the roadway, vehicles have not been observed to park on Great Road.

Strawberry Hill Road is a two-way local roadway under Town of Acton jurisdiction. Strawberry Hill Road runs in an east-west direction in the study area between Great Road and Pope Road to the west and the Acton-Concord town line to the east. The curb-to-curb width of the roadway varies between approximately 20 and 25 feet with 10- to 12.5-foot travel lanes. A mix of granite curbing and bituminous berm is provided intermittently along the corridor as well as a short guardrail segment. The posted speed limit is 30 mph between Great Road and Pope Road, and 25 mph between Pope Road and the Concord Town Line. Vehicles typically are not seen parking along the corridor at all times of the day, with the exception of near Rapscaillon Table & Tap. On a busy Friday or Saturday, Rapscaillon tends to have overflow parking which ends up on Strawberry Hill Road. The town has recently instituted a temporary parking ban as road-side parking was restricting the two-way traffic flow of the roadway. Finally, Strawberry Hill Road is designated as a historic roadway by Acton's General Bylaws (Chapter J), which refer to the Scenic Road Act of 1973.

Esterbrook Road is a two-way local roadway under Town of Acton jurisdiction running primarily in the north-south direction between Strawberry Hill Road and Great Road. The edge-to-edge width of the roadway is approximately 20 to 21 feet with 10- to 10.5-foot travel lanes. There are no sidewalks or curbs along either side of the roadway. The prima facie speed limit along Esterbrook Road is 30 mph.

Pope Road is two-way, rural minor collector operating under Town of Acton jurisdiction. Pope Road primarily runs in the north-south direction from Great Road to the south to West Street to the north. The edge-to-edge width of the roadway is approximately 22 feet with 11-foot travel lanes. There is no curbing along Pope Road within the project area. A hot mix asphalt sidewalk is provided along the west side of Pope Road from Strawberry Hill Road to just north of Proctor Street, the east side from



north of Proctor Street to Brabrook Road and the west side from Brabrook Road to Great Road. The posted speed limit along Pope Road is 30 mph just north of Strawberry Hill Road and 35 mph just south of Strawberry Hill Road within the study area. Through the intersection, the speed limit traveling northbound is 35 mph and 30 mph traveling southbound. Though no parking restrictions are posted along the roadway, vehicles have not been observed to park on Great Road.

Intersection Descriptions

Strawberry Hill Road at Great Road is an unsignalized Y-intersection with three approaches. The Strawberry Hill Road westbound is divided into two legs by a triangular median. Each leg has a receiving lane and an approaching lane. The approaching lanes of each leg are approximately 14 feet wide, allow for left and right turns, respectively, and are stop controlled. The Great Road northbound approach consists of an approximately 11-foot shared through/right-turn lane. The Great Road southbound approach consists of an approximately 11-foot shared left-turn/through lane.

Crosswalks and wheelchair ramps are provided across the Strawberry Hill Road approaches. There are no cyclist facilities at the intersection. **Figure 2** shows an aerial view of the intersection.

Figure 2. Strawberry Hill Road at Great Road





Strawberry Hill Road at Esterbrook Road is an unsignalized Y-intersection with four approaches. The Esterbrook Road northbound is divided into two legs by a triangular median and each leg has a receiving lane and an approaching lane. The Esterbrook Road northbound western leg provides a 15-foot shared left turn lane and the eastern provides a 9-foot shared right turn lane, and both of these lanes are stop controlled. The Strawberry Hill Road eastbound approach consists of an approximately 11-foot shared through/right-turn lane. The Strawberry Hill Road westbound approach consists of an approximately 10-foot shared left-turn/through lane.

There are no pedestrian or cyclist facilities at the intersection. **Figure 3** shows an aerial view of the intersection.

Figure 3. *Strawberry Hill Road at Esterbrook Road*





Strawberry Hill Road at Pope Road is an unsignalized intersection with four approaches. The Strawberry Hill Road eastbound approach is divided into two legs by a triangular median and each leg has a receiving lane and an approaching lane. The southern leg of Strawberry Hill Road eastbound provides a 10-foot shared through/right-turn lane that widens to 22 feet at the intersection and the northern leg provides a 10-foot left-turn only lane, and both of these lanes are stop controlled. The Strawberry Hill Road westbound approach consists of an approximately 11-foot shared left-turn/through/right-turn lane and is stop controlled. The Pope Road northbound approach consists of an approximately 12-foot, shared left-turn/through/right-turn lane. The Pope Road southbound approach consists of an approximately 12-foot, shared left-turn/through/right-turn lane.

A sidewalk runs along the southern side of Strawberry Hill Road west of Pope Road and the western side of Pope Road south of Strawberry Hill Road. There are no cyclist facilities at the intersection.

Figure 4 shows an aerial view of the intersection.

Figure 4. *Strawberry Hill Road at Pope Road*





Existing Safety Issues and Road Safety Audit

On Thursday, November 15th, 2018, Howard Stein Hudson conducted a Road Safety Audit (RSA) to discuss safety issues along Strawberry Hill Road between Great Road and Pope Road and potential solutions to those hazards. In attendance were Town of Acton key staff, MassDOT District 3 staff, and Howard Stein Hudson staff. The sections that follow, discuss in detail the safety issues that were observed during the RSA site walk and the meeting that followed the site walk. Pictures of the RSA site walk are provided in **Appendix A**.

ROADWAY GEOMETRY

Strawberry Hill Road has a 20-foot cross section through its narrowest sections. It has been observed, and mentioned at the public meeting, that, without pavement markings, vehicles often encroach on the travel lane of opposing traffic, especially around curves.

Utilities and trees sit within half a foot of the edge of pavement. Throughout the corridor, utility poles and trees that sit at the edge of the narrow roadway show apparent damage from being struck by vehicles. As many of these utilities and trees are as close as half a foot to the edge of pavement, they are considered a safety issue as they create obstructions and don't provide adequate clear zone space based on AASHTO standards.

The three main intersections along Strawberry Hill Road, at Great Road, Esterbrook Road, and Pope Road, have Y-intersection orientations. Building a Y-intersection has become an uncommon practice recently, due to the safety issues they present with multiple access points and high-speed approaches.

At Strawberry Hill and Esterbrook Road, there may not be sufficient intersection sight distance provided, especially for the Esterbrook Road approach, due to the horizontal curve and the existing vegetation. Strawberry Hill Road westbound comes downhill into the Esterbrook Road intersection, which may be the reason for the high speeds at this location and some close calls of vehicles crashing, as a vehicle was driving on the opposite side of the road.

Visibility of Pope Road traffic by Strawberry Hill Road westbound vehicles is also extremely limited, due to the existing trees, utility poles, horizontal curve on Pope Road, and the position of the stop bar on the Strawberry Hill Road westbound approach; vehicles were observed to go past the stop bar in order to see incoming vehicles before completing their maneuver.

Finally, although there are posted speed limits on Pope Road, at its intersection with Strawberry Hill Road, they are located after the intersection on either direction. This doesn't help to warn drivers



to slow down because of the presence of the intersection, as high speeds on Pope Road have been observed by both the residents and the RSA team in the field.

CUT-THROUGH TRAFFIC AND SPEEDING

Strawberry Hill Road is often used as a cut-through road to avoid the use of Route 2 and the Concord Rotary to the south. Past speed studies conducted by the Town have found that, as volume on Strawberry Hill Road has increased, so have speeds during peak hour travel. Speeds along Strawberry Hill Road are higher than appropriate in relation to the geometry and functionality of the roadway. According to studies conducted by the Town in 1989 and in 2015, traveling speeds along Strawberry Hill Road have increased from 28 mph to 37 mph.

Great Road and Pope Road have speed limits of 40 mph and 30 mph respectively. However, studies have shown that drivers tend to drive 10-15 mph above the posted speed limits. This is particularly dangerous at Strawberry Hill Road's intersections with Great Road and Pope Road where the existing Y-intersection geometry encourages high speeds and doesn't force vehicles to slow down to complete a turning maneuver into Strawberry Hill Road.

PARKING

During the RSA site visit, RSA attendees stated that, in the past, overflow parking from the restaurant at the corner of Strawberry Hill Road at Great Road would park across the street on Strawberry Hill Road, but owners have since prohibited any non-customer parking within their lot. This led to the overflow vehicles parking along Strawberry Hill Road and at the grocery store parking lot just north of Strawberry Hill Road. As Strawberry Hill Road is narrow and connects as a Y-intersection with Great Road, parking near the intersection and further down Strawberry Hill Road can be dangerous due to the high-speed turning maneuvers from Great Road, and the narrow cross-section of Strawberry Hill Road.

PEDESTRIAN AND BIKE ACCOMMODATIONS

Strawberry Hill Road has very little pedestrian accommodations, but no bicycle accommodations. Nevertheless, it is a popular cycling route during weekends, and it is a part of the Isaac Davis Trail March route, which commemorates the Acton Minutemen's march to Concord. The celebratory march occurs every year on Patriot's Day and participants proceed down the length of Strawberry Hill Road from Great Road in Acton to Barrett Mill Road in Concord.

During the RSA, team members also discussed the presence of crashes and their potential causes along Strawberry Hill Road and specifically its intersections with Great Road and Pope Road. Sixteen crashes were compiled by the Acton Police Department between January of 2015 and December of 2017 occurring in the study area. **Table 1** shows a summary of the total number of crashes and their type as well as those that specifically occurred at Strawberry Hill Road's



intersections with Great Road and Pope Road. A crash summary table and collision diagrams for the sixteen crashes can be found in **Appendix B**.

Table 1. Summary of Study Area Crashes

Scenario	Pope Road/Strawberry Hill Road	Great Road/Strawberry Hill Road	Strawberry Hill Road Corridor
Year			
2015	3	3	4
2016	1	2	-
2017	1	3	1
Type			
Head on	1	1	-
Angle	3	1	1
Rear-end	-	5	-
Single Vehicle	1	-	4
Sideswipe	-	1	-
Unknown	-	-	-
Severity			
Property Damage	2	6	4
Personal Injury	3	2	1
Fatality	-	-	-
Hit and Run	-	-	-
Unknown	-	-	-
Total	5	8	5

As can be seen in **Table 1**, in the recent three years of available crash data, the Strawberry Hill Road/Great Road intersection experienced more crashes than the Strawberry Hill Road/ Pope Road intersection, and both intersections saw crashes that involved personal injuries. No crashes occurred at Strawberry Hill Road/Esterbrook Road intersection.

The RSA team identified the safety issues discussed in the preceding sections as the contributing factors for these crashes.

Town and Public Input

Public Information Meeting

On Thursday, November 28th, 2018, Howard Stein Hudson conducted a Public Information Meeting regarding the existing safety issues along Strawberry Hill Road as well as potential solutions for



these issues. The meeting was held at the Acton Town Hall and 19 people attended. Notes recorded during that meeting can be found in **Appendix C**.

