Office of Highway Safety

Road Safety Audit Review

Town:	Arlington	**Date Reviewed:**	September 21, 2016
Route:	VT 313 Warm Brook Rd Intersection	**Mile points:**	VT 313: 7.19 Warm Brook: 0.00

Location Map

Office of Highway Safety

Road Safety Audit Review

RSAR Process

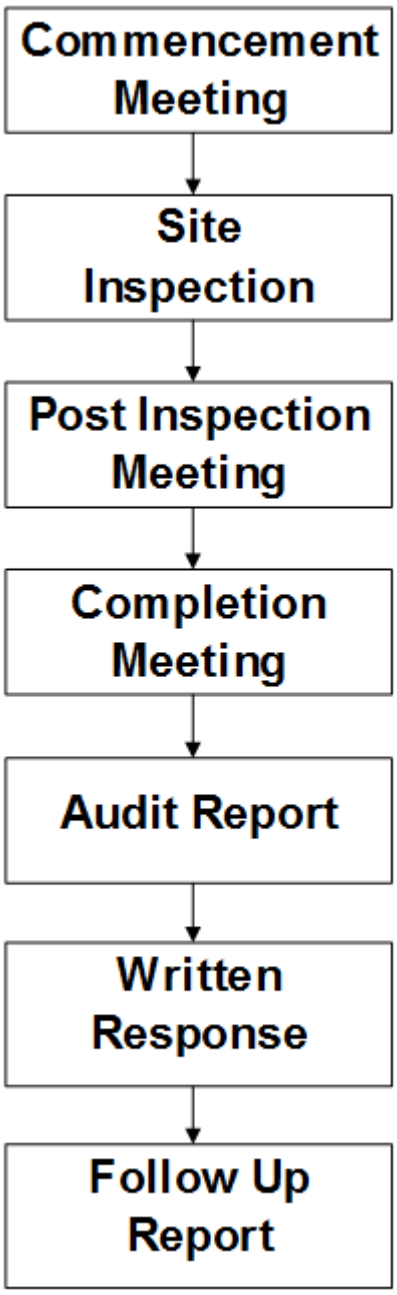
A ***Road Safety Audit Review*** (RSAR) is a formal examination of an existing road in which an independent, multi-discipline team (the Audit Team) reports on potential safety issues.

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

Figure 1 - Road Safety Audit Process



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.

Location

The location of this RSAR is the intersection of VT 313 and Warm Brook Road (MC0171) in Arlington.

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, VAOT, was the RSAR coordinator.

The other participants were:

Somner Bucossi,	PPAID, VAOT
Tom Fields,	GHSP, VAOT
Alex Flinn,	TSMO, VAOT
Michael Golden,	TSMO, VAOT
Erin Lewis,	Traffic Design, VAOT
Pat McManamon,	DMV, VAOT
Chris Mercon,	TSMO, VAOT
Chris Taft,	District 1, VAOT
Andrew Hurley,	Bennington Sheriff
Jamie Paustian,	Arlington Fire Dept

Robert Zink,	VSP Crash Reconstruction Team
Gary Weller,	Arlington Highway Dept
Allison Strohl,	Bennington County Regional Commission

Information Reviewed

Geometry

This intersection is a four-way, 90-degree, rural intersection. It is controlled by stop signs on the two approaches of Warm Brook Road. There is a 2.5-degree curve to the west of the intersection on VT 313.

VT 313 is a limited access highway. VT 313 is a two-lane, road with twelve-foot lanes and eleven-foot shoulders. There is a dedicated eleven-foot right turn lane on the east approach of the intersection.

The Technical Services Section of the VTrans Maintenance and Operation Bureau measured the stopping sight distances and the corner sigh distances as follows:

From the east, the sight distance along VT 313 towards the south approach of the intersection was measured to be 1446 feet. From the same direction, the sight distance to the north approach was measured to be 1385 feet. Traveling from the west, the sight distance to the south approach was measured to be 732 feet, while the sight distance to the north approach was measured to be 957 feet.

The corner sight distance when stopped on the south approach and looking to the right (towards US 7) was measured to be around 1445 feet, while it was measured to be around 705 feet when looking to the left (towards VT 7a). On the north approach, the corner sight distance when looking to the left (towards US 7) was measured to be around 1385 feet while it was measured to be around 957 feet when looking to the right (towards VT 7a)[1].

