

Appendix G Lowering Speed Limits

PROGRAM DEVELOPMENT DIVISION
Traffic Operations Section
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November 13, 2003

Orwell Select Board
Town of Orwell
PO Box 32
Orwell VT 05760

RE: Speed Limit Reduction request for VT 22A in Orwell

Dear Select Board:

This letter is in reference to the Town of Orwell's September 23, 2003 letter requesting a speed limit reduction on VT 22A in Orwell, in the vicinity of the VT 22A/VT 73 intersection.

We have conducted an engineering study, and recommend that the speed limit of 50 mph be retained. Our speed study does not support a reduction in speed. There are flashing beacons at the intersection and advance warning, and delineators have been added to the shoulder to discourage truck parking which would block sight distance. Sight distance is adequate for 50 mph.

We will forward this recommendation to the Vermont Traffic Committee, who makes the final decision. This topic will be on the agenda of the next Traffic Committee meeting on December 5, 2003, which convenes at 1 PM in the 5th Floor Board Room at the National Life Building in Montpelier. Please attend if you wish to present testimony on behalf of the Town. Please do not hesitate to contact me at (802) 828-1055 if you have any questions or require additional information.

Sincerely,

Amy L. Gamble, P. E.
Traffic Systems Engineer

ALG:alg

c: David Lathrop; DTA 3

bc: Traffic Committee File via ALG/SS
Central Files/Traffic Committee

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PROGRAM DEVELOPMENT DIVISION
Traffic Operations Section
Amy L. Gamble, PE
Phone: (802) 828-1055
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December 8, 2003

Orwell Select Board
Town of Orwell
PO Box 32
Orwell VT 05760

RE: Speed Limit Reduction request for VT 22A in Orwell

Dear Select Board:

This letter is in reference to the Town of Orwell's September 23, 2003 letter requesting a speed limit reduction on VT 22A in Orwell, in the vicinity of the VT 22A/VT 73 intersection.

At their December 5, 2003 meeting, the Vermont Traffic Committee voted that no change be made to the existing speed limit at this time. As a follow up to discussions at the meeting, the Traffic Operations unit will investigate the Cook Road/US 7 intersection for the possibility of adding 40 mph advisory speed plaques to the intersection warning signs for that intersection.

Please do not hesitate to contact me at (802) 828-1055 if you have any questions or require additional information.

Sincerely,

Amy L. Gamble, P. E.
Traffic Systems Engineer

ALG:alg

c: David Lathrop; DTA 3

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Central Files/Traffic Committee

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Vermont Agency Of Transportation Spot Speed Survey Field Report

Town Orwell	Date 10/23/03
Route VT-22A	Day Thursday
Speed Limit 50	Time 1:30-2:17
	Survey Area
Setup No. 1	From M.P. 3.18
Setup M.P. 3.28	To M.P. 3.22

MPH	Cars		Total Cars	Trk. & Bus		Total Trk. & Bus	Total Vehicles	Accum. Vehicles	Accum. Percent
	NB	SB		NB	SB				
70								105	100.0
69								105	100.0
68								105	100.0
67								105	100.0
66								105	100.0
65								105	100.0
64								105	100.0
63								105	100.0
62								105	100.0
61								105	100.0
60	2	1	3				3	105	100.0
59					1	1	1	102	97.1
58					1	1	1	101	96.2
57	3	1	4	1		1	5	100	95.2
56		1	1		2	2	3	95	90.5
55		1	1	3	1	4	5	92	87.6
54	1	2	3				3	87	82.9
53	2	1	3	1		1	4	84	80.0
52	1	6	7	2	1	3	10	80	76.2
51	2	2	4	2		2	6	70	66.7
50		5	5	2		2	7	64	61.0
49	3	5	8		2	2	10	57	54.3
48	6	4	10		3	3	13	47	44.8
47		2	2	1		1	3	34	32.4
46	3	3	6				6	31	29.5
45	1	2	3	2	1	3	6	25	23.8
44	1	3	4	1	1	2	6	19	18.1
43		2	2		1	1	3	13	12.4
42	1	2	3				3	10	9.5
41					1	1	1	7	6.7
40								6	5.7
39		1	1				1	6	5.7
38				1		1	1	5	4.8
37		1	1				1	4	3.8
36	2		2				2	3	2.9
35	1		1				1	1	1.0
34									
33									
32									
31									
30									
29									
28									
27									
26									
25									
24									
23									
22									
21									
Totals	0	0	74	0	0	31	105		

