

## **APPENDIX E**

# **VTrans Crosswalk Analysis**



State of Vermont  
 Agency of Transportation  
 National Life Building  
 Drawer 33  
 Montpelier, VT  
 05633-5001

# VTTrans *Working to Get You There*

PROGRAM DEVELOPMENT DIVISION  
 Traffic Operations Section  
**Amy L. Gamble, PE**  
 Phone: (802) 828-1055  
 Fax: (802) 828-2640

December 12, 2005

Mr. Patrick C. Scheidel, Town Manager  
 Town of Essex  
 81 Main Street  
 Essex Junction, VT 05452

**RE: Proposed marked crosswalk location on VT 15 near the intersection of Sand Hill Road in Essex, VT**

Dear Mr. Scheidel:

Traffic Operations has completed our engineering review of the proposed crosswalk location on VT 15 at the intersection of Sand Hill Road in the town of Essex. We find that the proposed location does not warrant a marked crosswalk, due to insufficient pedestrian volumes.

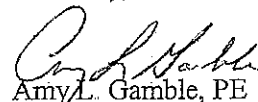
Pedestrian counts conducted on September 21<sup>st</sup> and 22<sup>nd</sup> of 2005 indicated that fewer than 20 pedestrians crossed at the proposed crosswalk location during the peak hour of use, which is the required pedestrians per hour threshold for crosswalks at mid-block or at uncontrolled intersections. In addition, it was observed that students are bussed to and from school.

The Agency will not be installing a marked crosswalk at the proposed location at this time. However, a work order will be issued to install the new fluorescent yellow-green pedestrian signs warning the traveling public that unexpected pedestrian activity may occur in this area. Should the pedestrian volumes increase in the future, we will reconsider your request.

We thank you for your input on this matter and we share your concern for the safety of pedestrians and the traveling public. If you have any questions or need additional information, please call me at (802) 828-1055.

If you have any questions or need additional information, please call me at (802) 828-1055.

Sincerely,

  
 Amy L. Gamble, PE  
 Traffic Systems Engineer

ALG: nla

Cc: Dick Hosking, DIA 5

[www.aot.state.vt.us](http://www.aot.state.vt.us)

Telecommunications Relay Service 1-800-253-0191

*copy to town file*

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AGENCY OF TRANSPORTATION

OFFICE MEMORANDUM

PROJECT DEVELOPMENT DIVISION  
Traffic Operations Section

<b>TO:</b>	Maureen Carr, Traffic Analysis Engineer
<b>FROM:</b>	Nancy L. Avery, Regional Traffic Investigator
<b>DATE:</b>	
<b>SUBJECT:</b>	Traffic / Pedestrian Count Request (RE: Traffic Investigation No. 119-05)

Town/Project: Essex Route(s): VT 15 M.P. : 5.60 +/-

Overtime Charge No: EA/SUB-EA Task Code: \_\_\_\_\_  
(Planning shall use their own task code)

**Check as Required**

Initial Year (2003)	Projected Year (0000)	Description of Activity
<u>X</u>	_____	12-hour Counts, adjusted to average weekday
_____	_____	15-minute Counts, for AM/PM peak hours on
_____	_____	ADT, DHV and DDHV
_____	_____	Percent Trucks, in DHV

#195310089  
VT 15/Sand Hill Rd.  
cc: file  
Greg CUMPO  
Christine Forde w/ tonsambel

Signal Site \_\_\_\_\_ Pedestrian Counts by: X Number only  
Existing Crosswalk \_\_\_\_\_ Age  
X Proposed Crosswalk \_\_\_\_\_ Location  
Other: \_\_\_\_\_ Other: \_\_\_\_\_

General Pedestrian-Count Information Sketch attached: Yes X No \_\_\_\_\_

- Survey should be conducted when conditions are favorable to pedestrians.
- Indicate type of vehicular/pedestrian incidents, if any occur.
- Indicate and label movements of disabled pedestrians, if any are counted.
- Proposed Crosswalk: Count pedestrians within 50 feet of site as potential crosswalk users.
- Existing Crosswalk: Count pedestrians within \_\_\_\_\_ feet of crosswalk as using the crosswalk.
- Existing Crosswalk: Count pedestrians \_\_\_\_\_ feet beyond crosswalk as non-crosswalk users.

Remarks: \_\_\_\_\_

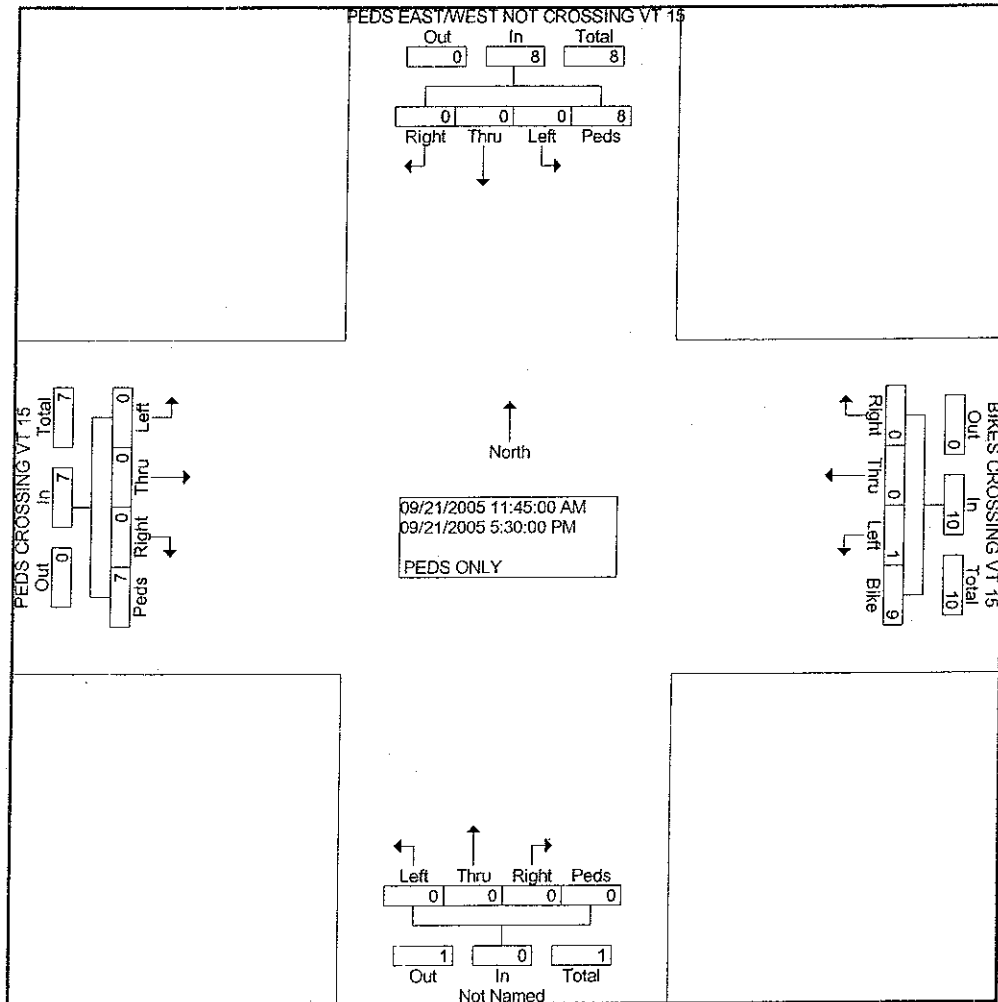
c: Project File: \_\_\_\_\_



Counier: T12-333  
 Counted By: JSumner  
 Weather: SUNNY  
 VT 15 & SANDHILL ROAD

The Vermont Agency of Transportation  
 Traffic Research/ Engineering Service  
 Turning Movement Report

File Name : 18-JS-2  
 Site Code : 30406877  
 Start Date : 09/21/2005  
 Page No : 2



Counter: T12-333  
 Counted By: JSumner  
 Weather: SUNNY  
 VT 15 & SANDHILL ROAD

The Vermont Agency of Transportation  
 Traffic Research/ Engineering Service  
 Turning Movement Report

File Name : 18-JS-3  
 Site Code : 30406877  
 Start Date : 09/22/2005  
 Page No : 1

