FINAL NORTH SPRINGFIELD TRUCK STUDY

Town of Springfield,

Vermont

Prepared for:

Southern Windsor County Regional Planning Commission

Town of Springfield

Springfield Regional Development Corporation

Vermont Agency of Transportation

28 August 2008

RSG INC.
RESOURCE SYSTEMS GROUP, INC.

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55 Railroad Row, White River Junction, Vermont 05001

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

1.0 INTRODUCTION

The purpose of this study is to evaluate traffic related issues in regards to the maneuverability and accessibility to and from the North Springfield Industrial Park located in North Springfield, Vermont. Tasks conducted as part of this study include determining and evaluating current truck traffic and routes, existing road conditions, existing truck traffic, and identifying alternatives for improving access to the Industrial Park. In addition, a business survey was conducted to gather information, thoughts and concerns from the businesses which are located in the Park.

This project is being conducted by the Southern Windsor County Regional Planning Commission (SWCRPC), with assistance from VTrans and the Steering Committee. The Steering Committee consists of the SWCRPC, the Town of Springfield, Springfield Regional Development Corporation (SRDC), VTrans, and business owners within the Industrial Park.

Looking north at the Main Street and Precision Drive intersection.

2.0 PROJECT AREA DESCRIPTION

The existing Industrial Park is located south of Main Street on Precision Drive and Fairbanks Road. The project area is shown on Figure 1. There are fourteen businesses currently located within the Park. These include the following:

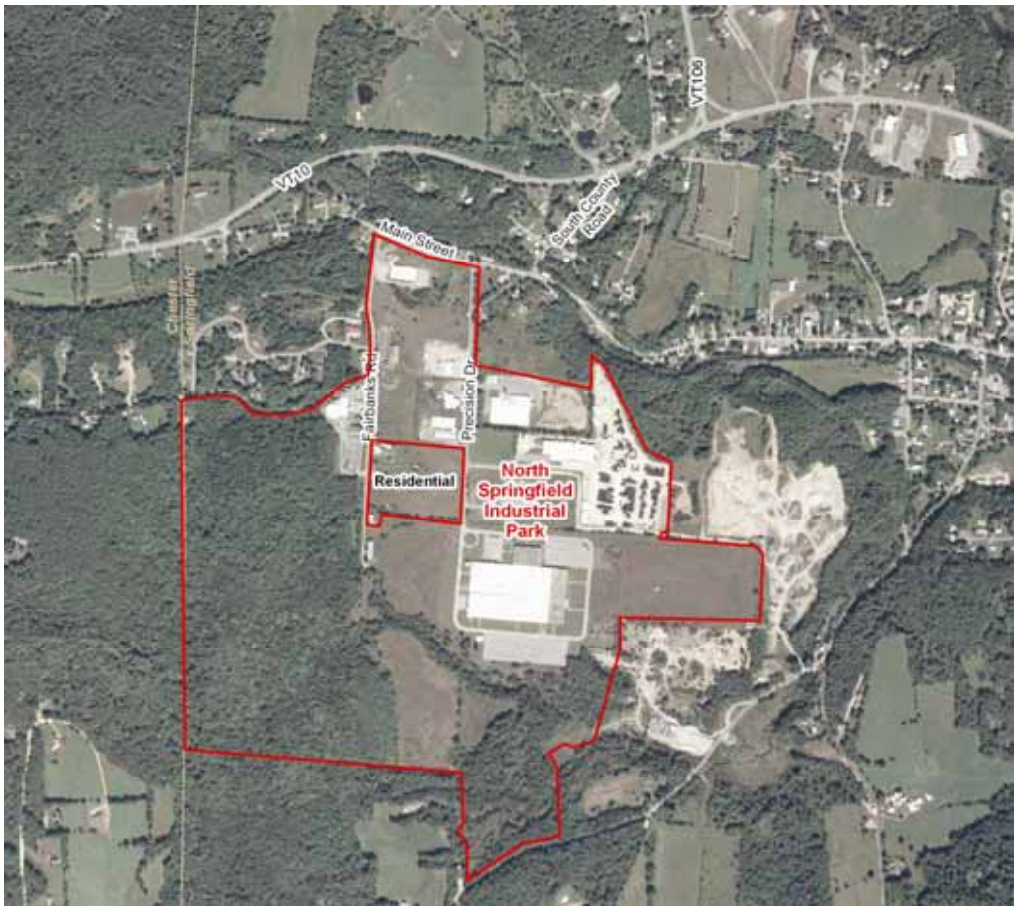
- JELD-WEN: Window and door manufacturer
- Acrylic Designs: Manufacturer of point of purchase display materials
- Kiosko: Manufacturer of display kiosks and other related furniture
- Lucas Industries: Manufacturing, engineering, and tool design
- Springfield Printing: Printing
- Hancor: Drainage pipe manufacturer
- CVPS: Electric Utility
- Springfield Tool Supply

- Steve Kraft: Forester
- Gurney Brothers Construction: Site work, contractor
- Churchill Coatings: Commercial Staining
- IVEK: Manufacturer
- Vermont Timber Works: Timber frame home manufacturer/designer
- Ellsworth (former Ben & Jerry's): Vacant
- Winstanley (property owners)

All but two of these companies are located on Precision Drive (the others are on Fairbanks Road). Winstanley is a company within the Park currently looking at expansion. The former Ellsworth (and Ben & Jerry's) ice cream facility is currently vacant, but efforts are being made to redevelop this site.