Safety issues identified during the presentation included the same topics discussed in this report. Following the presentation, the attending public was encouraged to provide their input and ask questions. Some specific concerns, observations, and opinions voiced by residents included the following:

- Worry that the historic character of the roadway will be lost if drastic changes are made;
- Due to the greenery along the roadway, drivers feel the road is narrower and drive down the middle to avoid vegetation;
- Feasibility of making Strawberry Hill Road into a one-way roadway and giving it a westbound direction. However, there were concerns voiced when this suggestion was brought up. The concerns were that redirecting traffic from Strawberry Hill Road to Pope Road may make Pope Road speeding worse; and
- On-street parking should not be permitted along the roadway due to the narrowness of the roadway and the existing roadway geometry but permitting parking for special events should be made possible.

Minutes from the meeting can be found online at Acton's Town website.

Recommendations

After consideration of comments made both during the RSA and the Public Information Meeting, and after the evaluation of the data provided to HSH by the Town, HSH developed short-term and long-term recommendations to help mitigate the safety issues mentioned in this report. The following sections discuss these recommendations, which are also presented in **Figure 5** through **Figure 11** later in the report.

Short-Term Improvements

GEOMETRY

The right-turn slip lane from Pope Road southbound to Strawberry Hill Road westbound should be blocked off. This will formalize the Strawberry Hill Road/Pope Road as a traditional four-legged intersection and can assist with slowing down vehicles on Pope Road.



SIGNAGE

Strawberry Hill Road provides almost no signage beyond a few speed limit signs and street name signs for the existing side streets. It is recommended to install advanced warning signs indicating intersections and curves and dynamic speed signs in advance of curves to help warn drivers to reduce their speed ahead and provide recommended speed limits around curves. Speed limit signs along Strawberry Hill Road should be posted closer to the intersections with Great Road and Pope Road.

It is also recommended to remove the current speed limit signs at the Pope Road approaches and replace them with 30 mph speed limit signs that appear before Strawberry Hill Road, on each Pope Road approach. Dynamic speed signs are also recommended to be paired with the speed limit signs.

Finally, intersection warning signs should be placed in advance of Strawberry Hill Road along both Pope Road approaches.

PAVEMENT MARKINGS

It is recommended to provide a double yellow center line along Strawberry Hill Road to help guide drivers and deter other drivers from traversing into opposing traffic. The double yellow centerline would also make the road feel narrower which can promote slower speeds along Strawberry Hill Road.

Providing double yellow centerlines at each approach leg of the existing Y-intersections is recommended, as this will help better delineate the appropriate lane for each direction of traffic. At the intersection of Strawberry Hill Road at Pope Road, it is recommended to move the stop line closer to Pope Road on the westbound approach, to allow for better sign lines of on-coming traffic along Pope Road. Truck and bus turns should be evaluated to help define the appropriate stop line location.

SIGHT LINE IMPROVEMENTS

Utility poles, trees, shrubs, and stone walls reduce sight lines at locations along the corridor especially at curves and intersections. It is recommended to clear shrubbery and trees throughout the corridor, where appropriate, particularly around curves, intersections, and near driveways.

At locations of curves, and where appropriate, it is recommended to add parabolic mirrors, so drivers may see oncoming traffic around the curve. This will particularly aid larger vehicles, such as school buses, that cannot make tight turns without traversing into the on-coming traffic travel lane. Locations of parabolic mirrors require further sight distance evaluation.



PEDESTRIAN AND BICYCLE ACCOMMODATIONS

With a high presence of cyclists utilizing the roadway, it is recommended that sharrows be added throughout the corridor to provide cyclists proper authority to use the whole lane. Additional signage advising vehicles to “share the road” with cyclists is also recommended to further remind drivers that cyclists can be found utilizing Strawberry Hill Road. Signage should be placed near the entrances of Great Road and Pope Road.

See **Figure 5**, **Figure 6**, and **Figure 7** for a graphic showing all these recommended short-term improvements.



