

Office of Highway Safety

Road Safety Audit Review

Town:	Highgate	Date Reviewed:	January 19 2016
Route:	VT 78 @ ST Armand Rd and Lamkin St	Mile points:	VT 78: 3.07

Location Map

DRAFT



RSAR Process

A **Road Safety Audit Review** (RSAR) is a formal examination of an existing road in which an independent, multi-discipline team (the Audit Team) reports on potential safety issues.

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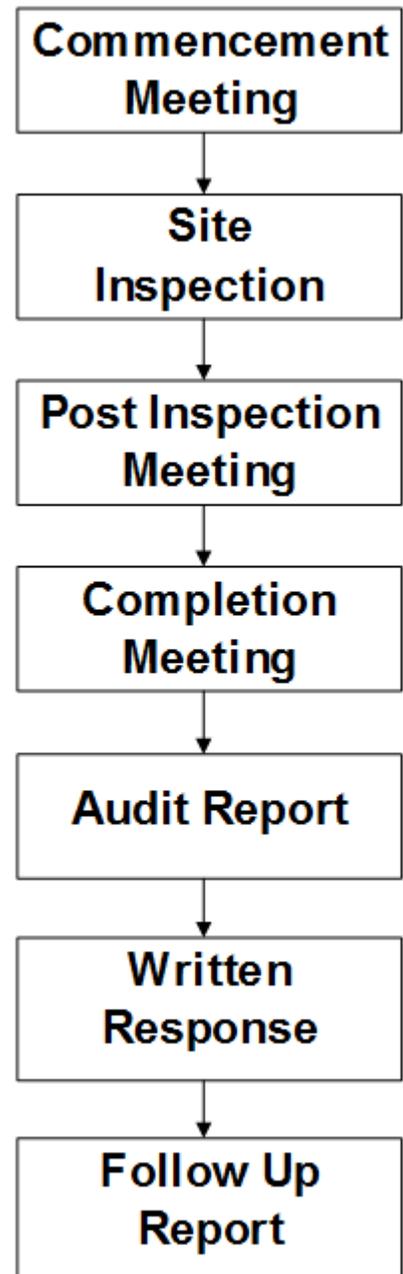
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According to the Federal Highway Administration (FHWA), the purpose of a RSAR is to determine which elements of the road may present a safety concern, to what extent and under what circumstances as well as to identify opportunities to mitigate the identified safety concerns.

The RSAR process is composed of several steps as shown in Figure 1. The process starts with a **Commencement Meeting** during which the Audit Team reviews data and gathers community concerns. A **Site Inspection** is then performed by the Audit Team. The site visit involves the identification of safety deficiencies as seen in the field. The Audit Team will usually drive through the location of interest to “get a feel” for the area, traveling through each approach in the case of intersections. The team is to then drive at a slower speed to make observations. If needed, the team will also walk the location. Following the site inspection, the Audit Team holds a **Post Inspection Meeting**. It is during this meeting that the team members discuss their observations and identify safety issues. The team is to reach a consensus on the importance of each safety issue mentioned. Only those issues for which a consensus is reached are included in the RSAR findings. A RSAR report (Written Report) is prepared.

The **Written Report** identifies safety concerns and proposes guidance. These issues and solutions are presented in a tabular format associated to each Responsible Entity for ease of reporting. The **Responsible Entities** are any groups who own a roadway feature or who are responsible for making an improvement or for initiating further studies. These could include for example, the VTrans design section, the local town, the local police or the local RPC.

Figure 1 - Road Safety Audit Process



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Location

The location of this RSAR is the intersection of VT 78, St Armand Road and Lamkin Street in Highgate.

Purpose of the RSAR

This RSAR was conducted at the request of the Northwest Regional Planning Commission (NRPC) and of the Town of Highgate with the intent of identifying safety issues at the intersection of VT 78 and St Armand Road for both current conditions and near future conditions as they relate to an upcoming solar electric generation project off St Armand Road.

The RSAR herein has sought to identify potential safety hazards and physical features which may affect road user safety. However, it is possible that not every deficiency has been identified. It should further be recognized that the implementation of the guidance in this report may contribute to improve the level of safety of the facility reviewed but not necessarily remove all the risks.

RSAR Participants

Mario Dupigny-Giroux from the Office of Highway Safety, VTRANS, was the RSAR coordinator.

