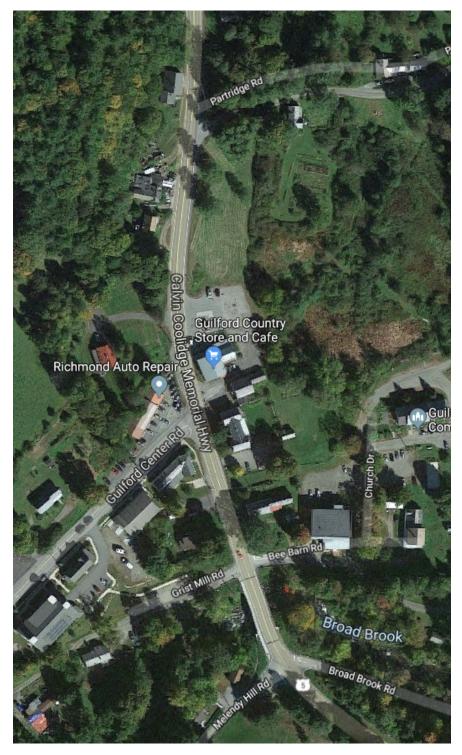
Road Safety Audit Review

Town:	Guilford	Date Reviewed:	June 13, 2019
Route:	US 5	Mile points:	5.80 – 6.57

### Location Map



Note: THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C. 409  $1 \mbox{ of } 54$ 

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.

Figure 1 - Road Safety Audit Process Commencement Meeting Site Inspection Post Inspection Meeting Completion Meeting Audit Report Written Response Follow Up Report

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

Road Safety Audit Review

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.

### Site for the RSAR

The location of this RSAR is the section of US 5 between mile point 5.8 just below Whipple Drive to about mile point 6.7 just north of Paul's Road.

Of particular interest is the area between Partridge Road and Broad Brook Road (between mile points 6.38 and 6.18). This area encompasses most of the Algiers Village Center on US 5.

### Purpose of the RSAR

This RSAR was conducted at the request of the Town of Guilford. Over the past year and a half, the Guilford Selectboard has heard increasingly more reports from residents and local business owners about safety issues within this corridor. These complaints include, but are not limited to the following:

- Speeding through the village
- Cars exiting the Guilford Country Store and Woodcock building with an obstructed view of oncoming traffic
- Lack of safe space for pedestrians and bicyclists and lack of marked crosswalks in any direction
- Lack of handicap access to either side of VT Route 5
- Desired accommodation for completion of the Complete Streets program
- Concerns for general pedestrian and vehicular safety and its potential impacts on future growth and development of the village center

It was also mentioned during the commencement meeting that parking on the westbound shoulder near Guilford Center Road was an issue as is the poor visibility at Broad Brook Road for traffic looking south to make a left turn.

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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 might 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:

Tyler Birchmore,	Dist 2, VTrans
Megan Brunk,	Dist 2, VTrans
Jon Kaplan,	Bike & Ped, VTrans
Marcos Miller,	Traffic Ops, VTrans
Bill Jerkins,	SHSO, VTrans

Christopher Buckley, VSP

Sheila Morse,	Selectboard Chair, Town of Guilford
Peder Rude,	Town Administrator, Town of Guilford
Richard Wizansky,	Selectboard, Town of Guilford
Dan Zumbruski,	Road Commissioner, Town of Guilford

Chris Campany Windham Regional Commission

Laura Lawson Tucker, Resident

#### Information Reviewed

#### Land Use

The land use in the section of US 5 between Partridge Road and Broad Brook Road is a mix of residential and commercial. The Guilford Country Store is located just north of the Guilford Center Road.

#### <u>Geometry</u>

US 5 is a state route that runs south to north.

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There are four main intersections within the area of Algiers Village Center, namely, the intersection of US 5, Broad Brook and Melendy Hill Road; the intersection of Grist Mill Road, Bee Barn Road; the intersection of US 5 and Guilford Center Road and the intersection of US 5 and Partridge Road.

According to recent paving plans (STP 2707(1)), US 5 in this corridor has eleven-foot lanes with three and a half-foot shoulder.

Bridge 5 over the Broad Brook, which is located just north of the Melendy Hill Road intersection was reconstructed in 2017. It now has two, eleven-foot travel lanes and four-foot shoulders along with a five-foot six inches sidewalk on the west side (the previous bridge was twenty-one feet wide with no shoulders).

Just south of Bridge 5, there is a curve with a 350-foot radius at Melendy Hill Road.

Corner sight distances and stopping sight distances at selected locations are shown in the table below.

Location	Corner Sight	Stopping Sight Distance			
Location	Looking Left	NB	SB		
Guilford Center Rd	equal or slightly be in both dire	580 ft +/-	900 ft +/-		
Drive at Country Store	about equal to NB approach SSD on US-5	about the same looking right with SB SSD	190 ft +/-	650 ft min	
Broad Brook Rd	about equal to NB approach SSD		240 ft +/-		

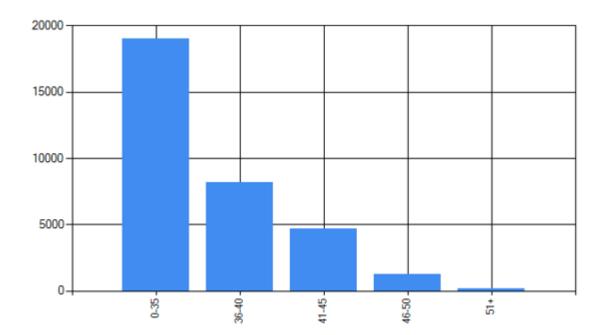
#### <u>Speed</u>

The speed limit on US 5 from Whipple Drive up to about mile point 6.1 is 40 mph. The speed limit then becomes 35 mph and remains 35 mph past Paul's Road and up to the town line with the Town of Brattleboro.

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The Town of Guilford provided speed data for this road safety audit from a radar speed cart that was placed on US 5 by the Vermont State Police between November 10 and 29, 2017, to capture speeds from vehicles traveling northbound towards Guilford Center Road.

The data shows that the speed that 85% of the traffic travels at in the northbound direction (85th percentile speed) was 41 mph and that the highest speed recorded was 78 mph.



The graph below shows the distribution of vehicles by speed ranges.

#### Traffic Data

The 2017 Average Annual Daily Traffic on US 5 south of the Guilford Center Road intersection was 2800 vehicles per day and it was 5700 vehicles per day north of the same intersection.

A twelve-hour turning movement count done in June 2017 is available for the intersection with Guilford Center Road (see Appendix B for the am and pm peak hour diagrams). The count shows that during the morning peak, two-thirds of the traffic is traveling north, either by continuing northbound on US 5 through the intersection (109 vehicles) or by making a left onto US 5 from Guilford Center Road (142 vehicles). The opposite is also true in the afternoon peak

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with motorists either continuing on US 5 through the intersection (125 vehicles) or making a right turn onto Guilford Center Road from US 5 southbound (140 vehicles).

The count also shows that, during the twelve-hour period, there were thirteen pedestrian crossing movements at the Guilford Center Road intersection.

According to the scoping report for Guilford BF 0113(68), US 5 north through the Village of Algiers is a frequently traveled route for cyclist as it connects many who travel from Massachusetts to either Brattleboro or west into the hills of Guilford.

#### Traffic Control Devices

Pictures of the existing signs can be viewed in Appendix A.

A pedestrian zone is bounded with an advance pedestrian sign and a  $\frac{1}{2}$  mile plaque at mile point 5.95 and at mile point 6.51.

Motorists are warned of the curve at the Melendy Hill Road intersection by a modified turn sign with a 25 mph advisory speed plaque in advance of the curve in both directions.

There is a Watch for Turning Vehicles sign just before (south) the bridge and the Melendy Hill Road intersection.

There is a no parking zone in front of the Guilford Country Store on the east side of US 5 between mile points 6.28 and 6.32.