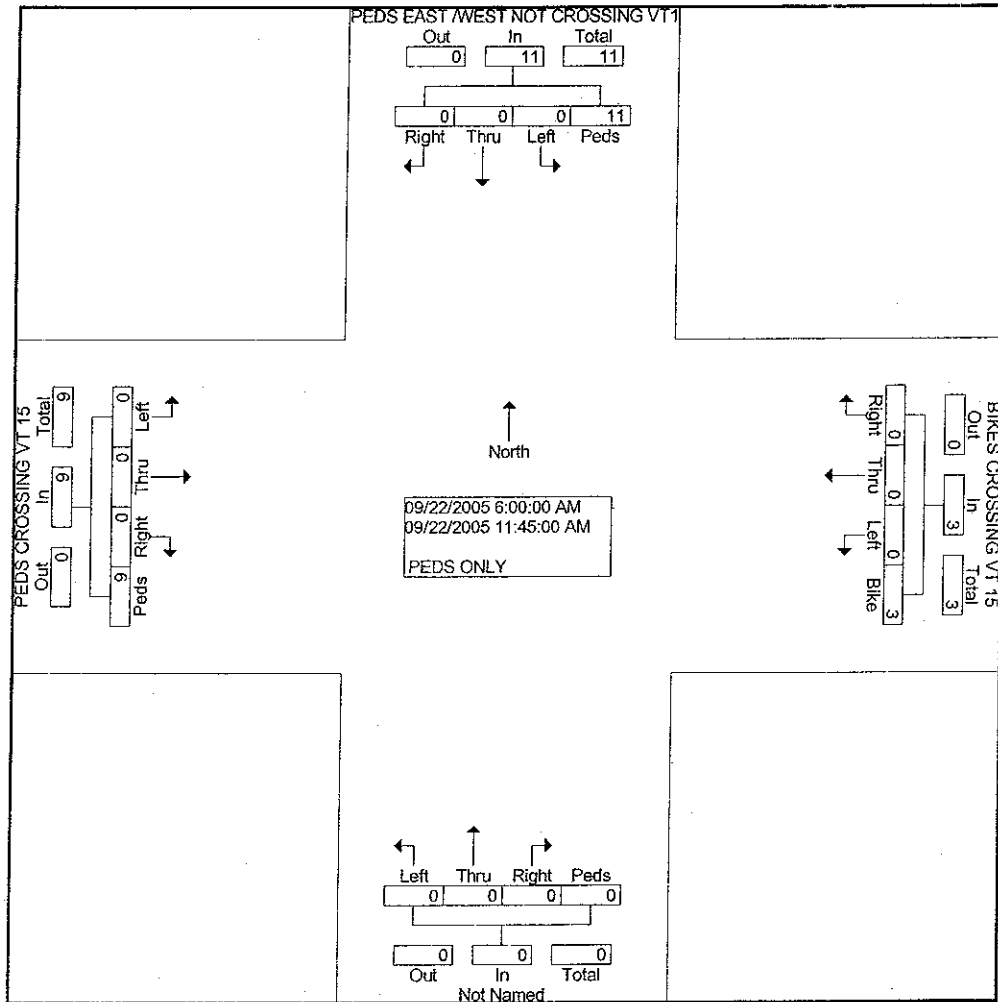
Groups Printed- PEDS ONLY

Start Time	PEDS EAST / WEST NOT CROSSING VT1 From North				BIKES CROSSING VT 15 From East				From South				PEDS CROSSING VT 15 From West				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Bike	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	4
08:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
08:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	3	7
09:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
09:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
10:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5	6
Total	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	6	9
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	11	0	0	0	3	0	0	0	0	0	0	0	9	23
Approch %	00	00	00	1000	00	00	00	1000	00	00	00	00	00	00	00	1000	
Total %	0.0	0.0	0.0	47.8	0.0	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.1	

Counter: T12-333  
 Counted By: JSumner  
 Weather: SUNNY  
 VT 15 & SANDHILL ROAD

The Vermont Agency of Transportation  
 Traffic Research/ Engineering Service  
 Turning Movement Report

File Name : 18-JS-3  
 Site Code : 30406877  
 Start Date : 09/22/2005  
 Page No : 2



Counter: T-2093  
 Counted By: JLeblanc  
 Weather: Sunny  
 Essex 15-4.05

The Vermont Agency of Transportation  
 Traffic Research/ Engineering Service  
 Turning Movement Report

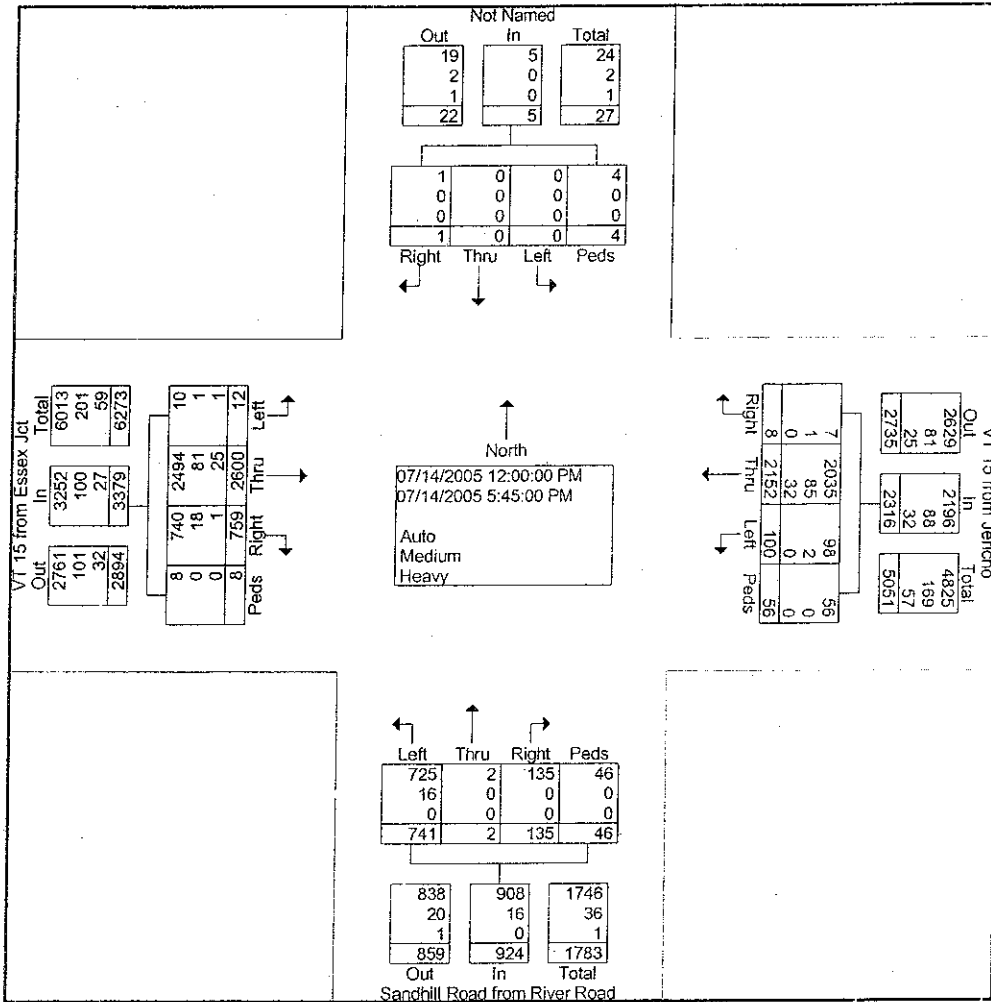
File Name : 15-4\_05pm05  
 Site Code : 30406877  
 Start Date : 07/14/2005  
 Page No : 1