The other participants were:

Jim Cota,	District 8, VTRANS
Tyler Guazzoni,	TSMO, VTRANS
Jonathan Harrington,	Pavement Design, VTRANS
Jon Kaplan,	MAB, VTRANS
Taylor Sisson,	Traffic Design, VTRANS
Bethany Remmers,	Northwest Regional Planning Commission
Maren Hill,	Safe Routes to School
Paulette Tatro,	Highgate Selectboard
Heidi Britch-Valenta,	Highgate Town Administrator

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Information Reviewed

Geometry

This intersection is a four-way intersection with traffic being controlled by a stop sign on St Armand Road as well as on Lamkin Street. The Desorcie's store, a general store, is located on the northwest corner of the St Armand approach.

There is a residential neighborhood on the south side of VT 78 and several destinations on St Armand Road including the store, a post office and access to the school via an existing path.

VT 78 has eleven-foot lane and three-foot shoulders. There is a 13-degree horizontal curve to the west of the intersection.

The corner sight distance when stopped on the St Armand Road approach and looking to the right (or west) is around 175 feet. The corner sight distance becomes almost nil in the case of when a vehicle is parked in front of the store on VT 78 (in the state right-of-way).

Looking to the left (or east) from the St Armand Road approach, the corner sight distance was measured to be greater than 500 feet.

Approaching the intersection along VT 78 from the east, the stopping sight distance is around 658 feet. Approaching the intersection from the west and traveling eastbound, the stopping sight distance is approximately 223 feet.

Speed Limit

The posted speed limit is 35 mph on VT 78.

The Technical Services Section of the VTrans Maintenance and Operation Bureau performed a speed study on February 4, 2016. Speeds for traffic traveling on VT 78 were measured at a distance of approximately 175 feet from the intersection.

The results showed that the 85th percentile speed of the traffic traveling in the eastbound direction was 34 mph. The 85th percentile speed of the traffic in the westbound direction was also determined to be 34 mph.

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The results of this study also showed that the 10-mph pace, which is defined as the range of speeds that encompasses the highest proportion of vehicles, was between 25 and 34 mph for eastbound traffic with eighty-five percent of all vehicles. In the westbound direction, the 10-mph pace was between 28 and 37 mph with ninety-two percent of the traffic.

Overall, with both directions of travel combined, the 85th percentile speed was determined to be 34 mph with a 10-mph pace ranging between 26 and 35 mph and 84 percent of all vehicles.

Traffic Volumes

The 2012 Average Annual Daily Traffic on VT 78 was 5700 vehicles per day.

There is no turning movement count currently available for this intersection. However, the Town reported that the main movement out of St Armand Road was straight across to Lamkin Street.

Signs and Markings

Traveling eastbound on VT 78 towards the intersection, there is a horizontal curve sign with side roads depicted. Beneath this sign, there is a road name plaque with the name of the two side roads displayed. This sign assembly is located at mile point 2.925 or approximately 765 feet in advance of the intersection.

Then at mile point 2.965, there is a 35 mph speed limit sign for eastbound traffic. This is followed by a pedestrian sign supplemented with a Next $\frac{1}{4}$ mile plaque below it at mile point 3.00. There is also an Other Business Destination Sign assembly with a destination for the post office shown on it at mile point 3.025.

In the westbound direction, there are no signs that pertain directly to the intersection with the exception of a pedestrian sign supplemented with a Next $\frac{1}{4}$ mile plaque below it at mile point 3.255 (or about 1000 feet from the St Armand Road intersection).

The stop sign on St Armand Road is not located at VT 78 but rather north of the intersection at the end of the paved apron for the store parking. The street name signs on the St Armand approach are located on the northwest side of the approach.

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Pavement Conditions

Pavement conditions on VT 78 are rated as fair by VTrans.

Past Projects

This portion of VT 78 was repaved in 2014 through project STP 2715(1). As part of this project, the traffic signs were replaced with new ones and some were adjusted or added. Three-foot shoulders were also uniformly maintained.

The consulting firm VHB prepared for the Town of Highgate a scoping report concerning pedestrian and bicycle improvements on VT 78 from Highgate Road to O.C. McCuin & Sons. The final report is dated January 11, 2016. The preferred alternative selected by the Town is illustrated in Appendix B and summarized below:

- Sidewalks separated by a green strip on the south side of VT 78 from VT 207 south to the Municipal Building, and on the north side of VT 78 between St Armand Road and O.C. McCuins.
- Three traffic calming islands, one in the vicinity of the park and ride lot, one at Gore Road and one east of O.C. McCuins.
- Three new crosswalks, with one on the west side of the Mill Hill Road intersection.

Future Projects

Project TAP TA13(1), PIN 13F140, is a funded project for the construction of a sidewalk on Lamkin Street and along a portion of VT 78, on the south side of the road, between the municipal building and Mill Hill Road.