Southbound, the intersection with Partridge Road is warned in advance with a side road sign.

#### Paving Surface

The pavement surface rating as rated in VTransparency as of 06/05/2019 for various sections of US 5 is shown below. For every section, the year of last work was identified as 2011. Note, however, that the surface in the area of Bridge 5 was repaved as part of the bridge reconstruction in 2017.

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From	То	Rating
Whipple Drive	Melendy Hill Road	Good
Melendy Hill Road	Above Partridge Road	Fair
Above Partridge Road	Paul's Road	Good

#### <u>Lighting</u>

There is no street lighting in this section of US 5. There is a luminaire in the parking lot of the Guilford County Store.

#### Past Projects

STP 2707(1) was for the resurfacing of US 5. This project was completed in 2011 and also included the installation of new signs.

Guilford BF 0113(68) was for the replacement of Bridge 5 on US 5 over Broad Brook. The project was substantially completed on August 18, 2017. The project increased the width of the bridge, including a new sidewalk, and increased its length by about thirty feet (from the original fifty-three foot-span). The project also realigned US 5 on the south side to correct deficiencies in horizontal alignment. In terms of traffic signs, the project removed the two large arrows in the curve at Melendy Hill Road as well as the object markers at the bridge.

#### Future Projects

There are no known VTrans upcoming projects within the next three years.

#### Crash History

The crash data was reviewed for the period 2014 to 2018.

There were about seventeen crashes in the section of the road safety audit during this period.

It should be noted that the crashes that took place at/near Bridge 5 happened prior to the construction of the new bridge (in 2017) when the bridge was narrow and the US 5 approach from the south had a tight curve.

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A concentration of crashes can be observed at the Guilford Center Road intersection (six cases). Of these crashes, the main crash pattern is a crash between a vehicle that was traveling southbound and a vehicle that was making a left turn onto US 5 northbound. There were three crashes of this type with potentially a fourth one (however, the direction that the turning vehicle was heading to was not mentioned in the crash report for this fourth crash).

The crash data is further summarized in Appendix C.

#### Identified Safety Concerns

The areas of safety concern identified by the audit team along with the potential safety enhancements suggested by the team are summarized in the table below. These concerns and remedial actions are further discussed in the section following the table.

In the table, the entities listed under the column called "Potential Responsibility" are suggested groups that could possibly implement some of the countermeasures.

In formulating suggested remedial actions, time frames and costs were qualified as follows: Short term, < 1 year; mid-term 1-3 years; long term > 3 years; low cost, < \$15,000; medium cost, \$15,001 - \$75,000; high cost, > \$ 75,001.

The following safety concerns were identified by the audit team (the concerns are not necessarily listed in order of importance):

- 1. Traveling speeds could be high at times given the village context
- Cars exiting the Guilford Country Store and Woodcock building have an obstructed view of oncoming northbound traffic
- 3. Lack of safe space for pedestrians
- 4. Limited corner and stopping sight distance at Broad Brook Road

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- 5. Reduced view of the stop sign at Been Barn Road
- Vehicles are parking on the westbound shoulder in the northwest quadrant of the Guilford Center Road intersection

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Potential Safety Enhancements Summary Table												
	Safety	Concer	'ns				Potential Responsibility	Safety Payoff <sup>1</sup>	Time Frame	Cost		
Safety Enhancement	1	2	3	4	5	6						
Review the speed limit on US 5	x	х					Town (to make the request via letter <sup>2</sup> )		Now to Short	Low		
Manage speeds on US 5 approaching the village using a speed cart or a speed radar feedback sign	x	x					Town (with the assistance of the VSP if using a speed cart)	45-73% reduction # of vehicles traveling 5 and 10 mph over the speed limit <sup>3</sup>	Now to Short	Low		
Consider relocating the "Open" flag		х					Town or the District could initiate a conversation with the owner		Now to Short	Low		

<sup>&</sup>lt;sup>1</sup> The CMF Clearinghouse explains that the star quality rating indicates the quality or confidence in the results of the study producing the CMF. The star rating is based on a scale (1 to 5), where a 5 indicates the highest or most reliable rating. The review process considers five categories for each study: study design, sample size, standard error, potential bias, and data source.

<sup>&</sup>lt;sup>2</sup> To initiate this process, the Town must make a request via a letter to the Traffic Committee Coordinator, Ian Degutis, Vermont Traffic Committee Coordinator, VTrans, Highway Division, Operations & Safety Bureau, 2178 Airport Road Berlin, VT 05641

<sup>&</sup>lt;sup>3</sup> <u>https://safety.fhwa.dot.gov/speedmgt/ref\_mats/rural\_transition\_speed\_zones.cfm</u>

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Potential Safety Enhancements Summary Table											
	Safety	Conce	rns				Potential Responsibility	Safety Payoff <sup>1</sup>	Time Frame	Cost	
Safety Enhancement	1	2	3	4	5	6					
Cut brush as necessary (EB shoulder)		x	х				VTrans District 2		Now	Low	
Crosshatch the shoulder and install no parking stencils (and possibly flexible delineators) within the Country Store no parking zone		x					VTrans Traffic Ops via Work Order		Short	Low	
Consider curbing to better define the access at the Country Store		x					VTrans District 2		Mid	Med	

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Potential Safety Enhancements Summary Table												
	Safety	Conce	'ns				Potential Responsibility	Safety Payoff <sup>1</sup>	Time Frame	Cost		
Safety Enhancement	1	2	3	4	5	6						
Review signage and tighten the existing pedestrian zone			x				VTrans Traffic Ops via Work Order		Short	Low		
Conduct a pedestrian facility study to determine how sidewalks & crosswalks could be incorporated <sup>4</sup>			x				Town (with assistance of WRC)		Short	Med		
Cut brush, or alternatively, move the stop sign (at Been Barn Road)					х		VTrans Traffic Ops via Work Order		Now	Low		

<sup>&</sup>lt;sup>4</sup> VTrans bike/ped grants could be used for this purpose. These grants are available every year and the application deadline is usually in June (link to the application web page: <u>https://vtrans.vermont.gov/highway/local-projects/bike-ped</u>)

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Potential Safety Enhancements Summary Table													
	Safety	Concei	'ns				Potential Responsibility	Safety Payoff <sup>1</sup>	Time Frame	Cost			
Safety Enhancement	1	2	3	4	5	6							
Consider making the Westbound Shoulder in the Northwest Quadrant of the Guilford Center Road Int a no parking zone						Х	Town (to make the request via letter⁵)		Now	Low			

<sup>&</sup>lt;sup>5</sup> To initiate this process, the Town must make a request via a letter to the Traffic Committee Coordinator, Ian Degutis, Vermont Traffic Committee Coordinator, VTrans, Highway Division, Operations & Safety Bureau, 2178 Airport Road Berlin, VT 05641

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#### Concern 1: Traveling Speeds could be High at Times Given the Village Context

The current posted speed limit is 35 mph. The 85th percentile speed in the southbound direction is 40 mph.

It was reported by the Town that pedestrians were walking on US 5 along the shoulders and that pedestrians were also crossing US 5, especially between Guilford Center Road/Richmond Auto and the Guilford Country Store. It is known from research that the risk of serious injury to pedestrians increases with higher travel speeds.

It is was determined that the available northbound stopping sight distance (as well as the corner sight distance when looking to the left) was 190 feet at the Guilford Country Store and 240 feet at Broad Brook Road. The AASHTO Green Book recommends 305 feet of stopping sight distance for a travel speed of 40 mph and 385 feet of corner sight distance for a vehicle making a right turn from a stopped condition.

Safety Enhancements:

Now to Short Term

- Review the speed limit on US 5 and the locations of the speed transitions. A 30 mph speed limit may be appropriate in the village area (to initiate this process, the Town must make a request via a letter to the Traffic Committee Coordinator, Ian Degutis<sup>6</sup>).
- Manage speeds on US 5 approaching the village by using a speed cart or a permanent speed radar feedback sign (the Town will need to get a Section 1111 permit from VTrans in order to place the device within the ROW of the state highway).