[1] The current available corner sight distances from both approaches meet the AASHTO standards for a travel speed of 55 mph (minimum 610 ft).

Supplemental corner sight distance information was provided by Sgt Robert Zink of the Vermont State Police. Sgt. Zink observed that telephone poles on the southeast and the northwest corners of the intersection could obstruct the view of VT 313 oncoming traffic if a motorist was stopped in a way that the poles were in her/his field of vision. Specifically, when stopped on the Warm Brook Road south approach, as west vehicles traveled past 1200 feet from the intersection, they became obstructed by the telephone pole until about 393 feet. Similarly, when stopped on the Warm Brook Road north approach, a west vehicle would be no longer visible until 263 feet.

The pavement surface on VT 313 is rated as fair in the area of the intersection (VTransparency, November 2016).

Looking West from the North Approach of Warm Brook Road

Looking West from the South Approach of Warm Brook Road

Speed Limit

The posted speed limit on VT 313 approaching the intersection is 50 mph. The speed limit approaching the intersection on Warm Brook Road is 35 mph.

The Technical Services Section of the VTrans Maintenance and Operation Bureau performed a speed study in October 2016 on VT 313. Speeds for traffic traveling on VT 313 were measured at a distance of approximately 500 feet from the intersection on both approaches.
The results showed that the 85th percentile speed of the traffic traveling in the westbound direction was 55 mph (meaning that 85% of the traffic travels at a speed of 55 mph or less). The 85th percentile speed of the traffic traveling in the eastbound direction was 53 mph.

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 45 and 54 mph for westbound traffic with seventy percent of all vehicles. In the eastbound direction, the range of the 10-mph pace was between 44 and 53 mph with a proportion of sixty-eight percent.

Back in May 2000, the Town of Arlington made a request to the Vermont Traffic Committee to reduce the speed limit on VT 313 east to 35 mph from VT 7a to a point at least 1500 feet east of the Warm Brook Road intersection. Based on the result of a speed study, this request was denied. East of the intersection, the 85th percentile speed was 55 mph and the 10-mile pace was 46-55 mph. West of the intersection, the 85th percentile was 52 mph and the 10-mile pace was 45-54 mph.

Traffic Volumes

The 2014 Average Annual Daily Traffic on VT 313 was 2900 vehicles per day east of the intersection and it was 1900 vehicles per day west of the intersection. On Warm Brook Road, north of the intersection, the Average Annual Daily Traffic was 1500 vehicles per day.

The latest 12-hour turning movement count was done in September 2016.

Seventy-one percent of the traffic traveling from the west on VT 313 is continuing through the intersection while twenty-one percent is turning left onto Warm Brook Road north and eight percent is turning right onto Warm Brook Road south.

From the east on VT 313, sixty percent of the traffic is continuing west on VT 313, while thirty percent is taking a right onto Warm Brook Road north and ten percent is continuing left onto Warm Brook Road south.

From north on Warm Brook Road, the majority of the traffic is making a left turn onto VT 313 (60%), while thirty-five percent is continuing straight, and twenty-six percent is taking a right onto VT 313.

From the south on Warm Brook Road, the majority of the traffic is crossing VT 313 to continue on Warm Brook Road north (59%), while twenty- nine percent of the traffic is turning right onto VT 313 and thirteen percent is turning left onto VT 313.

Traffic Control Devices

There are two sets of intersection signs when traveling eastbound on VT 313. The first set is located at mile point 7.00. This intersection sign is supplemented with a 40 mph advisory speed plaque and a 1000 feet distance plaque. The next intersection sign is located at mile point 7.055. This sign is supplemented with a Warm Brook Road street name plaque.

There is one intersection sign on VT 313 in the westbound direction. This sign is located at mile point 7.35. This sign is supplemented with a 40 mph advisory speed plaque.

There are a number of signs related to the westbound right turn lane. The first is at mile point 7.31 with the caption Right Lane For Right Turn. The second sign is a lane assignment sign at mile point 7.256 and the third is a Right Lane Must Turn Right sign at mile point 7.23.