Figure 5. Short-term Improvements - Great Road to 72 Strawberry Hill Road

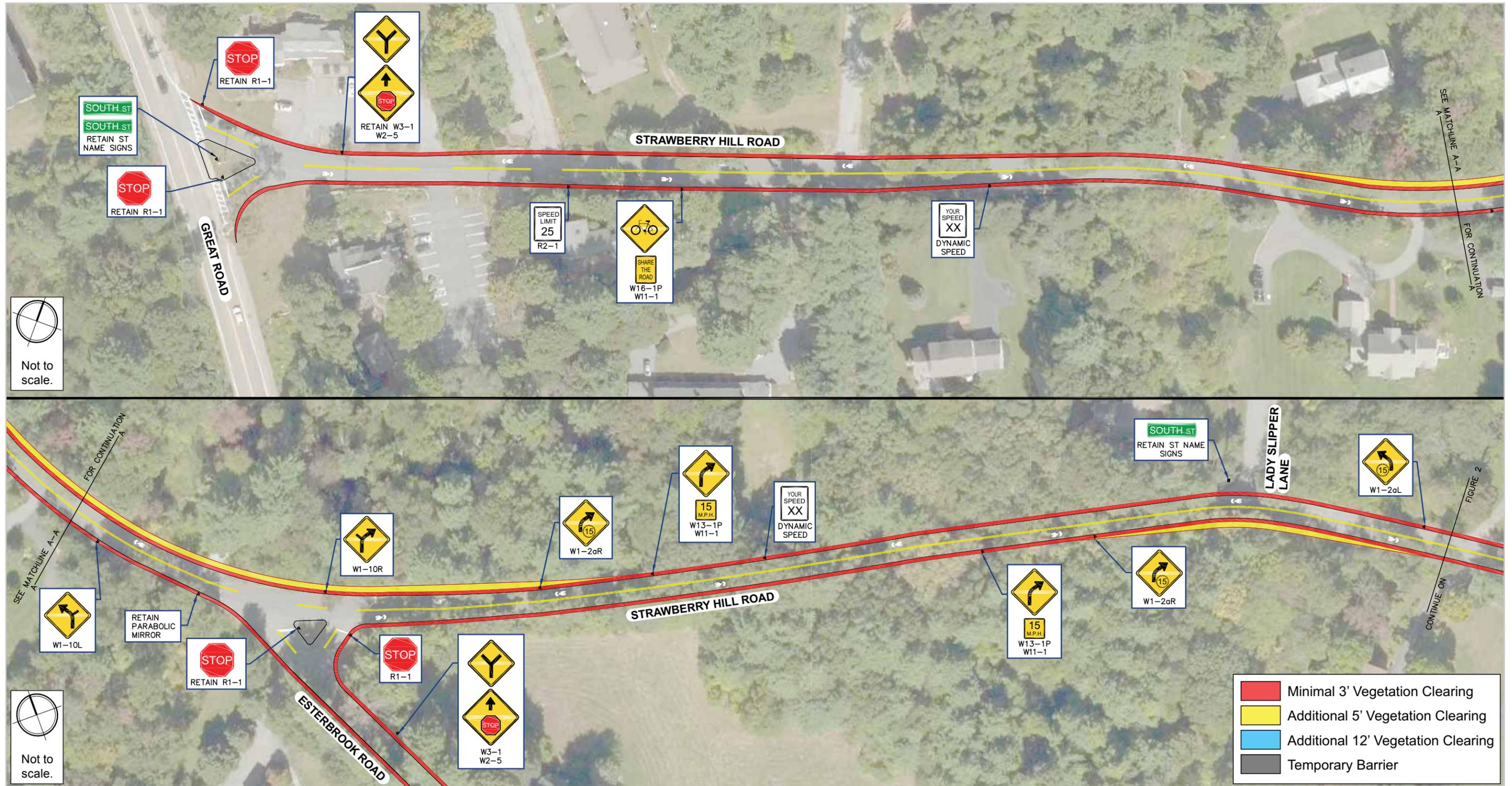




Figure 6. Short-term Improvements - 72 Strawberry Hill Road to Pope Road

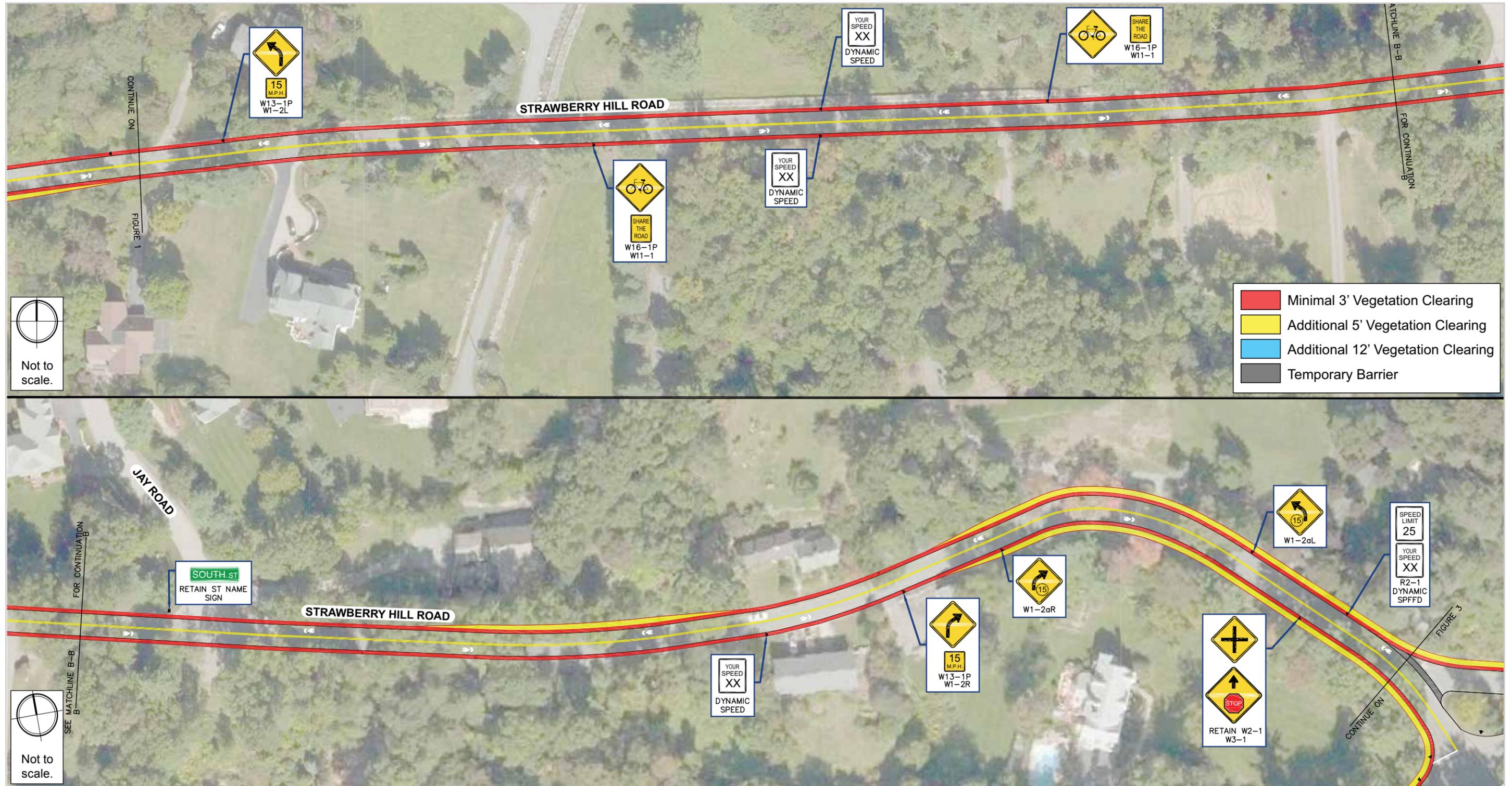
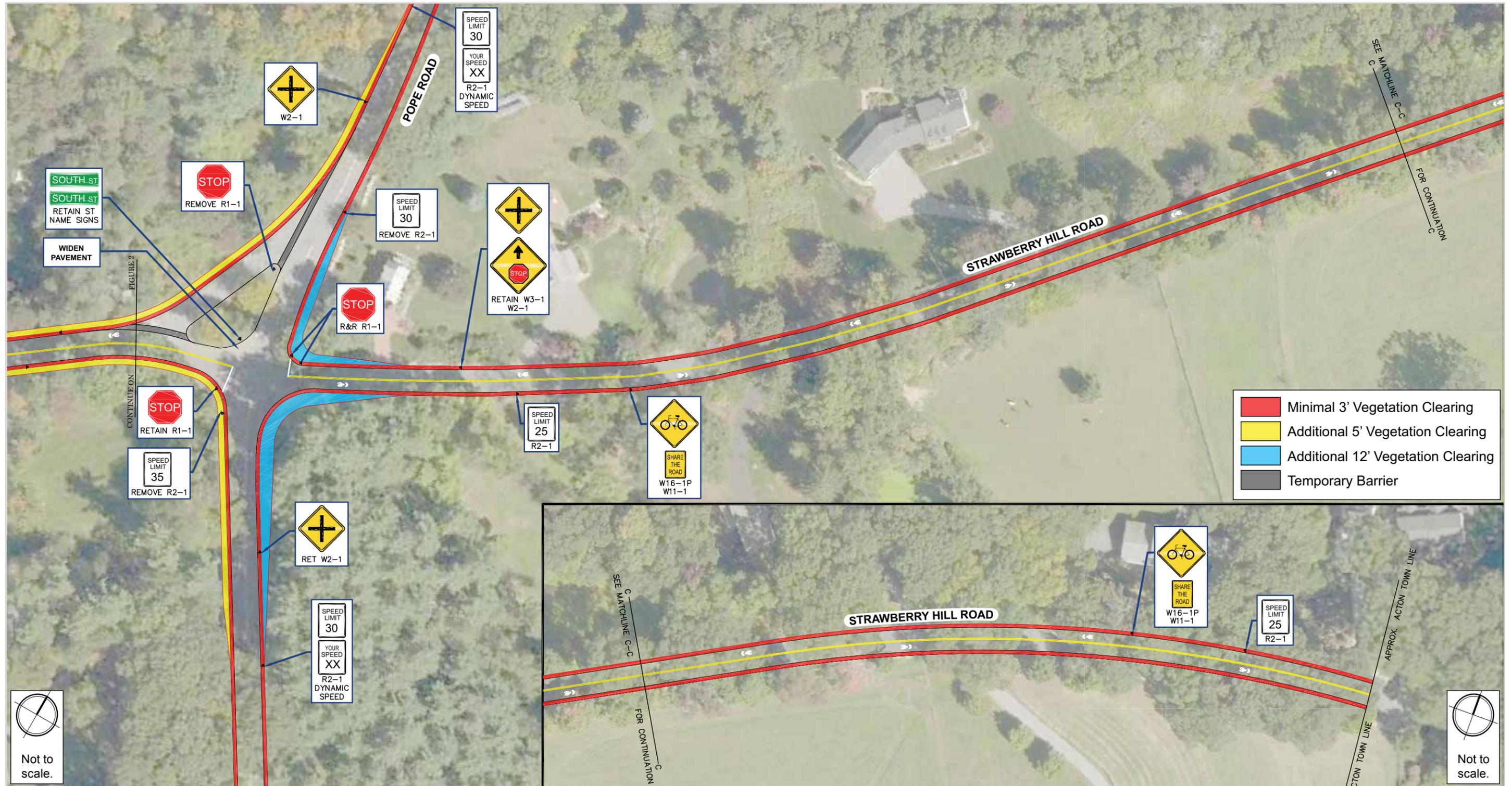




Figure 7. Short-term Improvements - Pope Road to Acton Town Line





Long Term Improvements

GEOMETRY

It is recommended that all Y-intersections be converted to T-intersections, as it can remove driver confusion and reduce turning speeds into and out of either roadway. The T-intersections will also be beneficial for pedestrians and bicycles, as they have to cross only one approach, instead of two that exist today at all three Strawberry Hill Road major intersections.

PARKING

At the Town's request, HSH checked the feasibility of providing parking on Strawberry Hill Road, near Great Road, for the RapsCALLION Table & Tap. It was determined that, in conjunction with the intersection reconstruction, a few locations can likely be provided on Strawberry Hill Road, adjacent to the RapsCALLION property. **Figure 9** shown later in the report, shows the intended location. An additional location could be provided, if the utility pole on this side of the roadway is relocated, however, this needs further examination as there may not be enough room to provide an appropriately sized parking area. As shown in **Figure 9**, these parking locations will be separated from the traveled way, which should resolve the concern residents have with being able to access Strawberry Hill Road, when coming from Great Road.

SPEED HUMPS

To further enforce the 25-mph speed limit along the roadway, it is recommended to construct permanent speed humps on Strawberry Hill Road near its intersection with Great Road and Esterbrook Road, as well as the horizontal curve to the west of Pope Road. The Federal Highway Administration (FHWA) has conducted research that shows that speed humps can reduce existing speeds by 13% to 23%. This research can be found on FHWA's website, under the Traffic Calming ePrimer page. However, it should be noted that the same research has found that the speed humps add delay to emergency vehicles and are not typically liked by emergency services in general.

SIGHT LINE IMPROVEMENTS

To improve sight lines, trees near the edge of the roadway should be removed, and utility poles near the edge of the roadway should be moved back to grant a more forgiving cross section. The possible addition of a sidewalk would be a factor in determining the extent to which trees and utility poles would be moved. Clearing along the roadway should be done to the same extent as in the short-term improvements with additional clearing around curves. Where there is a proposed sidewalk, clearing should extend approximately three feet beyond the back of sidewalk to increase pedestrian visibility.



PEDESTRIAN AND BICYCLE ACCOMMODATIONS

It is recommended to add a sidewalk along the south side of the roadway, starting at the Acton-Concord town Line and ending at Great Road, connecting to the existing sidewalk between Pope Road and 85 Strawberry Hill Road. The proposed sidewalk should switch to the north side of Strawberry Hill Road at Lady Slipper Lane, as stone walls and existing grades may make it difficult to keep it on the south side. It should be noted that sidewalk construction would require removal of trees, relocation of utility poles and, possibly, stone walls, and could require construction of retaining walls where required by roadside grades. The sidewalk would be required to be a minimum of 6 feet wide, which can allow for utility poles to be on it, as long as there is a 4-foot unobstructed path for pedestrians.

Crosswalks are recommended across Pope Road and Strawberry Hill Road (at Lady Slipper Lane), to provide continuity. It is also recommended to provide a crosswalk across Strawberry Hill Road, at Jay Lane, to connect the existing sidewalk along Jay Lane to the proposed sidewalk along Strawberry Hill Road. Crossing pedestrian signs should be fitted with LEDs, to make these signs, as well as crossing pedestrians, even more visible to vehicles. **Figure 8** shows an example of an LED pedestrian crossing sign. These signs can be either solar-powered or use existing electric service.

Figure 8. LED Pedestrian Crossing Sign



Bicycle accommodations in the long term are the same as in the short term; cyclists will be served with sharrows along the length of the corridor supplemented by “share the road” signage.

See **Figure 9**, **Figure 10**, and **Figure 11** for recommended long-term improvements.