<sup>&</sup>lt;sup>6</sup> Ian Degutis, Vermont Traffic Committee Coordinator, VTrans, Highway Division, Operations & Safety Bureau, 2178 Airport Road Berlin, VT 05641

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Concern 2: Cars Exiting the Guilford Country Store Have an Obstructed View of Oncoming Northbound Traffic

It is was determined that the available northbound stopping sight distance (as well as the corner sight distance when looking to the left) was 190 feet at the Guilford Country Store.

The corner of the building is the primary limiting factor. However, the "Open" flag and low branches also contribute to the issue as shown in the picture below. In addition, it was reported that vehicles that parked in the no parking area added to the problem.



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Safety Enhancements:

Now to Short Term

- Consider relocating the "Open" flag (the Town or the District could initiate a conversation with the owner about the possibility of relocating the flag).
- Cut brush as necessary to improve visibility of oncoming traffic.

Short Term

• Crosshatch the shoulder and install no parking stencils within the no parking zone (see below for an example).



A consideration (or next step) could also be to install flexible delineators as shown in this other example.



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Mid Term

• Consider curbing to better define the access at the store and eliminate the no parking problem.



#### Concern 3: Lack of Safe Space for Pedestrians

The Town mentioned that pedestrians were crossing between the Guilford Country Store and Guilford Center Road and Richmond Auto Repair.

There is a private sidewalk on Guilford Center Road that continues south on US 5 for a distance of about 75 feet. There is also a sidewalk on the bridge, but with no further connections.

Low hanging branches were observed over the eastbound shoulder.



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Safety Enhancements:

Now to Short Term

 Conduct a pedestrian facility study on US 5 to determine how sidewalks and other pedestrian amenities including crosswalks could be added. VTrans bike/ped grants could be used for this purpose. These grants are available every year and the application deadline is usually in June (link to the application web page: <u>https://vtrans.vermont.gov/highway/local-projects/bike-ped</u>).

#### Short Term

• Cut brush and branches over the eastbound shoulder



• Review signage and tighten the existing pedestrian zone by bringing in closer the pedestrian warning signs.

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#### Concern 4: Limited corner and stopping sight distance at Broad Brook Road

The available northbound stopping sight distance (as well as the corner sight distance when looking to the left) was measured at 240 feet and is below the AASHTO Green Book recommended stopping sight distance of 305 feet for a travel speed of 40 mph.

The existing turn sign in the northbound direction before the bridge and the intersection is a modified turn sign that includes a side road that represent Bee Barn Road. In addition, there is a 25 mph advisory speed plaque for the turn (the recommended stopping sight distance at 25 mph is 155 feet, and there is enough stopping sight distance available for this advisory speed).

Safety Enhancements:

Short Term

None<sup>7</sup>

<sup>&</sup>lt;sup>7</sup> Prohibiting left turns from Broad Brook Rd was discussed by the audit team, but it was felt that doing this would create other issues, such as turning around.

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#### Concern 5: The Stop Sign at Been Barn Road is not Visible

Branches in front of the stop sign are concealing its view as illustrated in the picture.

Safety Enhancements:

Short Term

 Cut brush. Alternatively, move the stop sign in front of the tree (leave the existing street name sign at its current place.



Concern 6:Vehicles are Parking on the Westbound Shoulder in the NorthwestQuadrant of the Guilford Center Road Intersection

The Town reported that it was common for vehicles to park on the westbound shoulder of US 5. When this happens, the corner sight distance at Guilford Center Road is reduced.

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Safety Enhancements:

Now to Short Term

• Consider making this area a no parking zone. To initiate this process, the Town must make a request via a letter to the Traffic Committee Coordinator, Ian Degutis<sup>8</sup>.

<sup>&</sup>lt;sup>8</sup> Ian Degutis, Vermont Traffic Committee Coordinator, VTrans, Highway Division, Operations & Safety Bureau, 2178 Airport Road Berlin, VT 05641

### Appendix A

Existing Signage (July 2018 Mapillary video log)



