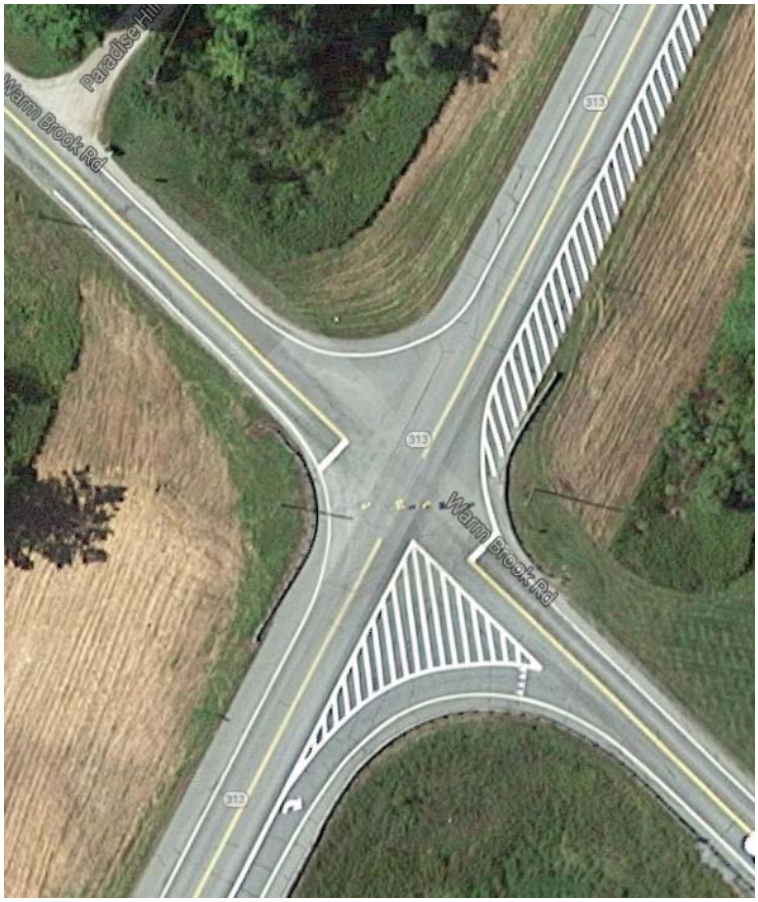
There are route markers in the northwest and the southeast corners of the intersection.

Stop signs are located on the Warm Brook Road approaches. These stops signs are supplemented with overhead beacons at the intersection.

Historically, there used to be red flashing beacons on the stop signs on Warm Brook Road (as far back as 1992[2]). The advance warning signs have also been modified over the years: Forty mph advisory speed plaques were added in 2000 to supplement the distance plaques below the warning intersection sign (distance plaques were originally installed in 1992). An additional warning sign with a name plaque was added west of the intersection for eastbound entering traffic in 2003.

[2] The archive plans for project STP 2223(1)S, completed in 2005, called for the removal of the red flashing beacons and their reinstallation on top of new stop sign assemblies. However, the 2008 Google Map Street View does not show the beacons above the stop signs.

There are extensive crosshatched markings at the intersection and along the westbound north shoulder. This treatment was introduced around the year 2000.



Past Projects

Work Order 92-476 was for the installation of 1000 feet distance plaque underneath the advance warning intersection signs. This same work order also increase the size of the north approach stop sign from 30 inches to 36 inches.

In fall 1999 or spring 2000, the district cut back the slope along VT 313 to improve sight distance for northbound Warm Brook Road Traffic looking west.

Work Order 03-775, which was completed in 2004, was for the installation of alternating overhead flashing beacons. Work Order 04-095 was for the installation of steel beam guardrail in the northwest and the southeast radii of the intersection to protect the utility poles for the overhead beacons.

Project Arlington-Sunderland STP 2223(1)S was for the resurfacing of VT 313. This project was completed in September 2005.

Future Projects

No upcoming projects were identified in VTransparency or QueryDB.

Crash History

The crash history was reviewed at the intersection for the five-year period covering the years 2011 to 2015. A total of seven crashes took place at this intersection during this period. Summary of crash narratives are provided at the end of this report along with a collision diagram.

Crashes at this intersection tend to be sever. Seventy-one percent of the crashes during the reporting period resulted in at least one person suffering an incapacitating injury or a non-incapacitating injury. This is consistent with the long term history at this intersection. Since 1992, seventy percent of the crashes at this intersection involved at least one injured person (seventy-nine percent if including the two fatalities at this intersection).