Figure 9. Long-term Improvements - Great Road to 72 Strawberry Hill Road

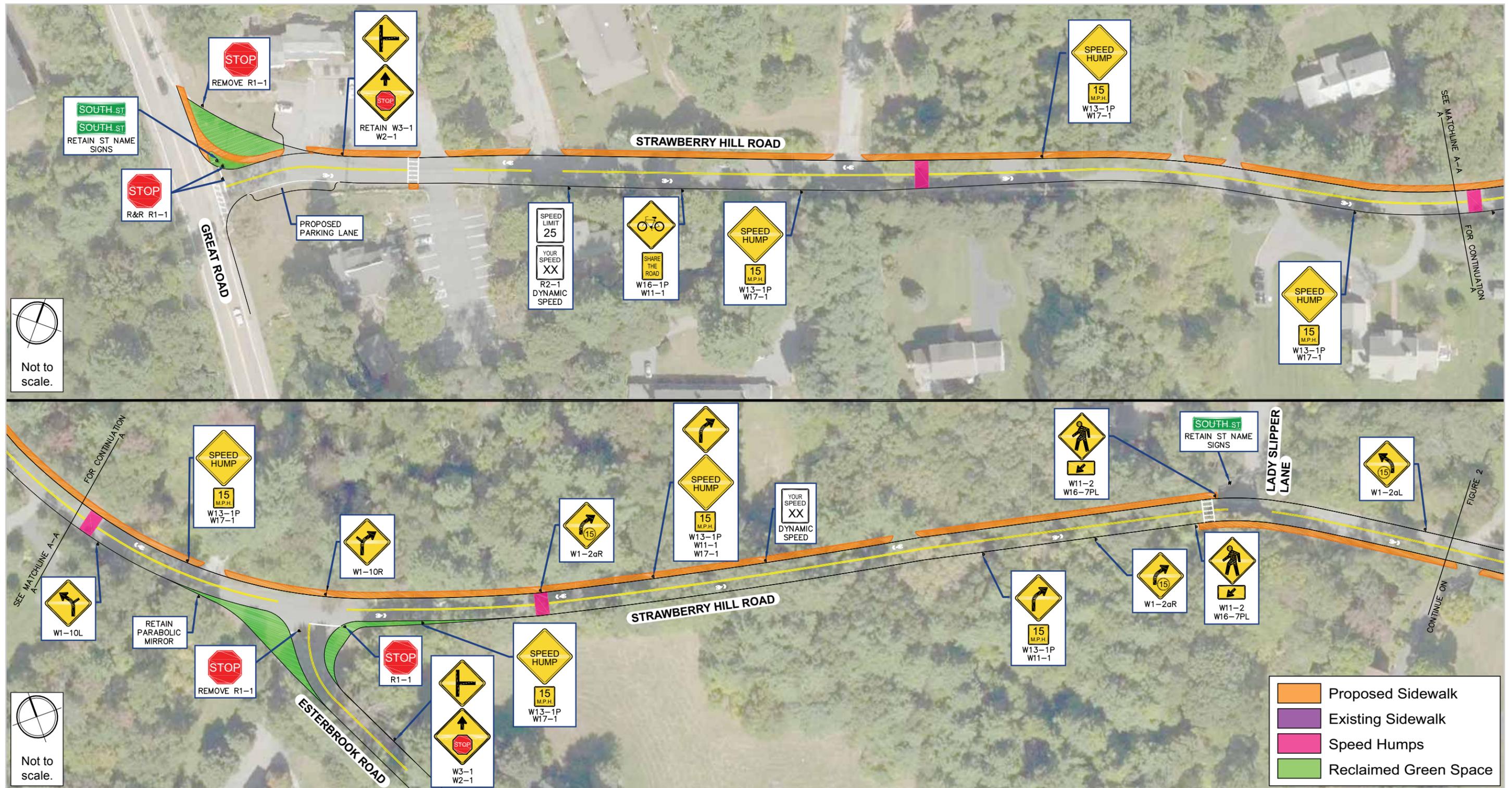




Figure 10. Long-term Improvements - 72 Strawberry Hill Road to Pope Road

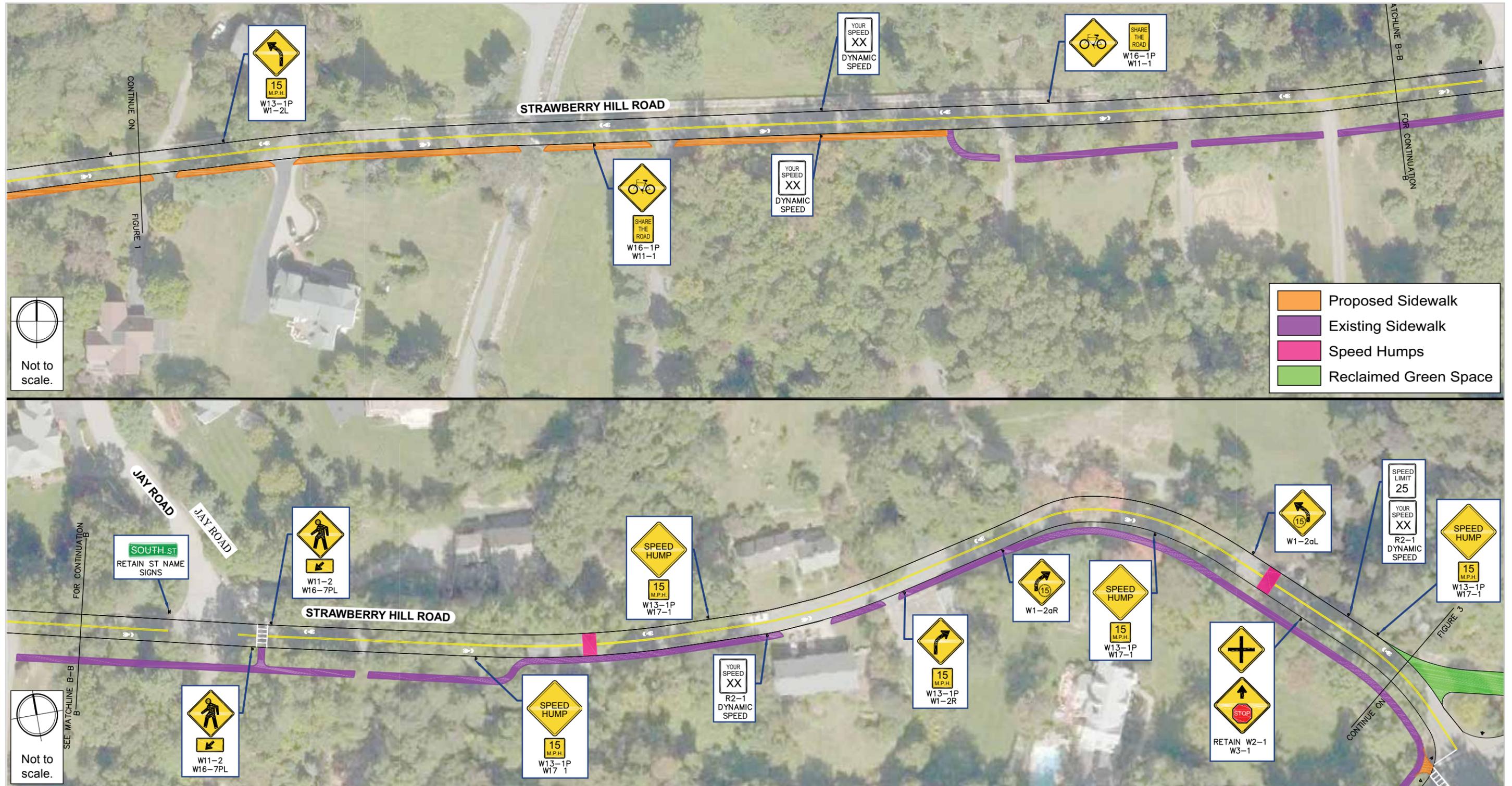
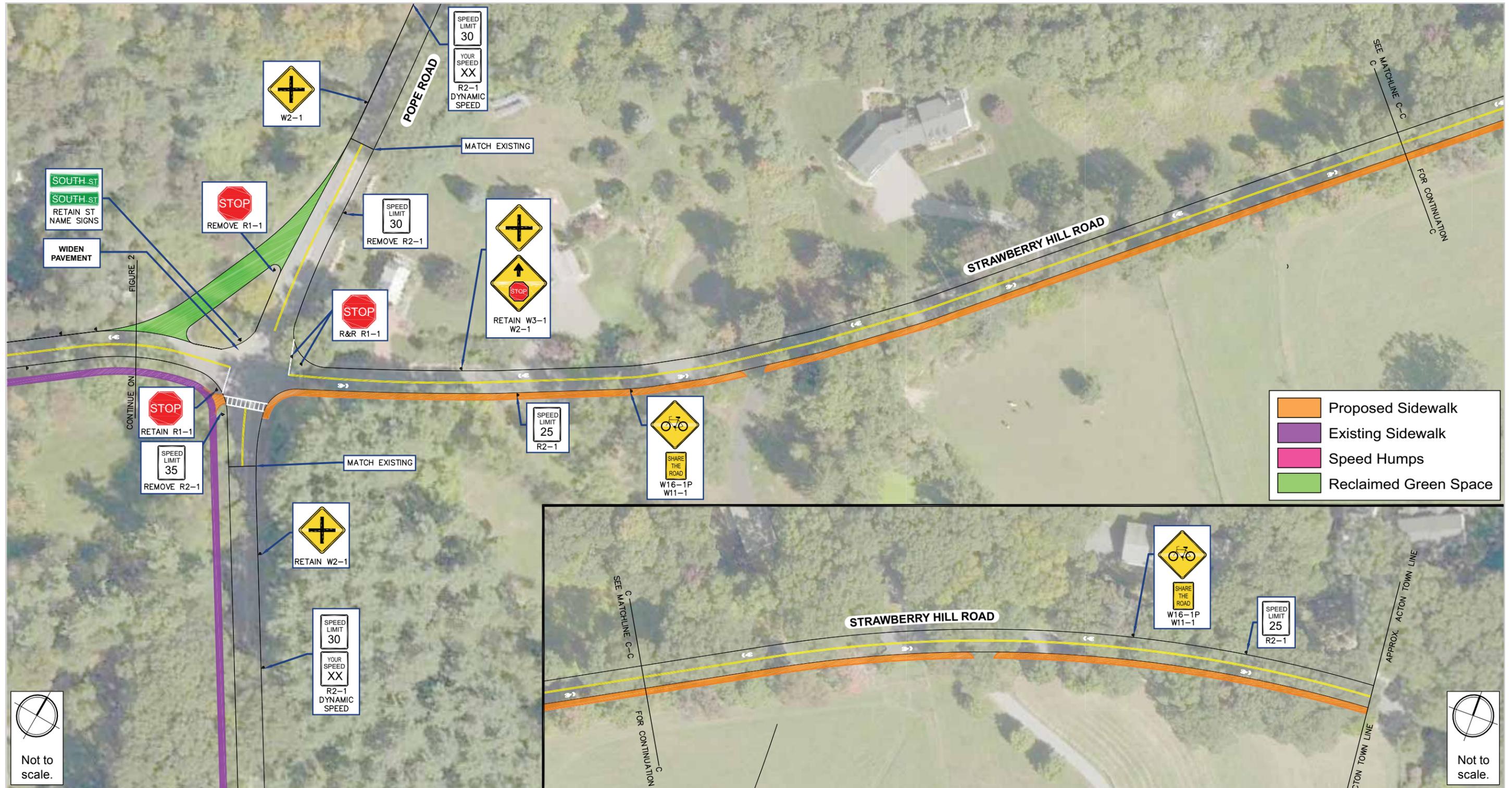




Figure 11. Long-term Improvements - Pope Road to acton Town Line





Summary of Short-Term and Long-Term Improvements

Improvements considered short-term are assumed to require up to a year to implement, whereas those considered long-term are assumed to need more than one year. **Table 2** and **Table 3** below provide cost ranges for improvements that are considered low, medium, or high cost, and the ranking of each proposed improvement, respectively.

Table 2. Estimated Time Frame and Costs Breakdown

Cost Range	
Low	<\$10,000
Medium	\$10,001-\$50,000
High	>\$50,000

Table 3. Short-term and Long-term Improvements Summary

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost
Geometry	Convert Y-intersections into T-intersections.	High	Long-Term	High
	Construct speed humps.	High	Long-Term	Medium
Pavement Markings and Signage	Install advanced warning and advisory signs	Medium	Short-Term	Low
	Install dynamic speed feedback signs	High	Short-Term	Medium
	Install a double yellow center line	High	Short-Term	Medium
Sight Line Improvements	Clear vegetation	Medium	Short-Term	Medium
	Install parabolic mirrors	Medium	Short-Term	Low
	Relocate utility poles	High	Long-Term	N/A*
	Relocate stone walls	Medium	Long-Term	High
	Remove trees	High	Long-Term	High
Pedestrian and Bicycle Accommodations	Install crosswalks	Medium	Short-Term	Low
	Install sharrows	Low	Short-Term	Low
	Install “share the road” and bicycle warning signs	Low	Short-Term	Low
	Construct a sidewalk	High	Long-Term	High

*Utility pole relocation cost would be the responsibility of the utility owner.



Order of Implementation

As **Table 3** shows, there are several short-term improvements that the Town can implement in the near future, which can provide an immediate safety benefit to the community,

It is HSH's recommendation that the proposed pavement markings (double yellow centerline and sharrows) at the Y-intersections and along the entire length of Strawberry Hill Road, as well as the proposed static signs (except for the pedestrian crossing signs) shown on the Short-Term Improvements figure be implemented first. Depending on funding availability, clearing vegetation should occur at the same time as the pavement marking and sign installation, to avoid branches blocking the newly provided signs, gain the increased sight distance throughout the corridor, and feeling narrow slows traffic, as was mentioned in this report.

The dynamic speed feedback signs can be installed next, to supplement the new speed limit signs and promote slower speeds on Strawberry Hill Road.

The intersection geometry modifications, sidewalk installation and the installation of the noted crosswalks and signage are longer-term projects. These will require coordination with utilities for relocation, prior to construction. Additionally, they require a better understanding of right-of-way impacts and acquisition and other potential conflicts, such as stone walls.

