

Office of Highway Safety

Road Safety Audit Review

Town:	St George	Date Reviewed:	November 2, 2016
Route:	VT 116 and VT 2a intersection	Mile points:	VT 116 MM 0.27-0.37 VT 2a MM 0.00 – 0.04

Location Map



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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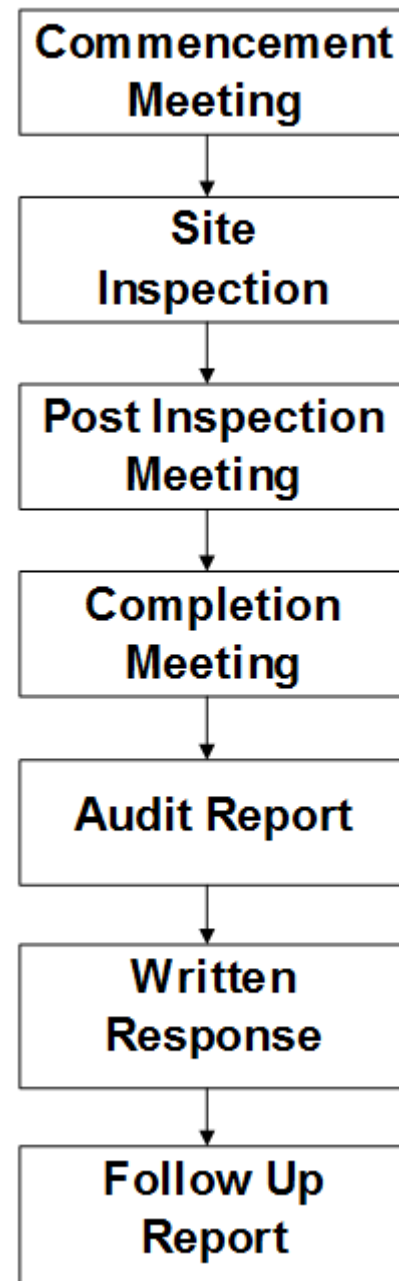
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According to the Federal Highway Administration (FHWA), the purpose of a RSAR is to determine which elements of the road may present a safety concern, to what extent and under what circumstances as well as to identify opportunities to mitigate the 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 116 and VT 2a in St George. Specifically, this intersection is bounded between mile point 0.27 and mile point 0.37 on VT 116 and between mile point 0.00 and mile point 0.04 on VT 2a.

Purpose of the RSAR

This RSAR was conducted as part of VTrans Highway Safety Improvement Program (HSIP). The locations selected for this HSIP effort were originally identified as high crash locations and subsequently ranked in terms of fatal and injury crash rate.

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:

Patti Coburn,	Traffic Design, VTrans
Tyler Guazzoni,	TSMO, VTrans
Dick Hosking,	District 5, VTrans
Pat McManamon,	DMV, VTrans
Al Barbee,	Hinesburg Fire Dept
Dave Estey,	Hinesburg Fire Dept
Caleb Casco	Hinesburg PD
Julie Hammond	Vermont State Police

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Information Reviewed

Geometry

This intersection is a three-way intersection. VT 116 runs south to north and VT 2a is on the east side of the intersection. Traffic is controlled by stop signs on VT 2a.

There is a right turn lane on the south approach on VT 116 that turns into a slip lane onto VT 2a. The taper was measured in the field to be about 130 feet and the storage length was measured to be approximately 160 feet (Note that the existing taper length is less than the 180 feet suggested on standard E-192 for speeds greater than 30 mph).

South of the intersection, there is an eight-degree horizontal curve from about mile point 0.13 to mile point 0.23. This is a curve to the left when traveling north.

The VT 2a approach has a 5% vertical down grade when traveling towards the intersection. At the intersection, there are dedicated left turn and right turn lanes.

The pavement surface on VT 116 at the intersection is rated as fair while the pavement surface on VT 2a is rated as good (VTransparency, January 2017).

Speed Limit

The posted speed limit on VT 116 is 40 mph. The posted speed limit on VT 2a is 35 mph.

The Technical Services Section of the VTrans Maintenance and Operation Bureau performed a speed study in November 2016 on VT 116. Speeds were measured in a range between mile points 0.32 and 0.35. Speeds of vehicles traveling in both directions were captured.

The results showed that the 85th percentile speed was 48 mph (meaning that 85% of the traffic travels at a speed of 48 mph or less) and that the 90th percentile speed was 49 mph.

The results also show that there were two 10-mph paces at this location (the 10-mph pace represents the range of speeds that encompasses the highest proportion of vehicles). These ranges were between 41 and 50 mph and between 40 mph and 50 mph. These ranges contained seventy-nine percent of all vehicles.