VT 15 & Sandhill Road

Groups Printed- Auto - Medium - Heavy

Start Time	From North				VT 15 from Jericho From East				Sandhill Road from River Road From South				VT 15 from Essex Jct From West				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
12:00 PM	0	0	0	0	17	89	2	0	33	0	4	0	2	79	36	0	262
12:15 PM	0	0	0	0	2	105	2	0	38	0	4	0	0	91	36	0	278
12:30 PM	0	0	0	0	4	111	0	0	25	0	8	0	0	89	30	0	267
12:45 PM	0	0	0	3	2	97	1	9	43	0	4	0	0	64	30	0	253
Total	0	0	0	3	25	402	5	9	139	0	20	0	2	323	132	0	1060
01:00 PM	0	0	0	0	7	105	0	43	34	0	4	0	0	87	33	4	317
01:15 PM	0	0	0	0	2	83	0	0	35	0	3	0	0	95	21	0	239
01:30 PM	0	0	0	0	4	67	0	2	19	0	5	0	2	79	19	0	197
01:45 PM	0	0	0	0	2	86	0	1	27	0	4	0	0	73	24	0	217
Total	0	0	0	0	15	341	0	46	115	0	16	0	2	334	97	4	970
02:00 PM	0	0	0	0	5	114	0	0	39	0	4	0	0	89	23	0	274
02:15 PM	0	0	0	0	2	102	1	0	25	0	2	0	1	84	26	0	243
02:30 PM	0	0	0	0	2	82	0	0	19	0	8	0	0	89	26	0	226
02:45 PM	0	0	1	0	1	79	0	0	32	0	5	0	1	93	29	0	241
Total	0	0	1	0	10	377	1	0	115	0	19	0	2	355	104	0	984
03:00 PM	0	0	0	0	3	88	0	0	32	0	4	0	0	112	22	1	262
03:15 PM	0	0	0	0	6	89	0	0	33	0	4	35	0	118	35	1	321
03:30 PM	0	0	0	0	5	83	0	1	25	0	10	0	0	135	43	0	302
03:45 PM	0	0	0	1	2	91	0	0	29	0	9	10	0	125	30	0	297
Total	0	0	0	1	16	351	0	1	119	0	27	45	0	490	130	2	1182
04:00 PM	0	0	0	0	3	87	0	0	24	1	7	0	2	133	36	2	295
04:15 PM	0	0	0	0	3	83	1	0	16	0	6	0	0	141	25	0	275
04:30 PM	0	0	0	0	4	76	0	0	16	0	1	0	0	115	30	0	242
04:45 PM	0	0	0	0	9	99	0	0	36	0	5	0	0	165	44	0	358
Total	0	0	0	0	19	345	1	0	92	1	19	0	2	554	135	2	1170
05:00 PM	0	0	0	0	4	79	0	0	34	0	10	0	1	122	36	0	286
05:15 PM	0	0	0	0	1	109	1	0	36	0	11	1	2	151	42	0	354
05:30 PM	0	0	0	0	4	74	0	0	43	1	6	0	1	158	48	0	335
05:45 PM	0	0	0	0	6	74	0	0	48	0	7	0	0	113	35	0	283
Total	0	0	0	0	15	336	1	0	161	1	34	1	4	544	161	0	1258
Grand Total	0	0	1	4	100	2152	8	56	741	2	135	46	12	2600	759	8	6624
Apprch %	0.0	0.0	20.0	80.0	4.3	92.9	0.3	2.4	80.2	0.2	14.6	5.0	0.4	76.9	22.5	0.2	
Total %	0.0	0.0	0.0	0.1	1.5	32.5	0.1	0.8	11.2	0.0	2.0	0.7	0.2	39.3	11.5	0.1	

\* possible Summer Camp kids on Rec  
 SANDHILL POOL LOCATED ON SANDHILL Rd



Counter: T-2093  
 Counted By: JLeblanc  
 Weather: Sunny  
 Essex 15-4.05

The Vermont Agency of Transportation  
 Traffic Research/ Engineering Service  
 Turning Movement Report

File Name : 15-4\_05am05  
 Site Code : 30406877  
 Start Date : 07/15/2005  
 Page No : 1