SB

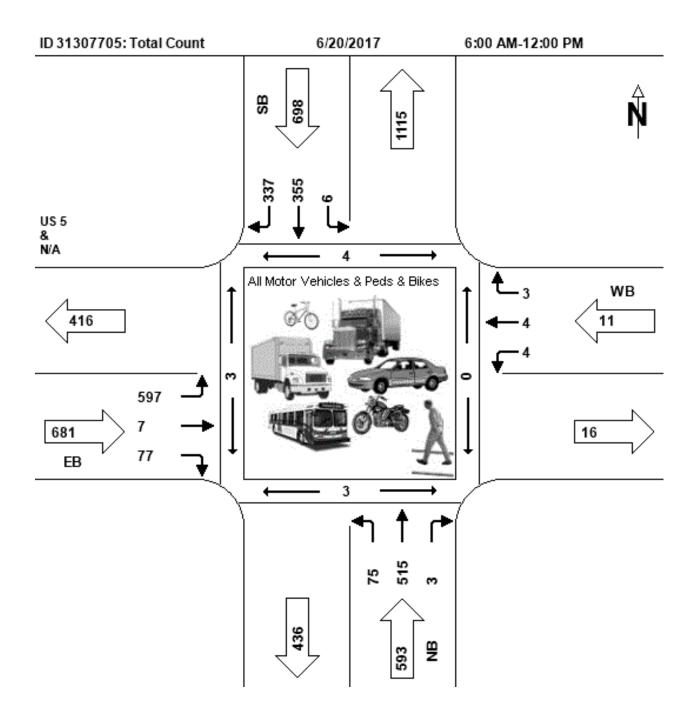


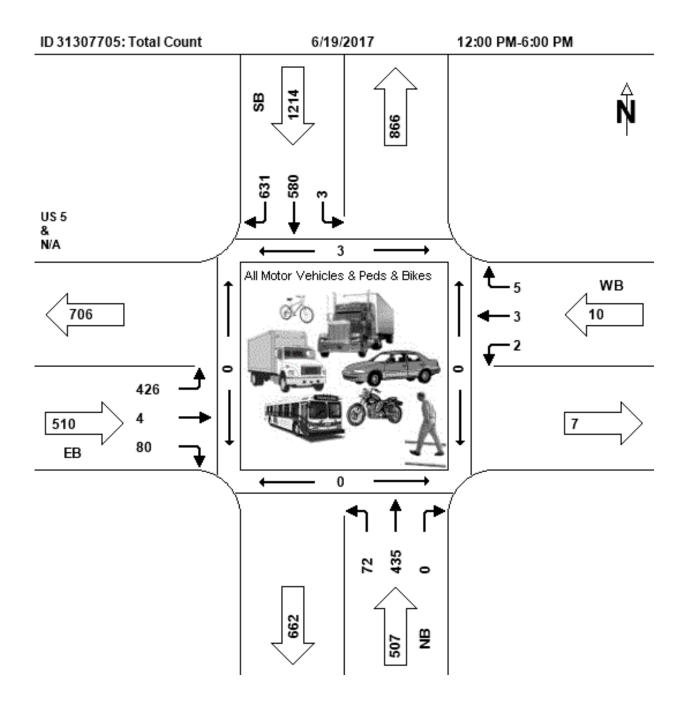




### Appendix B

### 2017 Peak Hour Turning Movement Counts

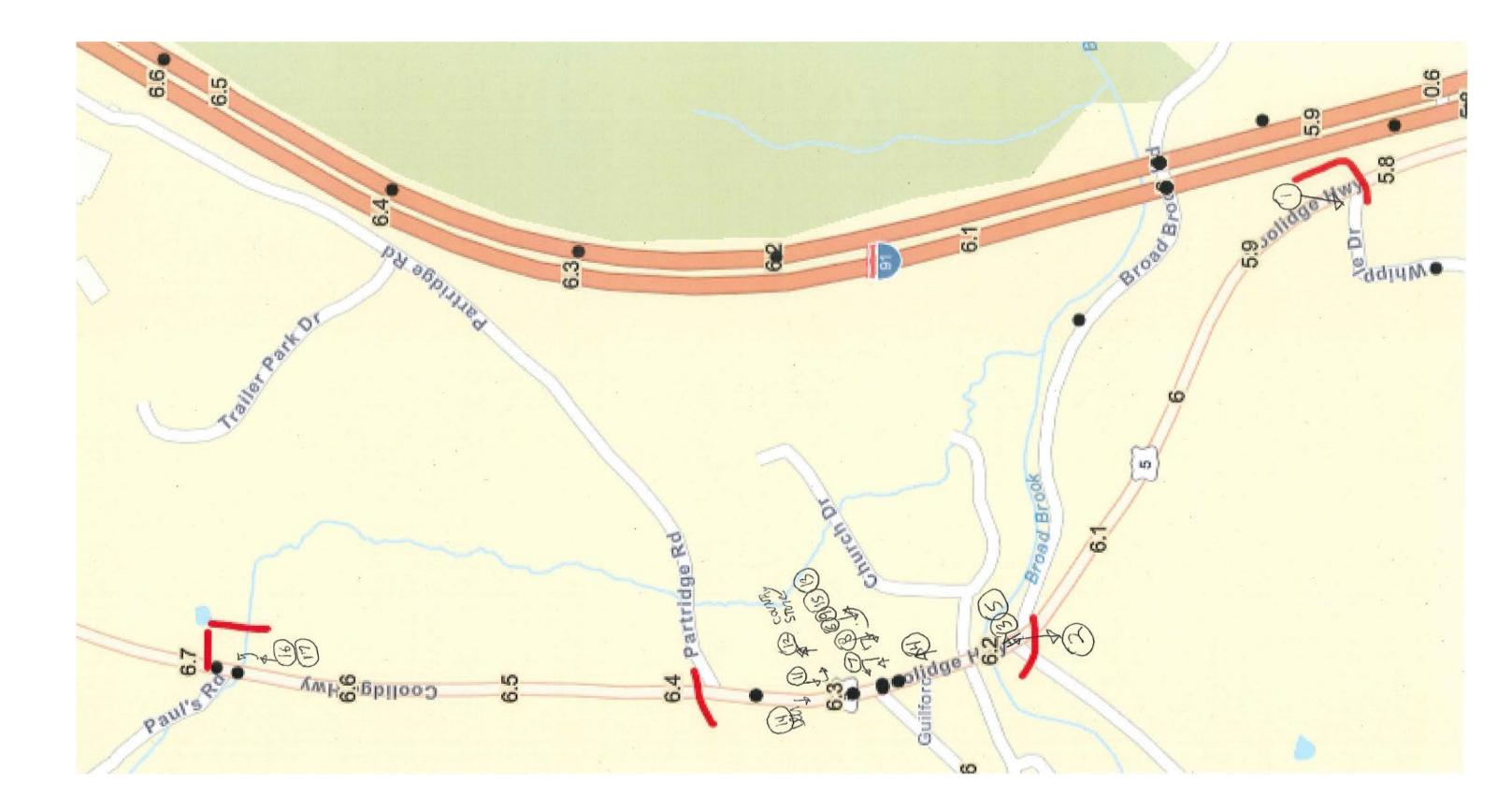




Appendix C

Crash Data (2014-2018)

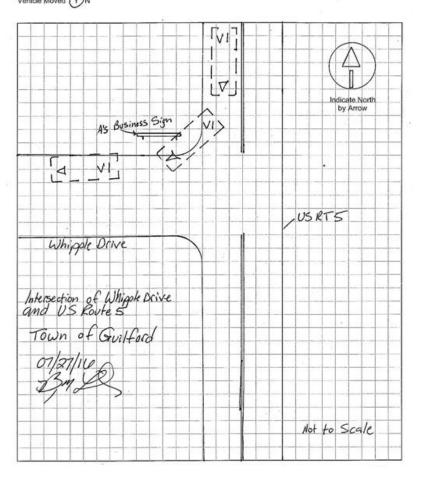
2 1	16D000613 15D203388	US-5	Guilford		††			Contributing Circumstances	Direction Of Collision	Injuries	of Fatalities
2 1		US-5	Guilford			9:45					
	15D203388			5.82	7/27/2016	AM	Clear	Failure to keep in proper lane, Inattention	Failure to keep in proper lane, InattentionSingle Vehicle Crash		0
	15D203388						Sleet- Hail				
	130203300	US-5	Guilford	6 1 1	12/20/2015	11:56	(Freezing Rain	Swerving or avoiding due to wind- slippery surface- vehicle- object- non-motorist in roadway etc	Single Vehicle Crach	0	0
3 1		03-5	Guillord	6.11	12/29/2015	AM 12:40	or Drizzle)	venicie- object- non-motorist in roadway etc	Single Vehicle Crash	0	0
	14D202548	US-5	Guilford	6.19	9/2/2014	PM	Cloudy		Opp Direction Sideswipe	0	0
						12:54					
4 1	15D200459	US-5	Guilford	6.21	2/11/2015	AM	Clear	Inattention	Single Vehicle Crash	0	0
						5:31					
5 1	16D200701	US-5	Guilford	6.22	3/23/2016	PM	Clear	Driving too fast for conditions- No improper driving	Opp Direction Sideswipe	0	0
6 1	100104520	US-5	Guilford	6.26	7/20/2019	2:27 PM	Clear	Failed to viold right of way	Left Turn and Thru- Broadside v<	0	0
	18B104530	03-5	Guillord	6.26	7/29/2018	12:58	Clear	Failed to yield right of way	Left furn and fillu- Broadside v<	0	0
7 1	14D200250	US-5	Guilford	6.27	1/19/2014	PM	Clear	Followed too closely- No improper driving	Rear End	0	0
				0.27		7:18	0.001		Right Turn and Thru- Angle Broadside>^-		
8 1	14D202253	US-5	Guilford	6.27	8/5/2014	PM	Cloudy	Failed to yield right of way- No improper driving	-	0	0
						11:37		Inattention- Failed to yield right of way- No improper			
9 1	18B107630	US-5	Guilford	6.27	12/20/2018	AM	Clear	driving	Left Turn and Thru- Broadside v<	0	0
	455202024			6.20	44/47/2045	6:37				0	
10 1	15D203024	US-5	Guilford	6.28	11/17/2015	AM 3:31	[No Weather]		[No Direction of Collision]	0	0
11 1	15D201233	US-5	Guilford	6.29	5/10/2015	5.51 PM	Clear	No improper driving- Followed too closely- Inattention	Rear-to-rear	0	0
	150201255	055	Guinoru	0.25	5/10/2015	1:57	Cicai			0	0
12 1	17B100983	US-5	Guilford	6.29	2/18/2017	PM	Clear	Inattention- Visibility obstructed- No improper driving	No Turns- Thru moves only- Broadside ^<	0	0
						12:56		Failed to yield right of way- Inattention- Other Activity-			
13 1	17B105733	US-5	Guilford	6.29	9/4/2017	PM	Clear	Electronic Device	Left Turn and Thru- Head On ^v	0	0
						6:35					
14 1	18B100076	US-5	Guilford	6.35	1/3/2018	PM	[No Weather]		[No Direction of Collision]	0	0
						4:05	Fac. 14. 1				
15 1	18B100126	US-5	Guilford	6.35	1/5/2018	PM	[No Weather]	Hit Deer	Single Vehicle Crash	0	0
16 1	16D201374	US-5	Guilford	6.66	6/4/2016	12:26 PM	Clear	Inattention- No improper driving	Rear End	0	0
	100201374	03-5	Guinoru	0.00	0/4/2010	8:29	Clear			0	0
17 1	18B103057	US-5	Guilford	6.67	5/25/2018	AM	Clear	Followed too closely- Inattention	Rear End	0	0
				-				Swerving or avoiding due to wind- slippery surface-		-	
						9:25		vehicle- object- non-motorist in roadway etc- Failure to			
18 1	14D200039	US-5	Guilford	6.68	1/3/2014	AM	Clear	keep in proper lane	Single Vehicle Crash	0	0
	100001010			6.60	E /24 /2016	1:14				<u> </u>	
19 1	16D201319	US-5	Guilford	6.68	5/31/2016	AM	[No Weather]	Hit Deer	Single Vehicle Crash	0	0
20 1	14D200953	US-5	Guilford	6.69	4/1/2014	6:36 AM	Clear	No improper driving	Single Vehicle Crash	1	0