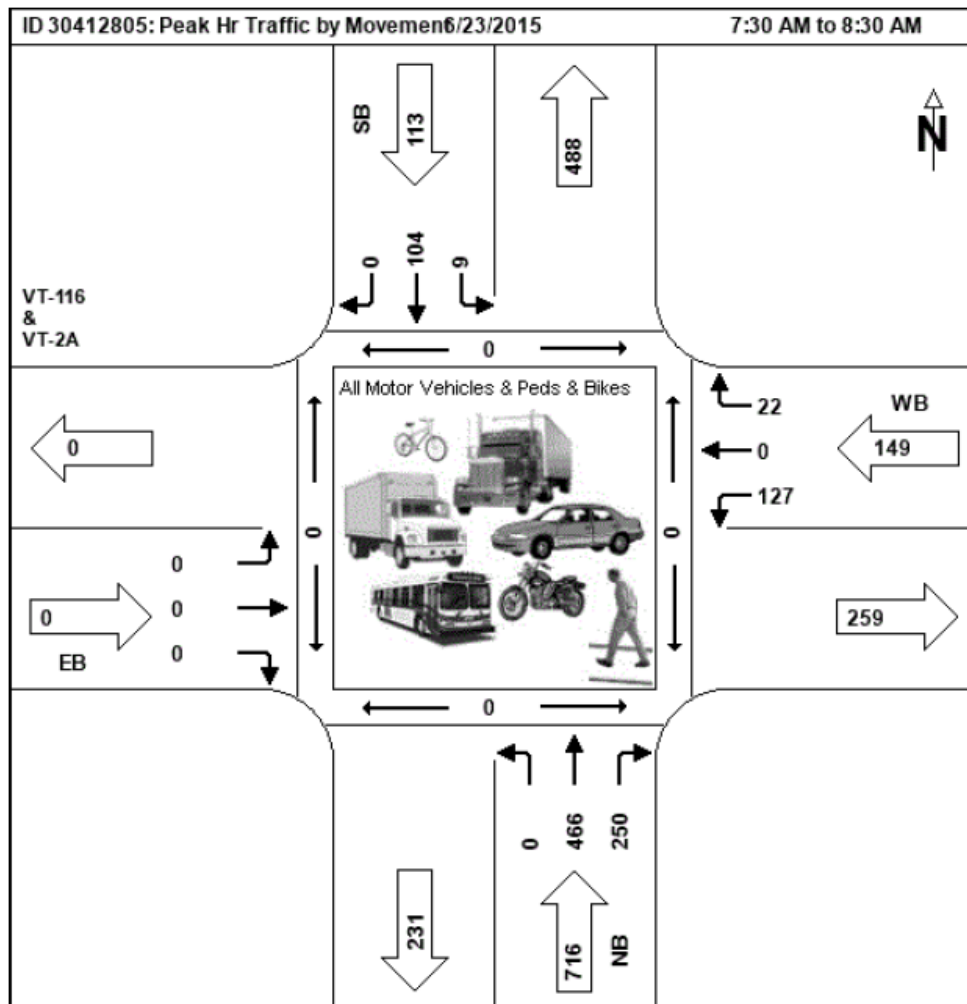
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Traffic Volumes

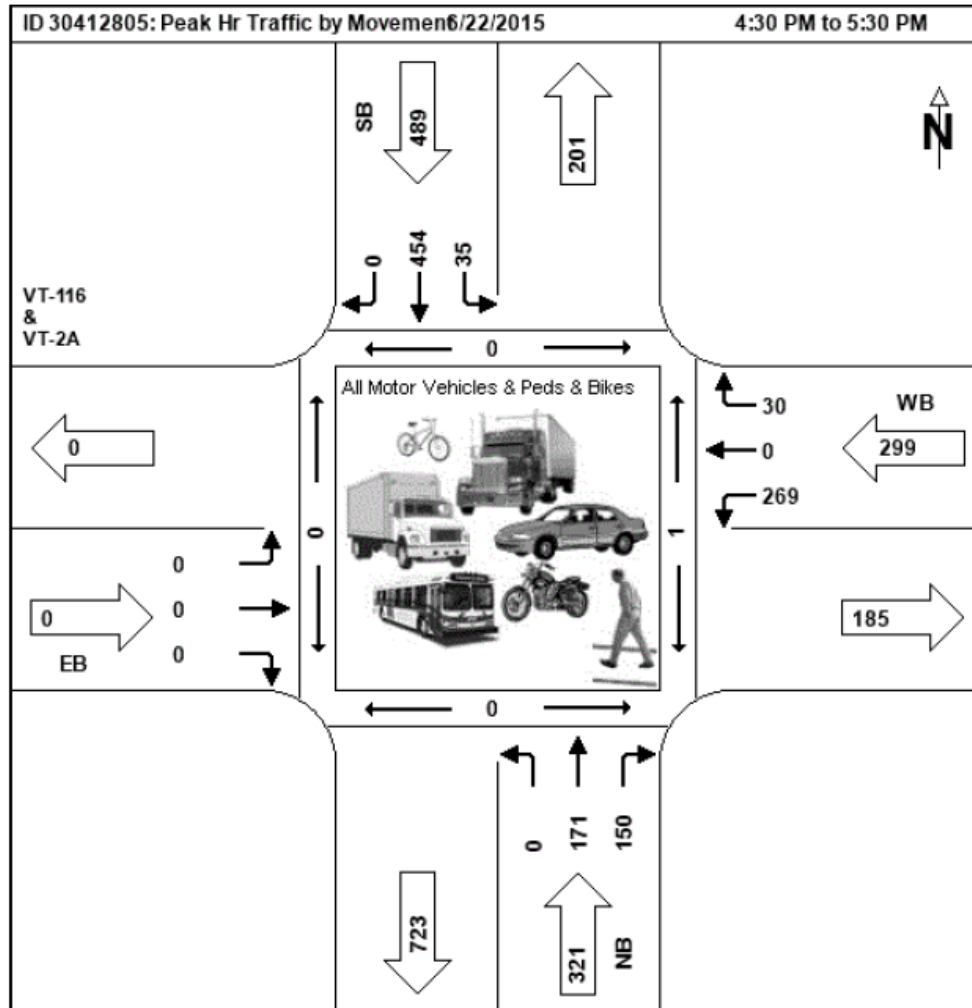
The 2014 Average Annual Daily Traffic (AADT) on VT 116 south of the intersection was 8600 vehicles per day. The AADT was 4700 vehicles per day north of the intersection on VT 116 and it was 5100 vehicles per day east of the intersection on VT 2a.