Residents were opposed to allowing parking on Strawberry Hill Road. The current width does not allow for this to be done safely without the widening, as mentioned above. As patrons currently use Donelan's Supermarket parking area and walk to this location, it may be prudent to install a crossing from that lot, across Great Road to the existing sidewalk, and install a Rectangular Rapid Flashing Beacon (RRFB) at this location.



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Appendix A

RSA Site Walk Photographs



Photo 1. Strawberry Hill Road at Great Road – Looking South on Great Road



Photo 2. Strawberry Hill Road at Great Road – Looking West on Strawberry Hill Road





Photo 3. Strawberry Hill Road at Esterbrook Road – Looking East on Strawberry Hill Road



Photo 4. Strawberry Hill Road at Esterbrook Road – Looking West on Strawberry Hill Road





Photo 5. Strawberry Hill Road at Pope Road – Looking North on Pope Road, from Strawberry Hill Road westbound approach



Photo 6. Strawberry Hill Road at Esterbrook Road – Looking South on Strawberry Hill Road, from Strawberry Hill Road westbound approach





Photo 7. Strawberry Hill Road at Pope Road – Looking West on Strawberry Hill Road





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Appendix B

Crash Summary Table and Crash Diagrams

Crash Data Summary Table
 Strawberry Hill Road, Acton, MA
 January 2015-December 2017

#	Crash Date	Crash Day	Time of Day	Manner of Collision	Light Condition	Weather Condition	Road Surface	Driver Contributing Code	Ages			Police Agency	Comments
1	1/9/2015	Friday	8:57 AM	Single vehicle crash	Daylight	Snow	Snow	D1:(Diving too fast for conditions)	35	-	-	Local Police	V1 was traveling EB on Strawberry Hill Road, lost control due to snow on the roadway, and left the roadway to the left. The vehicle went up an embankment and struck a rock wall in front of 118 Strawberry Hill Road.
2	1/15/2015	Thursday	5:51 PM	Angle*	Dark - lighted roadway	Snow, Cloudy	Snow	D1:(No improper driving) D2:(No improper driving)	24	29	-	Local Police	*Police report states sideswipe, description of collision shows angle collision. V1 was traveling EB on Strawberry Hill Road and V2 was traveling SB on Pope Road. V1 stopped at the stop sign and then proceeded through the intersection, being struck on the side by V2.
3	2/17/2015	Tuesday	5:21 PM	Angle*	Dark - lighted roadway	Clear	Snow	D1:(Visibility obstructed) D2:(No improper driving)	26	27	-	Local Police	*Police report states sideswipe, description of collision shows angle collision. V1 was traveling WB on Strawberry Hill Road and V2 was traveling SB on Pope Road. V1 began to make a left turn onto Pope Road but did not see V2 due to a snow bank, causing an angle collision.
4	6/13/2015	Saturday	9:25 PM	Rear-end	Dark - lighted roadway	Clear	Dry	D1:(No improper driving) D2:(Other improper action)	47	47	-	Local Police	V1 and V2 were traveling SB on Great Road. V1 stopped to make a left turn onto Strawberry Hill Road and was rear-ended by V2. Driver of V2 was intoxicated.
5	7/20/2015	Monday	4:05 PM	Angle	Daylight	Clear	Dry	D1:(No improper driving) D2:(Failed to yield right of way, Other improper action)	20	27	-	Local Police	V1 was traveling WB on Strawberry Hill Road and V2 was exiting the parking lot of 14 Strawberry Hill Road. V2 struck the side of V1 as it passed.
6	7/21/2015	Tuesday	8:02 AM	Single vehicle crash	Daylight	Cloudy	Dry	D1:(Inattention)	20	-	-	Local Police	V1 was traveling EB on Strawberry Hill Road and drifted to the right, colliding with a tree in the vicinity of 73 Strawberry Hill Road.
7	7/30/2015	Thursday	3:07 PM	Single vehicle crash	Daylight	Clear	Dry	D1:(Unknown, Other improper action)	55	-	-	Local Police	V1 was traveling WB on Strawberry Hill Road and drifted right off of the roadway, colliding with a tree.
8	7/30/2015	Thursday	3:13 PM	Rear-end	Daylight	Clear	Dry	D1:(No improper driving) D2:(No improper driving)	32	36	-	Local Police	V1 (police) and V2 were traveling SB on Great Road. V1 stopped behind V2 on Great Road, but was distracted by a pedestrian and rolled into the rear of V2.
9	8/21/2015	Friday	8:18 PM	Single vehicle crash	Dark - lighted roadway	Cloudy	Dry	D1:(Other improper action)	37	-	-	Local Police	V1 was backing into a driveway around 4 Strawberry Hill Road when the vehicle collided with a wall. The driver of V1 was intoxicated.
10	10/30/2015	Friday	5:01 PM	Rear-end	Daylight	Clear	Dry	D1:(No improper driving) D2:(Inattention)	27	24	-	Local Police	V1 and V2 were traveling WB on Strawberry Hill Road. V2 stopped for the stop sign at Great Road and V1 rear-ended V2. V2 then rolled into the rear of V1. While the driver of V2 was taking pictures of the vehicles, the driver of V1 pinned the driver of V2 between the vehicles.
11	6/10/2016	Friday	5:36 PM	Head on	Daylight	Clear	Dry	D1:(No improper driving) D2:(Failed to yield right of way)	24	30	-	Local Police	V1 was traveling WB on Strawberry Hill Road and V2 was traveling EB on Strawberry Hill Road. V1 was crossing the intersection with Pope Road when V2 attempted to make a left turn and struck the front of V1.
12	11/5/2016	Saturday	8:00 AM	Angle	Daylight	Cloudy	Dry	D1:(No improper driving) D2:(Failed to yield right of way)	46	47	-	Local Police	V1 was traveling NB on Great Road and V2 was traveling SB on Great Road. V2 began to turn left on Strawberry Hill Road in front of V1 causing an angle collision.
13	3/16/2017	Thursday	6:40 AM	Rear-end	Dawn	Clear	Unknown	D1:(No improper driving) D2:(N/A)	29	-	-	Local Police	V1 was traveling EB on Strawberry Hill Road, just after the intersection with Great Road. V2 was traveling backwards on the EB lane of Strawberry Hill Road and struck V1, causing a rear-end collision. V2 left the scene of the accident.
14	5/4/2017	Thursday	8:24 AM	Angle	Daylight	Clear	Dry	D1:(No improper driving) D2:(Other improper action)	45	56	-	Local Police	V1 was traveling NB on Pope Road and V2 was traveling EB on Strawberry Hill Road. V2 failed to stop at the intersection and was struck by V1.
15	6/1/2017	Thursday	3:58 PM	Rear-end	Daylight	Clear	Dry	D1:(No improper driving) D2:(Inattention)	63	84	-	Local Police	V1 and V2 were traveling WB on Strawberry Hill Road. V1 stopped at the intersection with Great Road and was rear-ended by V2 which failed to notice V1 had stopped.
16	7/30/2017	Sunday	6:47 PM	Head on	Daylight	Clear	Dry	D1:(No improper driving) D2:(Distracted, Inattention)	43	42	-	Local Police	V1 was traveling WB on Strawberry Hill Road and V2 was traveling EB on Strawberry Hill Road, close to the intersection with Great Road. The driver of V2 was intoxicated, causing a head on collision with V1.

Crash Data Summary Table
 Strawberry Hill Road, Acton, MA
 January 2015-December 2017

#	Crash Date	Crash Day	Time of Day	Manner of Collision	Light Condition	Weather Condition	Road Surface	Driver Contributing Code	Ages			Police Agency	Comments
17	8/31/2017	Thursday	6:25 PM	Single vehicle crash	Dusk	Clear	Dry	D1:(Inattention)	17	-	-	Local Police	V1 was traveling WB on Strawberry Hill Avenue when it drifted to the right side of the road and struck a mailbox and several large rocks around 30 Strawberry Hill Road.



HOWARD STEIN HUDSON

ACTON, MA
STRAWBERRY HILL ROAD AT GREAT ROAD
REGION: CENTRAL MASSACHUSETTS REGIONAL
PLANNING COMMISSION

COLLISION DIAGRAM

TIME PERIOD ANALYZED: 2015 - 2017
SOURCE OF CRASH DATA: ACTON POLICE DEPARTMENT
DATE PREPARED: NOVEMBER 2018
PREPARED BY: M. BANGERT-DROWNS



SYMBOLS	TYPES OF CRASH	SEVERITY
Moving Vehicle	Rear End	Injury
Backing Vehicle	Head On	Fatal
Non-Involved Vehicle	Angle	
Pedestrian	Turning Movement	
Bicycle	Sideswipe	
Animal	Out of Control	
Parked Vehicle	Night Time Crash	
Fixed Object		

* NOT TO SCALE

SYMBOLS

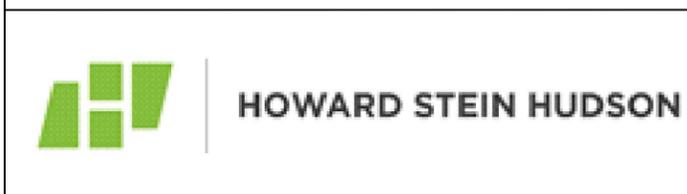
-  Moving Vehicle
-  Backing Vehicle
-  Non-Involved Vehicle
-  Pedestrian
-  Bicycle
-  Animal
-  Parked Vehicle
-  Fixed Object

TYPES OF CRASH

-  Rear End
-  Head On
-  Angle
-  Turning Movement
-  Sideswipe
-  Out of Control
-  Night Time Crash

SEVERITY

-  Injury
-  Fatal



ACTON, MA
 STRAWBERRY HILL ROAD BETWEEN GREAT ROAD &
 POPE ROAD
 REGION: CENTRAL MASSACHUSETTS REGIONAL
 PLANNING COMMISSION

COLLISION DIAGRAM

TIME PERIOD ANALYZED: 2015 - 2017
 SOURCE OF CRASH DATA: ACTON POLICE DEPARTMENT
 DATE PREPARED: NOVEMBER 2018
 PREPARED BY: M. BANGERT-DROWNS





HOWARD STEIN HUDSON

ACTON, MA
STRAWBERRY HILL ROAD AT POPE ROAD
REGION: CENTRAL MASSACHUSETTS REGIONAL
PLANNING COMMISSION

COLLISION DIAGRAM

TIME PERIOD ANALYZED: 2015 - 2017
SOURCE OF CRASH DATA: ACTON POLICE DEPARTMENT
DATE PREPARED: NOVEMBER 2018
PREPARED BY: M. BANGERT-DROWNS



SYMBOLS	TYPES OF CRASH	SEVERITY
Moving Vehicle	Rear End	Injury
Backing Vehicle	Head On	Fatal
Non-Involved Vehicle	Angle	
Pedestrian	Turning Movement	
Bicycle	Sideswipe	
Animal	Out of Control	
Parked Vehicle	Night Time Crash	
Fixed Object		

* NOT TO SCALE



HOWARD STEIN HUDSON

ACTON, MA

STRAWBERRY HILL ROAD EAST OF POPE ROAD
REGION: CENTRAL MASSACHUSETTS REGIONAL
PLANNING COMMISSION

COLLISION DIAGRAM

TIME PERIOD ANALYZED: 2015 - 2017
SOURCE OF CRASH DATA: ACTON POLICE DEPARTMENT
DATE PREPARED: NOVEMBER 2018
PREPARED BY: M. BANGERT-DROWNS



SYMBOLS	TYPES OF CRASH	SEVERITY
Moving Vehicle	Rear End	Injury
Backing Vehicle	Head On	Fatal
Non-Involved Vehicle	Angle	
Pedestrian	Turning Movement	
Bicycle	Sideswipe	
Animal	Out of Control	
Parked Vehicle	Night Time Crash	
Fixed Object		

* NOT TO SCALE



HOWARD STEIN HUDSON

Engineers + Planners

Appendix C

Public Information Meeting Notes



To: Paul Campbell
Town Engineer

Date: December 12, 2018

From: Doug Johnson
Howard Stein Hudson

HSH Project No.: 2018110

Subject: Town of Acton
Strawberry Hill Road Safety Improvements Public Meeting
November 28, 2018

Overview

On Wednesday, November 28, 2018, the Town of Acton held a public meeting concerning a study that is currently underway of potential safety improvements on Strawberry Hill Road between Great Road and the Concord town line. The purpose of the meeting was to provide members of the public with information about potential safety improvements, and solicit feedback from the public.