Vermont Agency Of Transportation Spot Speed Survey Summary

Town	Orwell
County	Addison
Route	VT-22A
Speed Limit	50

Date	10/23/03
Day	Thursday
Time	1:30-2:17

Setup No.	1
Setup M.P.	3.28

ADT	3400 A	3000 E
Year ADT	2000	2000
DHV	475	420

Survey Area	
From M.P.	3.18
To M.P.	3.22

Weather	Overcast
Observer	JAK/NLA

Passing Zones		
Direction	Begin M.P.	End M.P.
Direction	Begin M.P.	End M.P.
Direction	Begin M.P.	End M.P.
Direction	Begin M.P.	End M.P.

	Cars, Vans, Light Trucks	Trucks & Buses	All Vehicles
Median Speed	48	50	49
85TH Percentile Speed	53	55	54
Modal Speed	48	55	48
Percent In Pace	70	65	68
10 Mile Pace	44 - 53 0 - 0	48 - 57 47 - 56	44 - 53 0 - 0
Recommended Speed Limit (All Vehicles)			50 0

MPH	Cars, Vans, Light Trucks	Acc. Pct.	Trucks And Buses	Acc. Pct.	All Vehicles	Acc. Pct.
Over 60	0	0	0	0	0	0
56-60	8	11	5	16	13	12
51-55	18	35	10	48	28	39
46-50	31	77	8	74	39	76
41-45	12	93	7	97	19	94
36-40	4	99	1	100	5	99
31-35	1	100	0	100	1	100
26-30	0	100	0	100	0	100
Under 26	0	100	0	100	0	100
Totals	74	100	31	100	105	100

General Remarks On Traffic (Only For The Area Covered By This Spot Speed Survey)	
Setup Location Description	

**State of Vermont,
Agency of Transportation
Traffic Engineering Report for a SPEED LIMIT
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Establish: New _____ Repeal _____ Revise Existing X

(Refer to 23 V.S.A. §1003)

Date: 10/23/2003

CHARACTERISTICS	Left Side	Right Side	Town of:	Orwell
No. of Roadway Lanes	1	1	County of:	Addison
Roadway, Width (feet)	11'	11'		
Roadway, Surface Type	Bit. Conc.	Bit. Conc.	Route No.:	VT-22A
Roadway, Condition	Fair	Fair		
Shoulder, Width (feet)	3' - 4'	3' - 4'	Village:	Orwell
Shoulder, Surface Type	Bit. Conc.	Bit. Conc.		
Shoulder, Condition	Fair	Fair	From M.P.:	3.00
Sidewalk, Width (feet)	N/A	N/A		
Sidewalk, Surface Type	N/A	N/A	To M.P.:	3.40
Sidewalk, Condition	N/A	N/A		
Curbing, Type of	N/A	N/A	Length (miles):	0.40
Curbing, Condition	N/A	N/A		
Turning Lane, Width (feet)	N/A	N/A	Additional Notes:	
Turning Lane, Length (feet)	N/A	N/A		
Turning Lane, Condition	N/A	N/A		
Turning Lane, Surface Type	N/A	N/A		

Topo	Number of Drives	Number of Houses/Farms	Number of Small Businesses	List Major Businesses	State/Town Highway Junctions
Left	4	2	2	None	SNTH 73
Right	0	0	0	None	VT-73

ALIGNMENT	Number 1	Number 2	Number 3
Curves, From/ Thru M.P.	N/A		
Curves, Degree of	N/A		
Curves, Ballbank Reading	N/A		
Curves, Current Adv. MPH	N/A		
Curves, Proposed Adv. MPH	N/A		
GRADES	Number 1	Number 2	Number 3
Grades, From/Thru M.P.			
Grades, Percent of			
PASSING ZONE	Number 1	Number 2	Number 3
Passing Zone M.P. (NB / EB)			
Passing Zone M.P. (SB / WB)			
CROSSWALK	Number 1	Number 2	Number 3
Crosswalk Milepoints			
BRIDGE	Number 1	Number 2	Number 3
Bridge, Milepoints			
Bridge, Widths, c/c (feet)			