The last turning movement count that VTrans performed at this intersection was in June 2015. The morning portion of the count was done on June 23 while the afternoon portion of the count was taken on June 22. The morning and afternoon peak movements are illustrated on the next two diagrams.



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These two charts show that the main movements are the same in either peak hour period but that the movements have slightly different proportions.

During the morning peak hour, ninety-two percent of the traffic that is traveling south on VT 116 is continuing south. Northbound, sixty-five percent of the traffic is continuing north while thirty-five percent is turning right onto VT 2a. From VT 2A, eighty-five percent of the traffic is making a left turn while fifteen percent is making a right turn.

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During the afternoon peak hour, ninety-two percent of the southbound traffic on VT 116 is continuing south past the intersection, while ninety-percent of the motorists on VT 2a are making a left turn onto VT 116. From the south approach, fifty-three percent of the traffic is continuing straight while forty-seven percent is turning right onto VT 2a.

Overall, the raw count shows that about 115 vehicles are approaching the intersection from the north, seven hundred and sixteen are traveling from the south and one hundred and fifty from the east.

In the afternoon peak hour, there are four hundred and eighty-nine vehicles that are traveling from the north, three hundred and twenty-one are traveling from the south and two hundred and ninety-nine from the east,

Traffic Signs

The traffic signs on VT 116 when approaching the intersection from either direction include the typical VT 2a junction sign, destination boards and VT 116 and VT 2a route markers. In addition to these signs, there is a side road sign for southbound traffic when approaching the north approach. There is no side road sign in the northbound direction, however, there are additional regulatory signs related to the right turn lane.

On VT 2a, the signage consists also of the typical VT 116 junction sign, destination board and route markers. In addition, there are two gate posted stop ahead signs in advance of the intersection, the regular lane assignment signs and a double arrow across the intersection. The stop signs on this approach are also gate posted.

Past Projects

Project STP 2508 (1) was for the resurfacing of VT 116. This project was completed in 2009. The project did not replace the signs in the area of the intersection.

Project STP FPAV(4) was a district paving project for the resurfacing of VT 2a. This project was completed in 2016.

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Work order number 16-013 was for the replacement of existing signs on the VT 2a approach at existing locations.

Work Order number 13-1005 was for the replacement of the route markers at the intersection between mile points 0.04 and 0.41. This work order was completed in May 2013.

Future Projects

No future projects were identified for this area.

Crash History

The crash history was reviewed along this segment for the five-year period covering the years 2011 to 2015. A total of thirteen crashes were reported during this period.

The principal crash pattern at this intersection is a right angle crash. This crash pattern represents forty-four percent of the crashes at this intersection (7 out of 16 crashes). Of these seven right angle crashes, seventy-one percent involved a vehicle that is traveling northbound on VT 116 and a vehicle that is making a left turn south onto VT 116.

Eighty-six percent of the right angle crashes are taking place between September and January.

The times of the crashes indicate that they would occur during either the morning or the afternoon peak hours.

In comparison, the other crashes at this intersection are also mostly taking place between September and January and they are taking place mostly midday or during the afternoon peak hour.

The second crash pattern of importance at this intersection is rear-end crashes. There is not a specific approach where these rear-end crashes are happening (4 out of 16 crashes or 27%).

Crash narratives are provided at the end of this report along with a collision diagram.

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Current Local Concerns

Motorists who use the right turn lane are said to cut the corner of the slip lane in order to stay in the VT 116 through lane longer to keep speed. They are entering the turn lane at the last minute.

Right turners are creating a blind spot for those turning left onto VT 2A and prevent them to see oncoming through vehicles on VT 116.

Traffic backs up significantly on VT 2a.