Overall, the principal crash pattern at this intersection is a right angle crash (86%). The prominent right angle pattern is between a through southbound vehicle and a through eastbound vehicle (43%).

In general, a review of the crash narratives indicates that vehicles that were traveling on VT313 were able to see a stopped vehicle on Warm Brook Road but that the vehicles stopped on Warm Brook Road did not see any oncoming traffic until they pulled out into the intersection.

Overall, crashes take place during daylight hours and most of them take place between 9:00 am and 1:00 pm. The vast majority of the crashes occurs between October and February (71%).

The observed crash frequency for this intersection for the 2011-2015 period is 1.40 crashes per year. Using the Highway Safety Manual Predictive Methods with a calibration factor of 1, the predicted crash frequency for this site was calculated to be 0.97 crashes per year. This intersection, therefore, has a higher number of crashes than similar intersections.

Current Local Concerns

Local representatives familiar with the road and the area mentioned that speed was a factor at this intersection for two reasons. First, VT 313 has wide shoulders and motorists are comfortable driving above the 50 mph speed limit. Second, many motorists are coming off US 7 and continue driving at a high speed of travel once on VT 313 given the open feel of VT 313.

It is believed that the motorists who are stopped waiting on Warm Brook Road are misjudging approaching speeds.

The partial visibility obstructions that are caused by the telephone poles at the intersection could be an issue at times.

During winter, it was confirmed that snowbanks were pushed back to the side and out of the way.

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: Occurrence of Sever Right Angle Crashes often due to Speeding

The major crash pattern at this intersection are right angle crashes. These crashes usually result in injuries. The 85th percentile speed is slightly above the speed limit (55 mph vs 50 mph). The corner sight distances to the west from the two Warm Brook Road approaches meet AASHTO standards, however, on the north approach, it could be reduced considerably by the telephone pole if somebody does not stop at the stop bar.

Safety Enhancements:

The strategies to improve safety at this intersection are aimed at reducing the approaching speeds on VT 313 and enhancing visibility to oncoming traffic.

Short to Mid Term (interim actions)

Relocate the destination boards on VT 313 westbound. Move the route markers on VT 313 eastbound farther down or farther away from the shoulder.

Gate post the intersection sign on VT 313 eastbound.

Add backplates to the overhead beacons to make the beacon indications more conspicuous.

Longer Term

Consider the construction of a roundabout. A roundabout would reduce the approaching speeds on VT 313, would facilitate crossing maneuvers and would reduce crash severity.

The percent crash reduction in overall crashes for converting an intersection from a two-way stop to a roundabout is 71%.

Using the 2011-2015 crash history, it was determined that the maximum project costs that could be justified from a crash reduction perspective to obtain a benefits-to-costs ratio (B/C ratio) of at least 1 was $2,370,000.

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 1.61 and indicates that the construction of a roundabout is justifiable in terms of safety.

Using a longer crash history period, from 2003 to 2015, it was determined that a roundabout is still justifiable as the maximum costs to obtain a B/C ratio of 1 is $2,750,000 and an estimated construction cost of $1,474,900 would result in a B/C ratio of 1.86.

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
Occurrence of Sever Right Angle Crashes due to Speeding	Relocate the destination boards on VT 313 westbound. Move the route markers on VT 313 eastbound farther down or farther away from the shoulder	VTrans (TSMO work order)	Low	Short-Mid	Low
	Gate post the intersection sign on VT 313 eastbound	VTrans (TSMO work order)		Short-Mid	Low
	Add backplates to the overhead beacons	VTrans (TSMO work order)	~10% crash reduction[3]	Short-Mid	Low
	Consider the construction of a roundabout	VTrans (AMP)	71% crash reduction[4]	Long	$1,474,900, B/C ratio=1.86 (Max costs $2,750,000 to get B/C =1)

[3] CMF # 1446, not rated. CMF was for the installation of backplates at traffic signals. May not be applicable to an overhead beacon.
[4] CMF # 229

COLLISION DIAGRAM

Key Number =

MUNICIPALITY: *Arlington* COUNTY:	FILE: *VT313Warm*
INTERSECTION: *VT 313*	CASE # :
PERIOD: *5* YEARS *5* MONTHS FROM *1/12/2011* TO *12/31/2015*	BY: DATE: *12/5/2016*