There are a number of possible routes for vehicles to access the Park. These will be discussed later in this report. Due to signage and limited capacity on nearby bridges, it is the intention of the Town for large trucks to use VT10 to South County Road to Main Street to access the Park. It may be infrequently, but truck(s) have been seen accessing the Park from the west directly from Main Street across a bridge not adequate for large trucks.

Figure 1: Project Vicinity Map



3.0 GEOGRAPHIC SCOPE OF STUDY

The focus of this study is the local roadways and intersections that are used to access the North Springfield Industrial Park. These include the following roadway segments and their intersections:

- South County Road
- Main Street (focusing on the segment between South County Road and VT10)
- Precision Drive
- Fairbanks Road
- South County Rd / VT 10
- Main Street / VT 10

In addition to the above, VT10 between VT103 and VT106, and VT106 between VT131 and VT11 were taken into consideration. Truck routing beyond this area is an important consideration as the economic health of the industrial park largely depends upon connections to outside markets for goods and services.

4.0 EXISTING CONDITIONS

The project area is within Springfield's Industrial Zoning District. It is also proximate to residential neighborhoods and about one-half mile west of the North Springfield Village. The following sections discuss existing conditions within the project area based on a number of characteristics. The following does not discuss recommended improvements; these will be discussed later in this report. Roadway widths within the project area (i.e. Precision Drive, Fairbanks Road, Main Street, South County Road, VT10 between VT106 and Main Street) were measured in the field. Outside of the project area, widths listed are approximated based on driving through the area and by viewing VTrans video logs.

4.1 ROADWAY NETWORK

The roadway network within the project area was reviewed in regards to pavement widths, lane widths, roadway and intersection alignments and grades. The following is a summary of roadway conditions:

Precision Drive: Land use is industrial along the length of Precision Drive. This road is approximately 33' wide, and the speed limit is posted as 25mph. This road is flat and the pavement along the length of the road is in good condition.

Fairbanks Road: This road is industrial at the northern end and residential at the southern end. The conditions of Fairbanks Road vary significantly. The road is approximately 17-18 feet wide between Main Street and the former ice cream facility and is in fairly good condition. The road south of this road continues to narrow to approximately 11' at the residential section. As the road gets narrower, the condition also gets worse with significant cracking towards the south. The southern section of this road, approximately 400' in length, is gravel. The speed limit is not posted but is presumed to be 25mph. This road is also flat.

Main Street: This road is primarily residential, with a few businesses on the eastern end of the road toward VT106. The pavement width between Precision Drive and Fairbanks Road is approximately 24' wide and has numerous cracks. A 5' sidewalk is located along sections of this road. This road is posted at 25mph. Main Street is relatively flat and has a few horizontal curves. Approximately one-half mile east along Main Street is the village of North Springfield, with a mix of residential, commercial, and light industrial uses.

South County Road: South County Road is approximately 29' wide and has curbing and a sidewalk on the east side. The road appears to be in good condition. There is a sharp horizontal curve at both

the northern and southern ends of the road. The speed limit of this road is posted as 25mph, and the grades range from moderate to steep approaching the VT10 intersection. This road is residential.

VT10: This roadway is a rural minor arterial. Characteristics within the project area include wide shoulders, ranging from 6' to 10.5', and a speed limit of 50mph. Some limited paving work was done on VT10 a couple years ago. There are horizontal and S-curves along VT10 and the grades are moderate.

VT106: This road is a rural major collector to the north of the intersection with VT10 and a rural minor arterial to the east of this intersection. The speed limit at the project area is 50mph, and the grades are moderate to steep.

VT106 north to VT131 has adequate lane widths and shoulder widths varying between approximately 1-3 feet. There is one notable horizontal curve, and the pavement is generally in good condition. VT106 south to the Village of Springfield has adequate lane widths and relatively wide shoulders. The pavement condition is in fair to good condition and is relatively straight.

VT131: This road is a rural major collector west of the I-91 Exit 8 ramps. This road is in good condition, with shoulder widths varying between approximately 1 to 3 feet. There are at least a couple significant horizontal curves along this route between VT106 and I-91 Exit 8.

VT11: This road is a rural minor arterial east of the intersection with VT106 and a rural major collector west of this intersection. This road is generally in good condition and has adequate shoulders outside of the Village. Within the Village, this road has narrow shoulders.

VT103: In general VT103 is in fair to good condition. The travel lane widths are adequate. Shoulder widths from the Village of Chester to the north are generally narrow, and to the south of Chester to Rockingham are generally wide. VT103 is part of the State Truck Network.

4.2 INDUSTRIAL PARK SIGNING

Based on our business survey (see Section 5.0) as well as input received at Steering Committee meetings, a major concern of Industrial Park businesses is the inability to find the Park as well as finding specific business(es) once in the Park. This notion was reiterated during a recent turning movement count when a passing vehicle made a u-turn in the intersection, and then stopped to ask directions for the Industrial Park. We took a close look at existing signage within the Park as well as on roads

Sign at Main Street and Precision Drive intersection.

which access the park.