PARKING INFO.: From/Thru M.P. N/A Meet Needs? _____
 Controlled By: Signs _____ Markings _____ Meters _____
 Hinders: Thru Traffic? _____ TH's? _____ Drives? _____

NO-PARKING ZONES: From/Thru M.P. N/A

CRASHES: From 3.00 Thru 3.40 Crash Rate/Critical Rate: 0.750 Ratio _____
 Total Number 3 With Injury 6 With Fatality 0
 Types of (1) _____ (2) _____

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 Traffic Engineering Report for a SPEED LIMIT
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ALIGNMENT	Number 4	Number 5	Number 6
Curves, From/ Thru M.P.			
Curves, Degree of			
Curves, Ballbank Reading			
Curves, Current Adv. MPH			
Curves, Proposed Adv. MPH			
GRADES	Number 4	Number 5	Number 6
Grades, From/Thru M.P.			
Grades, Percent of			
PASSING ZONE	Number 4	Number 5	Number 6
Passing Zone M.P. (NB / EB)			
Passing Zone M.P. (SB / WB)			
CROSSWALK	Number 4	Number 5	Number 6
Crosswalk Milepoints			
BRIDGE	Number 4	Number 5	Number 6
Bridge, Milepoints			
Bridge, Widths, c/c (feet)			

ALIGNMENT	Number 7	Number 8	Number 9
Curves, From/ Thru M.P.			
Curves, Degree of			
Curves, Ballbank Reading			
Curves, Current Adv. MPH			
Curves, Proposed Adv. MPH			
GRADES	Number 7	Number 8	Number 9
Grades, From/Thru M.P.			
Grades, Percent of			
PASSING ZONE	Number 7	Number 8	Number 9
Passing Zone M.P. (NB / EB)			
Passing Zone M.P. (SB / WB)			
CROSSWALK	Number 7	Number 8	Number 9
Crosswalk Milepoints			
BRIDGE	Number 7	Number 8	Number 9
Bridge, Milepoints			
Bridge, Widths, c/c (feet)			

RECOMMENDATION: (by A. Gamble, P.E. & S. Sherrill , Date: November 7, 2003):

No Change. Sight distance is adequate. Flashing beacons have been upgraded, as have the pavement markings. Delineators have been added to discourage truck parking near intersection.

**Road Safety Audit Review
VT 22 A @ VT 73
Orwell**



June 12th 2003

VT 22A @ VT 73, Orwell Road Safety Audit Review Review Report

Description of the Location

The subject of this road safety audit review (RSAR) was the intersection of VT22 A and VT 73 in Orwell. This location was proposed for review by Addison County Regional Planning Commission (ACRPC). The location is a four way intersection and controlled with flashing beacons. The intersection is located at mile point 3.23 on VT 22 A. The Speed limit is 50 mph on VT 22 A and 35 mph on VT 73.

RSA Team Review

The Road Safety Audit Review Team included:

Marcos Miller,	Traffic Operations (VTrans)
Art Bombardier,	Traffic Operation - Design (VTrans)
David Pelletier,	Planning (LCPC, 802-888-4548)
Raymond Cyr,	Maintenance (Dist 6, VTrans)
Jim Bush,	FHWA

Other Guests invited to give additional information to the team:

Lt. Robert Casey,	Middlebury State Police.
Mike Dundon,	Owner of the Gulf gas station.

The road safety audit review coordinator was:

Rajnish Gupta,	Traffic Operation (VTrans)
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Audit Review Requesters

The project team included:

Garrett Dague,	Planning (ACRPC, 802-388-3141).
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Information Reviewed in the Completion of the Audit Review

Accident Summary:

Accident data has been reviewed for the past four years (1998-2001). There were two accidents reported at the intersection. Both accidents were due to failing to stop at the flashing red light.

Commencement Meeting

The audit review team met on site with Garrett Dague of ACRPC on June 12, 2003, to obtain an understanding of the local concerns and to go over some background information. The team also met with Mike Dundon owner of the Gulf gas station and with Lt Robert Casey of the state police.

Garrett indicated that the road dip on VT 22 A (north) had been modified many years ago. He also mentioned that the 2002 AADT on VT 22A North was 3500 and 2900 on VT 22A South. Mike Dundon mentioned his concerns about the truck parking problem in his driveway and the sight distance problem caused by the same trucks parking at the intersection. Lt Robert Casey said that there were no major problems concerning accidents and that also not much law enforcement was performed at this intersection.