A proposed project for the construction of a 20 megawatt solar electric generation facility is under consideration by a developer. The proposed facility would be located east and west of St Armand Road, slightly less than 0.3 miles north of the VT 78 intersection. The project would consist of up to 95,000 solar photovoltaic panels over an area totaling

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approximately 99 acres. Construction of the project is anticipated to last between six to ten months.

While not specific to this project, from the review of other applications for solar projects, it does not appear that the use of oversized and overweight vehicle is usually required and the delivery of the equipment is done over a number of weeks (for example, twelve to eighteen).

The number of truck trips require for delivering equipment to the Highgate project could be possibly estimated by taking a look at two other recently built facilities in South Burlington and Burlington. The table below shows that these two projects are ten times smaller than the one proposed in Highgate. The number of delivery trips for the smaller projects ranged between twenty-five and eighty. Would it make sense to assume that, all factors such as truck size being the same, a direct ratio could be used and that, between 250 and 800 truck trips would be required?

Town	Location	Capacity	# of Panels	# of Watts per Panel	# of Delivery Trucks
South Burlington	Eastern end of Dubois Drive	2.2 MW	9,192	240	80 truck trips
Burlington	South side of Sunset Cliff Rd	2.5 MW	10,800	315	25 truck trips
Highgate	St Armand Rd	20 MW	95,000		<i>Estimated 250 to 800 truck trips</i>

Crash History

Crash history was reviewed near this intersection for the five-year period covering the years 2010 to 2015. The crash summary listing is provided at the end of this report in Appendix A.

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For this reporting period, there were no crashes reported at the intersection and there was only one crash reported in the area of the intersection. This crash took place east of the intersection at the gas station (*A westbound vehicle was about to make a left turn into the station. The operator of the vehicle immediately behind observed this vehicle stopped in traffic and to avoid running into the back of the vehicle went around it on the left side*).

Anecdotally, the Town reported that there had been two crashes involving pedestrians.

Local Concerns

According to the Town, pedestrians are a major concern at this intersection. The Town explained that there was no safe place to navigate the corner of the general store on foot given that parking was along both sides of the building.

The RPC supported this fact and indicated that the intersection had been identified as a concern during a visit in October 2015 by Mark Fenton, a Massachusetts-based national public health, planning and transportation expert, who had been invited by the Northwestern Medical Center to tour locations in St Albans, Swanton and Highgate to assess walkability and bikeability.

The Town further indicated that when a vehicle was parked in front of the store, this situation made it very difficult for vehicles to pull off from St Armand Road onto VT 78. The Town specifically mentioned that the situation was worst around 5:00 pm when VT 78 was busy and when people were stopping at the store. While the main concern is with visibility to the west, visibility to the east could also be a problem if a truck was parked on the shoulder of VT 78 along the fence on the north side of VT 78.

The Town also explained that the main parking area for the store was adjacent to St Armand Road and that because of this, vehicles were backing up onto St Armand Road and that at times, when traffic was busy, this was also an issue.

The Town perceived that there is a speeding issue along VT 78, especially from the Swanton end.

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From the Town's perspective, the construction of solar project off St Armand Road, anticipated in 2016, has the potential to exacerbate all of these issues.

Identified Safety Concerns

This section lists the areas of safety concern identified by the audit team during the site inspection and from the analysis of available data. This section also reports the potential safety enhancements suggested by the audit team. The concerns are not listed in order of importance.

Concern: Corner Sight Distance Issue when Looking West from St Armand Road

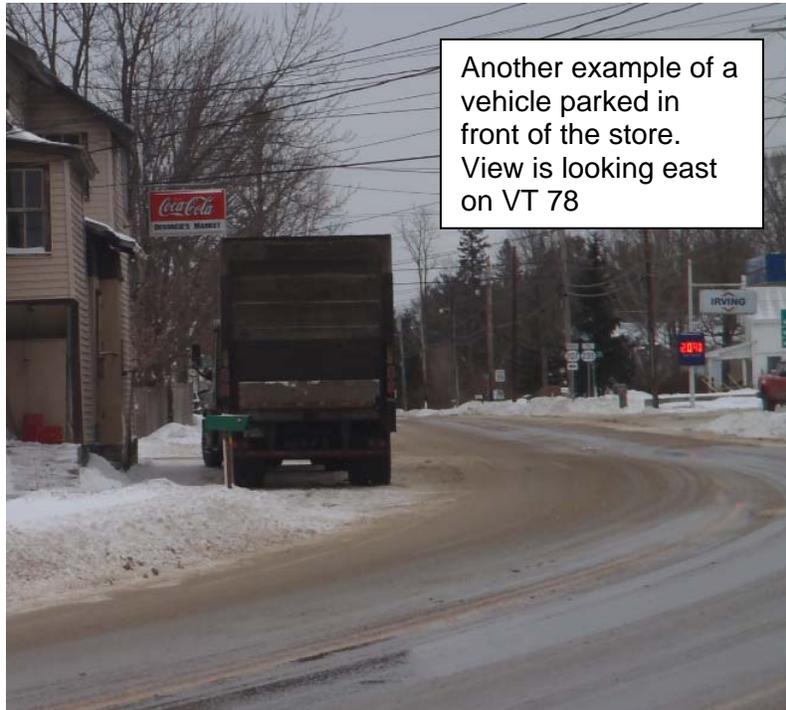
The corner sight distance when stopped on St Armand Road and looking to the right (or west, is inadequate (measured to be 175 feet compared to desired 335 feet for a speed of 30 mph). The horizontal curve to the west of the intersection contributes to this issue.