Traffic is heavy at times. Few gaps. People are impatient.

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: Limited Sight Distance of On-Coming Traffic due to Vehicles in the Right Turn Lane.

Vehicles that are traveling northbound on VT 116 in the right turn lane are blocking the view of northbound through traffic for motorists on VT 2a that are making a left turn onto VT 116 southbound.

Safety Enhancements:

Short to Mid

Install rumble stripes along the entire length of the left hand white solid storage lane to force traffic to enter the right turn lane sooner.

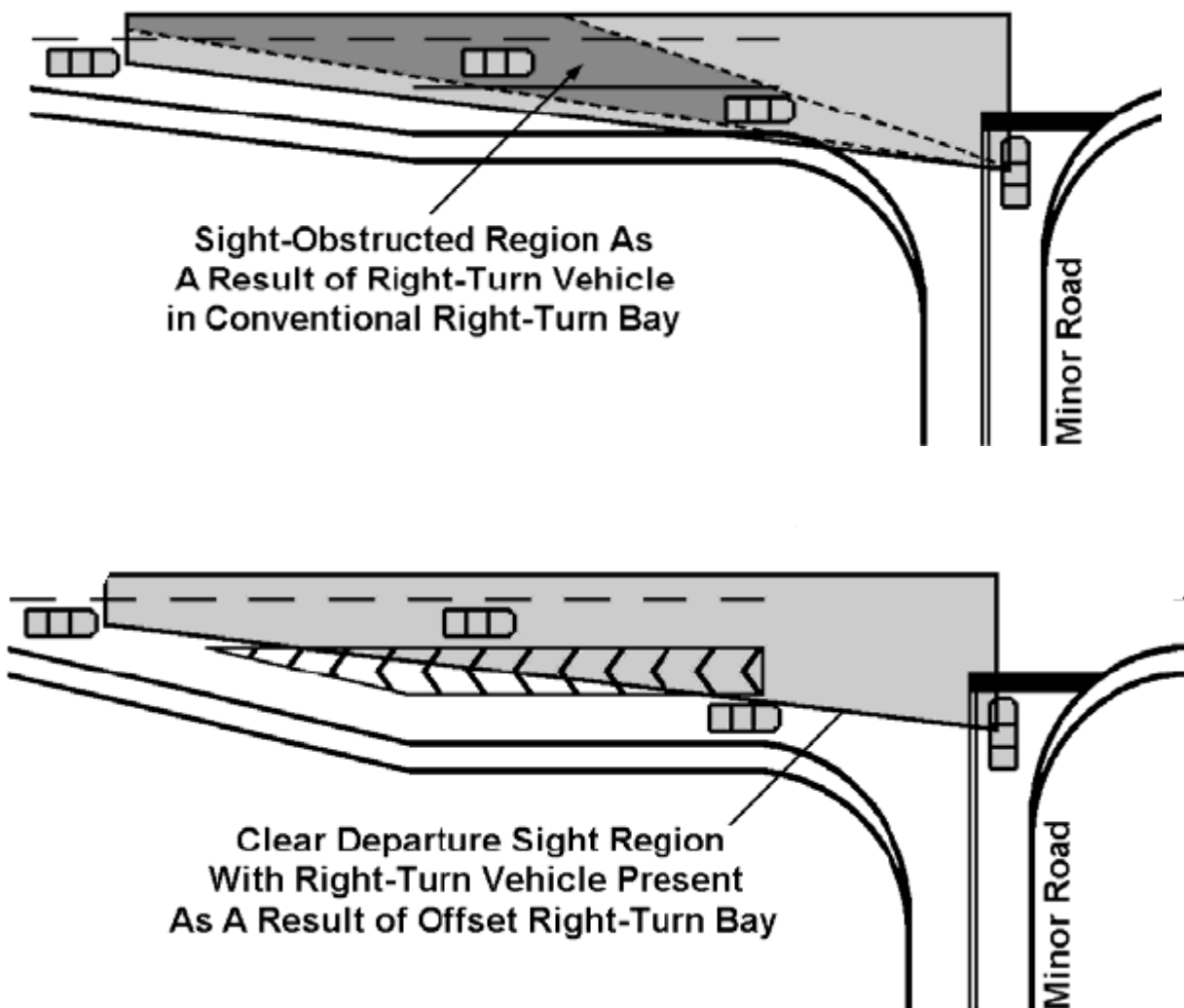
Mid to Long Term

Convert the existing right turn lane to an offset right turn lane.

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An offset right turn lane is a right turn lane that is constructed outside of the intersection sight distance triangle for minor road traffic. This concept is illustrated in the figure¹ below. The top intersection shows a conventional right turn lane and how the right turning car prevents the motorist on the minor road to see the through vehicle on the main road. The second intersection shows an offset right turn lane and how its design provides the motorist on the minor road a clear view of the oncoming through vehicle.