Bob Stathopoulos, Traffic Engineer with the consulting firm Howard Stein Hudson, began the meeting by providing an overview of the study area, and the known safety issues along the corridor and at the intersections of Strawberry Hill Road and Great Road, Esterbrook Road, and Pope Road, respectively. Safety improvement measures were then presented, divided into short-term and long-term measures based on their relative implementation timelines.

Following the presentation, Paul Campbell, Town Engineer for the Town of Acton, and Bob Stathopoulos facilitated a discussion with meeting attendees. During the discussion, attendees shared their thoughts on the various safety improvement measures highlighted in the presentation, and provided information on other safety issues along the corridor and on adjacent roads.

Agenda

- I. Presentation 2
- II. Discussion 5

Detailed Meeting Minutes¹

Presentation

C: Paul Campbell: Hi everyone, I'm Paul Campbell, the Town Engineer. Thanks for coming tonight. Bob Stathopoulos from Howard Stein Hudson is going to start by giving a presentation going over what they've found, and then we'll have a listening session to hear what your experiences have been. With that I'll turn it over to him.

C: Bob Stathopoulos: Good evening everyone. My name is Bob and I'm a Traffic Engineer with Howard Stein Hudson and the project manager on this project. My colleague Doug Johnson is also here. He'll be taking meeting minutes.

We were asked by the Town to study the Strawberry Hill Road corridor from Great Road to the Concord town line and look at potential safety issues and ways to address them. To start off, this slide shows the project area. I'm sure you are all familiar with it. The Concord town line is on the right side of the image, and Great Road is on the left.

We walked the road with Paul and other town staff, and we've also driven on the road a few times. This slide lists the general issues that we noticed. Roadway geometry refers to things like tight corners and obstructed sight lines, as well as the three major intersections along this corridor. Those intersections are where Strawberry Hill Road meets Great Road, Pope Road, and Esterbrook Road. Those intersections are an older style of intersection that create a Y-shape. Those are not common today. They present safety issues which I'm sure you know.

We've heard from residents about the speeding and the cut-through traffic. We've also read about those issues in the studies the Town previously conducted. We also saw those safety issues first hand when we visited Strawberry Hill Road.

We also heard about parking issues, including parking near the intersection of Strawberry Hill Road and Great Road by Rapsallion, and people parking along the corridor occasionally. We want to hear from you all about that as well.

¹ Herein "C" stands for comment, "Q" for question and "A" for answer. For a list of attendees, please see Appendix 1.

We've also heard that this is a popular road for biking on the weekends, and that residents of Strawberry Hill Road also walk the length of the road. We know there is a side walk that wraps around the intersection with Pope Road, but it's an incomplete connection. It disappears for a while and reappears in places.

So let's go over this in more detail and talk about the intersections. Looking at the intersection of Great Road and Strawberry Hill Road, you can see how wide it is. What we've noticed is that the left turn coming into Strawberry Hill Road from Great Road can be taken at high speeds. We were out there in yellow vests on a site visit and we were almost hit by a van taking the turn at speed. Intersections like this can be very dangerous, especially for pedestrians. Cars also sometimes cross the center line when taking the turn.

Rapsallion sometimes uses the area at the corner here for parking. There can also be issues here with the right turn. There are ways to make these turns safer without having a negative impact on the businesses located here. I know parking is a big issue as well.

The next intersection is Strawberry Hill Road and Esterbrook Road. This intersection has tight corners and obstructed sight lines. When we did a site visit I was walking along the road and I couldn't see around the corner. Not only is it tough to see around, people sometimes cross the centerline when they're driving. It's unsafe, to put it plainly.

Coming to Strawberry Hill Road and Pope Road, if you're stopped here at the stop line, you can't see down Pope Road. When you're looking from the direction of Concord you can see how bad these corners are. As a start we could improve the sight lines to some extent by clearing some tree branches.

While we were walking the road, a resident mentioned to us that some people driving on Pope Road honk as they approach Strawberry Hill Road so that people know they're coming around the corner, which while it may be helpful, it shouldn't be necessary.

Looking at the big picture, in addition to these curves, lighting is an issue. The road doesn't feel wide enough in some places for cars to go side by side. They do fit side-by-side, but in some locations it doesn't feel like there is enough room.

Lastly, there are brooks or culverts along the side of the road in some places. Drainage could pose an issue there, in that we would be limited with what we could do on those sections of road. So that's an overview of the issues we noticed over the course of our study.

This next slide mentions parking. This map shows where we looked to see if parking could be possible. Also cut through traffic was mentioned. We can't eliminate it, but maybe we can reduce it by lowering the speeds and making it less appealing to cut-through drivers. Those are the issues so far, at least how we saw them. Now let's talk about some solutions.

Q: No Name Given: How many accidents have there been at the intersections?

A: Bob Stathopoulos: We have the records. It wasn't more than 30 over the time period that we have records for. The intersection of Strawberry Hill Road and Great Road had the most. In a few other areas cars were leaving the roadway, leading to crashes, but the intersections had the most. All considered, it wasn't an incredible amount, but the crashes are happening, so if we can reduce the chance of a crash happening we'd like to.

C: Bob Stathopoulos: Continuing the presentation, the next slide shows potential short term and low-cost improvements. This includes static and dynamic signs. Some options for static signs are a sign showing a curve in the road and a suggested speed, a sign showing a curve in the road at an intersection, and a sign showing a four-way intersection ahead. Dynamic signs are signs that tell a driver what speed they are going, and they are effective at reducing speeds. Parabolic mirrors are another short-term/low-cost improvement. They help you see around corners that may otherwise be hard to see around.

Some other short term safety improvements are pavement markings like a yellow centerline and bicycle shared lane markings, also known as Sharrows. Double yellow centerlines can help keep people on the correct side of the road. Sharrows let drivers know that there may be people biking on the roadway.

This slide shows long-term, higher cost improvements. They include changes to the road's geometry, for example creating T-intersections and skewed-T Intersections, as well as installing speed humps. I want to note that there is a difference between speed bumps and speed humps. Speed bumps are difficult to plow and are noisy when vehicles go over them too fast. Speed humps have a more gradual grade, so they can be a lot better for noise and are easier to plow. Temporary rubber speed humps could be installed over the summer to try them out before doing a permanent installation.

I included these intersection drawings on this slide so that you can see the different types of intersections. Along Strawberry Hill Road you have these Y intersections. If you make them more of a right angle, the intersection will be smaller, which will reduce speeds and allow for things like curb-extensions to be installed.

Finally, sidewalks can be installed in some locations to improve pedestrian connections, and guard rails will prevent people from driving off the road in places where there is a drop-off.

These were ideas that we thought could help. Nothing is set in stone. Now we want to hear your questions, comments and concerns. You can also email your comments to the email address listed on this last slide. Please state your name when you speak, and we'll include that in the meeting minutes.

Discussion

C: Joe Cooney: I live in Acton near Strawberry Hill Road. It occurs to me that this is a symptom of a greater problem at the Route 2 rotary. The state has failed to address the issues there, and now navigation apps like Waze direct people down this street rather than the arterial roads. I know it's beyond the scope of this project, but I just wanted to point out that the central problem, the rotary, is driving a lot of other problems.

C: Bob Stathopoulos: Thank you for your comment.

C: Susan Heart: I live on Pope Road. One thing you didn't mention is that Strawberry Hill Road is designated as a scenic and historic road, so if you were to remove any trees you'd have to have a hearing.

C: Bob Stathopoulos: Thank you for mentioning that. Paul Campbell informed me of that when we conducted the site walk.

Q: No Name Given: It's also part of the Line of March and is historically protected. I'm not sure what that means for what you can do to the road, but I'd like to understand that better. Can you explain to us what being part of the Line of March and being historically protected means exactly?

A: Paul Campbell: I'm not familiar with the Line of March.

C: No Name Given: The Line of March is the annual historical reenactment of the march from the Isaac Davis House to Concord.

C: Paul Campbell: That's right, I am familiar with that. I believe they also march down Main Street as well. I don't think that impacts what we can do with the roadway.

C: No Name Given: It might not impact cosmetic changes but I think it effects what you can do in terms of changing the road. I'm not certain about what that historic designation means exactly though.

C: Paul Campbell: I can look into that more and get back to you.

C: Bob Stathopoulos: It is worth noting that Strawberry Hill Road feels like a rural roadway. If residents would like it to remain that way, that can be accommodated. We can improve safety and still keep the character.

Q: No Name Given: Have you talked to the utility companies yet?

A: Bob Stathopoulos: Not yet. We are still at the conceptual level but we know the utility polls are out there and we've asked the town about underground utilities. We wanted to get your input before we go down to the level of detail where we'll need to know more about the utilities.

Q: No Name Given: I'd like to echo what Susie said and ask you to be mindful of the historic and rural nature of the road. I'm also wondering, how many accidents or safety issues are attributable to speed and volume? I'd love to see some research on that before any changes are made. It may be the case that we can make moderate changes that improve safety for residents. I'm sure the volume and speed of traffic on Strawberry Hill Road has changed over time.

A: Bob Stathopoulos: We requested from Paul all of the crash data from the Acton Police for 2015 to 2017, and we've created diagrams to show where those crashes were. There are more around Great Road than on most of the corridor. I will say, I think speed is a large factor in many of those crashes. Based on the police reports of the crashes, and past studies conducted by the town, we know that a lot of people are speeding on this corridor.

C: Ian Watkins: I live near the intersection of Strawberry Hill Road and Pope Road. At that intersection, trying to get across Pope Road going towards Great Road, is very difficult. The sight lines are really bad. In fact, my wife rolls her window down to listen for traffic because it's so hard to see if cars are coming. So, your study covers Strawberry Hill Road and the intersection with Pope Road, but a lot of the problems are Pope Road itself. On Pope Road from Great Road to Strawberry Hill Road, the speed limit is 35. That's too high. It does drop to 30 but only after the intersection. It should be lowered before the intersection. Also, the sign that indicates that there is an intersection ahead is too close to the intersection. Lastly, the stop line on Strawberry Hill Road is too far back.