When a vehicle is parked in front on the store, adjacent to VT 78, this issue is heightened and corner sight distance is practically zero. The delivery location in front of the store is also a factor.



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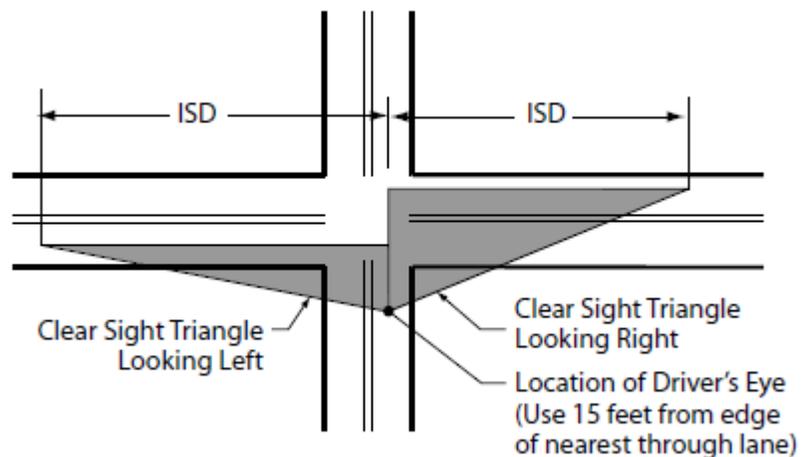
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Safety Enhancements:

Ensure that a clear sight triangle to the west of St Armand Road is provided.

Consideration should be given for the installation of "No Parking on the Travelled Way" sign along with crosshatched markings. A more efficient solution would be for the Town to request the Traffic Coordinating Committee that a no parking zone be instituted.



Note, Intersection Sight Distance (ISD) for 35 mph is 390 ft and 335 ft for 30 mph as per AAHSTO

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Short term, construct a permanent raised island to deter motorists from parking in front of the store.

Ensure that speeds approaching from the west are low.

Immediately, revised the signage on VT 78 approaching the intersection from the west to include an intersection sign with an advisory plaque reflecting the available corner sight distance (potentially add a street name plaque and possibly combine this with a speed feedback sign). The assembly should be within 300 feet of the intersection.

Mid-term, construct a traffic calming island in the vicinity of the park and ride lot as suggested in the VT 78 pedestrian and bicycle scoping study.

Concern: Potential Corner Sight Distance Issue when Looking East from St Armand Road

The corner sight distance from St Armand Road when looking to the left (or east) could potentially be limited if a vehicle (especially a truck) is parked on VT 78 in the shoulder along the wooden fence.



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Safety Enhancements:

Consider the installation of “No Parking on the Travelled Way” sign along with crosshatched markings. A more efficient solution would be for the Town to request the Traffic Coordinating Committee that a no parking zone be instituted.

Long term, construct the sidewalk proposed by the VT 78 pedestrian and bicycle scoping study for the north side on VT 78, east of the St Armand Road intersection.

Concern: Issue with Parked Vehicles Backing onto St Armand Road

Store customers are parking their vehicles perpendicular to the store, adjacent to St Armand Road. These motorists are then backing onto St Armand Road, sometime in peak traffic.

Safety Enhancements:

Investigate the possibility of removing the parking area by the store and replacing it with parking spaces that would be created on St Armand Road (right - east side of the road by the fence).

Long term, investigate the possibility for the town to purchase the property on the right on St Armand Rd, and to reserve some of this lot for parking.

Concern: Issue with Walking around the Intersection

Walking has been reported as difficult along VT 78 and across the St Armand intersection. The VT 78 pedestrian and bicycle scoping study by VHB proposed a series of pedestrian improvements. The audit team provides the additional suggestions listed below under Safety Enhancements.