¹ Source: Safety Effects of Offset Right-Turn Lanes at Rural Expressway Intersections, Proceedings of the 2007 Mid-Continent Transportation Research Symposium, Ames, Iowa, August 2007

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There is one crash modification factor (CMF ID 2777) in the CMF clearinghouse for the evaluation of an offset right turn lane. However, its star rating is only two (out of five) and its usage would not be highly recommended.

To compensate, a range of crash modification factors was used to determine the maximum costs allowable to achieve a benefits-to-costs ratio (B/C ratio) above 1.

CMF ID 2777 suggests a 69% crash reduction in right angle crashes and this value was used as the upper limit of the range. An assumed 25% reduction in right angle crashes was used as the lower boundary. With these assumptions, the range of costs to get a B/C ratio of 1 would be \$122,000 (for a 25% reduction) and \$337,000 (for 69%) for a fifteen-year service life.

Long Term

Install a signal.

Traffic Research determined that a signal was warranted at this location. The signal warrant analysis was based on the 2009 Edition of the Manual on Uniform Traffic Control Devices (MUTCD). VT 116 northbound and southbound were modeled as single-lane approaches, and VT 2A was modeled as a two-lane approach. The following two warrants were met: the Eight-Hour Minimum Vehicular Volume warrant (Warrant #1) and the Four-Hour Vehicular Volume warrant (Warrant #2).

CMF ID 325 suggests a 44% crash reduction in all types of crashes for going from a stop controlled intersection to a signalized intersection. With an assumed cost of \$300,000, the B/C ratio is 2.39.

Construct a roundabout.

Would a roundabout be a suitable option at this site? Recent roundabout project bids resulted in an average estimated construction cost of \$1,474,900. Using this figure as a planning cost generates a B/C ratio of 1.17 and indicates that the construction of a roundabout is justifiable in terms of safety.

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An incremental analysis indicates that a signal is a better economic option at this location. The table below indicates that the additional costs of installing a signal are justifiable by the larger benefits obtained compared to the construction of an offset left turn lane. The table also shows that the additional costs of constructing a roundabout compared to the signal are not justified by the benefits that would be obtained by the roundabout.

	Signal	Offset Turn Lane	Difference	Inc B/C
Annual Benefits	\$ 57,200.00	\$ 9,753.00	\$ 47,447.00	
Annual Costs	\$ 39,939.00	\$ 9,753.00	\$ 30,186.00	1.57

Keep Signal

	Roundabout	Signal	Difference	Inc B/C
Annual Benefits	\$ 92,300.00	\$ 57,200.00	\$ 35,100.00	
Annual Costs	\$ 78,685.00	\$ 39,939.00	\$ 38,746.00	0.91

Keep Signal

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 respective parties for further consideration.

Potential Safety Enhancements Summary Table

Safety Concern	Safety Enhancement	Responsibility	Safety Payoff	Time Frame	Cost
Limited Sight Distance of On-Coming Traffic due to Vehicles in the Right Turn Lane	Install rumble stripes along the entire length of the left hand white solid storage lane to force traffic to enter the right turn lane sooner	VTrans	Unknown	Short-Mid	Low
	Convert the existing right turn lane to an offset right turn lane	VTrans	Mid	Mid-Long	Mid-High (25% Red, \$122,000 in Costs for B/C = 1)
	Construct a roundabout?	VTrans	71% reduction ²	Long	High (B/C = 1 with Costs = \$1,474,900)
	Install a signal ³	VTrans	44% reduction ⁴	Mid-Long	High (B/C = 2.39 with Costs = \$300,000)

² CMF 229

³ An incremental B/C analysis indicates that a signal is a better economic option at this location compared to an offset left turn lane and a roundabout

⁴ CMF 325.

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: <u>St George</u>	COUNTY: <u>+ 2016 to now</u>	FILE: <u>vt116vt2a</u>
INTERSECTION: <u>VT 116</u>		CASE #: _____
PERIOD: <u>5</u> YEARS <u>0</u> MONTHS	FROM <u>1/1/2011</u> TO <u>12/31/2015</u>	BY: _____ DATE: <u>11/1/2016</u>



SYMBOLS		MANNER OF COLLISION	
	MOVING VEHICLE		REAR END
	TURNING VEHICLE		LEFT TURN
	BACKING VEHICLE		LEFT TURN
	PARKED VEHICLE		OVERTAKE
999	RECORD NUMBER		OUT OF CONTROL
P	PEDESTRIAN		HEAD ON
B	BICYCLIST		RIGHT TURN
A	ANIMAL		RIGHT TURN
□	FIXED OBJECT		RIGHT ANGLE
	Fatal		SIDE SWIPE

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
1	VT-2A	0.00	9/2/2014	12:15	Clear	0	0	Single Vehicle Crash	On 9/2/2014 at approximately 1215 hrs, a single vehicle crash on VT Rte 2A, near the intersection of Rte 116. The vehicle was found at a position of controlled rest facing east along the eastbound shoulder of VT Rte 2A. Road conditions were good at the time of the crash. Weather at the time of the crash was clear and not considered a factor. Op 1 advised he was traveling north on Rte 116 towards South Burlington when he had fallen asleep at the wheel and veered off the roadway. INVESTIGATION OP 1 was traveling northbound on Rte 116 at an unknown speed. He fell asleep and drifted off the east edge of the roadway in the area of the intersection of VT Rte 2A. Inj 5