There is a large North Springfield Industrial Park sign on the southwest side of the Main Street and Precision Drive intersection listing businesses within the Park with directional arrows. However, this sign is oriented such that it is difficult for westbound vehicles to read the sign in advance of the Precision Drive intersection. The best location to read the sign is in the middle of the intersection. Once large trucks get to this point, it may be too late to turn onto Precision Drive.

Within the Park, many businesses do not have signs that are easily visible. It is our understanding that there are vehicles that turn around at the southern end of Precision Drive because they cannot find their destination. There are some signs that are oriented for southbound traffic; therefore making it difficult for a vehicle headed northbound on Precision Drive to find their desired location. This is not true with all businesses. A few businesses can be seen by either northbound or southbound vehicles.

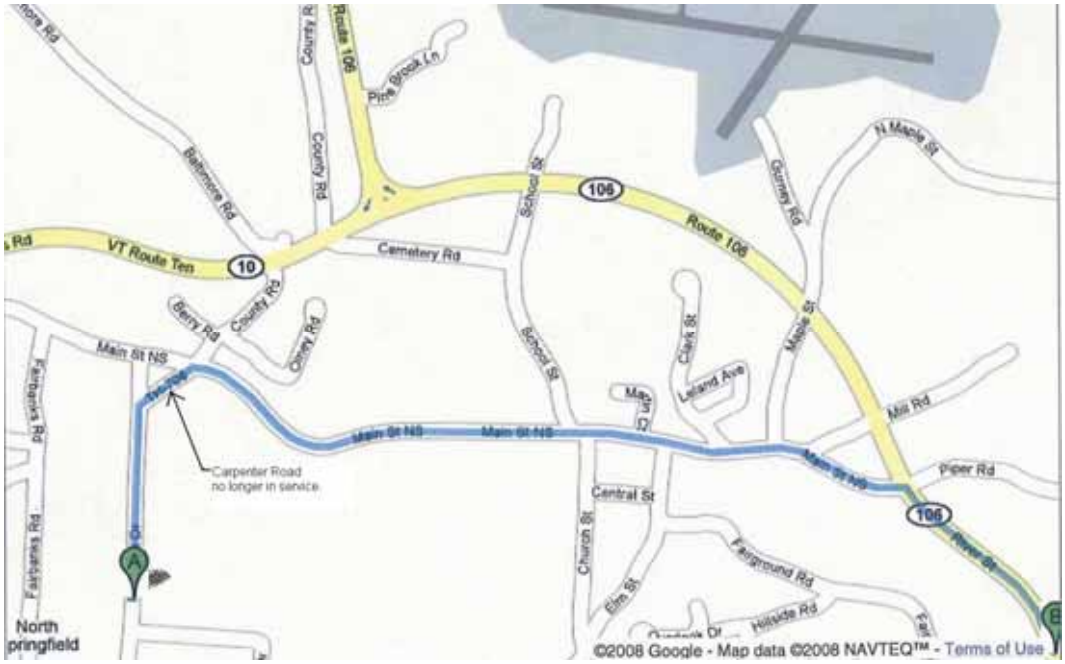
There are a number of official business directional signs (OBDS) within North Springfield to assist drivers in finding the Industrial Park. Two of these signs are for "North Springfield Industrial Park" and the other signs are for specific businesses (i.e. CVPS, Hancor, Vermont Timber Works, Ivek Corporation, and Springfield Printing).

Picture of typical OBDS sign.

4.3 FINDING THE INDUSTRIAL PARK

Depending on the source of directions for vendors, one possible source of confusion for vendors getting to the Park is if they use on-line mapping web-site(s) for directions. For example, using Googlemaps and Mapquest leads vehicles to take TH708 to get to the Park. TH708 is the former Carpenter Road that began at the intersection of Main Street and South County Road and continued southwest to Precision Drive, as shown in Figure 2. Carpenter Road was discontinued by the Town approximately 10 years ago.

Figure 2: Directions from Googlemaps to get to Industrial Park from the east



As shown above, Googlemaps also directs vehicles to turn left at the VT106 & Main Street intersection instead of staying on VT106 and turning left at the VT10 & South County Road intersection. Mapquest does not route vehicles onto Main Street from the east, but does route onto Main Street from the west. For passenger vehicles, it is appropriate to use Main Street but not appropriate for large trucks.

4.4 EXISTING BRIDGE LIMITATIONS

Main Street Bridge East of South County Road: A significant impediment for large trucks being able to use Main Street to the east of South County Road is a bridge less than 300' east of the Main Street and South County Road intersection. There is a sign west of this intersection stating "Restricted Bridge Main St North Springfield / 5 Ton Weight Limit / Clearance 9'-0". This sign is also placed on the eastern end of Main Street in the vicinity of the intersection with VT106 and on Main Street just to the west of School Street. There are also "no trucks" signs at the intersection with School Street and "weight limit 5 tons" signs at each end of the bridge. The lateral clearance of this bridge is 22.5'. The nearby signs claim the bridge has a vertical clearance of 9', but there are actually no vertical restrictions on this bridge. At one time, laminated 2" x 8" wooden barriers were placed at both sides of the bridge to serve as a vertical clearance barrier. These were broken down within days of multiple installations. After several attempts of replacing the barriers, the Town has stopped putting up these barriers.

Restricted bridge sign on Main Street.