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Safety Enhancements:

Evaluate the appropriateness of relocating the crosswalk currently proposed by the scoping study on VT 78 at Mill Hill on the west side of the intersection to the east side of the St Armand Road intersection to better match with pedestrians' desire paths. The current stopping sight distance to the St Armand intersection when approaching from the east is about 223 feet and could constitute a limiting factor. Evaluate also the applicability of enhancing the crossing with rectangular rapid flashing beacons.

To supplement the network of sidewalks proposed by the VT 78 pedestrian and bicycle scoping study, consider providing sidewalks on the east side of St. Armand Road to connect from VT 78 up to the path to the school and the post office.

Concern: Conspicuity of the St Armand Approach.

In general, the St Armand approach could be more conspicuous. The audit team observed the stop sign to be a long distance away from the stopping point, at the north end of the store parking apron. The audit team also observed the street name signs to be difficult to be seen from VT 78.

Safety Enhancements:

Consider adding a second stop sign on the left hand side of the approach.

Alternatively, a better option would be to install a small raised island at the northwest corner of the approach (this could be done in combination with a longer island design to deter parking in front of the store).

The street name signs could be relocated closer to VT 78.

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Concern: Issues Associated with the Construction of the Solar Electric Facility on St Armand

Truck traffic will increase during the construction period of the project.

Safety Enhancements:

Consider requesting the developer that deliveries be done during certain hours of the day.

Consider requesting the developer that deliveries be done when the store is closed.

Consider requesting that a uniform traffic officer be present at peak traffic periods at the intersection to direct traffic safely.

Evaluate the use of an alternate route to access the site.

Summary of Safety Enhancements

The safety concerns and potential actions that were identified in the previous sections are further summarized in the next table. These potential enhancements will be presented to the various responsible parties for further consideration.

Potential Safety Enhancements Summary Table

Safety Concern	Safety Enhancement	Responsibility	Safety Payoff	Time Frame	Cost
Corner Sight Distance Issue when Looking West from St Armand Road	Consider the installation of “No Parking on the Travelled Way” sign along with crosshatched markings	VTrans (TSMO)	Low/Med	Short	Low
	A more efficient solution is to request the VT Traffic Coordinating Committee that a no parking zone be instituted	Town of Highgate	High (if enforced)	Mid	Low
	Construct a permanent raised island to deter motorists from parking in front of the store	VTrans (OPS)	High	Short	Med
	Ensure that speeds approaching from the west are low by revising the signage on VT 78 approaching the intersection from the west to include an intersection sign with an advisory plaque reflecting the available corner sight distance (potentially add a street name plaque and possibly combine this with a speed feedback sign). The assembly should be within 300 feet of the intersection	VTrans (TSMO)	Low/Med	Immediately	Low
	Ensure that speeds approaching from the west are low by constructing a traffic calming island in the vicinity of the park and ride lot as suggested in the VT 78 pedestrian and bicycle scoping study	Town of Highgate	Med	Mid	High (\$80,000)
Potential Corner Sight Distance Issue when Looking East from St Armand Road	Consider the installation of “No Parking on the Travelled Way” sign along with crosshatched markings	VTrans (TSMO)	Low/Med	Short	Low
	A more efficient solution is to request the VT Traffic Coordinating Committee that a no parking zone be instituted	Town of Highgate	High (if enforced)	Mid	Low
	Construct the sidewalk proposed by the VT 78 pedestrian and bicycle scoping study for the north side on VT 78 east of the St Armand Road intersection	Town of Highgate	High	Long	High

Note: THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C. 409

Potential Safety Enhancements Summary Table

Issue with Parked Vehicles Backing onto St Armand Road	Investigate the possibility of removing the parking area by the store and replacing it with parking spaces that would be created on St Armand Road (right - east side of the road by the fence)	Town of Highgate	Med	Short	Low
	Investigate the possibility of purchasing the property on the right on St Armand Rd, and of reserving some of this lot for parking	Town of Highgate	High	Short/Mid	Low
Issue with Walking around the Intersection	Evaluate the appropriateness of relocating the crosswalk currently proposed by the scoping study on VT 78 at Mill Hill on the west side of the intersection to the east side of the St Armand Road intersection to better match with pedestrians' desire paths. The current stopping sight distance to the St Armand intersection when approaching from the east is about 223 feet and could constitute a limiting factor. Evaluate also the applicability of enhancing the crossing with rectangular rapid flashing beacons	VTrans (TSMO)	Low/Med	Short	Low
	To supplement the network of sidewalks proposed by the VT 78 pedestrian and bicycle scoping study, consider providing sidewalks on the east side of St Armand Road to connect from VT 78 up to the path to the school and the post office	Town of Highgate	High	Long	High
Conspicuity of the St Armand Approach	Consider adding a second stop sign on the left hand side of the approach	VTrans (TSMO)	Med	Short	Low
	Alternatively, a better option would be to install a small raised island at the northwest corner of the approach (this could be done in combination with a longer island design to deter parking in front of the store)	VTrans (TSMO)	Med	Short/Mid	Low