#### 16D000613 1

Incident Number \_/6D00613

Crash Diagram

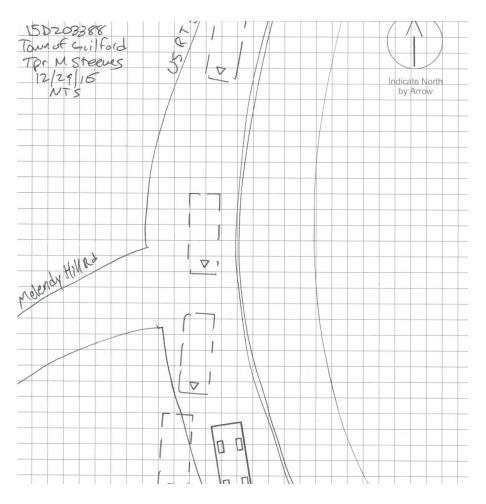


On July 27, 2016 at approximately 0945 hours, a one car motor vehicle crash located on US Route 5 at the intersection of Whipple Drive. The weather at the time consisted of clear skies and the gravel roadway was clear and dry.

Statements- Operator # 1 advised he was traveling southbound on US Route 5 at approximately 5 miles per hour and turned onto Whipple Drive, so he could have a tire changed on his tractor trailer truck. Operator # 1 advised he did not believe he had crashed into anything.

Investigation- Investigation revealed that Vehicle # 1 was traveling southbound on US Route 5 and turned onto the Whipple Drive, when Operator # 1 did not turn wide enough onto Whipple Dr. to clear the A's Auto business sign at the intersection, completely destroying the sign. Vehicle # 1 continued down Whipple Drive and parked just outside of the A's garage.

# 15D203388 2



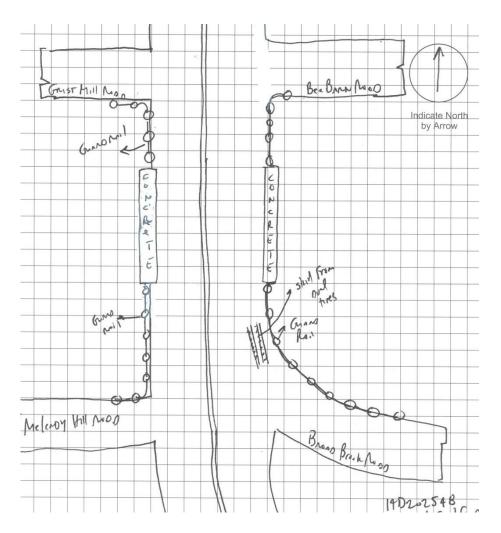
On 12/29/15 at approximately 1156 hours, a single vehicle crash on US RT 5 near Melendy Hill Rd. The blacktop road at the time was <u>slush covered</u> and it was sleeting. A 1992 Volvo 240 on its roof at a position of uncontrolled rest, facing south.

Statements Op 1 advised that she was traveling south on Route 5 at approximately 15 mph. She advised that as she was negotiating a left curve in the road, an oncoming large pickup truck was out of control and coming into her lane. She advised that she traveled off the west side of the road, up an embankment which caused her car to roll onto its roof.

Investigation revealed that op 1 was traveling south on US RT 5 at a speed consistent with her statement of 15 mph. Op 1 advised she swerved intentionally to avoid an oncoming vehicle. Officer was unable to locate the vehicle and did not get a complete description other than a large pickup truck. From the tire tracks left in the slush, it did not appear that Op 1's vehicle slid off the road, but was intentionally driven to the far edge of the road. After leaving the roadway, Op 1's vehicle traveled a short distance up an embankment and overturned, back onto the road surface.

Conclusion The crash was a result of <u>Op 1 swerving off the road to avoid a hazard</u>.

### 14D202548 3



This two vehicle traffic crash occurred on the concrete bridge on Route 5 between Grist Mill Road and Melendy Hill Road. At the time of the crash, the blacktop roadway was dry . The weather was sunny and warm.

STATEMENTS: Op 1 advised that he was headed north on Route 5 at approximately 40 miles per hour. Advised that after he crossed the bridge he was hit by vehicle #2. Indicated that he believed the rear part of the cab of his truck was struck by vehicle #2. The operator of vehicle #2 advised that he was hit by vehicle #1 after he crossed the bridge. Also advised that he believed that vehicle #2 was speeding at the time of the crash.

# INVESTIGATION:

Vehicle #1 had no visible damage from this crash, but did have an area on the driver side rear of the cab cowling that had a scuff mark on it. Vehicle #2, the driver's side mirror had been smashed, and mirror glass had been ground into the rubber gasket on the rear part of the driver side front window. It also appeared that there was damage to the upper area of the driver side front door.

Officer was unable to identify the exact point of impact but was able to determine the following information. He located mirror debris (glass and plastic) on the bridge. He found plastic and glass in the southbound and northbound travel lanes. The larger amount of the debris was in the southbound lane. The heaviest concentration of <u>the debris was approximately 15 feet onto the bridge from the northern</u> <u>end of the bridge</u>. Based on his observation of the debris, he concluded that this was likely the point of impact. He also located a skid mark created by a dual wheel just south of the southern end of the bridge.

After concluding his examination of the debris, the officer remained in the area to monitor commercial vehicle traffic. During his monitoring of traffic, he concluded that the road design approaching the bridge is likely flawed. Commercial vehicles traveling northbound enter the bridge area coming out of a sweeping curve to the right and have a hard time navigating the curve without crossing the center line and moving into the southbound travel lane. All commercial vehicles of any length moved into the southbound lane to navigate over the bridge. The commercial vehicles appear to swing to the left in order to come over the bridge and allow the trailer to track behind the tractor better. The State of Vermont is currently planning for the replacement of this bridge.

# CONCLUSION:

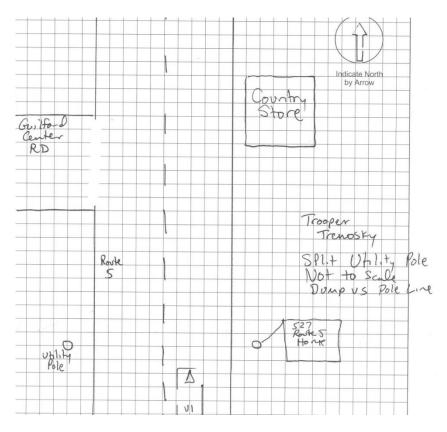
Officer opinion that the primary cause of this traffic crash is likely two-fold. First, the operator of vehicle #1 advised that he was traveling 40 in a posted 35 mile per hour zone. Second, the overall design of the roadway. The bridge on Route 5 is narrow for a commercial vehicle (tractor trailer) and a passenger vehicle or truck to cross at the same time. Since both operators provided conflicting information about where each vehicle was at the time of the crash and the fact that the exact point of impact cannot be determined, Officer was unable to determine which vehicle may have crossed the center line. If officer's observations of commercial vehicle traffic hold true, it is likely that vehicle #1 would have been partially in the southbound travel lane at the time of the crash.