This bridge is locally known as the Harry Hills Bride. The wood deck of this bridge appears to be in good condition; however there are structural problems with this structure. This bridge is slated for future improvements through VTrans and the Town. The VTrans project number for these improvements is #BRO 1442(26). This project is currently in the development and evaluation phase. If the Town were to improve Main Street to encourage truck traffic on this route, it is assumed that the reconstructed bridge would not have a weight limitation and that the reconstructed bridge would therefore be adequate to handle truck traffic.

Main Street Bridge West of South County Road: There is a bridge located approximately 200' west of the intersection with Fairbanks Road on Main Street that has 21.5' horizontal clearance. This bridge has "weight limit 5 tons" signs at each end of the bridge. There are no advance warning signs of this bridge. However, there is a "no trucks" sign on Main Street just east of the intersection with VT10.

4.5 TURNING MANEUVERABILITY

The intersections in the immediate vicinity of the Industrial Park have tight geometries which make it difficult for large trucks to make turning movements. Figure 3 shows the dimensions of a WB-67 truck, a standard long-haul, interstate truck.

Figure 3: WB-67 Truck Dimensions

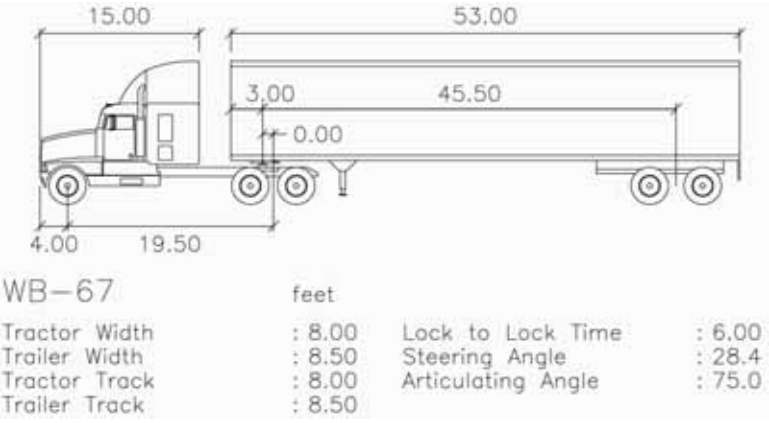


Figure 4 through Figure 8 show turning movement paths of a WB-67 truck going through intersections within the project area. These figures show all movement combinations through the intersections. Red lines on these figures are the edges of the road, green lines are the edges of the

vehicle body, and purple lines are the vehicle paths. As shown in the figures below, all intersections are "tight" for this truck movement. The WB-67 tire path goes outside the pavement approximately 12' at the VT11 and VT103 intersection. At other locations, the vehicle body goes outside of the roadway slightly in some areas. The worst case scenario in regards to this is for the Main Street and Fairbanks Road intersection for northbound right turns. Luckily, there are far fewer trucks on Fairbanks Road than on Precision Drive. In most instances, the truck has to cross into the opposing lane in order to make necessary turning movements.

Figure 4: Turning Movement of WB-67 at Main Street Intersections with Precision Drive and South County Road

Figure 5: Turning Movement of WB-67 Truck at Main Street & Fairbanks Road intersection

Figure 6: Turning Movement of WB-67 at VT10 & South County Road intersection

Figure 7: Turning Movement of WB-67 at VT10 and Main Street intersection

Figure 8: Turning Movement of WB-67 at VT11 and VT103 intersection in Chester

4.6 TRAFFIC DATA

Various traffic data was collected to understand the existing traffic, truck traffic in particular, related to the Industrial Park. The following are some findings regarding existing traffic.

- 2006 VTrans data indicates VT10 has an Annual Average Daily Traffic (AADT) volume of 3,000 vehicles between the Chester town line and South County Road and 3,500 between South County Road and VT106.
- 2006 VTrans data indicates VT106 has an AADT of 3600 between the Weathersfield town line to the north and VT10; 6,100 between VT10 and Main Street; 11,200 between Main Street and Reservoir Road.
- In 2005, VT10 0.2 miles west of the Chester town line (east of the intersection with Main Street) had an Annual Average Daily Traffic (AADT) of approximately 3000. VT106 0.3 miles north of VT 10 had an AADT of approximately 3,600 with 1.3% large trucks.
- Tube counts conducted for this study indicate that the daily truck traffic (medium and large trucks) on Precision Drive is approximately 300. These trucks include approximately 2/3 medium trucks and 1/3 large trucks. Medium trucks are considered by the FHWA vehicle classifications to be buses, two axle 6 tire single units, 3 axle single units and four or more axle single units. Large trucks are all those larger than these (i.e. trucks with trailers).
- Fairbanks Road has negligible truck traffic and is primarily medium trucks.
- Main Street west of Precision Drive typically has approximately 60 trucks per day.
- Approximately 85% of trucks at the VT10/South County Road intersection are headed to/from the east.
- At the VT10/VT106 intersection, there are slightly more trucks headed to and from the east than to and from 106 to the north. Approximately 3 of every 4 trucks going eastbound are headed east (rather than north).

4.7 PERMITTING

In Vermont, over-length trucks (72 feet overall with 23-feet from the front axle to rear axle) need a permit for each trip off the State truck network. As shown in Figure 9, I-91 and VT103 are on the truck route, but VT10 is not. Several companies have reported that obtaining over-length truck permits are an issue, especially for some of their vendors. The Industrial Park's top four truck traffic generators, making up approximately 80% of all trucks, all rated this issue as "very important" in the origin destination survey (see Section 5.0). These permits are issued by the Vermont Department of Motor Vehicles.