5

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

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
1	VT-313	7.18	7/21/2011	14:40	Cloudy	1	0	No Turns, Thru moves only, Broadside ^<	This is a two-vehicle crash in which a passenger in vehicle #2 suffered some injuries. Intersection has flashing yellow lights (flashing beacon). Traffic on Warm Brook Rd have stop sign and a flashing red light. Based on operator statements and debris in the road, it appeared the point of impact was in the eastbound lane of VT RT 313. Op#2 told officer he was driving east on VT RT 313 at 40-45 mph and was going through the intersection with Warm Brook Rd when another vehicle pulled out of Warm Brook Rd and struck his vehicle. Op#1 told officer he was driving south on Warm Brook Rd and came to a complete stop at the stop sign/flashing red light. Op#1 thought the road was clear so he pulled across VT Rt 313 and struck the other vehicle. According to the officer: this intersection is very wide and the visibility is poor. When approaching VT Rt 313 going south on Warm Brook Rd you have to pull closer to the intersection after stopping at the stop sign to get adequate visibility.

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									When Op#1 thought the road was clear he pulled out to cross VT Rt 313. V#2 was eastbound on VT RT 313 at this time and the passenger front end of V#2 struck the passenger rear end of V#1. This crash was caused by Op#1's failure to yield.

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
2	VT-313	7.19	11/13/2011	9:12	Cloudy	1	0	No Turns, Thru moves only, Broadside ^<	This two-vehicle crash occurred on VT RT 313 at the Warm Brook Rd intersection. The surface was dry. The weather was cloudy. Operator #1 and her two passengers were transported to SVMC. Operator #2 and his passenger were present and uninjured. Op#1 advised she was traveling south on Warm Brook Rd. OP#1 advised she came up upon the intersection, looked both ways, didn't see anything; Op #1 then attempted to cross VT RT 313 and struck V#2. Op#2 advised he saw V#1 come up to the stop sign, slow down and then proceed across VT RT 313 without stopping. OP#2 said he tried to avoid V#1 by steering away and was struck by V#1. Upon investigation, it was determined V#1 was traveling south on Warm Brook Rd, came up to the VT RT 313 intersection and proceeded across. V#1 collided with V#2 who was traveling west on VT RT 313. V#2 was attempting to take evasive action. The right front section of V#1 struck the right side of V#2. Op#1 sustained possible internal injuries and multiple

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									contusions. The two passengers in V#1 were uninjured. The entire front section and left side of V#2 received moderate damage. It is felt by officer the cause of this crash is the result of Op#1 failing to stop at a stop sign and proceed safely. Op#1 should have seen V#2 coming, stopped and waited, thus avoiding the accident.

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
3	VT-313	7.19	2/28/2013	18:06	Cloudy	1	0	No Turns, Thru moves only, Broadside ^<	Two vehicles involved. Op #1 said she was traveling north on Warm Brook Rd. and said she came to a stop at the intersection of warm Brook Rd. and Vt.Rt.313, before continuing north across the intersection. The operator of Veh #1 said she did not see any traffic approaching as she began to cross the intersection, but a vehicle appeared coming from west to east suddenly, and struck her vehicle. Operator of Veh #2 said he was traveling east on Vt. Rt. 313, when he said a vehicle pulled out of the intersection ahead of him. He stated that he tried to swerve to avoid a collision but was unable to. Veh #1 struck Veh #2 on the right side, forcing Vehicle #2 to spin and strike a set of Guardrails on the north side of Vt.Rt.313 causing damage to the left side of vehicle #2. Vehicle #2 then continued east on Vt. Rt. 313 for approximately 1/4 mile before stopping on the south side of Vt. Rt. 313. The operator of Veh #1 stated that when she began to cross the highway, vehicle#2 seemed to appear out of nowhere and she did

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									not have time to avoid the collision. The operator of Veh #2 stated that Veh #1 began to cross the highway as he was traveling east. He swerved his vehicle to the left to avoid the collision, but vehicle #1 continued into his lane of travel and struck his vehicle, sending him into a spin and impacting the guardrail on the opposite side of the highway. The operator of vehicle #2 then drove south on Vt. Rt.313 until he thought he was safely out of the way of oncoming traffic. Both Operators were transported to SWVMC.