# **RECOMMENDATIONS:**

No court action is recommended.

#### 15D200459

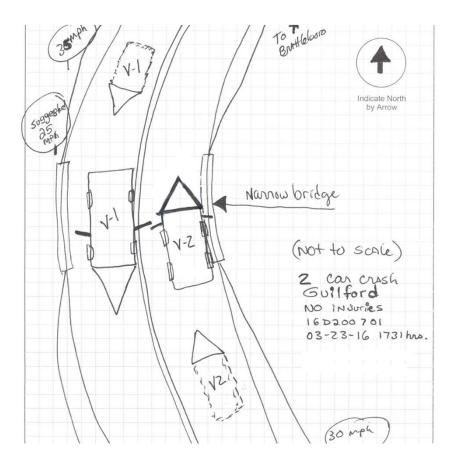
4



On February 11, 2015 at approximately 0054 hours, a split telephone pole and a wire down. The roadways were dry and no precipitation was falling at the time. No vehicles or other individuals were present at the scene. Operator #1 advised that he was traveling north on Route 5 and as he neared the intersection of Route 5 and Guilford Center Road he observed a transformer "blow up." Op 1 was unsure what had caused it but when he returned to the scene, advised that he must have left the lever to his "PTO" on which caused the bed of the truck to stay up. Advised that he inspected the bed of the dump truck after traveling past the blown transformer and observed that it had minor damage to the head board. The investigation revealed that Operator #1 was operating a family dump truck on Route 5 in the Town of Guilford carrying/dumping snow for a local contractor. As Operator #1 was traveling north on Route 5 and nearing Guilford Center Road he observed a blown transformer. Operator #1 was unsure what had caused it but continued north till he got to the Interchange by I-91. Operator #1 reported that he inspected his truck at this location and observed minor damage to the head board. Officer suspected that when he observed the blown transformer he felt the tug of the bed strike the power line wire which ultimately caused a utility pole to split. Operator #1 advised that he failed to properly put down his "PTO" lever which rises and drop's the bed of the dump truck. The bed of the truck was up as it travelled north and it struck a wire that went from one utility pole on the West side of Route 5 to another on the East side. Both utility poles were affected and power was cut to several hundred residents in the area. Conclusion: Officer believe that the primary cause of this crash was an inexperienced CDL operator. Operator #1 failed to engage the "PTO" lever correctly, ultimately raising the bed of the truck which struck a line on a utility pole. No evidence was found that the line had been hanging down further than it should have been. Officer inquired from the GMP personnel if this was possible and they stated it was not.

Note: THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C. 409 40 of 54

#### 16D200701 5



On 03-23-16, at 1731 hours, a two-car crash on Rt 5 at Grist Mill Rd in Guilford, VT. The speed limit at this location is 35 mph. At the time of the crash, the black top roadway was dry and the weather was clear. There was damage two both truck's driver side mirrors. There was also damage and signs of contact with the curb on V-2 rear passenger side wheel. There were no injuries reported at this crash.

STATEMENTS: OP-1 was traveling south bound on RT 5 approximately 35-40 mph as he approached the narrow bridge at Grist Mill Rd. OP-1 said he knew it would be tight and as he traveled over the bridge his driver side mirror struck the other vehicles mirror and OP-1 mirror folded in. OP-2 was traveling northbound approximately 20-25 mph when he saw V-1 coming the opposite direction and taking up the whole road "I moved as far right as possible." "I moved so far to the right I struck the curb." As the vehicles passed the mirror struck. V-2's mirror was destroyed.

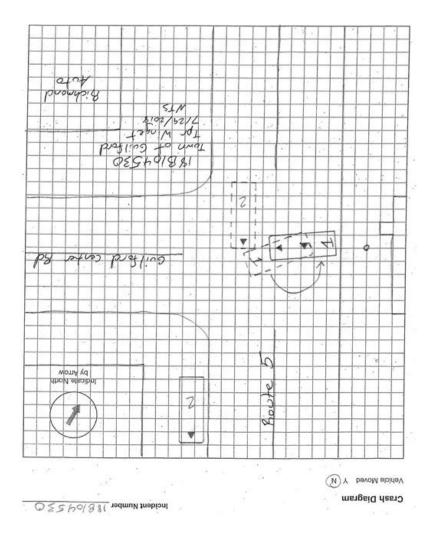
INVESTIGATION: Upon arrival officer observed the posted speed limit to be 35 mph. There is another sign recommending 25 MPH (yellow and black suggested speed) as you approach the bridge. The narrow bridge where the crash occurred is visible as you approach. The statements, including OP-1 himself suggest that OP-1 was traveling faster than reasonable considering OP-1 was driving a large truck with wide mirrors extending from the vehicle.

CONCLUSION: Officer found OP-1 at fault for this crash. It is my opinion that the primary cause of this traffic crash is: Op#1 traveling too fast for the conditions and hazards then existing i.e.: (the narrow bridge) while operating a wide truck with wide mirrors.

Note: THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C. 409  $41 \mbox{ of } 54$ 

#### 18B104530

6



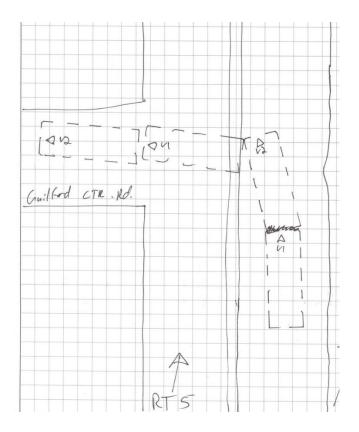
On 7/29/2018, at 1427 hours, at the intersection of Guilford Center Road and Coolidge Highway, (Route 5 for the report of a two vehicle crash. The speed limit in this area is 35 mph. At the time of the crash, the blacktop was dry and the weather was sunny.

Operator 1 was traveling East on Guilford Center Road. She came to a complete stop at the end of Guilford Center Road and looked both ways before turning left and pulling out onto Route 5 to travel north. Stated she saw vehicle #2 traveling south on Route 5. Thought she had enough time to make the turn before vehicle #1 got to the intersection, but was struck in the left rear corner of her car. Witness 1was directly behind Vehicle #1 at the end of Guilford Center Road where it intersects with Route 5. Vehicle #1 began crossing Route 5 in an attempt to travel north on Route 5. As Vehicle #1 began crossing the southbound lane of Route 5 she was struck by Vehicle #2. Vehicle #2 was travelling southbound on Route 5. Stated that, in his opinion, Vehicle #1 was at fault for the crash as she pulled out in front of Vehicle #2.

INVESTIGATION: Reveals that vehicle 1 failed to yield the right of way and turned left onto Route 5 in front of vehicle 2. Security surveillance videos from Richmond Auto aided in the investigation of this crash since operator 2 left the scene of the crash. Operator 1 stated she looked both ways before turning and was traveling at approximately 5 mph at the time of the crash. There was a skid mark on the blacktop at the point of impact between the two vehicles. Vehicle 1 was towed away by A's Auto and Brattleboro towing towed away vehicle 2.

Note: THIS DOCUMENT IS EXEMPT FROM DISCOVERY OR ADMISSION UNDER 23 U.S.C. 409 42 of 54

#### 14D200250 7



On 01/19/2014, at approximately 1258 hours, Guilford Center Road and Route 5, Guilford, for a report of a motor-vehicle crash involving two vehicles.

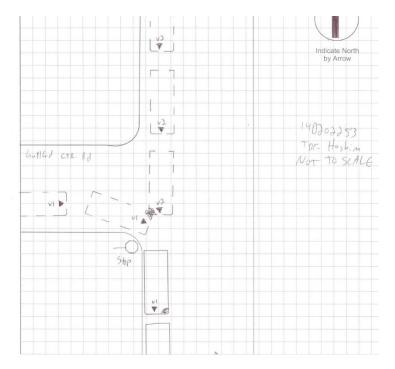
STATEMENTS OP1 said he was travelling northbound on Route 5, behind V2. V2 turned on its blinker and attempted to turn left onto Guilford Center Road. V1 crashed into the rear of V2 while travelling at approximately 15 miles per hour.