Figure 9: Vermont Truck Network

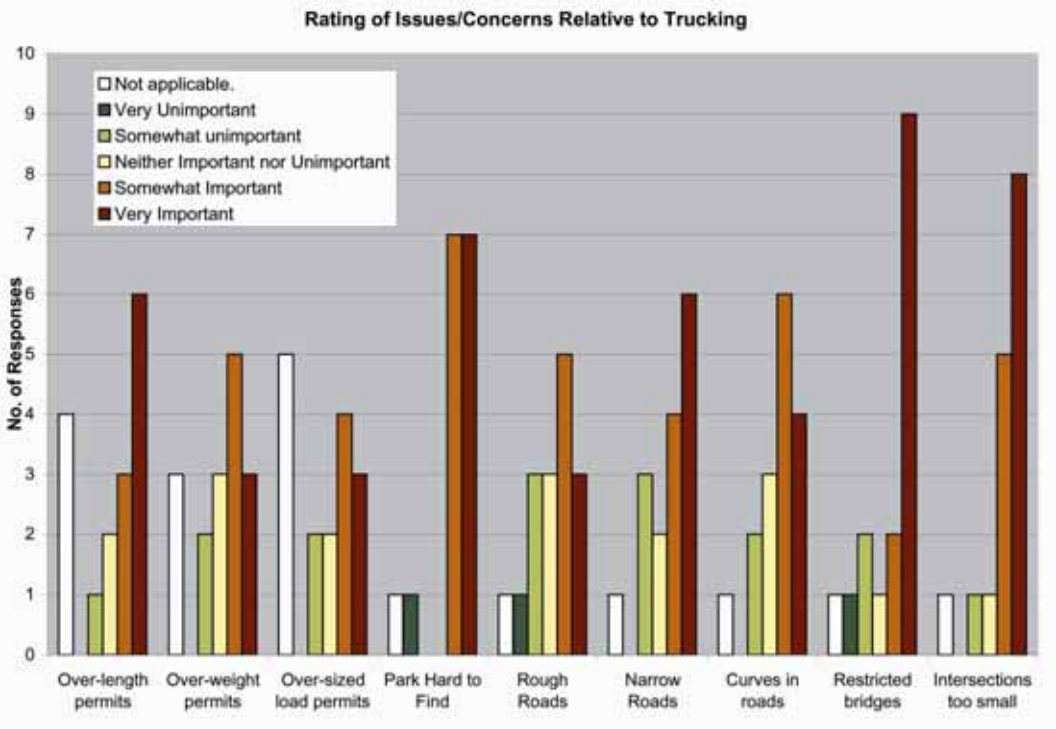
5.0 BUSINESS SURVEY

A business survey was conducted to determine routes accessing the Park, issues of the businesses within the Industrial Park, and to gain a general understanding of the project area and the dynamics of the truck traffic within the project area. Questions ranged from the number of trucks headed north, south, east, west to inquiring about destinations and routes of travel to ranking a number of issues by their importance. Questions and responses of the survey are given in the Appendices. The following is a summary of some key findings of the survey:

- 100% participation of businesses within the Park.
- Total of daily truck traffic estimated using survey is 149 trucks per day. One respondent responded in percentages (as opposed to actual truck volumes) therefore the actual number is slightly higher than this. Based on the tube count there are approximately 300 trucks per day. This number accounts for non-vendor trucks (i.e. delivery trucks) generated by the Park.
- Truck traffic is expected to increase by approximately 50 trucks in the next 10 years, based on answers from the survey.

- 14 responses in favor of cost-sharing for general improvements within the Park (2 were not in favor).
- 4 of the 16 respondents account for approximately 80% of the Park's truck traffic.
- Exit 6, Exit 7, Exit 8, and VT103 used almost equally for truck trips. Looking at the four highest truck traffic generators, these respondents ranked (from highest use to lowest) Exit 6, Exit 8, Exit 7, VT103.
- Respondents answers to which state highway route to improve were spread out almost equally. However, looking at the 4 highest truck traffic generators, two would like to target VT10 west to VT103 south to I-91; one would like to target VT10 west to VT103 north; and one would like to target VT10 east to VT106 north to VT131 east to I-91.
- In regards to specific local routes for improvements, respondents would like to see a new road from VT10 in line with Precision Drive (44%), and Main Street west to VT10 improved (38%). Of the 4 highest truck traffic generators, 3 would like to target Main Street west to VT10 for improvements and 1 would like to target a new road from VT10 in line with Precision Drive.

Figure 10: Business survey Responses for Rating Issues Relative to Trucking



As shown in Figure 10, there are a number of issues which are of concern to businesses within the Park. All four of the highest truck traffic generators gave very important ratings for over-length

permits. Three gave very important ratings for intersections being too small. Two of these four gave a very important rating for restricted bridges, park hard to find, and over-sized load permits.

6.0 FUTURE CONDITIONS

6.1 BRIDGE IMPROVEMENTS

Based on information from the SWCRPC, there are planned improvements for Bridge No. 57, which is located on Main Street east of South County Road. At this time the year of such improvements is uncertain. While bridge improvements are planned, the Town does not wish to encourage truck traffic in the village of North Springfield. There are no improvements planned for the bridge on Main Street west of Fairbanks Road.