Note: THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C. 409

Potential Safety Enhancements Summary Table

Issues Associated with the Construction of the Solar Electric Facility on St Armand	Consider requesting the developer that deliveries be done during certain hours of the day	Town of Highgate	Med	Short	Low
	Consider requesting the developer that deliveries be done when the store is closed	Town of Highgate	High	Short	Low
	Consider requesting that a uniform traffic officer be present at peak traffic periods at the intersection to direct traffic safely	Town of Highgate	High	Short	Low
	Evaluate the use of an alternate route to access the site	Town of Highgate		Short	Low

Appendix A

Crash Data

Vermont Agency of Transportation
General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems
 From 01/01/10 To 12/31/15 General Yearly Summaries Information

Date: 02/23/2016

* Reporting Agency/ Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Number Of Untimely Deaths	Direction	Road Group
Route: VT-78												
VTVSP0700/14A20 0855	Highgate	0.37	03/05/2014	15:25	Clear	Other improper action, No improper driving	Same Direction Sideswipe	0	0	0	W	SH
VTVSP0700/11A20 1270	Highgate	0.45	03/25/2011	13:25	Clear	Technology Related Distraction, No improper driving	Rear End	2	0	0		SH
VTVSP0700/10A20 1969	Highgate	0.82	05/15/2010	12:04	Clear	Under the influence of medication/drugs/alcohol	Single Vehicle Crash	0	0	0		SH
VTVSP0700/13A20 5716	Highgate	0.84	12/25/2013	13:40				0	0	0		SH
VTVSP0700/11A20 0063	Highgate	0.97	01/05/2011	11:57	Snow	No improper driving, Other improper action	Other - Explain in Narrative	0	0	0	E	SH
VT0060000/12FRC 0340	Highgate	1.03	02/24/2012	20:32	Snow	No improper driving, Driving too fast for conditions	Head On	0	0	0	E	SH
VTVSP0700/11A20 5647	Highgate	1.1	12/03/2011	11:23	Clear			1	0	0	E	SH
VTVSP0700/14A20 0567	Highgate	1.12	02/10/2014	10:15				0	0	0		SH
VTVSP0700/15A20 0830	Highgate	1.78	02/20/2015	16:28	Clear	Followed too closely, Inattention	Rear End	1	0	0	E	SH
VTVSP0700/14A20 4565	Highgate	2.35	10/15/2014	07:22	Clear	Failed to yield right of way, No improper driving	No Turns, Thru moves only, Broadside ^<	4	0	0	W	SH
VTVSP0700/15A20 5281	Highgate	2.36	11/06/2015	14:32	Cloudy	Driving too fast for conditions, Disregarded traffic signs, signals, markings, No improper driving	Other - Explain in Narrative	0	0	0	E	SH
VTVSP0700/11A20 0006	Highgate	2.84	01/01/2011	08:26	Unknown	Failure to keep in proper lane	Single Vehicle Crash	0	0	0	E	SH
VT0060000/10FRC 4716	Highgate	2.86	11/22/2010	16:48	Rain	Inattention, Failure to keep in proper lane	Single Vehicle Crash	0	0	0		SH
VTVSP0700/10A20 5413	Highgate	2.86	12/04/2010	12:40	Snow	Driving too fast for conditions	Single Vehicle Crash	0	0	0	W	SH
VT0060000/14FRC 0233	Highgate	2.87	02/24/2014	20:42	Clear	No improper driving, Failed to yield right of way	Left Turn and Thru, Angle Broadside -->v--	3	0	0	E	SH
VTVSP0700/14A20 1287	Highgate	2.87	04/01/2014	13:20				0	0	0		SH
VTVSP0700/14A20 5189	Highgate	2.87	11/24/2014	07:21	Rain	Inattention, No improper driving, Followed too closely	Rear End	0	0	0	W	SH
VTVSP0700/10A20 0747	Highgate	2.9	02/24/2010	12:01	Snow	Driving too fast for conditions, No improper driving	Same Direction Sideswipe	0	0	0	W	SH
VTVSP0700/10A20 0319	Highgate	3.08	01/23/2010	12:33	Clear	No improper driving, Failure to keep in proper lane	Same Direction Sideswipe	0	0	0	S	SH
VTVSP0700/10A20 0317	Highgate	3.1	01/23/2010	12:33	Clear	No improper driving, Failure to keep in proper lane	Same Direction Sideswipe	0	0	0	S	SH
VTVSP0700/14A20 2862	Highgate	3.24	07/05/2014	11:15				0	0	0		SH
VTVSP0700/10A20 3490	Highgate	3.48	08/13/2010	17:27	Clear	Wrong side or wrong way, No improper driving	Head On	4	0	0		SH
VT0060000/14FRC 0262	Highgate	3.84	03/02/2014	19:56	Clear	Inattention, No improper driving	Rear End	0	0	0	E	SH
VTVSP0700/15A20 0594	Highgate	4.06	02/06/2015	13:27	Clear	No improper driving, Failed to yield right of way	Other - Explain in Narrative	1	0	0	E	SH
VT0060000/14FRC 0339	Highgate	4.23	03/13/2014	22:17	Cloudy	Under the influence of medication/drugs/alcohol, Driving too fast for conditions, No improper driving	Right Turn and Thru, Angle Broadside -->^--	0	0	0	N	SH
VTVSP0700/11A20 0973	Highgate	5.07	03/06/2011	13:40	Snow		Single Vehicle Crash	0	0	0	E	SH
VTVSP0700/10A20 0064	Highgate	5.42	01/04/2010	15:02	Snow	Swerving or avoiding due to wind, slippery surface, vehicle, object, non-motorist in roadway etc, No improper driving	Rear End	0	0	0	E	SH