- C: Bob Stathopoulos:** Thank you for the specifics. We can definitely look at sign placement and see what adjustments can be made.
- C: No Name Given:** You should be able to get speed data that is pretty current. I live on Pope Road and we have one of those speed feedback signs so you should be able to get that. Whenever I stand out there I can see that most people are going 40 or 45 miles an hour.
- C: Bob Stathopoulos:** Thank you for your comment. We've certainly seen that speeding is an issue on Pope Road as well.
- Q: Laura Vio:** I live on Strawberry Hill Road. One of the reasons the stop line is so far back at that intersection is for trucks or buses to be able to make the turn. If you pulled all the way up to the edge of Pope Road, a bus wouldn't be able to make the turn. That wouldn't be the case if the road was wider, but I'm not advocating for that. I am curious, how much space does the town own on either side of the road?
- A: Paul Campbell:** The town owns everything basically up to the stone walls.
- C: Laura Vio:** So, there's not much you can do here to make the road any wider because of the stone walls. Now I know the issue with parking at Rapsallion predicated this whole study and made everyone say we have to do something here, but the reality is this is a scenic road, and the stone walls can't be moved unless the Planning Board approves it. So there aren't a lot of choices here.
- C: Bob Stathopoulos:** There are certainly some limitations along the corridor. It comes down to how willing people are to pursue changes.
- C: Joyce Stark-Smith:** I live on Esterbrook Road. I'd like to add on to what others have said about speed and volume. I think those are the biggest contributing factors to the problems we've been having. In my experience, if you drive at the speed limit, it's actually quite safe. I won't say it's the safest road in the world. It is narrow and there are blind curves, but you can navigate it quite confidently going the speed limit. I think some of the solutions you've put forward would definitely help, but I think enforcement is key. You may not be the right person to speak to this, but I've had little success talking to the town about getting a police presence at the intersections in order to address this. So, I think that would help in addition to a combination of things.

C: Bob Stathopoulos: I can't speak for the Police Department, but enforcement is a good recommendation. However, enforcement is only a temporary solution, as people will learn how to avoid speed traps, but it can be part of a combination of measures.

C: Ari Heatherson: I want to echo what other people have said about the road's historic significance, as well as say that there are significant safety issues as you pointed out. I've almost been blind-sided by people coming down Great Road while I was trying to turn onto it from Strawberry Hill Road. Pope Road and Strawberry Hill Road is also a very dangerous intersection due to the high speeds. Someone could get blindsided there. Those intersections should be priorities. Also, I think volume is key here. Are there ways to lower the volume of cars? I know other towns have used restricted access during certain periods. Is that something that has been considered?

A: Bob Stathopoulos: That is definitely an option. Of course, some people will just ignore a restriction, but you would get some reduction in traffic volumes.

C: Ari Heatherson: Maybe with a combination of measures like the speed humps, police enforcement, restricted access at certain times, and other changes we could see a significant improvement. I will say, I've lived here for 24 years. I moved to Strawberry Hill Road because of its beauty and historic character, and I'd hate to see any of that disrupted.

C: Bob Stathopoulos: We're definitely considering that.

C: Catherine Block: I live on Strawberry Hill Road. I applaud this effort. Even though Rapscaillon may have drawn an eye to it, people have been aware of these issues for a long time. In particular where you have those bends in the road, there's no room for a person walking or biking to move to the side if a car is coming, so I think there is a width issue. The sight lines are also a problem. If you're walking along the road against traffic, it can be hard to tell if a car is coming around some of those corners. Drivers also have a hard time staying on their side of the road around some of those turns, so if there is something you can do to help show people where they're supposed to be, that would help. I just want that to be kept in mind as we're talking about this.

C: Bob Stathopoulos: Thank you.

Q: David Harot: I live on Pope Road: I have a couple comments and a question. I did some research on this. I've lived here for 35 years. I often say we don't live on Pope Road, we live in Pope Road, because of how close our house is to the road, so we're the informal traffic monitors. Waze is a

disaster. It's probably tripled the traffic volume on Pope Road. I also have an old radar gun that I used to use for my kid's baseball team for pitching practice, and it still works great. I've measured traffic speeds on Pope Road and I'd say 40 or 50 MPH isn't uncommon. It's really become like a highway for people. So, if we do things to mitigate traffic volumes on Strawberry Hill Road, given that it's a cut-through, that volume may just move over to Pope Road. We get traffic from both Strawberry Hill Road and from Great Road. We need to look at this more systematically. Also, it seems that police enforcement is great but as you said it's transient and people figure it out, but it would be nice to have some enforcement, because we don't see much down there. I think signage could also help, but in my research it seems that there are only two things that make a difference, speed humps and radar signs. Is that true?

A: Bob Stathopoulos: Radar signs and speed humps definitely help reduce speeds. Of course, how they're implemented will impact their effectiveness, but they do help.

Q: David Harot: Regarding speed humps, Pope is a couple miles long, how do you slow down cars on such a long, straight street? For that matter, how do you slow down cars on Strawberry Hill Road?

A: Bob Stathopoulos: That's a good point. For such a long road we need to look at doing more than just speed humps. Better signage and pavement markings for example. The corridor needs to be evaluated comprehensively, so that changes and improvements are made in coordination with each other.

Q: David Harot: Could you make the intersection of Strawberry Hill Road and Pope Road a four way stop?

A: Paul Campbell: That was evaluated about ten years ago and based on the state criteria we could not make it a four way stop. The intersection needed either a higher traffic volume or more accidents in order to meet the criteria.

Q: Bill McCullen: I live on Strawberry Hill Road. I have a question for the town. Painting some lines seems like it would be pretty easy. Why hasn't it been done and can it be done quickly? I mentioned the intersection of Great Road and Strawberry Hill Road. I've lived here for 8 years, and four or five times a year I'm faced with a situation where I'm driving on Strawberry Hill Road towards Great Road and suddenly there is a car in my lane, facing me head-on, because they cut the turn from Great Road onto Strawberry Hill Road. Just start with painting lines on both sides of the island at that intersection.

A: Paul Campbell: That is certainly some of the low-hanging fruit we can attack now while we work on the longer-term changes.

Q: Bill McCullen: My other question is, why are speed humps being characterized as long-term?

A: Bob Stathopoulos: They're considered long-term because they have to be designed and constructed into the roadway. Drainage, plowing, and maintenance have to be considered to make sure they don't get destroyed the first winter they're in place. It's not as simple as just pouring 20 feet of asphalt. They should also be built in coordination with other safety improvements to ensure they're as effective as possible.

C: Rob Block: I also live on Strawberry Hill Road. Along the lines of paint, I would advocate for painted crosswalks, particularly at intersections where there are sidewalks on both sides. The intersection at Jay Lane would also be a great place for a crosswalk, and would give the school bus a formal place to stop. Also, the Bay Circuit Trail crosses Strawberry Hill Road, but it doesn't have a crosswalk. Lastly, folks who live in the apartments at the intersection of Great Road and Strawberry Hill Road go across the street to the supermarket, but they don't have a crosswalk going across Great Road.

C: Paul Campbell: We actually just got approval from the state to put a crosswalk there.

C: Rob Block: Great. One other thing, the crosswalk across Brook Street doesn't go to anything. There's no sidewalk on Brook Street.

C: Paul Campbell: We're also putting in a sidewalk at the intersection of Great Road and Brook Street. For the crosswalk there will be a pedestrian actuated traffic signal.

C: Bob Stathopoulos: I also just want to reiterate that there will be a crosswalk going in across Great Road to the supermarket. It makes sense to see what else can be done at the intersection of Great Road and Strawberry Hill Road to improve safety and keep speeds down.

C: Rob Block: Another location for a crosswalk would be across Pope Road at Strawberry Hill Road.

C: Bob Stathopoulos: That's also where the existing path is.

C: Sherry Kenin: I live on Strawberry Hill Road. I agree with what others have said about painting lines. I was so thrilled when lines were painted on Strawberry Hill Road in Concord. I think that has made that section more safe. My other point, and I'm not sure if other people will

agree with me or not, is that the intersection of Strawberry Hill Road and Pope Road is really more like two intersections next to each other. When I first moved here, I didn't know where I was suppose to go. I still find that intersection, and the intersection of Strawberry Hill Road and Great road to be confusing. So I don't know if people want to see those redesigned or what but I think a big part of the problem is you have traffic coming from so many different directions at those intersections.

C: Bob Stathopoulos: That's a great comment. Geometry changes would be longer term project because they would have to be designed and constructed, but paint can be done quickly.

C: Andy Kinzmaier: I also live on Strawberry Hill Road. Painted lines would definitely be helpful at the intersection of Strawberry Hill Road and Great Road. On many occasions I've seen people who are driving down Strawberry Hill Road to take a right onto Great Road and they think it's one lane, so they drive down the middle. If someone turning off of Great Road isn't paying attention, then you'll have a head on collision. We need some paint there.

C: Bob Stathopoulos: Thank you. I want to go back to the comment about Concord painting a line on their end of Strawberry Hill Road. A single yellow line as they have it isn't acceptable by today's design standards. It would need to be a double yellow line. When we conducted the road safety audit with Paul Campbell the Town Engineer, and other town officials there were some concerns that a double yellow line would make the road feel too narrow, but that's something we can work with Paul on.

Q: No Name Given: I have a quick question for Paul. You said the intersection of Strawberry Hill Road and Pope Road was evaluated ten years ago. Don't you think it's time to do another study of that intersection? I find it hard to believe there isn't enough traffic now.

A: Paul Campbell: That study was before I got here. We can look at the intersection again.

Q: No Name Given: I have one other question. Why can't we just do speed humps? I understand what you were saying about plowing and other issues but I don't think we should discount the idea just because it's an inconvenience for the DPW.

A: Bob Stathopoulos: I was not discounting the idea, I just wanted to emphasize that speed humps need to be carefully considered and designed before they are implemented, to ensure that they last and are effective.