VT 73 East



**VT 73 West Class II State
Numbered Town Highway**



VT 22 A South



VT 22 A North

Field Visit

The review team performed the site visit of the area on June 12, 2003. The site review was performed between 9:15-10:45 am. The weather was clear and sunny, the pavement was dry.

Other Meetings

The Review team met at National Life later in the afternoon of June 12th, to discuss their observations.

Listing of Potential Safety Concerns

This section describes area of concerns related to safety improvement consideration by the appropriate authorities. The concerns are also reported on the observation tables at the end of the report that are specific to each entity responsible for the improvements.

- The Stop Bars on the VT 73 E and on the Class II portion are too far back from the edge of the pavement which creates sight distance problem to the drivers.
- The trucks that are parking at the Gulf gas station block the sight distance when traveling from VT 73 West.
- The trucks that are parking on the opposite side of the Gulf gas station may create safety problems for the drivers.

- The flashing beacon heads are old head lamps which do not provide adequate visibility.
- The destination board signs for Ferry Schedule in the vicinity of the intersection might confuse the drivers.
- The intersection warning sign on VT 22A North is perceived to be small which of the sign a problem.
- The STOP ahead sign on VT 73 East is leaning.

Possible actions are listed below:

Important actions to be done immediately:

1. Relocate the Stop Bars 4 ft from the edge of the pavement on VT 73 E and VT 73 Town Highway.
2. Upgrading the STOP sign on VT 73 W.
3. Replacing flashing beacon heads to LED's.
4. Installing delineators at the corner of VT 22A North and VT 73 East.
5. Talk to the owner of the gas station and the DTA about installing a raised island at the Gulf gas station.

Long Term Action:

- Advance intersection warning signs are to be upgraded.
- All signs need to be inspected.
- Construct a raised island at the gas station.
- Turning radius at the intersection should be upgraded

Actions Taken:

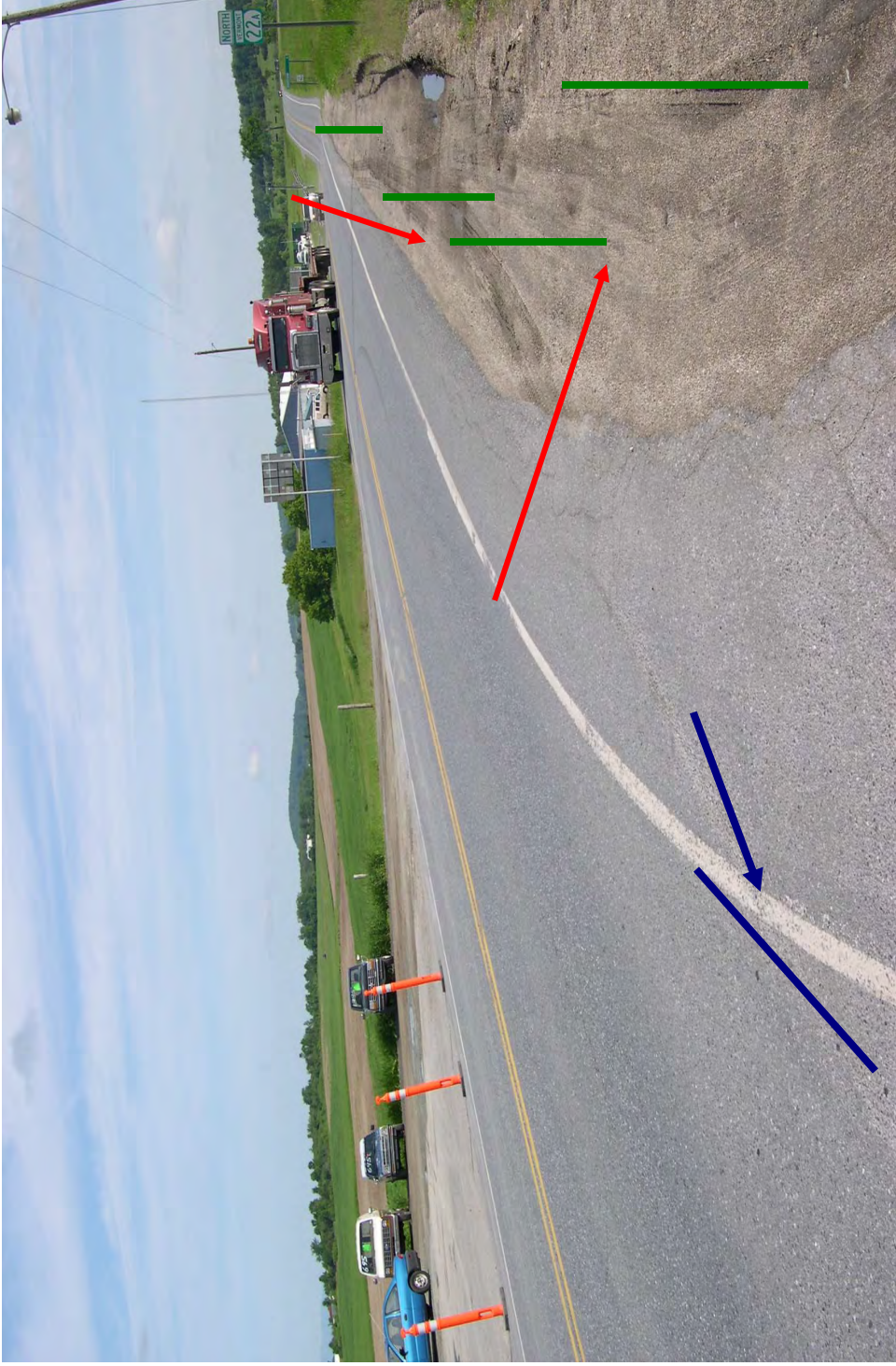
1. Work order was prepared for **#3 above** replace all flashing beacon heads with LED's. (6/13/03)
2. Points **#1, # 2** and **# 4**, has been discussed with Marcos Miller and work orders would be completed with in two weeks or so. (6/12/03)
- 3 After discussing with Al Wright on 06/16/03, Don Gilman is going to look after the island issue.