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
2	VT-2A	0.00	11/28/2014	15:00	Cloudy	1	0	Rear End	Inj 4. On 11/28/14 at approximately 1513, Vehicle 1 was a tan 2005 Chevrolet Cavalier bearing VT registration ENK620. It had medium damage to the rear, trunk area. The tail light covers were smashed. The road surface was wet, apparently from the snowmelt. Operator 2 said she was proceeding onto Rt. 2A Northbound from Rt. 116 Northbound. V1 was in front of V2 as they were proceeding on to Rt. 2A. Operator 2 said no one was coming so she kept going. She looked left to check traffic, no one was coming, she looked back and V1 was at a dead stop. She said that there was no amount of slamming of brakes (I believe she is talking about V1). She said she tried to hit the brakes but could not stop in time. Operator 1 said that he turned right from Rt. 116 onto Rt. 2A. He said that he yielded for a vehicle coming from Rt. 116 N turning left onto Rt. 2A. (Officer understood that the other vehicle was coming from the north and proceeding south on Rt. 116 before turning left on to Rt. 2A.) Operator 1 said that the vehicle he was yielding for was right at the intersection. Operator 1 said this vehicle was right in the turn. Operator 1 at one point advised that he did not know the person he yielded for. Operator 1 said that he said he slowed for this person, and all he remembered was being struck. Operator 1 said he yielded for this person and then he got hit. Operator 2 said that she thought Operator 1 was conservative in the distance he gave to the other vehicle he was yielding for.

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									<p>Witness said that he was coming from southbound on Rt. 116. Said that a female was doing approximately 30-35 MPH and rear ended the other male. Advised that the male slowed for someone, and was doing approximately 20-25 MPH when he was struck. Said that the male did not have to yield, and that the male used extra caution.</p>

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
3	VT-116	0.30	6/4/2012	7:52	Rain	0	0	No Turns- Thru moves only- Broadside ^<	On June 4, 2012 at 0752 hours, a two car accident. It was raining lightly and the road surface was wet. Operator #1 said he was traveling on Rte 2A at the stop sign at the intersection with Rte 116. He proceeded out into traffic in an attempt to make a left turn when he was struck in the driver's side front wheel by another car. He said he checked to see if there were any cars and it was clear however, he thought the car that hit him was exceeding the speed limit. Operator #2 said she was traveling north on Rte 116 at apprx. 40 to 45 MPH when a car pulled out in front of her and she hit it. Op 1 was transported to Fletcher Allen Hospital as a precaution and was released within a few hours. Investigation: OP1/V1 was traveling west on Rte 2A. OP1 stopped at the stop sign and was waiting for a break in traffic to turn left (south) towards Hinesburg. As he inched out into the intersection, he was struck in the driver's side front end by the front tire by OP2/V2. There were some minor skid marks in the road left by V2, but the roadway was wet and V2 also had the right of way at this T intersection. Inj 4

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
4	VT-116	0.30	12/29/2012	13:25	Snow	2	0	Rear End	Inj 3. At the time of the crash, the weather was snowing and the surface of the road was snow covered. The operator of vehicle #1 advised she was traveling south on VT Rt. 116 at 35 mph prior to the crash. She advised she saw vehicle #2 stopped in front of her vehicle and attempted to slow her vehicle. Operator #1 advised as she was attempting to slow her vehicle the vehicle slid out of control into the rear of vehicle #2. The operator of vehicle #2 advised he had just turned left from VT Rt. 2A south onto VT Rt. 116 southbound prior to the crash. He advised his vehicle had slid on the snow covered roadway and got stuck along the west side of VT Rt. 116 southbound. Operator #2 advised his vehicle was stopped along the west side of VT Rt. 116 when vehicle #1 struck it from behind. Op 1 was traveling south on the VT Rt. 116. Vehicle #2 was found to have been stopped along the west side of southbound lane of VT Rt. 116 prior to the collision. Vehicle #1, Powell, failed to slow sufficiently behind vehicle #2, Williams. Vehicle #1 was found to have slid on the snow covered roadway and collided head-on with the rear of vehicle #2.