OP2 said he was travelling north on Route 5 when he slowed down to approximately five miles per hour to make a left turn on Guilford Center Road. He activated his left turn signal, and also stated that it did not appear V1 was travelling too closely to him. Before making the turn, V1 crashed into him.

INVESTIGATION V1 was travelling northbound on Route 5, pre-collision. V2 was travelling northbound on Route 5, pre-collision. V1 drove into the rear of V2 and came to a controlled position of rest in a nearby parking lot, post-collision.

CONCLUSION Based on the above investigation, I believe this crash occurred because V1 was following too close to V2, and crashed when V2 attempted to make a left turn onto Guilford Center Road.

#### 14D202253 8



On 08/05/2014, at approximately 1918 hours, the intersection of Coolidge Highway and Guilford Center Road, in the town of Guilford, for a report of a motor-vehicle crash involving two vehicles.

#### STATEMENTS

OP1 said she was travelling east on Guilford Center Road, in Guilford, when she was attempting to take a right turn to travel southbound. She said she came to a complete stop, but did not see V2 travelling southbound. She exited Guilford Center Road to turn, and crashed into V2. She said she was travelling approximately 5 miles per hour.

OP2 said he was travelling southbound on Coolidge Highway at approximately 35 miles per hour. He said he observed OP1 stop at the stop sign; however, she pulled out of the road prematurely and crashed into his vehicle.

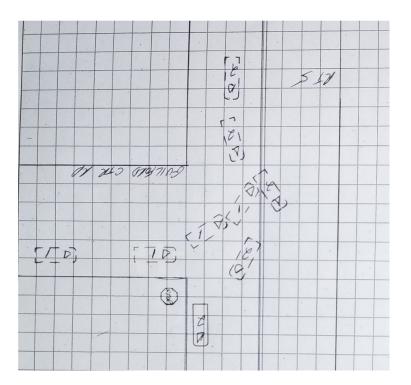
#### INVESTIGATION

V1 was travelling eastbound on Guilford Center Road, pre-collision. V1 attempted to turn right, and travel southbound on Coolidge Highway; however, V1 crashed into V2 during the attempted turn. V1 came to a controlled position of rest, south of the intersection, post-collision. V2 was travelling southbound on Coolidge Highway, pre-collision. V2 was crashed into by V1 and came to a controlled position of rest south of the intersection, post-collision.

#### CONCLUSION

Based on the above investigation, I believe this crash occurred because V1 failed to yield to oncoming traffic while turning onto a road.

#### 18B107630 9



On 12/20/18 at 11:37, a two vehicle crash on Calvin Coolidge Hwy (RT 5), at the junction of Guilford Center Rd., in Guilford, VT.

OP1 said she was traveling on Guilford Center Rd. and stopped at the stop sign at the junction of RT 5. She said that she couldn't remember if she used a turn signal but that she turned left onto RT 5 to travel north. She said that she saw V2 at the last second and both vehicles hit each other.

OP2 said he was traveling south on RT 5. He said that as he approached Guilford Center Rd. that V1 turned onto RT 5 and they hit. He said that he did not know if V1 had a turn signal on and that he thought OP1 had stopped at the stop sign.

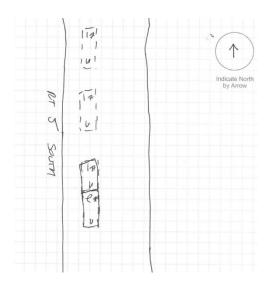
Investigation revealed that OP1 was traveling on Guilford Center Rd. and stopped at the stop sign at the junction of RT5. OP1 turned left onto RT and hit V2 which was traveling south. The front right side of V1 hit the rear right side of V2.

The cause of the crash was due to OP1 turning left into oncoming traffic.

### 15D203024 10

Non reportable. No Info. Near Guilford Center Road VSP Brattleboro

# 15D201233 11

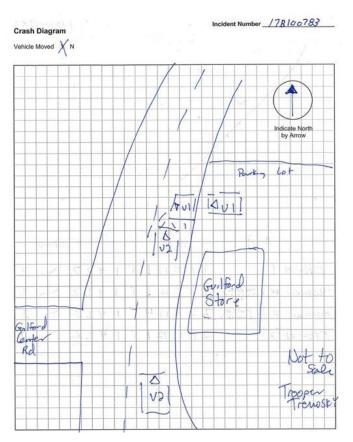


On 5/10/15 at 1531 hours, a two-vehicle crash on RT 5 in Guilford in the area of the Country Store. No injuries were reported. Weather conditions were sunny with dry, paved blacktop.

Op 1 told me she was traveling southbound when she rear ended the vehicle in front of her. Said she was distracted and didn't see the vehicle was stopped making a left hand turn.

Op 2 said she was traveling southbound when she signaled and slowed to make a left hand turn. Said was then rear ended.

# 17B100983 12

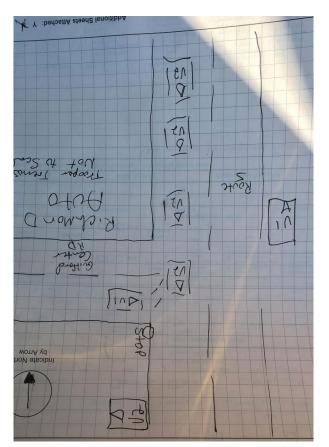


On 02-18-17 at approximately 1357 hours a two vehicle crash on Route 5 in the town of Guilford.

Operator #1 advised that she was pulling out of the Guilford store parking lot when a vehicle struck her vehicle as she made a left hand turn onto Rt 5. Operator #2: advised she was traveling north on Rt. 5 when she observed Vehicle #1 pull out into her lane and strike her.

Investigation: Operator #1 was exiting the Guilford Country Store parking lot located on Route 5 in the town of Guilford when she failed to yield to a vehicle traveling north on Rt. 5. Operator #1 faced a slight disadvantage because the Guilford Country Store sits fairly close to Rt. 5 obstructing the view of traffic coming north on Rt. 5. Operator #2 was traveling north on Rt. 5 and as it made its way past the Guilford Store, Operator #1 pulled out in front of the moving vehicle. Operator #1 failed to yield the right of way to Operator #2. The roadways were dry and the weather was clear.

# 17B105733 13



On 09-04-17 at approximately 1256 hours, a two-car crash on Route 5 at the intersection of Guilford Center Road and Route 5. Both operators reported that they sustained no injuries from the crash. The roadway was dry and the skies were clear.

Operator #1 advised that he was coming from the Guilford State Fair, made the stop at the intersection of Guilford Center Road and Route 5 when a vehicle struck his driver's side. Advised the vehicle was traveling south on Route 5 and had its directional signal on. Operator #2 advised he was driving his rental vehicle to the Guilford State Fair and following a GPS unit as he was not from the area. As he neared the intersection where the crash occurred, he placed his directional signal prior to the intersection but didn't quite know where the GPS was telling him to turn. As a result, he continued south and as he was about in the middle of the intersection, Operator #1 pulled out in front of him.

Investigation: Operator #2's account of what occurred made the most sense. Operator #2 was traveling south on Route 5 and a bit distracted from a GPS unit but still had the right of way as he was not stopped at a Stop Sign. Operator #2's mistake was keeping his directional on which may have indicated he was turning onto Guilford Center Road or a driveway south of Guilford Center Road. Operator #2 was indeed traveling to the Guilford State Fair and may have reduced speed indicating this to Vehicle #1 but Vehicle #1 failed to recognize he changed his mind as to where he was making a turn.