VT 15 & Sandhill Road

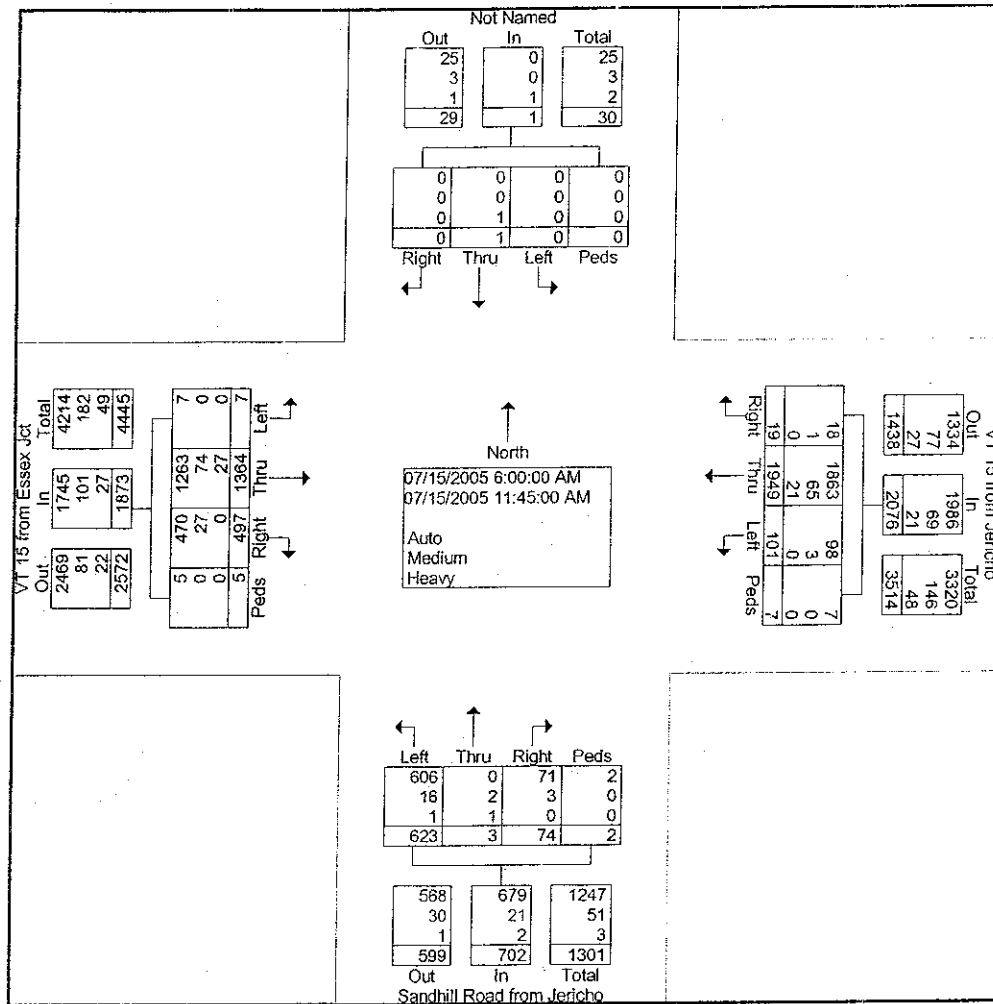
Groups Printed- Auto - Medium - Heavy

Start Time	From North				VT 15 from Jericho From East				Sandhill Road from Jericho From South				VT 15 from Essex Jct From West				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:00 AM	0	0	0	0	6	66	1	0	12	0	4	0	0	6	4	0	0	99
06:15 AM	0	1	0	0	20	75	2	0	22	3	11	0	0	1	0	0	0	135
06:30 AM	0	0	0	0	4	80	0	0	21	0	2	0	0	47	17	0	0	171
06:45 AM	0	0	0	0	0	59	1	0	10	0	1	0	0	27	5	0	0	103
Total	0	1	0	0	30	280	4	0	65	3	18	0	0	81	26	0	0	508
07:00 AM	0	0	0	0	6	32	5	0	13	0	2	0	0	21	7	0	0	86
07:15 AM	0	0	0	0	1	57	1	0	25	0	1	0	2	34	9	0	0	130
07:30 AM	0	0	0	0	2	50	0	1	20	0	2	0	0	34	22	1	0	132
07:45 AM	0	0	0	0	5	58	1	0	9	0	2	0	1	51	17	0	0	144
Total	0	0	0	0	14	197	7	1	67	0	7	0	3	140	55	1	0	492
08:00 AM	0	0	0	0	3	110	0	0	25	0	5	0	2	68	28	0	0	241
08:15 AM	0	0	0	0	4	97	0	0	34	0	4	0	0	72	36	0	0	247
08:30 AM	0	0	0	0	6	76	2	0	33	0	1	0	0	54	38	1	0	211
08:45 AM	0	0	0	0	5	113	0	0	30	0	6	0	0	75	22	0	0	251
Total	0	0	0	0	18	396	2	0	122	0	16	0	2	269	124	1	0	950
09:00 AM	0	0	0	0	6	76	0	1	34	0	1	2	0	57	26	0	0	203
09:15 AM	0	0	0	0	6	66	1	0	33	0	2	0	0	45	24	0	0	177
09:30 AM	0	0	0	0	2	77	1	0	28	0	2	0	0	51	23	0	0	184
09:45 AM	0	0	0	0	1	97	0	0	46	0	3	0	0	98	23	0	0	268
Total	0	0	0	0	15	316	2	1	141	0	8	2	0	251	96	0	0	832
10:00 AM	0	0	0	0	4	99	1	1	29	0	5	0	1	63	19	2	0	224
10:15 AM	0	0	0	0	2	75	1	0	26	0	2	0	0	76	21	0	0	203
10:30 AM	0	0	0	0	5	91	1	2	38	0	4	0	0	75	24	0	0	240
10:45 AM	0	0	0	0	2	83	0	0	25	0	1	0	1	61	18	0	0	191
Total	0	0	0	0	13	348	3	3	118	0	12	0	2	275	82	2	0	858
11:00 AM	0	0	0	0	6	81	1	0	24	0	1	0	0	77	31	0	0	221
11:15 AM	0	0	0	0	1	103	0	0	22	0	2	0	0	92	28	1	0	249
11:30 AM	0	0	0	0	3	106	0	0	26	0	5	0	0	100	25	0	0	265
11:45 AM	0	0	0	0	1	122	0	2	38	0	5	0	0	79	30	0	0	277
Total	0	0	0	0	11	412	1	2	110	0	13	0	0	348	114	1	0	1012
Grand Total	0	1	0	0	101	1949	19	7	623	3	74	2	7	1364	497	5	0	4652
Apprch %	00	100.0	00	00	4.9	93.9	0.9	0.3	88.7	0.4	10.5	0.3	0.4	72.8	26.5	0.3	0	
Total %	00	0.0	0.0	0.0	2.2	41.9	0.4	0.2	13.4	0.1	1.6	0.0	0.2	29.3	10.7	0.1	0	

Counter: T-2093  
 Counted By: JLeblanc  
 Weather: Sunny  
 Essex 15-4.05

The Vermont Agency of Transportation  
 Traffic Research/ Engineering Service  
 Turning Movement Report

File Name : 15-4\_05am05  
 Site Code : 30406877  
 Start Date : 07/15/2005  
 Page No : 2





**AGENCY OF TRANSPORTATION**

**OFFICE MEMORANDUM**

**PROJECT DEVELOPMENT DIVISION  
Traffic Operations Section**

**TO:** Mandy Shatney, Highway Research  
**FROM:** Nancy L. Avery, Traffic Operations Regional Traffic Investigator  
**DATE:** 09/15/2005  
**SUBJECT:** Request for Crash Data

At your earliest convenience, please forward the information indicated below for the roadway segment(s) specified. Thank you.

- Copy of computer printout from the latest 5-year accident file
- Copy of crash rate, State average, critical rate, etc.
- Copy of computer printout from current year's crash file (if available)
- Copy of related accident reports (if available and pertinent to)

<u>Town</u>	<u>Route</u>	<u>From-Thru Milepoints</u>	<u>Required for Traffic Committee</u>
Essex	VT-15	5.55 – 5.65	NO

Mandy:

c: Project File

## PROGRAM DEVELOPMENT DIVISION

Highway Research Unit

**TO:** Nancy Avery, Regional Traffic Investigator

**FROM:** Mary C. Spicer, Highway Research Supervisor *MS*  
By: Mandy Shatney, AOT Technician III *(MS)*

**DATE:** September 16, 2005

**SUBJECT:** Essex VT 15 MM 5.55 - 5.65

In response to your September 15, 2005 request, I have provided you with the 1999-2003 crash listing and analysis for the influence of the highway sections listed above. I offer the following information:

-The crash analysis for the 1999-2003 period does not meet the High Crash Location (HCL) criteria for the influence of the highway sections listed above. Although it does not meet the criteria, the Actual/Critical rate is 0.999 and we would consider looking at this location more closely.

-There is one intersection within the requested section with FAU 5402 (Sand Hill Road). I have provided you with the analysis for the intersection, which is not considered a HCL.

-This section was not previously considered a HCL based on the formal report for 1998-2002.

-I have provided you with the 2004 crash listing for this section. At this point 49% of the 2004 data has been entered.

-There have been no analyses done on this section in the past.

Please be advised: Any police crash reports that may have been provided need to be returned to this office once you have completed your analysis.

Please call Mandy Shatney at 828-0717 or Steve DeForge at 828-3440 or email us if you have any questions.

attach

VERMONT AGENCY OF TRANSPORTATION  
 Program Development Division  
 Highway Research Unit

DATE: 09/16/05  
 (xx/xx/xx)

CRASH ANALYSIS: \* SECTION \*

ROUTE: VT 15

TOWN: ESSEX

MILEPOINT:	BEGIN	END
LENGTH:	5.55	5.65
	0.1	

Functional Classification: 14  
 (by FC code Enter 1 2 6 7 8 9 11 12 14 16 17 or 19)

PROJECT NUMBER: \_\_\_\_\_

BY(initials): MS

CHECKED BY: \_\_\_\_\_

	Year	Total Crashes	Injury Crashes	Number of Injuries	Fatal Crashes	Number of Fatalities
1	1999	1	1	1	0	0 1999
2	2000	3	2	2	0	0 2000
3	2001	2	0	0	0	0 2001
4	2002	1	1	3	0	0 2002
5	2003	2	1	1	0	0 2003
TOTALS		9	5	7	0	0

Y  N ← Y or N: Are there 5 or more crashes in the 5 year period, OR is there at least one crash per year in the 5 year period?

CRASH (Actual) RATE: 3.945 ACC/MILLION VEHICLE MILES(MVM)

STATEWIDE RATE: 1.7787 ACC/MILLION VEHICLE MILES(MVM)

CRITICAL RATE: 3.947 ACC/MILLION VEHICLE MILES(MVM)

\*\* CRASH (Actual) RATE/CRITICAL RATE: 0.999 RATIO

HIGH CRASH LOCATION (HCL)(RATIO > 1.000): No

SEVERITY INDEX (AVE COST(\$)) PER CRASH Year = 2000 31 233

NOTE: For a location to be considered a HCL, two criteria must be satisfied First, five (5) or more crashes must have occurred in a five-year period or the equivalent of one (1) per year Second the Actual to Critical ratio must be 1.000 or higher

REMARKS:

ROUTE:	VT 15	TOWN:	ESSEX
M.P.:	BEGIN 5.55	END 5.65	LENGTH: 0.10 DATE: 09/16/05 (xx/xx/xx)
AADT 2001	LENGTH	WEIGHT	
1 13950	0.05	697.5	
2 11050	0.05	552.5	
3		0	
4		0	
5		0	
6		0	
7		0	
8		0	
9		0	
10		0	
TOTALS	0.10	1250	
WTD AADT =		12500	1999 to 2003
MIL VEH MI (MVM)		2 281	
Number of years of crash data:			5

VERMONT AGENCY OF TRANSPORTATION  
 Program Development Division  
 Highway Research Unit

DATE: 09/16/05  
 (x09x05)

CRASH ANALYSIS: \* INTERSECTION \*

	ROUTE	N,S,E, or W leg?	MILEPOINT:	
			BEGIN	END
Mainline Leg 1=	VT 15	W	5.59	5.6
Mainline Leg 2=	VT 15	E	5.6	5.61
Side road Leg 1 =	FAU 5402 (SAND HIL	S	2.24	2.25
Side road Leg 1 =				

TOWN: ESSEX

PROJECT NUMBER: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

Functional Class Routes: 4 Principal Arterial (u)/Urban Collector (u)  
 (Pick from listing below: Table starts in cell C90 )

	Year	Total Crashes	Injury Crashes	Number of Injuries	Fatal Crashes	Number of Fatalities
1	1999	1	1	1	0	0
2	2000	3	2	2	0	0
3	2001	2	0	0	0	0
4	2002	1	1	3	0	0
5	2003	2	1	1	0	0
TOTALS		9	5	7	0	0

Y ← Y or N: Are there 5 or more crashes in the 5 year period. OR  
 is there at least one crash per year in the 5 year period?