6.2 PLANNED DEVELOPMENT VOLUMES

To get a sense for future demands on adjacent roadways, we took a look at potential future growth in the Industrial Park. We received information from SWCRPC regarding any possible developments planned within the North Springfield Industrial Park. There are two such developments which are in the planning phase, including the following:

- Redevelopment of the currently vacant Ellsworth ice cream facility (38,000 sf) located on Fairbanks Road.
- Expansion at Winstanley, located on Precision Drive, including 200,000sf expansion of an existing building and a new building with an area of 350,000sf.

6.2.1 Trip Generation

Trip generation refers to the number of new vehicle trips originating at or destined for a particular development. The number of trips generated depends on the land use of the property. The following includes our assumptions in estimating the number of trips the Ellsworth revitalization and Winstanley expansion will generate.

Winstanley expansion:

Size:	200,000sf expansion plus 350,000sf new building
Land Use:	Land use could vary from manufacturing, warehousing, industrial park, or a combination of such. PM peak hour generation for this expansion ranges from 182 to 473 depending on land use type or whether the existing traffic generation rate is used. Trip generation determined using existing trips (using tube count data) resulted in lower trips than using ITE Trip Generation. For the purposes of this study, we took the average ITE Trip Generation of manufacturing, warehousing, and

industrial park and averaged this with the current trip rate generated by the park. For Act 250 permitting purposes, further details should be finalized to determine a more precise land use for this expansion. In addition, the Act 250 permitting process will likely trigger the need for a Traffic Impact Study for this project. At that time, the known land use type should be used for determining trip generation.

Trip Generation Results: 2225 weekday trips, 264 during AM peak hour, 281 during PM peak hour

Ellsworth Revitalization

Size: 38,000sf revitalization of existing building

Land Use: (Same as listed for Winstanley expansion except trip generation was developed using the average rate of the industrial park land code use and the existing traffic generation rate)

Trip Generation Results: 186 weekday trips, 21 during AM peak hour, 23 during PM peak hour

The following is a brief summary table of truck volumes associated with the Industrial Park on Precision Drive, both existing and with future growth:

Table 1: Existing and Anticipated Truck Volumes – Precision Drive

Condition	No. of Daily Truck Trip Ends
Existing truck traffic	300
Additional trucks in 10 years, based on Survey results	50
Additional trucks at "build-out" on Precision Drive	450*

*This number could vary based on a number of factors and will need to be looked at in more detail during expansion of Winstanley.

7.0 SAFETY ANALYSIS

7.1 CRASH HISTORIES & HIGH CRASH LOCATIONS

Crash histories were collected from VTrans (January 2002-December 2006) within the study area. VTrans maintains a statewide database of all reported crashes along all state highways and federal aid

road segments.[1] A reportable crash is a collision with at least one of the following results caused by the event: property damage exceeding $1,000, personal injury, or fatality.

In order to be classified as a High Crash Location (HCL), an intersection or road section (0.3 mile section) must meet the following two conditions (1) it must have at least 5 crashes over a 5-year period, and (2) an actual crash rate must exceed the critical crash rate. Based on the most current crash data available from VTrans (2001-2005), the following are HCLs near the Industrial Park.

Table 2: VTrans HCLs near Industrial Park (2001-2005 Data)

	HCL No.	Route	Location, by milemarker		ADT	Crashes	Ratio Actual/Critical	Index ($/Accident)
Sections								
	586	VT-10	0.46 - 0.76	(S County Rd is at mm 0.66)	3092	5	1.02	$256,220
	432	VT-106	2.3 - 2.6	(Main St is at mm 2.3)	6424	10	1.18	$54,150
Intersections								
	107	VT-106	3.18 - 3.38	(intersection with VT10)	6644	10	1.106	$36,770

RSG calculations led to similar results as above[2]. Due to differing years and therefore different numbers of crashes per sections and intersections, results were slightly different. There was one fatality at the VT10 section in vicinity of the South County Road intersection during the VTrans analysis summarized above.

Looking at crash data from 2002 to 2006, there was a variety of types of accidents. VT10 in vicinity of South County Rd had a majority of single vehicle crashes and rear ends. VT106 in vicinity of Main Street intersection had a majority of rear ends and sideswipes. The VT106 and VT10 intersection had a wide variety of crash types.

7.2 TURN LANE WARRANT ANALYSIS

Turn lane warrant analyses were conducted for the intersections in the immediate vicinity of the Industrial Park. The following are results from these analyses. The Winstanley expansion identified below includes both planned developments (550,000sf of expansion).

[1] This data is exempt from Discovery or Admission under 23 U.S.C. 409.

[2] RSG calculations use 2002-2006 data. Table 2 data is 2001-2005, because the HCL report has not been published for 2002-2006 data.

Table 3: Turn Lane Warrants Summary

Intersection	Existing Conditions	Winstanley Expansion
VT10 & South County Rd	-	westbound left turn lane
Main St & Precision Dr	-	-
VT10 & VT106	-	eastbound left turn lane westbound right turn lane
Main & South County Rd	-	-

As indicated above, due to the significant traffic expected to be generated by the Winstanley development, roadway improvements will likely be needed to mitigate the traffic impacts resulting from the Winstanley expansion.