- Q: No Name Given:** Is the speed limit on the whole road 25 MPH? My car GPS says that it's 30 MPH, and the sign that says the speed limit is 25 MPH isn't until about halfway up Strawberry Hill Road.
- A: Bob Stathopoulos:** Many GPS units are outdated when it comes to speed limit information, but we can certainly look at installing more static speed limit signs so that people know the speed limit is 25 MPH.
- Q: Andy Kinzmaier:** On Winter Street in Waltham, they made a small section of it a one-way road to prevent cut-through traffic. Could we consider doing that on Strawberry Hill Road between Great Road and Pope Road? I know that would be less convenient for those of us who live on Strawberry Hill Road, but it could potentially cut down the traffic.
- A: Bob Stathopoulos:** That could be looked at, but we would have to consider the people who live on Strawberry Hill Road as well as the impacts on traffic on the other roads so that we're not just pushing that traffic somewhere else.
- C: Ian Watkins:** On the Concord side of Strawberry Hill Road there's a 10 MPH bend in the road. I don't think that will ever be changed. According to the reports I've read, there are 300 cars going through there in the morning. I think it would be worth having a dialogue with Concord about all of these issues.
- C: Paul Campbell:** Thank you. We can reach out to them.
- C: No Name Given:** Speaking of that bend, a school bus cannot make it around that bend if a car is coming the other way. I've actually had to back up to let a school bus make the turn, that's how tight it is.
- C: Amy Murphy:** I actually grew up here on Strawberry Hill Road, most of you probably know me. I've heard you mention a couple times on-street parking. I don't know who has been advocating for that, but that would be horrifying to me.
- C: Bob Stathopoulos:** We've heard it from some people but we want to hear from everyone and get their feedback on this. We've heard there can be issues sometimes with cars parked on the road.
- C: No Name Given:** We had to have the Yale Lacrosse team bus park in front of our house on the road one year and that caused a ruckus.
- C: No Name Given:** Landscaping trucks can be a problem sometimes.

- C: Paul Campbell:** I just want to add that the reason why I wanted to have this discussion about parking is that the town is looking at the parking ban on Strawberry Hill Road as it exists today. We are hoping to find out with this effort is if the street could even support parking or not, in terms of having adequate space for it. We're not going to go out tomorrow and build parking spaces, we just want to identify what is possible and what isn't.
- C: No Name Given:** I think it's just a huge waste of time and money to even look at parking on Strawberry Hill Road. You could just take a vote right now and save yourselves some time and money, rather than do a whole parking study.
- C: Bob Stathopoulos:** Just to clarify, we are not conducting a parking study. We're just measuring the roadway to figure out exactly how wide it is along the corridor, so that we know what would fit in any given location. In fact, I think once we've taken all the measurements, we'll see that parking wouldn't fit due to the limitations like the stone walls, culverts, etc. We are just doing this as part of the overall design process.
- C: Rheanna Lanoie:** I also live on Strawberry Hill Road. I don't think the road could support parking. I think it should be No-Parking, maybe with exceptions like if Rapscaillon wanted to have a special one-day event or something. I think flashing signs is a great idea, and mirrors at the intersection of Pope Road and Strawberry Hill Road is an amazing idea. That would help right away. Lines and speed humps would be also great.
- C: Bob Stathopoulos:** Thank you for your comments.
- Q: Tom Keane:** I live on Pope Road. I was just curious, are there plans for a sidewalk from Great Road up to the existing sidewalk on Pope Road?
- A: Bob Stathopoulos:** We're looking at the possibility of that. We have to have a minimum of 5 feet of space for a sidewalk.
- C: Tom Keane:** Acton has been doing a good job of installing sidewalks on High Street. Also, I think painting lines on Strawberry Hill Road would be a great start.
- C: Paul Campbell:** There is a Sidewalk Committee made up of residents that set priorities for installing sidewalks. Strawberry Hill Road is one of their priorities. High Street is the top priority right now which is why it's being worked on.

Q: No Name Given: There's a lot of space by the intersection of Strawberry Hill Road and Esterbrook Road. Could you not put a sidewalk there because its private property or is there some other issue?

A: Paul Campbell: It's not that we can't do it, its that we haven't made it that far in the process yet. First, we have to survey the whole roadway and figure out exactly what the Right of Way is, then design the sidewalk, and then negotiate easements with any property owners if necessary.

C: Katie Green: Just so everyone knows, there's going to be a meeting in January to talk about sidewalks and general traffic safety issues in town, so please look out for that.

Q: No Name Given: I have a quick question while we're talking about sidewalks. When a new development goes up, does the developer have to put in sidewalks or put up money for the construction of sidewalks?

A: Paul Campbell: That depends on whether the development is by-right or if it needs a special permit or not. If it's a development that has to go before the board for approval then they either have to build a sidewalk along their frontage or put money into the sidewalk fund, depending on the specifics of the project.

Q: No Name Given: On Pope Road going northbound there is an electronic sign that tells you your speed. Is that something that the town would install permanently? I think the main challenge for people coming westbound on Strawberry Hill Road and trying to cross Pope Road is you can't see the traffic coming, and they go way too fast. Just getting them to slow down near that intersection would help. The speed signs on Main Street seem permanent.

A: Paul Campbell: Those signs on Main Street are permanent. They work really well and are pretty popular among residents. We just need to evaluate where they could be located, and where they would be most effective.

Q: No Name Given: That would be great just to slow people down. Also, could you fit a left turn lane on Great Road by RapsCALLION for people turning left onto Strawberry Hill Road?

A: Bob Stathopoulos: There is somewhat of a shoulder there, so there might be space for it. We need to look at what the best solution is for that intersection.

C: Paul Campbell: Great Road is a state road. We had someone from MassDOT with us when we walked the site and has offered some suggestions, but if we decide to reconfigure that intersection we'll have to work with MassDOT on that.

Q: Tom Keane: I just want to understand something you mentioned earlier. There is a single yellow line on Strawberry Hill Road in Concord, but we're not allowed to do that?

A: Bob Stathopoulos: That is correct. Road design standards call for a double yellow line.

Q: No Name Given: Could you do a single dashed line instead?

A: Bob Stathopoulos: A dashed line indicated that passing in the oncoming lane is allowed, so we'd only be able to stripe a dashed line where passing in the oncoming lane is safe.

C: No Name Given: We mentioned the possibility of implementing one-way traffic, either all the time or at certain times, and this has been proposed before, but I would advocate for looking at that seriously. Of course it could be a inconvenience for those of us who live on Strawberry Hill Road, but it may be a lot less inconvenient than what we're living with right now.

C: Bob Stathopoulos: Something like that is certainly possible, but I just want to point out that it would require more effort than just installing signs, especially if the direction of the street changes by time of day. Dynamic signs would likely be necessary at the very least.

C: No Name Given: Going back to what people said about crosswalks, there is a trail that crosses Strawberry Hill Road and goes through the woods, but it doesn't have a crosswalk where it crosses the road. Putting a crosswalk there would be great.

C: Bob Stathopoulos: We are definitely consideration that.

C: No Name Given: On the one-way topic, I'd ask that you look at it systematically. If you made Strawberry Hill Road one-way, then people may just switch to using Pope Road. The rotary on Route 2 is a big part of the problem, because people are using Strawberry Hill Road to avoid it.

Q: No Name Given: Do you know of any plans to eliminate the rotary?

A: Bob Stathopoulos: I believe they are trying to improve it, but I'm not aware of plans to eliminate it.

C: No Name Given: I just want to make a quick comment about speed humps. I think installing even just two speed humps on Strawberry Hill Road would make a big difference in reducing speeds. Strawberry Hill Road opens up in a few places and people just fly through.

C: Bob Stathopoulos: Thanks for your comment.

C: No Name Given: For the rotary, they could do what they did at Crosby's Corner, where they built an overpass for Route 2 so the traffic flows. There's an overpass on Memorial Drive in Cambridge that is similar as well. It has a rotary underneath it.

C: Bob Stathopoulos: I like what the state did at Crosby's Corner, especially because I drive through it everyday. Of course, those are much longer term ideas. In the meantime, we can definitely take the steps we mentioned in the presentation to address some of the issues you're having with cut through traffic, and reduce the speeds.

Q: No Name Given: What are the next steps for this process?

A: Paul Campbell: The next step is for the consultant to compile all of the data they've collected, including your feedback, and then they will write a report providing us with recommendations for short term and long term improvements. We'll take that and see what we can do in-house, and then we'll go from there. I'll be working on this with the sidewalk committee and I'll be looking at the town's paving plan to see if there are opportunities to coordinate work. If we're going to install speed humps we'll want to coordinate it with the paving plan. We'll start with the easy stuff first and then go from there based on things like funding. The report from the consultant will go on the town website so that everyone can view it.

Q: No Name Given: We mentioned this earlier but I just want some clarification. That one telephone pole that keeps getting hit. Is addressing that a quick-fix or will it take ten years?

A: Paul Campbell: It won't take ten years but it's not a quick-fix. The Town doesn't own the poles, the utility company does. We work with them, but getting utility companies to move is a process that takes time. The pole could be moved to a different location but it would have to remain on public property. We actually have a list of double-poles that we're working with them to replace.

C: No Name Given: Regarding speed humps, to me it's unacceptable that their implementation is considered long-term. If you can't do permanent speed humps more quickly, at least do temporary speed humps. I recognize that snow plowing in the winter can be an issue, but once the snow clears in the spring, put them down. The sooner you can do it, the better.

C: Bob Stathopoulos: I just listed them as long-term because the work they require in design and construction is more intensive than it is for other measures, but they can actually be installed fairly quickly under the right circumstances. It's definitely something that should be coordinated with paving plans to ensure that it is done efficiently and effectively. Temporary rubber speed

humps can also be installed more quickly in order to test them out and study their effectiveness before installing permanent speed humps.

Q: No Name Given: I'm concerned about putting speed humps on Strawberry Hill Road but not on Pope Road. Is it too early to ask where you would put them and how many?

A: Bob Stathopoulos: We don't know exact locations at this point, but I probably wouldn't recommend putting more than two or three. They'd likely be most effective if they were located on the approaches to intersections.

C: No Name Given: Lastly, you mentioned different types of signs. We have speed limit signs, and one sign for a hidden driveway, which happens to be my driveway, but there's nothing out there that tells commuters that we don't want them speeding on our road. So signage that emphasizes that would be great.

C: Bob Stathopoulos: That is something we are looking at. Thank you for your comments and thanks everyone for coming tonight and providing us with your feedback.

Next Steps

The consultant team is compiling data and feedback from residents and will issue a report to the Town of Acton that includes potential short-term and long-term measures that can be implemented on Strawberry Hill Road.

Appendix 1: Meeting Attendees

First Name	Last Name	Affiliation
Catherine	Block	Resident
Christopher	Byrnes	Resident
Paul	Campbell	Town of Acton
Dean	Charter	Resident
Lorelei	Cooney	Resident
Peter	Daniel	Resident
Ingrid	Detweiler	Resident
K.	Dunlap	Resident
Katie	Green	Resident
David	Harot	Resident
Amy	Hedison	Resident
Harry	Hedison	Resident
Doug	Johnson	Howard Stein Hudson
Tom	Keane	Resident
Rick	Kenin	Resident
Sherry	Kenin	Resident
Dana	Kinzlemaier	Resident
Andy	Kinzlmaier	Resident
Peter	Kuiw	Resident
Rheanna	Lanoie	Resident
Anne	Littlefield	Resident
Bill	McCullen	Resident
Nora	McMillan	Resident
Claude	Miquel	Resident
Amy	Murphy	Resident
Thomas	Payor	Resident
Joyce	Stark-Smith	Resident
Bob	Stathopoulos	Howard Stein Hudson

First Name	Last Name	Affiliation
Laura	Vio	Resident
Steven	Vitale	Resident
Ian	Watkins	Resident
Karen	Watkins	Resident



HOWARD STEIN HUDSON

11 Beacon Street, Suite 1010
Boston, Massachusetts 02108
617.482.7080

www.hshassoc.com