CRASH (Actual) RATE: 0.340 ACC/MILLION VEHICLES(MV)

STATEWIDE RATE: 0.232 ACC/MILLION VEHICLES(MV)

CRITICAL RATE: 0.455 ACC/MILLION VEHICLES(MV)

\*\* CRASH (Actual) RATE/CRITICAL RATE: 0.748 RATIO

HIGH CRASH LOCATION (HCL)(RATIO > 1.000): No

SEVERITY INDEX (AVE COST(\$)) PER CRASH: 31,233

NOTE: For a location to be considered a HCL, two criteria must be satisfied First, five (5) or more crashes must have occurred in a five-year period or the equivalent of one (1) per year Second the Actual To Critical ratio must be 1.000 or higher

REMARKS:

		MILEPOINT: N S E		DATE: 09/16/05	
	ROUTE	W Leg?	BEGIN	END	
Mainline Leg 1=	VT 15	W	5.59	5.6	
Mainline Leg 2=	VT 15	E	5.6	5.61	
Side road Leg 1 =	5402 (SAND HIL	S	2.24	2.25	
Side road Leg 1 =	0	0	0	0	

	AADT(both directions)	APPROACH LEG (N,S, E, or W LEG)
1	13950	W
2	11050	E
3	4000	S
4		
5		

INCOMING ADT	14500
MIL.VEH.(MV)	26.463

@VLOOKUP(X,RANGE,COLUMN\_OFFSET)  
 Lookup the Statewide crash rate  
 See table below

Number of years of crash data:

Vermont Agency of Transportation

Date: 09/16/2005

General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems  
From 01/01/99 To 12/31/03 General Yearly Summaries Information

Reporting Agency/Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Direction	Road Group
Route: VT-15											
0405/3682-02	Essex	5.59	04/19/2002	09:02	Clear	Inattention, No improper driving	Rear End	3	0	E	SH
0405/4274	Essex	5.6	01/22/1999	17:39	Steel Hail Freezing Rain on Drizzle	Failed to yield right of way		1	0	E	SH
0405/6416	Essex	5.6	03/14/2000	07:15	Unknown	Failed to yield right of way		1	0	E	SH
0405/10397	Essex	5.6	10/30/2000	22:23	Cloudy	Inattention	Rear End	1	0	E	SH
0405/11162	Essex	5.6	12/26/2000	10:35	Clear	Failed to yield right of way	Rear End	0	0	W	SH
0405/12583	Essex	5.6	05/01/2001	6:35	Clear	Failed to yield right of way	Rear End	0	0	E	SH
0405/13356	Essex	5.6	09/21/2001	17:17	Clear	Followed too closely	Rear End	0	0	W	SH
0405/10463-03	Essex	5.6	06/23/2003	12:22	Clear	Unknown	Right Turn	1	0	E	SH
0405/13036-03	Essex	5.6	10/28/2003	07:23	Clear	Exceeded authorized speed limit, Failed to yield right of way	Right Turn and Thru, Angle Broadside ->A-	0	0	E	SH

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

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

Vermont Agency of Transportation  
 General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems  
 2004 General Yearly Summaries Information

Date: 09/16/2005

Reporting Agency/Number	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Number Of Injuries	Number Of Fatalities	Direction	Road Group
Route: VT-15 0406/538-04	Essex	5.6	07/03/2004	19:47	Clear	Under the influence of medication/drugs/alcohol. Failed to yield right of way	Left Turn and Thru, Broadside v<-	0	0	E	SH
0406/10792-04	Essex	5.6	08/20/2004	16:48	Cloudy	Failure to keep in proper lane or running of load	Same Direction Sideswipe	0	0	E	SH

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

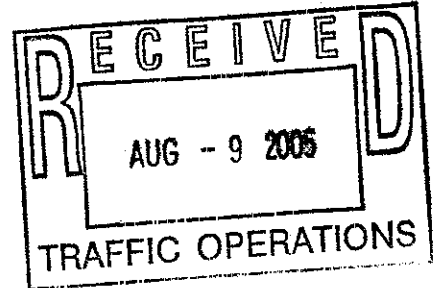
\*Crash occurred prior to the last Highway Improvement Project. This data should not be used in a crash analysis. UNK indicates the Mile Marker is Unknown.



# TOWN OF ESSEX VERMONT

81 MAIN STREET, ESSEX JUNCTION, VERMONT 05452  
Fax: 878-1353 • E-mail: manager@essex.org • Website: www.essex.org

Amy Gamble  
VTRANS Traffic Operations Engineer  
VTRANS  
National Life Building- Drawer 33  
Montpelier, VT 05633-5001



Dear Amy,

The Selectboard requests that VTRANS give approval for a fully defined pedestrian crossing at the intersection of VT Route 15 and Sand Hill Road. The rationale for the request follows:


- 1) An investigation of VT 15 revealed a speed limit of 35 miles per hour with a traffic count conducted by CCMPO of 4700 AADT. This section of Jericho Road is two lanes wide with a sidewalk on either side. Both sidewalks approach the location of the requested crosswalk. There are a significant number of younger pedestrians crossing in this area; however most of the pedestrian traffic occurs throughout the day (from observation), while the peak traffic hours are in the earlier morning and late afternoon. From collected data it appears that the threshold number of 20 pedestrians or more is commonly met in the afternoon but during the AM peak it is not. Due to the crossing location (Sand Hill Park and the schools on Sand Hill Road), the age of the pedestrians, and the number of pedestrians crossing during the non-peak hours, the site should be considered as a special case.
- 2) Between the two entrances onto Sand Hill Road there is already a sidewalk that approaches VT 15 and ends at the edge of the road. A crosswalk here would gain pedestrians access to the center of town.
- 3) At the proposed site, there is more than adequate sight distance for a 35 mph speed. As a person walks to the South, obstacles block a drivers vision at 350 feet of distance. The site distance of 500 feet is exceeded in all other directions.
- 4) Two options appear to be viable. Option "1" is the installation of a fully marked crosswalk as defined in Section 3.4.1 of The Agency Guidelines. Option "2" would be to have a specific site crosswalk at the location defined in section 5.3 case C. This would allow pedestrians a safer area to cross without giving them the right of way.

TOWN MANAGER	PARKS AND RECREATION	COMMUNITY DEVELOPMENT	PUBLIC WORKS	ASSESSOR	FINANCE	TOWN CLERK	LIBRARY	POLICE
878-1341	878-1342	878-1343	878-1344	878-1345	878-1359	879-0413	879-0313	878-8331

- 5) The Town's recommendation is Option "1". The sidewalk is already set up for a crosswalk to be in place and the Sand Hill traffic would remain unaffected by the crosswalk. Signs would need to be placed in both directions along VT 15 to alert drivers of the crosswalk

This crossing is important to the Town. Pedestrians will cross at this location to the town center, to Sand Hill Park, and to the schools, irrespective of the markings. However it is our opinion that the absence of a crosswalk, whether marked or unmarked, creates a potential safety risk.

Sincerely,



Patrick C. Scheidel  
Town Manager

# Memorandum

TO: Dennis Lutz  
FROM: Erin Maloney *EMM*  
DATE: July 25, 2005  
SUBJECT: Request for proposal of marked crosswalk