8.0 IMPROVEMENT ALTERNATIVES

There are a number of alternatives which would assist in providing better access to the North Springfield Industrial Park. These are summarized as follows.

8.1 ROADWAY IMPROVEMENTS

Figure 11 shows the alternatives being evaluated as part of this study. Table 4 summarizes the roadway improvements in an evaluation matrix. This includes conceptual level costs, environmental impacts, right-of-way impacts, and other important factors. Permit assumptions were determined based on GIS mapping. For alternative(s) moving forward, a more detailed evaluation will need to be conducted and regulatory agencies will need to be contact. The following sections summarize possible roadway improvements for this project.

Figure 11: Project Alternatives

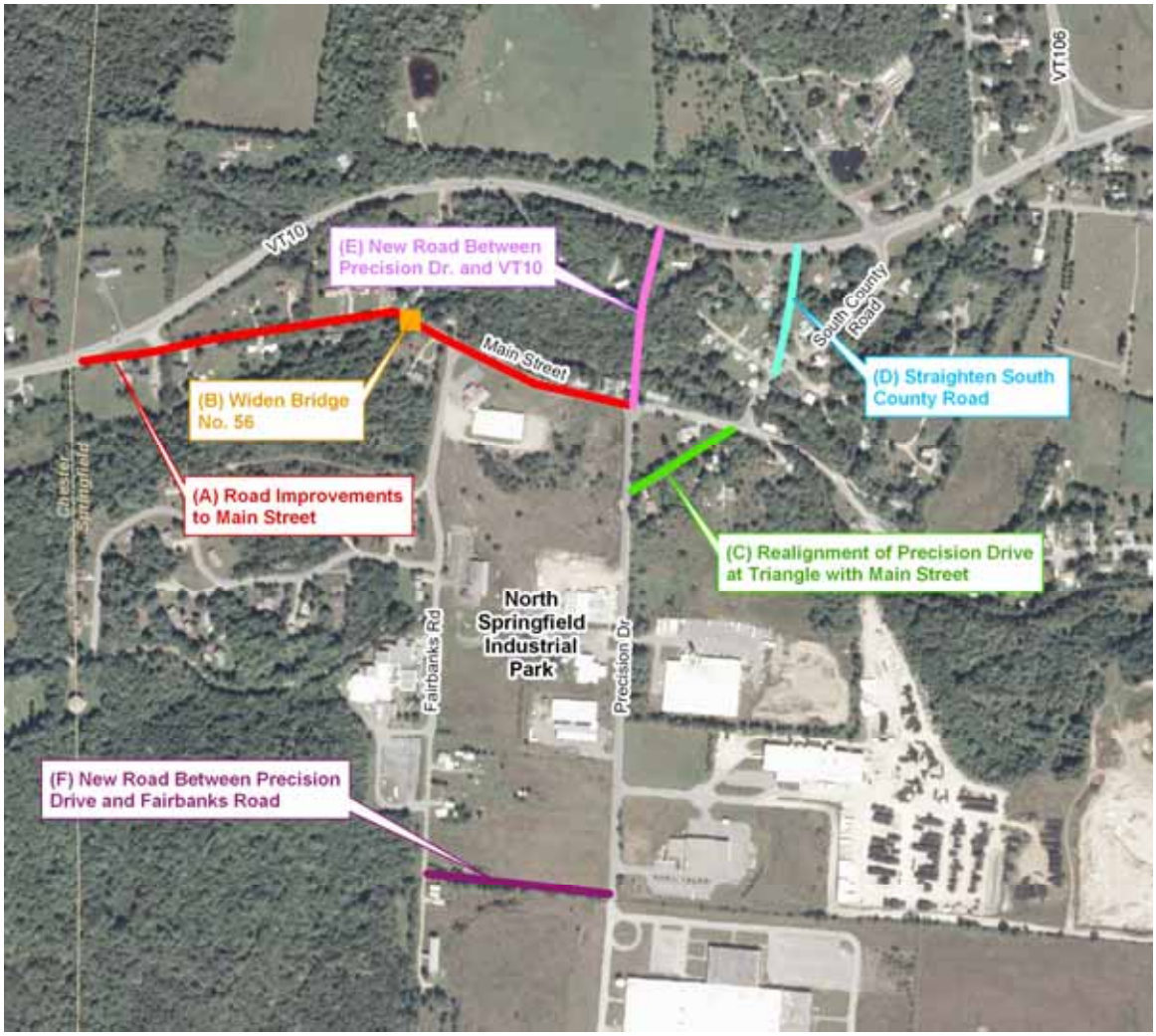


Table 4: Evaluation Matrix of Roadway Improvement Alternatives

	Roadway Improvements	(A) Improve Main Street between VT10 & Main St	(B) Widen Main Street Bridge West of Fairbanks Rd	(C) Realignment of Precision Dr "Triangle"	(D) Straighten South County Road	(E) New Road Between Precision Dr & VT10	(F) New Road Between Precision Dr & Fairbanks Rd	(G) Intersection Improvements
COST	Conceptual Cost Estimate *(construction cost + contingency)*	$980,000	$500,000	$450,000	$580,000	$1,310,000	$390,000	varies, see text
ENGINEERING	Typical Section (total road width)	28'	22'	28'	28'	28'	28'	na
	Alignment Change	No Change	No Change	Yes	Yes	Yes	Yes	No Change
	Utility Impacts	No	No	Unlikely	Unlikely	Unlikely	Unlikely	Minor
	Right of Way Impacts	No	No	Yes	Yes	Yes	Yes	Minor
IMPACTS	Agricultural Lands	Yes	Yes	No	Yes	Yes	No	No
	Archaeological	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
	Historic Structures/Sites	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
	Floodplain	Unlikely	Unlikely	No	No	Unlikely	No	No
	Fish and Wildlife	No	No	No	No	No	No	No
	Rare, Threatened & Endangered	No	No	No	No	No	No	No
	Public Lands	No	No	No	No	No	No	No
	Noise	No	No	No	No	No	No	No
	Wetlands	No	No	No	No	No	No	No
LOCAL & REGIONAL ISSUES	Community Character	Improve	Improve	Improve	Possible opposition	Possible opposition	Possible opposition	Improve
	Economic Impacts	Improve	Improve	Improve	Improve	Improve	Improve	Improve
	Conformance to Regional Transportation Plan	Yes	Yes	na	na	na	na	Yes
PERMITS	Act 250	No	No	No	No	No	No	No
	401 Water Quality	No	No	No	No	No	No	No
	404 Corps of Engineers Permit	No	No	No	No	No	No	No
	Stream Alteration	Yes	Yes	No	No	Yes	No	No
	Conditional Use Determination	No	No	No	No	No	No	No
	Storm Water Discharge	Likely	Possibly	Possibly	Likely	Likely	Likely	No
	Shoreland Encroachment	No	No	No	No	No	No	No
	Endangered & Threatened Species	No	No	No	No	No	No	No
	VTrans ROW Permit	Yes	No	No	Yes	Yes	No	Yes
	SHPO Clearance	Yes	Yes	Yes	Yes	Yes	Yes	Possibly
	NEPA Process Required	Yes	Yes	Yes	Yes	Yes	Yes	Yes

8.1.1 Improve Main Street Between VT10 and Precision Drive

The existing road width along Main Street between VT10 and Precision Drive varies between 19'-4" and 22'-0" (an average of approximately 20'8"). The current AADT of Main Street west of Fairbanks Road is approximately 600 vehicles. However, if these improvements are made it is assumed that all of Precision Drive and Fairbanks Drive truck traffic will take Main Street in lieu of South County Road. In order for this alternative to be viable, the bridge west of Fairbanks Road will need to be replaced.