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
4	VT-313	7.19	4/22/2013	14:26	Cloudy	1	0	No Turns, Thru moves only, Broadside ^<	Two-car crash. Warm Brook Rd. has STOP and flashing beacon. Posted speed limit of 50 mph. At the time of the crash, the roadway was dry and clear. Op #1 advised she was traveling south on Warm brook Rd. when she stopped at the intersection with VT RT 313 East. Op #1 advised she let a vehicle pass and then proceeded straight through the intersection. Op #1 advised she got into the intersection and observed Veh #2 heading eastbound on VT RT 313 East. Op #1 advised she hit the gas in an attempt to avoid Veh#2, but it was too late. Op #1 advised she was traveling approximately 20 mph at the time of impact. Op #1 advised she was uninjured. Op#2 advised he was traveling east on VT RT 313 East at approximately 50 mph. He advised he observed Veh #1 stopped at the north side of the intersection and another vehicle stopped at the south side of the intersection. Op#2 advised, as he got closer to the intersection the Veh #1 attempted to cross the roadway in front of him. Op#2

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									advised he tried to stop before hitting Veh #1. Op#2 advised he and his passenger were wearing their seatbelts at the time of the crash. Witness #1 advised she was stopped at the south side of the intersection on Warm Brook Rd. Witness #1 advised Veh #1 was stopped at the north side of Warm brook Rd. when Veh #1 pulled out in front of Veh #2 which was traveling east on VT RT 313 East. Investigation: Veh #1 was traveling sb on Warm brook Rd. when Veh #1 came a stop at the stop light and sign. Veh #1 then proceeded into the intersection with VT RT 313 East into the path of Veh #2, which was traveling east on VT RT 313 East. Op #1 was not able to stop before colliding with Veh #2. After contact, Veh #1 spun counter clockwise now facing west. Veh #2 came to rest facing east. Veh #1 received contact damage to the entire passenger side of the vehicle. Veh #2 received contact damage to the entire front end and hood areas. Veh #2's front driver's side airbag was deployed. All

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									parties involved in the crash refused to be transported to the hospital. Op #2 received mine cut on the back of both hands from the impact of the airbag. Veh #2 passenger had a minor cut on the bridge of her nose. Conclusion: It was determined by this Officer that the cause of the crash was that Op #1 failing to yield right of way to Veh #2.

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
5	VT-313	7.19	2/8/2014	10:10	Clear	1	0	Single Vehicle Crash	Single vehicle CRASH. THE ROAD WAY WAS DRY. THERE ARE WHITE FOG LINES BORDERING BOTH ROAD WAYS WHICH WERE PARTIALLY COVERED BY RECENT SNOW. A THE 313 ROADS HAVE A REDUCED TO 40 MPH ZONE SIGN AND FLASHING OVERHEAD YELLOW LIGHT. THE SKY WAS MOSTLY SUNNY, THE ROAD WAY WAS DRY AND THE AIR TEMPERATURE WAS ABOUT 16 DEGREES. VEHICLE #1 WAS LSA (Leaving the Scene of an Accident). VEHICLE #2 WAS IN A POSITION OF UNCONTROLLED REST ON WARM BROOK ROAD FACING EAST ON THE NORTH BOUND LANE INTO THE GUARD RAIL. THE OPERATOR AND OCCUPANT OF VEHICLE #2 WERE OUT OF THE VEHICLE WHEN I ARRIVED ON AT THE SCENE. AIR BAGS HAD DEPLOYED AND BOTH WERE EXHIBITING WHIPLASH TYPE INJURIES AND BEING

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									ATTENDED TO BY RESCUE PERSONNEL. (NOTE: No witness statements nor LSA Operator #1 written statement and the officer did not include Op #2 nor Passenger #2 statement in this electronic report. Officer must have provided hard copies to his/her supervisor and did not scan them to the attached to the electronic crash report.)

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
6	VT-313	7.19	10/6/2014	11:24	Clear	1	0	Left Turn and Thru, Broadside v<--	Three-car motor vehicle crash with injuries. This section of roadway is a posted 50 MPH speed zone. Warm Brooke Road, where it intersects with VT RT 313, is a paved roadway that travels north and south. There is a stop sign posted for southbound traffic. The north and southbound lanes are marked with yellow and white lines. The weather at the time of the crash was clear and sunny and the roadway was dry. Operator #1 advised she was heading east bound on VT RT 313 and stopped at the intersection. Operator #1 turned to the north at approximately 5 MPH. Operator #1 felt the collision with Vehicle #2 but does not remember anything else. Operator #2 advised he was heading west bound on VT RT 313 at approximately 45 MPH. Operator #2 advised he saw Vehicle #1 stopped at the intersection. Operator #2 said as he approached the intersection, Vehicle #1 turned in front of his vehicle, causing a collision. Operator #2 advised he tried to stop but he was too close to avoid