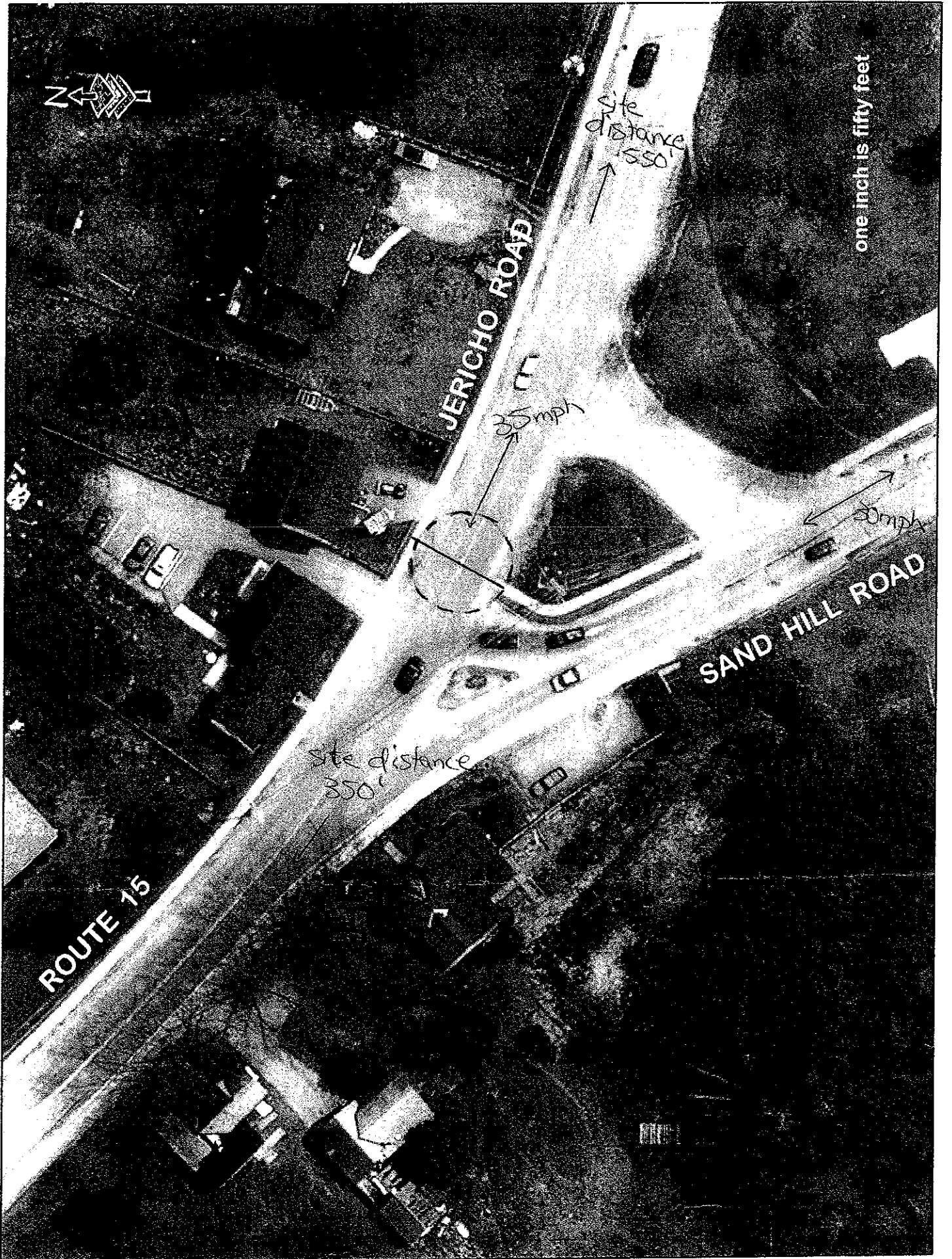
ISSUE: The issue at hand is whether or not the Selectboard will approve the recommendation to request a marked crosswalk at the Sand Hill and Vermont Route 15 intersection.

DISCUSSION: A resident has made a request for a pedestrian crossing.

Due to the importance of the Sand Hill Road and Vermont Route 15 intersection to pedestrians it is my opinion that it should be considered for a fully-defined pedestrian crossing. With Sand Hill Park and two of the Essex Schools on Sand Hill Road the majority of the pedestrian traffic is children. Both approaches to the proposed crosswalk area have speed limits below 40 miles per hour with an annual average daily traffic (AADT) exceeding 3000 cars. All directions have a sight distance of 350 feet or greater and the nearest crosswalk is 250 feet from the proposed site, which crosses Sand Hill. There are no crosswalks along VT 15 in the area. The chosen site allows crossing with the freedom of the Sand Hill Road traffic. Although on average there are not greater than 20 pedestrians crossing in the vehicular peak hours (in studies conducted in the summer months), most of the pedestrians are children. In the non-vehicular peak period there are often greater than 30 children in an hour. In our opinion, all needs are met for a marked crosswalk. If VTRANS will not support a fully defined marked crosswalk, then consideration should be given to a specific site crosswalk (case 3 unmarked crosswalk) outlines under section 5.3 of The Agency Guidelines for pedestrian road crossings.

COSTS: The costs associated with this crossing would include: signs, paint, and labor.

RECOMMENDATION: It is recommended that the Selectboard approve the request for a fully marked pedestrian crossing at the intersection of Sand Hill Road and VT 15 or as an alternative a signed but unmarked pedestrian crossing and direct the Administration to forward the request to VTRANS.



one inch is fifty feet

JERICOHO ROAD

SAND HILL ROAD

ROUTE 15

site distance  
1550'

30 mph

site distance  
350'

30 mph

#### **A. SIGNS FOR A MARKED SCHOOL CROSSWALK**

- 1 Advance S1-1 signs should be 150-700 feet in advance of the crosswalk.
2. The S1-1 and W16-7P signs should be installed as such:
  - a. Install at the crosswalk, each on the correct side of the road (preferred), or
  - b. Install back-to-back at the crosswalk, or
  - c. Install in advance of the crosswalk whatever distance it takes
3. The Advance S1-1 signs are only required at the ends of a series of crosswalks, however, the S1-1 and W16-7P should be installed at each crosswalk

#### **B. SIGNS FOR AN UN-MARKED SCHOOL CROSSING**

- 1 Advance S1-1 signs should be 150-700 feet in advance of the crossing area.
2. The S1-1 and W16-7P signs should be installed as such:
  - a. Install at the crossing, each on the correct side of the road (preferred), or
  - b. Install back-to-back at the crossing, or
  - c. Install in advance of the crossing whatever distance it takes
3. The Advance S1-1 signs are only required at the ends of a series of crossings, however, the S1-1 and W16-7P signs should be installed at each crossing.

#### **C. SIGNS FOR A MARKED NON-SCHOOL CROSSWALK**

1. Advance W11-2 signs should be 150-700 feet in advance of the crosswalk.
2. The W11-2 and W16-7P signs should be installed as such :
  - a. Install at the crosswalk, each on the correct side of the road (preferred), or
  - b. Install back-to-back at the crosswalk, or
  - c. Install in advance of the crosswalk whatever distance it takes.
3. The Advance W11-2 signs are only required at the ends of a series of crosswalks, however, the W11-2 and W16-7P should be installed at each crosswalk.

#### **D. SIGNS FOR A UN-MARKED NON-SCHOOL CROSSING**

1. Advance W11-2 signs should be 150-700 feet in advance of the crossing
2. The W11-2 and W16-7P signs should be installed as such:
  - a. Install at the crossing, each on the correct side of the road (preferred), or
  - b. Install back-to-back at the crossing, or
  - c. Install in advance of the crossing whatever distance it takes.
3. The Advance W11-2 signs are only required at the ends of a series of crossings, however, the W11-2 and W16-7P should be installed at each crossing.

#### **E. GENERAL INFORMATION THAT APPLIES TO ALL SITUATIONS**

1. Use MUTCD Table 2C-4 for location of advance signs.
2. W11-2 and S1-1 signs can be 24" x 24" in urban areas, 30" x 30" in rural areas.
3. The bottom of sign(s) at crosswalk crossings should be:
  - Single Sign - 7 feet above the ground
  - Multiple Signs - 6 feet above the ground
4. Use only the following Condition Codes:
  - G=Good/New F=Fair/Functional P=Poor/Vandalized M=Missing

VERMONT AGENCY OF TRANSPORTATION  
TRAFFIC OPERATIONS  
TRAFFIC INVESTIGATION FORM

T.I.# 119

DATE: 8-24-05

REQUEST FROM: TOWN OF ESSEX

TOWN: ESSEX

ROUTE: VT 15

PHONE: \_\_\_\_\_ (H)  
\_\_\_\_\_ (W)

MILEPOINT: \_\_\_\_\_

DISTRICT: 5 TOWN CODE: \_\_\_\_\_

DESCRIBE REQUEST: ENGINEERING STUDY FOR MARKED CROSSWALK

LOCATION: SAND HILL RD.

RECOMMENDATION: marked x-walk - not warranted signed for pest activity

Field Review Done By: Nancy J. Chery

Date of Review: 08/24/05

Request APPROVED / DENIED (circle)

D.T.A.#: 5

Notified?:

Workorder Number: 05-845

Response By Letter:

Verbal Response: \_\_\_\_\_

Workorder Date: 12/22/05

Reponse By E-Mail: \_\_\_\_\_

No Response: \_\_\_\_\_

**Vermont Agency of Transportation**  
**NEW CROSSWALK REQUEST**  
**TRAFFIC ENGINEERING REPORT**

Done by: Nancy L. Avery

Date: September 23, 2005

District: 5 Town: Essex Route: VT 15 Mile point: 5.60 +/-

Type of Crosswalk: School  Signal  Stop  Rural  Other  Proposed

Location reviewed July 2001, pedestrian activity was mostly bicyclist, which the Agency found that at a crosswalk they tend not to get off their bikes and walk them across but ride across marked crosswalks.