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
5	VT-116	0.30	9/5/2013	17:42	Clear	0	0	Left Turn and Thru-Angle Broadside -->v--	On September 5, 2013, at approximately 1742 hours, the weather was clear and dry, and it was light out. The roadway was dry. Op 1 advised she was taking a left from VT 2a onto Vermont Route 116. Stated she did not see Vehicle 2 coming northbound and hit him. She stated she was not going very fast. Op 2 was traveling north on VT 116 through the intersection with VT 2A. He was struck on his right side by Vehicle 1 and pushed into Vehicle 3 who was stopped waiting to turn onto Route 2A. OP 3 stated she was waiting to turn onto Route 116 and was letting Vehicle 1 turn off Route 2A. She stated that Vehicle 1 hit Vehicle 2, which then hit her. Inj 5

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
6	VT-116	0.30	10/28/2013	6:40	Clear	0	0	No Turns- Thru moves only- Broadside ^<	<p>On 10/28/2013 at approximately 0640 hrs. Weather at the time of the crash was clear and cool. The crash occurred during the dawn hours. Sunlight is not considered a factor in the crash.</p> <p>Operator #1 advised he was traveling approximately 45 mph and did not stop at the stop sign. He advised he struck Vehicle #2. Operator #2 advised he was traveling northbound on Rte 116 at approximately 45 mph when his vehicle was struck by Vehicle #1</p> <p>INVESTIGATION: Operator #1 was traveling westbound at approximately 45 mph and failed to stop at the stop sign at the intersection of Rte 2A and Rte 116. After passing the stop sign and stop bar, the driver's side front of Vehicle #1 collided with the passenger's side door of Vehicle #2. Inj 5</p>

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
7	VT-116	0.32	1/28/2011	17:00	Clear	0	0	No Turns- Thru moves only- Broadside ^<	On January 28, 2011 at 1700 hours, a two vehicle crash located on Route 116 at the intersection of Route 2A. The weather conditions had the skies clear and the roadway was dry, the air temperature was about 20 degrees. Operator 1 stated that he was driving on Route 2A and stopped at the stop sign and proceeded onto route 116. Advised that he did not see the other vehicle, when he made the left turn onto Route 116. Operator 2, stated he was driving towards South Burlington on Route 116. Advised that as he approached the intersection of Route 2A, he never saw the other vehicle turn in front of him. Vehicle 1 path of travel was south on Route 2A to the intersection of Route 116. The vehicle then turned left onto Route 2A to travel south towards Hinesburg. This vehicle struck another motorist that was traveling north on Route 116 at the intersection of Route 116 and Route 2A. Vehicle 2, path of travel was north on Route 116 to the intersection of Route 2A. The vehicle that was traveling on Route 2A turned in front of vehicle 2 to head south on Route 116. Vehicle 1 struck vehicle 2 that was traveling north on Route 116 at the intersection of Route 116 and Route 2A. There were no skid marks made from either vehicle. Inj 5

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
8	VT-116	0.32	12/21/2011	17:27	Rain	0	0	No Turns- Thru moves only- Broadside ^<	On 12/21/11 at approximately 1727 hours, a two vehicle crash. Operator #1 advised that he was at the stop sign on VT 2a waiting to make a left hand turn onto VT 116. Operator #1 advised he did not see any traffic in his path on VT 116 so he pulled out turning left and collided into Vehicle #2 who was traveling south. Operator #2 advised she was traveling south on VT 116 with her head lights on due to the rain and darkness, when she observed Vehicle #1 pull from the stop sign intersection on VT 2a and collided into her vehicles left side. Inj 5.

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
9	VT-116	0.32	2/5/2014	8:12	Snow	1	0	Rear End	Two car crash Route 116 & 2A intersection, one female with injuries. On February 5, 2014, officer was at the intersection of Route 116 and Route 2A dealing with a vehicle that slid of the road. While there, two vehicles approached the area of his location. Vehicle one slowed down and vehicle two that was following vehicle one did not stop in time and crashed into the rear of the vehicle. At the time of the crash the roads were covered in snow and it was snowing out. The crash occurred in the northbound lane. Op 1 stated that the vehicle in front of her just stopped too fast for her to stop in time. OP 2 stated that she slowed down when she saw the cruiser and the vehicle behind her did not stop and hit her in the rear. Inj 3

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
10	VT-116	0.32	2/24/2014	9:37	Clear	1	0	Left Turn and Thru-Angle Broadside -->v--	On February 24th 2014 at approximately 0937 hours Op 1 stated she was traveling south on VT Rte. 116 and was slowing down as she approached the intersection of VT Rte. 2A. Stated she observed a vehicle approaching from the south with its right turn signal activated and watched it turn on to Rte. 2A. She stated she then activated her left turn signal and began turning on Rte. 2A. She stated she was struck from the side and ended up in the ditch. Op 2 stated she was traveling north on VT Rte. 116 at approximately 35 mph as she approached the Rte. 2A. She advised the vehicle in front of her turned onto Rte. 2A and she continued north. Raphael stated a vehicle that was approaching from the north turned into her path of travel. She stated she was unable to avoid a collision. Conclusion: OP 1 was traveling south on Rte 116 in the Town of St. George approaching the intersection of Rte. 2A. After observing a vehicle that was approaching from the south turn onto Rte. 2A, Op 1 began turning left when she was stuck by vehicle 2. Op 2 was behind the turning vehicle and continued north on Rte. 116 when op 1 turned into her path of travel. Inj 3