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									the collision. Operator #3 advised she was stopped on Warm Brooke Road at the intersection facing south. Operator #3 said she saw Vehicle #1 stopped and turn in front of Vehicle #2, causing the collision. Vehicle #1 spun and the rear-end of Vehicle #1 hit Operator #3's front bumper. Vehicle #1 was stopped on VT RT 313 at the intersection facing east. Vehicle #3 was stopped on Warm Brooke Road facing south. Vehicle #2 was heading west bound toward the intersection on VT RT 313 at approximately 45 MPH. Vehicle #1 Turned north, toward Warming Brooke Road, in front of Vehicle #2 causing a collision. This collision caused contact between Vehicle #2's front end and Vehicle #1's passenger side. This contact caused damage to Vehicle #1's passenger side doors, rocker panel and Vehicle #2's front bumper, hood, headlights, grill, front wheels and axle. As a result of the collision, Vehicle #1's rear end spun clockwise toward Vehicle #2. Vehicle #1's rear end scraped Vehicle #3's front end. This scrape

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									caused contact between Vehicle #1's rear bumper and Vehicle# 2's front bumper. This contact caused minor damage to Vehicle #1's rear bumper and Vehicle #2 front bumper. All operators reported wearing their seat belts at the time of this crash. Operator #1 received possible head injuries from contact made between her head and the interior of the vehicle. Operator #1 was transported to SVMC. Vehicle #1 and Vehicle #2 airbags were deployed during this crash. Officer's investigation determined Operator #1 is at fault for not yielding to oncoming traffic.

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
7	VT-313	7.19	12/28/2014	12:37	Clear	1	0	No Turns, Thru moves only, Broadside ^<	Two-car motor vehicle crash with injuries. Vehicle #1 off the east side of the intersection on Route 313, facing south. Vehicle #2 next to Vehicle #1 on the south side of the intersection, facing east. Vermont Route 313, where this crash occurred is a paved roadway that travels east and west. The east and westbound lanes are marked with yellow and white lines. This section of roadway is a posted 50 MPH speed zone. Warm Brooke Road, where it intersects with VT RT 313, is a paved roadway that travels north and south. There is a stop sign posted for southbound traffic. The north and southbound lanes are marked with yellow and white lines. The weather at the time of the crash was clear and sunny. The roadway was dry. Operator #1 advised she was heading south bound on Warm Brooke Road and stopped at the intersection. Operator #1 turned entered the intersection at approximately 5 MPH. Operator #1 felt the collision with Vehicle #2 but does not remember anything else as she never saw

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									Vehicle #2. Operator #2 advised he was heading east bound on VT RT 313 at approximately 40 MPH. Operator #2 advised he saw Vehicle #1 stopped at the intersection. Operator #2 said as he approached the intersection, Vehicle #1 turned in front of his vehicle, causing a collision. Operator #2 advised he tried to stop but he was too close to avoid the collision. Vehicle #1 was stopped on Warm Brooke Road at the intersection facing south. Vehicle #2 was heading east bound toward the intersection on VT RT 313 at approximately 40 MPH. Vehicle #1 entered the intersection, and drove in front of Vehicle #2 causing a collision. This collision caused contact between Vehicle #2's front end and driver's side, with Vehicle #1's front end. This contact caused damage to Vehicle #1's entire front end. Vehicle #2's sustained damage to the front bumper, driver's doors, and rear fender. As a result of the collision, Vehicle #1 spun 180 degrees before coming to its final position of uncontrolled

Crash Number	Road	Marker	Date	Time	Weather	Injuries	Fatalities	Type	Description
									rest. Vehicle#1 and Vehicle #2 were deemed inoperable. Both operators reported wearing their seat belts at the time of this crash. Operator #1 received possible head injuries from contact made between her head and the interior of the vehicle. Operator #1 was transported to Southern Vermont Medical Center. Vehicle #1 and Vehicle #2 airbags were deployed during this crash. Officer determined Operator #1 at fault for not yielding to oncoming traffic.