Brief History: One problem that was noticed at this intersection was the amount of eastbound VT Route 15 vehicles turning east onto Sand Hill Rd. If a pedestrian is in the proposed crosswalk and the leading vehicle makes a turn onto the eastbound slip ramp, and the following vehicle continues eastbound on VT Route 15 the driver is unaware of any pedestrians/bicyclist activity in the crosswalk. The posted speed limit is 35 mph. The marked crosswalk was determined to be not warranted. (07/02/2001)

Name of School / Entity: \_\_\_\_\_ Hours: \_\_\_\_\_

Roadway Widths: Left: 12 ft Right: 12 ft Shoulder Widths: Left: 2 ft Right: 3 ft

Conc. Sidewalks intersects with VT 15 at a 90

Sidewalk/Curb: Left: 4' conc. Sidewalk plus 4 grass strip Right: degree angle

ADA Information: Left: \_\_\_\_\_

Right: \_\_\_\_\_

Will Truncated Domes Be Required? \_\_\_\_\_

Sight Distance From Proposed Crosswalk: Looking SB / WB: Northside = 500 ft Southside = 1400 ft Looking NB / EB: Northside = 1500 ft Southside = 1300 ft

Sight Distance to Proposed Crosswalk: Driving SB / WB: 800 ft +/- Driving NB / EB: 360 ft +/-

Distance to Nearest Crosswalk(s): NB / SB: - EB / WB: -

Parking Habits: No parking zone on north side of highway from mp. 5.711 - 5.727

Posted Speed Limits: Regulatory: 40 School Zone: \_\_\_\_\_ Advisory Speed: \_\_\_\_\_

Speed Survey Done? Yes: 2 No: 41 Done by: Nancy L. Avery Date: 08/25/2005

37 41 33-42 14700 A

Average Speed: 35 85th: 38 10-mile pace: 31-40 AADT: 11200 A Year of AADT: 2002

Crash Data: From Year: 1999 Thru Year: 2003 Ratio of Crash Rate/ Critical Rate: 3.947 (for 5.55-5.65)  
0.455 (for intersection)

Total Number of crashes: 9 With Injury: 7 With Fatality: 0

Types of: (1) Failed to yield right-of-way (2) Inattention

Date of Pedestrian Study: 09/21/2005 Time of Study: 11:45 am - 5:30 pm Day of week: Wednesday  
09/22/2005 6:00 am - 11:45 am Thursday

Number of Pedestrians: 7 (9/21) AM 10:00 - 11:00 PM 3:00 - 4:00  
9 (9/22) Peak: (6 peds.) Peak: (6 peds.) Weather: Sunny both days

Type of Pedestrians: \_\_\_\_\_

Remarks: \_\_\_\_\_

Recommendation: \_\_\_\_\_

Recommendation by: \_\_\_\_\_

Date: \_\_\_\_\_

W.O. No. & Date: \_\_\_\_\_

Ref : CROSSWALK TRAFFIC ENGINEERING REPORT (reverse side)

Date: \_\_\_\_\_

District: \_\_\_\_\_ Town: \_\_\_\_\_

Route: \_\_\_\_\_

Milepoint: \_\_\_\_\_

**EXISTING SIGNS**

---

**PROPOSED SIGNS**

5.84

(5.841)

#37 (A) (5.845)

GETTY GAS  
+  
MINI MART

5.86

(5.859)

#39 (B) (5.867)

φ\*109533/19-50/13042

5.88

(5.881)

ESSEX  
CENTER  
ESSEX JCT. 3

5.90

CHILD  
CARE

#41 (A) (5.897)

(5.899)

STOP

mm 5.89 (5.899)

φ\*109534/20/133

(5.912) Chain link Fence

WOOD FENCE

5.92

VT 16

WOOD FENCE (5.925)

(5.931) (A)

5.94

φ\*134/109535/21  
φ\*3

Start point @ Perry Drive mm 5.97

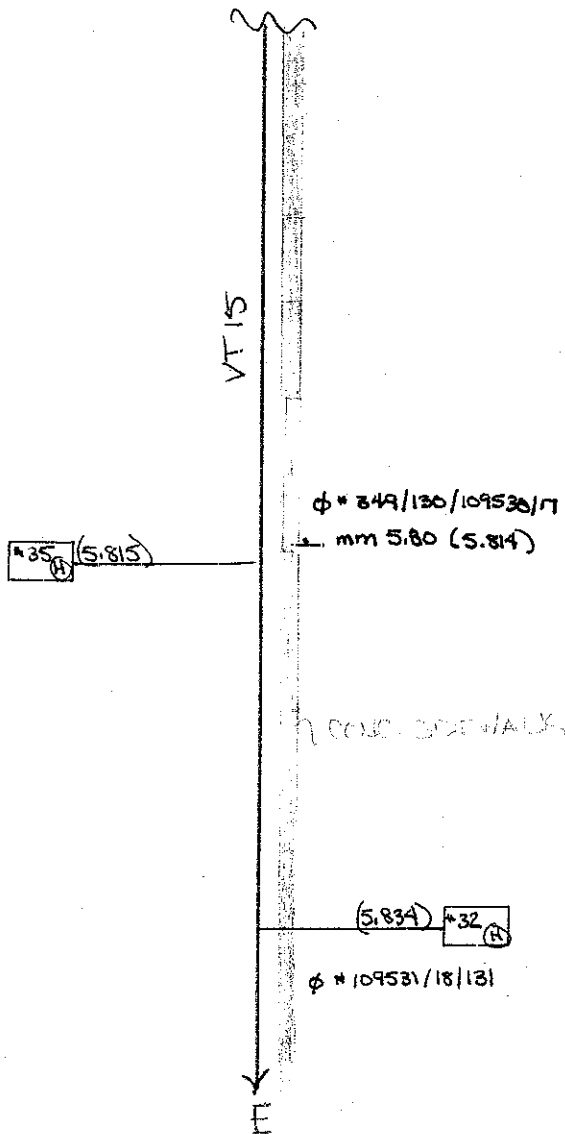
(5.941) SL  
40

SEE NEXT PAGE  
FOR ENLARGED  
SKETCH.

5.80

5.82

5.84



## Vermont Agency Of Transportation Spot Speed Survey Summary

Town	Essex
County	Chittenden
Route	VT 15
Speed Limit	40

Date	08/25/05
Day	Thursday
Time	11:41 am - 12:02 pm

Setup No.	1
Setup M.P.	5.70

ADT	14700 A
Year ADT	2002
DHV	1348

Survey Area	
From M.P.	5.68
To M.P.	5.62

Weather	Sunny and Clear
Observer	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	37	35	37
85TH Percentile Speed	41	38	41
Modal Speed	37	38	37
Percent In Pace	85	94	83
10 Mile Pace	35 - 44 33 - 42	31 - 40 30 - 39	33 - 42 0 - 0
Recommended Speed Limit ( All Vehicles)			39 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	0	0	0	0	0	0
51-55	0	0	0	0	0	0
46-50	2	2	0	0	2	2
41-45	22	23	0	0	22	20
36-40	62	83	8	47	70	78
31-35	14	97	8	94	22	97
26-30	3	100	1	100	4	100
Under 26	0	100	0	100	0	100
Totals	103	100	17	100	120	100

General Remarks On Traffic (Only For The Area Covered By This Spot Speed Survey)	
Setup Location Description	
Parked at the corner of Shell Gas Station Parking lot - eastbound shoulder facing west.	

## Vermont Agency Of Transportation Spot Speed Survey Summary

Town	Essex
County	Chittenden
Route	VT 15
Speed Limit	40

Date	08/25/05
Day	Thursday
Time	12:10 pm - 12:31 pm

Setup No.	2
Setup M.P.	5.55

ADT	11200A
Year ADT	2002
DHV	1185

Survey Area	
From M.P.	5.57
To M.P.	5.62

Weather	Sunny and Clear
Observer	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	35	32	35
85TH Percentile Speed	38	34	38
Modal Speed	35	34	35
Percent In Pace	85	100	84
10 Mile Pace	31 - 40 30 - 39	28 - 37 0 - 0	31 - 40 30 - 39
Recommended Speed Limit ( All Vehicles)			37 35

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	0	0	0	0	0	0
51-55	0	0	0	0	0	0
46-50	0	0	0	0	0	0
41-45	6	6	0	0	6	5
36-40	45	48	1	10	46	44
31-35	46	91	6	70	52	89
26-30	10	100	3	100	13	100
Under 26	0	100	0	100	0	100
Totals	107	100	10	100	117	100

General Remarks On Traffic (Only For The Area Covered By This Spot Speed Survey)	
Setup Location Description	
Parked in church drive with radar facing East. Vehicle and drive on North side of road.	