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
11	VT-116	0.32	1/8/2016	16:57	Cloudy	0	0	Rear End	On 1/8/2016 at approximately 1701 hrs, a 2 vehicle crash on Rte 116 at the intersection of Rte 2A. Weather at the time of the crash was cloudy. Roads were bare, dry and not lighted. Operator #1 advised he was turning right, onto Rte 2A from Rte 116. He advised he was traveling approximately 20-30 mph. Operator #1 advised he attempted to stop and avoid a collision, however he ran into the back of Vehicle #2. Operator #2 advised she did not know how fast she was going but she stopped for a vehicle which was turning from the southbound lane of Rte 2A. Advised her vehicle was rear-ended by Vehicle #1. Vehicle #1 was traveling northbound at approximately 20-30 mph. It was directly behind Vehicle #2 as both vehicles entered VT Rte 2A from Rte 116. This curved section of roadway is controlled by a pair of "Yield" signs located on both sides of the roadway where northbound traffic from Rte 116 meets Rte 2A. The words "Yield Ahead" are painted on the pavement. It should be mentioned that the white paint is slightly faded. Vehicle #2 stopped suddenly for a vehicle which had the right of way. Inj 3

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
12	VT-116		7/20/2016	17:00	Clear	1	0	Left Turn and Thru-Broadside	This two-vehicle collision. Op #1 stated she was traveling SB on Rte 116 prior to the collision. She stated she had slowed down in anticipation of making a left turn onto Rte 2a and had to let NB traffic pass her. She stated she recalled seeing two uninvolved vehicles traveling NB on Rte 116 but they both veered into the right turn lane and exited onto Rte 2a. She stated she then proceeded to turn left and immediately collided with Veh #2. Russell stated she recalled spinning around prior to coming to rest along the side of the road. Op #2 stated she was traveling NB on Rte 116 prior to the collision. She stated as she approached the intersection she observed Veh #1 turn immediately into the NB lane of travel. Op#1 was traveling SB while Op#2 was traveling NB on VT Rte. Upon approaching the intersection with VT Rte 2a, Op#1 slowed and signaled to turn left onto Rte 2a. Veh #1 then proceeded to turn into the intersection where Veh #2 collided front driver's side to front passenger side, respectively. Point of impact was noted by a large gouge mark in the middle of the NB lane of travel. This mark appeared to be consistent with the shape and size of a vehicle wheel. Veh#1 came to rest along the northern corner of the intersection facing west while Veh#2 came to rest in the middle of the NB lane of travel facing northeasterly. Point of possible perception from this intersection is noted to be over 600 feet in both directions (NB and SB). Inj 3

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
13	VT-116	0.33	12/12/2013	9:23	Clear	1	0	Left Turn and Thru-Broadside v<--	Tow car crash Route 116 and Route 2A intersection. On December 12, 2013. The crash occurred at around 09:23 hours. At the time of the crash, the sky was clear and the roads were wet. OP 1 stated that she had come to a stop on Route 2A at the intersection of Route 116. Stated that when she looked to see if anything was coming in the northbound lane, she could not see anything because the sun was in her eyes and reflecting of the wet road. Stated that she began to pull off Route 2A onto Route 116 and collided with the vehicle in the northbound lane. OP 2 stated that she was driving north on Route 116 when vehicle one just pulled out of the intersection and ran into the side of her vehicle, and she was spun around and ended up in the ditch. Inj 4

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
14	VT-116	0.34	1/10/2014	10:53	Snow	0	0	Single Vehicle Crash	On January 10th at 1054, single vehicle crash into a telephone pole at the intersection of 2A in 116. Weather at the time of the crash was snow and the roads were icy. Op 1 advised that he just turned onto 2A from 116 heading East when he lost control and slid into the telephone pole (Pole # 316 71 G from Vermont Electric). Inj 5

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
15	VT-116	0.29	10/23/2014	20:30	Rain	0	0	No Turns- Thru moves only- Broadside ^<	Op1 stated she was travelling westbound on VT RT 2A at approximately 30 mph and failed to stop at the stop sign at the intersection of VT RT 2A and VT RT 116. Driver #1 said she was struck by Vehicle #2 when she failed to stop at the stop sign. Driver of Vehicle #2 stated she was travelling northbound on VT RT 116 and observed Vehicle #1 not slowing down. Driver #2 said she attempted to slow down and stop but was unable to and struck Vehicle #1. Vehicle #1 was travelling westbound on VT RT 2A and failed to stop at the stop sign located at the intersection of VT RT 2A and VT RT 116. Inj 5

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Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
16	VT-2A	0.00	7/2/2013	17:20	Cloudy	0	0	Rear End	Accident originally reported having occurred at 8281 Vt Rt 116 in Hinesburg. Found to have actually occurred at the intersection of Vt Rt 2A and Vt Rt 116. On 07/02/2013 at approximately 1725. Both vehicles had been traveling west on Rt 2A and approached the intersection of Rt 116. Operator #1 advised that she did not expect vehicle #2 to stop so quickly at the intersection and she was not able to avoid colliding with the rear of that vehicle. Operator #2 advised that he had stopped at the intersection and was struck from the rear by vehicle #1. Inj 5

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