# 18B100076 14

# Listed as Non Reportable

On 01-03-18 at approximately 1830 hours, officer was approached by a resident of Guilford at the Guilford Country Store on Rt. 5 because she had just struck a deer while traveling south on Rt. 5 by the store.

Officer observed that her 2011 Subaru had incurred minimal damage to the front grill. Op 1 advised that she did not incur any injuries as a result of striking the deer and that it had run off.

#### 18B100126 15

Listed as Non Reportable

On 01-05-18 at approximately 1605 hours.

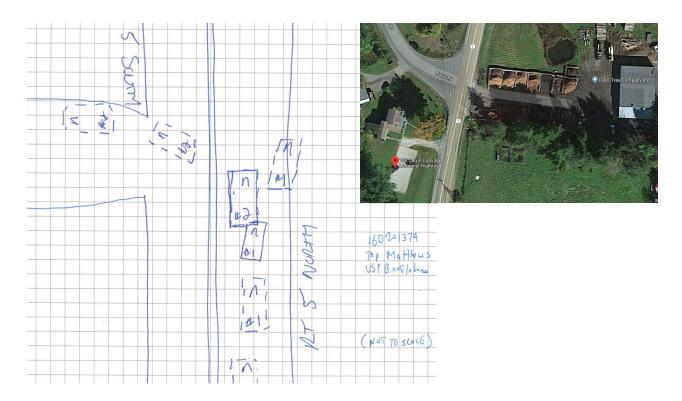
Op 2 advised that she was driving south on Route 5 and as she neared Guilford Center Road she slowed down as a vehicle was taking a left turn ahead of Op 1 who was also waiting to take a left turn. Op 2 reported that Op 1 pulled out in front of her vehicle and Op2 swerved to avoid the collision The collision occurred which sent her vehicle into the front end of a unknown truck with a plow. The truck incurred no damage and did not stop. The truck was stopped near the intersection as it was going on Guilford Center Road.

Op 1 advised that he failed to see Op 2 vehicle traveling south on Rt. 5.

Op 1's vehicle worth was less than the damage incurred.

Op 1 failed to properly make a left hand turn onto Rt. 5 from Guilford Center Road

# 16D201374 16



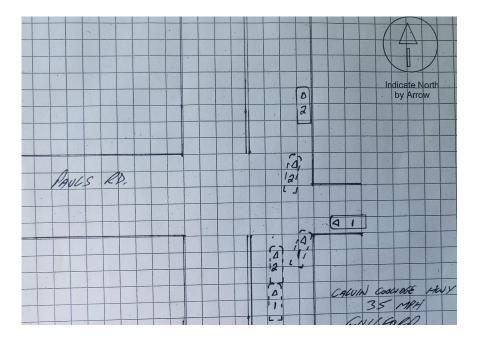
Could be at Paul's Road or at the 106 driveway.

On 6/4/16 at approximately 1226 hours, a two vehicle crash on RT 5 in Guilford. Weather conditions were partly cloudy with paved blacktop road conditions.

Op 1 was driving northbound on RT 5 at about 35 MPH when she struck the vehicle in front of her that was stopped to make a left hand turn. Said she did not notice the vehicle turning and must not have been paying close enough attention. Op 2 said was traveling northbound when she slowed and stopped in anticipation of making a left hand turn. Said that she had her turn signal on. Said she was struck from the rear by op 1.

Based on the above facts and circumstances, Op 1 determined the following: Op 1 was traveling northbound when, due to inattention, she did not notice Op 2 was slowing down in front of her and coming to a stop. Op 1 was unable to slow down or correct her path of travel before crashing into Op 2.

## 18B103057 17



On 5/25/18 at 08:29 witness 1 called 911 to report she witnessed a two vehicle crash on RT 5 at the junction of Paul's Rd. in Guilford.

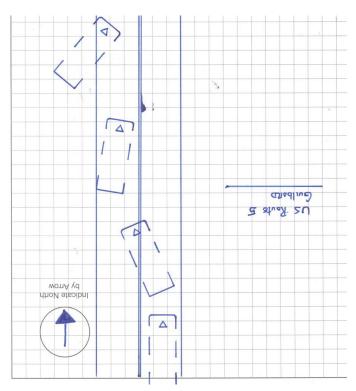
OP1said that a school bus had stopped and that V2 had also stopped. OP1 said that he had looked up and hit the gas pedal instead of the brakes and he rear ended V2. OP1 said that he did not see if V2 had a turn signal on.

OP2 said that he was stopped behind a school bus that had stopped at the junction of Paul's Rd. He said that he also had his left turn signal on to turn onto Paul's Rd., which is where his job is. He said that V1 had stopped behind him. He said that V1 then rear ended him.

Investigation revealed that a school bus traveling north on RT 5 had stopped at the junction of Paul's Rd. V2 was behind the bus and stopped. V1 stopped behind V2. V1 then accelerated into the rear end of V2.

The cause of the crash was due to OP1 using the accelerator instead of the brake pedal and hitting V2.

#### 14D200039 18



Vehicle #1 was driving northbound on Route 5 in Guilford. At the time of the crash the road surface was packed snow, recently plowed, on blacktop road surface. Operator #1 advised he had vehicle #1 in 2WD at the time and when he attempted to accelerate up the hill, vehicle #1 spun out, crossed the oncoming lane of traffic and overturned.

Vehicle #1 overturned when it hit the steep embankment on the southbound shoulder of Route 5. Vehicle #1 came to rest on its roof in the southbound travel lane. Operator #1 was not injured in the crash.

There had been a large snowfall the night before and the roads were still slippery from that storm. Operator #1 estimated his speed at the time of the crash to be approximately 35 mph.

# 16D201319 19

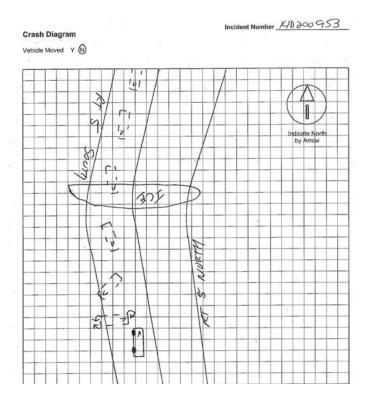
Listed as non-reportable.

Near the town line of Guilford and Brattleboro on Route 5. The 911 call was placed because Op 1 crashed his vehicle into a line of a telephone pole. No structural damage was sustained to the telephone pole or the line.

Op 1 advised that as he travelled north-on Route 5 a deer crossed his path which caused him to

swerve. Swerved right which sent his vehicle down an embankment. The vehicle travelled approximately 100 feet and came to a stop against the Telephone pole anchor line. The vehicle sustained damage to its front end which probably made it into a totaled vehicle because of its low sale value of 700 dollars. Op 1 advised that he was not going to be reporting it to his insurance company and most likely purchasing a new vehicle. No injuries were sustained as a result of this crash.

#### 14D200953 20



On 4/1/14 at about 0636 hours, State Police along with Guilford Fire and rescue responded to RT 5 in Guilford in the area of Paul's Road to the report of a single vehicle crash with entrapment. Weather conditions were clear and road conditions were paved blacktop.

At the scene a 2007 Toyota truck lying on its passenger side. Witness said he was traveling behind op southbound on RT 5. After crossing over the Brattleboro/Guilford line, he observed op 1 travel over a large icy patch that was present in the roadway. Advised op 1 lost control and left the west side of the roadway, crashing into a ledge. After hitting the ledge, he observed the vehicle roll over onto the driver's side and stop. Advised op 1 was traveling at about 35 MPH and was not operating erratically at all.

Officer was able to conclude the following: Approximately 200 feet from where op 1's vehicle came to a position of uncontrolled rest there was a large expanse of ice present on the roadway due to a small creek that had overflowed. This patch of ice was located around a gradual turn that would be difficult to detect while traveling southbound. According to a witness, op 1 was not operating in any apparent negligent manner and couldn't have done much to avoid crashing.