## Vermont Agency Of Transportation Spot Speed Survey Field Report

Town Essex	Date 08/25/05
Route VT 15	Day Thursday
Speed Limit 40	Time 11:41 am - 12:02 pm
	Survey Area
Setup No. 1	From M.P. 5.68
Setup M.P. 5.70	To M.P. 5.62

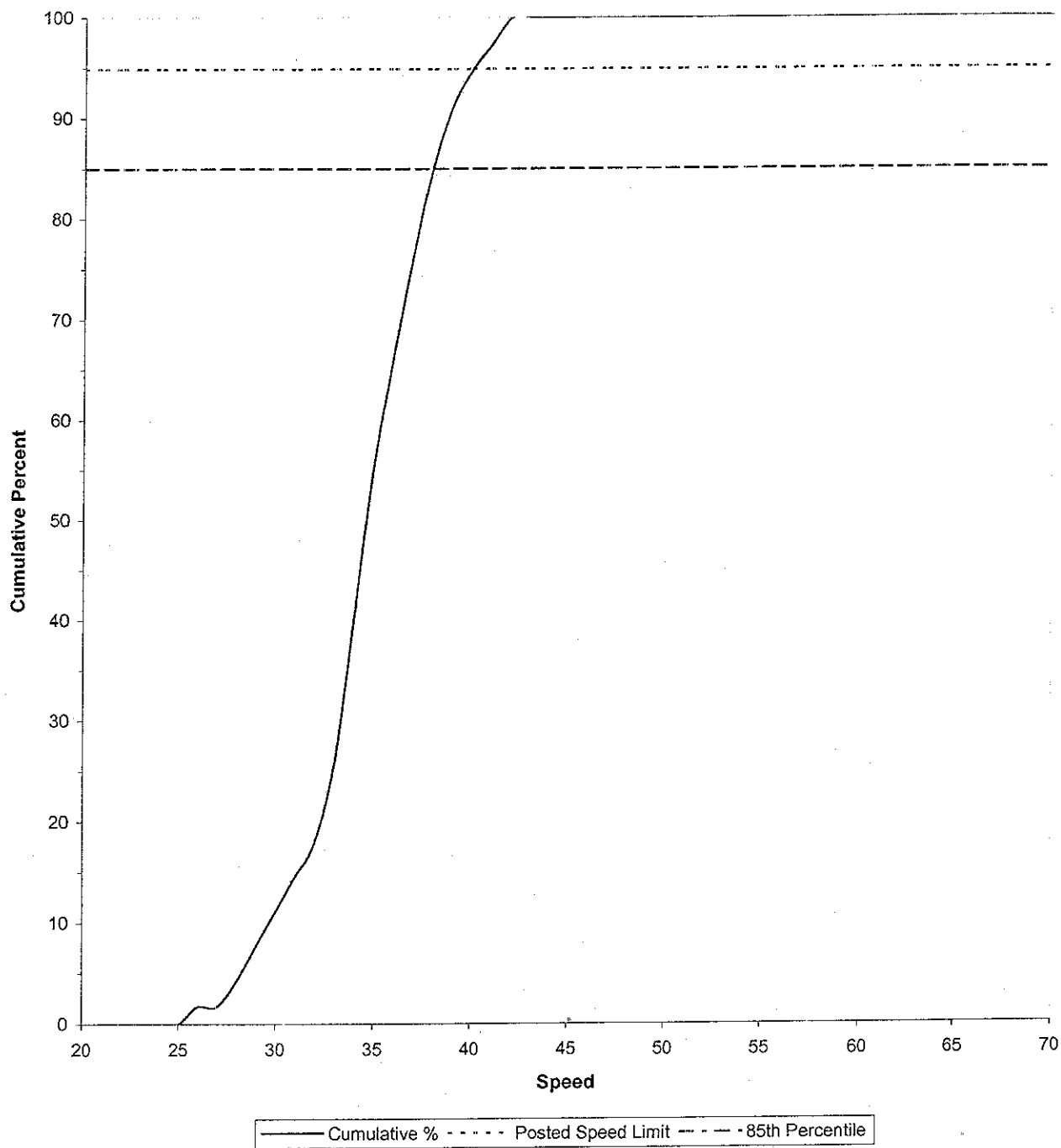
MPH	Cars		Total Cars	Trk. & Bus		Total Trk. & Bus	Total Vehicles	Accum Vehicles	Accum Percent
	EB	WB		EB	WB				
70								120	100.0
69								120	100.0
68								120	100.0
67								120	100.0
66								120	100.0
65								120	100.0
64								120	100.0
63								120	100.0
62								120	100.0
61								120	100.0
60								120	100.0
59								120	100.0
58								120	100.0
57								120	100.0
56								120	100.0
55								120	100.0
54								120	100.0
53								120	100.0
52								120	100.0
51								120	100.0
50								120	100.0
49								120	100.0
48		1	1				1	120	100.0
47								119	99.2
46		1	1				1	119	99.2
45								118	98.3
44	3		3				3	118	98.3
43	3		3				3	115	95.8
42	3	3	6				6	112	93.3
41	3	7	10				10	106	88.3
40	1	4	5	1		1	6	96	80.0
39	6	3	9	1		1	10	90	75.0
38	8	6	14	1	2	3	17	80	66.7
37	11	8	19	1		1	20	63	52.5
36	6	9	15		2	2	17	43	35.8
35	4		4		1	1	5	26	21.7
34	1	1	2	1		1	3	21	17.5
33		4	4		2	2	6	18	15.0
32		2	2	1	1	2	4	12	10.0
31		2	2		2	2	4	8	6.7
30				1		1	1	4	3.3
29	1		1				1	3	2.5
28		1	1				1	2	1.7
27								1	0.8
26	1		1				1	1	0.8
25									
24									
23									
22									
21									
<b>Totals</b>	51	52	103	7	10	17	120		

## Vermont Agency Of Transportation Spot Speed Survey Field Report

Town Essex	Date 08/25/05
Route VT 15	Day Thursday
Speed Limit 40	Time 12:10 pm - 12:31 pm
	Survey Area
Setup No. 2	From M.P. 5.57
Setup M.P. 5.55	To M.P. 5.62

MPH	Cars		Total Cars	Trk. & Bus		Total Trk. & Bus	Total Vehicles	Accum. Vehicles	Accum. Percent
	EB	WB		EB	WB				
70								117	100.0
69								117	100.0
68								117	100.0
67								117	100.0
66								117	100.0
65								117	100.0
64								117	100.0
63								117	100.0
62								117	100.0
61								117	100.0
60								117	100.0
59								117	100.0
58								117	100.0
57								117	100.0
56								117	100.0
55								117	100.0
54								117	100.0
53								117	100.0
52								117	100.0
51								117	100.0
50								117	100.0
49								117	100.0
48								117	100.0
47								117	100.0
46								117	100.0
45								117	100.0
44								117	100.0
43								117	100.0
42		3	3				3	117	100.0
41	1	2	3				3	114	97.4
40	2	2	4				4	111	94.9
39	4	3	7				7	107	91.5
38	3	7	10				10	100	85.5
37	3	8	11	1		1	12	90	76.9
36	5	8	13				13	78	66.7
35	7	10	17	1		1	18	65	55.6
34	6	8	14		3	3	17	47	40.2
33	1	7	8	1		1	9	30	25.6
32	1	2	3	1		1	4	21	17.9
31	2	2	4				4	17	14.5
30	1	3	4				4	13	11.1
29	1	1	2	1	1	2	4	9	7.7
28	1	1	2		1	1	3	5	4.3
27								2	1.7
26		2	2				2	2	1.7
25									
24									
23									
22									
21									
<b>Totals</b>	<b>38</b>	<b>69</b>	<b>107</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>117</b>		

### Spot Speed Survey Plot



### Spot Speed Survey Plot