VT 22A North @ VT 73 State Numbered Town highway

In the picture above

1. The red arrows show the parking problem at the Gulf Gas Station. Installation of a raised island can solve the problem.
2. The blue arrow shows the Stop Bar current condition and the green arrow shows where it should be moved to get better sight distance.



VT 22A North

In the picture above

- 1. The red arrows shows the area where trucks park at the edge of pavement and the green lines show that the installation of delineators could stop trucks parking there.**
- 2. The blue arrow shows that the turning radius should be changed.**

Road Safety Audit Review Observations

VT 22A @ VT 73, Orwell

Traffic Operations' Response					
Observations and Possible Countermeasures	Beg. MM	End MM	Decision Agree/Reject	Planned Completion Date	Reason for Dismissal/Comments
<p>1) The Stop Bar on VT 73 W & E is far back from the edge of the pavement which creates sight distance problem to the users. The Stop bar should be relocated 4ft from the edge of pavement and stop stencils should be installed.</p>					
<p>2) The stop sign on VT 73W might not be visible enough. Consider upgrading to bigger size.</p>					
<p>3) The intersection warning sign on VT 22 A North is perceived to be not visible enough. Could possibly relocate or upsize.</p>					
<p>4) Trucks create sight distance problem on VT 22 A North, when parked on the edge of pavement. Installation of delineators could solve the problem.</p>					

<p>5) Flashing Beacon head lamps are old which do not provide adequate visibility. Should be replaced with LED's for better visibility at the intersection.</p>			
<p>6) Redundant signs can create problem and may confuse driver. All signs should be reviewed.</p>			
<p>7) The 60 foot radius on the corners of VT 22A North and VT 73 East are too wide. Consider grinding and replace with 45 foot radius.</p>			
<p>8) The STOP ahead sign on VT 73 East is leaning.</p>			

Road Safety Audit Review Observations

VT 22A @ VT 73, Orwell

Utilities Response					
Observations and Possible Countermeasures	Beg. MM	End MM	<u>Decision</u> Agree/ Reject	Planned Completion Date	Reason for Dismissal/Comments
<p>1. Truck parking at Gulf gas station creates sight distance problem. Utilities should discuss with the owner, plans to add a raised island.</p>					