*Crash occurred prior to the last Highway Improvement Project. This data should not be used in a crash analysis. UNK indicates the Mile Marker is Unknown.

Appendix B

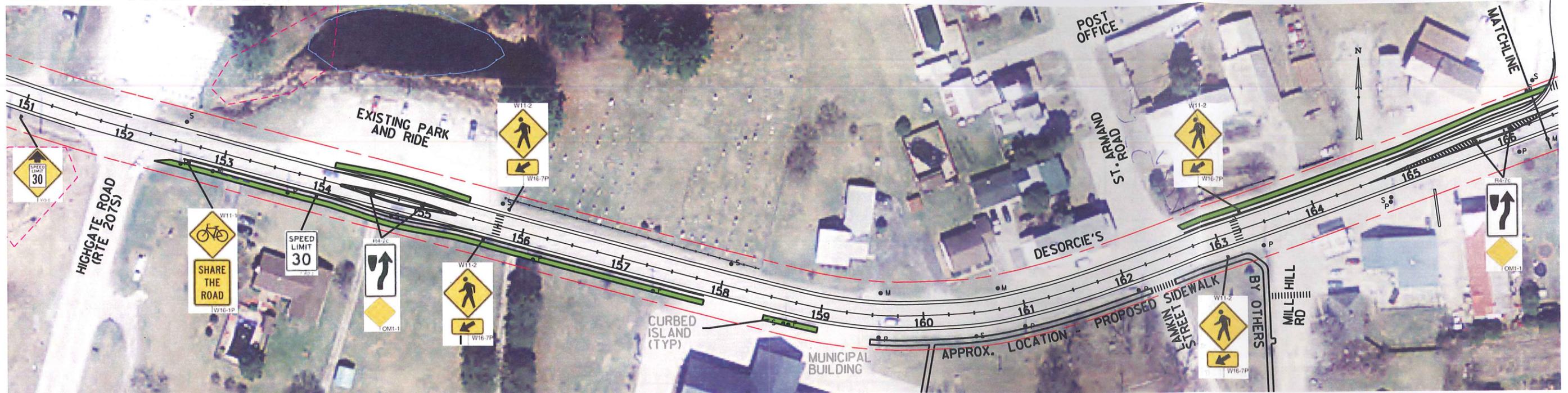
VHB Scoping Study

Town of Highgate's Preferred Alternative

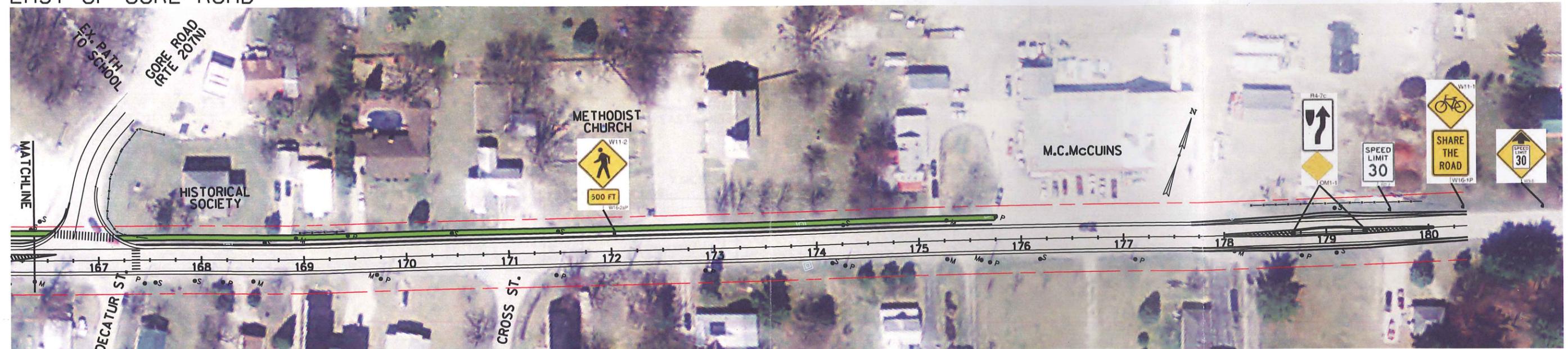
Source: Final Scoping Report, Highgate Route 78 Pedestrian and Bicycle Scoping Study, VHB, January 11, 2016

WEST OF GORE ROAD

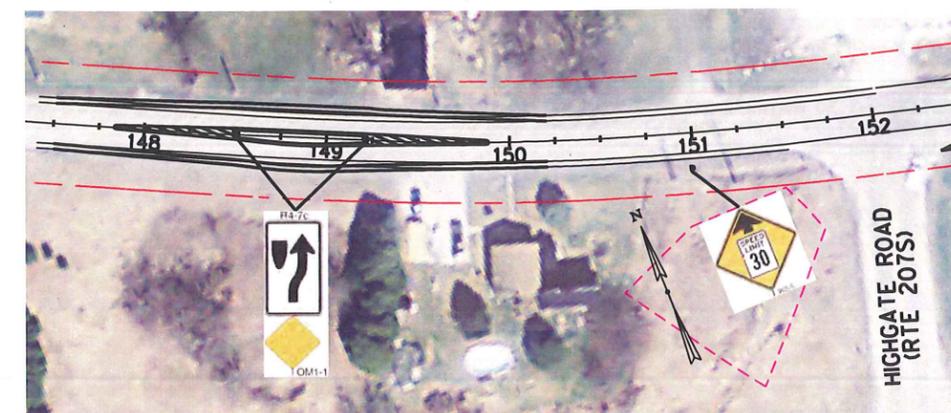
PREFERRED ALTERNATIVE



EAST OF GORE ROAD



ALTERNATE FOR WESTERN-MOST ISLAND



EXISTING CONDITIONS LEGEND

- P - UTILITY POLE
- M - MAILBOX
- S - SIGN
- G - GAS LINE MARKER
- - - FENCE
- - - DRIVEWAY CULVERT
- - CATCH BASIN
- - - CLASS II WETLAND
- - - WETLAND SWALE

NOTES:

1. THE LOCATION OF THE FEATURES SHOWN ON THIS MAP ARE APPROXIMATE ONLY. FIELD SURVEY WAS NOT CONDUCTED TO VERIFY LOCATIONS. THIS MAPPING IS TO BE USED FOR CONCEPTUAL LEVEL PURPOSES ONLY.
2. RIGHT OF WAY (ROW) WIDTH FOR ROUTE 78 SHOWN AS 4 RODS, AS RECEIVED FROM VTRANS.
3. PEDESTRIAN RELATED SIGNAGE IMPROVEMENTS SHALL COMPLY WITH STATE STANDARDS.
4. ALL CROSSWALK LOCATIONS SHOWN ARE SUBJECT TO REVIEW AND APPROVAL BY VTRANS.
5. AN ENGINEERING STUDY WILL BE REQUIRED AS PART OF THE DESIGN PHASE IN ORDER TO JUSTIFY THE SPEED LIMIT REDUCTION TO 30 MPH, THE SPEED REDUCTION IS SHOWN TO SUPPLEMENT THE MEDIANS.

SCALE F = 50' (FULL SIZE)
SCALE F = 100' (1/2 SIZE)

PROJECT NAME: RTE 78 SCOPING STUDY
PROJECT NUMBER: 57694.00

FILE NAME: 57694 ConcaAlt 09-15-14.dgn
PROJECT LEADER: M.J. SERVETAS
DESIGNED BY: J.D. AUSTIN
PREFERRED ALTERNATIVE LAYOUT

PLOT DATE: 9/30/2015
DRAWN BY: J.D. AUSTIN
CHECKED BY: M.J. SERVETAS
SHEET 1 OF 2