The desired road width for a local road according to VTrans State Design Standards varies depending on AADT. The following is a summary of data used to determine the recommended roadway width for improvements.

Main Street traffic volumes (between VT10 and Precision Drive)	
Existing AADT on this roadway segment:	600
Existing AADT on Precision Drive:	1500
Existing Precision Drive traffic using Main St:	60
If Improvements are made, what percentage of Precision Drive traffic will use Main St:	100%
Estimated AADT if improvements are made:	2040
Estimated AADT if Winstanley improvements are made:	4265
Road Widths	
Average Existing Road Width:	20.67
Road Width in VT Design Standards for	
(A) Existing Main Street traffic volumes:	9/2
(B) Anticipated traffic volumes on Main Street	11/3
(C) B above plus Winstanley improvements	11/3
*Note: road widths above are shown as travel lane/shoulder	

For the purposes of this study, conceptual improvement costs assume (B) above. This option suggests 11' travel lanes and 3' shoulders, for a total road width of 28'.

8.1.2 Widen Main Street Bridge West of Fairbanks Road

The existing bridge on this segment would need to be improved for large trucks to take this route to the Industrial Park. The bridge could be widened as a stand alone project. If the entire road segment between VT10 and Precision Drive is improved (previous alternative), then this bridge would need to be improved as well.

The existing bridge has a clear width of 21.5'. Based on VTrans Design Standards and an AADT of over 2000 vehicles, a clear width of 22' is suggested. This bridge will need to replaced to allow trucks to drive on Main Street, and the bridge will need to be widened in the process.

8.1.3 Realignment of Precision Drive "Triangle" with Main Street

A number of years ago there was a road (Carpenter Road) that connected South County Road to Precision Drive, making a triangle between the former Carpenter Road and the existing Precision Drive. One alternative discussed at a steering committee is to buy the triangle piece of land between Main Street, Precision Drive and the former Carpenter Road and rebuild Carpenter Road, wider than previously to accommodate large trucks. This option would have the benefit of eliminating truck turning movements from the Main Street / South County Road and Main Street / Precision Drive intersections. To determine the width of this road, the following data was used.

Looking northeast at the former Carpenter Road (TH708).

South County traffic volumes

Existing AADT on this roadway segment:	1300
Existing AADT on Precision Drive:	1500
Existing Precision Drive traffic using Main St:	60
If Improvements are made, what percentage of Precision Drive traffic will use South County Rd:	100%
Estimated AADT if improvements are made:	1560
Estimated AADT if Winstanley improvements are made:	3785

Road Widths

Average Existing Road Width:	0.00
Road Width in VT Design Standards for	
(A) Existing Main Street traffic volumes:	9/2
(B) Anticipated traffic volumes on Main Street	10/3
(C) B above plus Winstanley improvements	11/3

*Note: road widths above are shown as travel lane/shoulder

For the purposes of this study, we assumed the same volume of traffic on this section of road as on South County Road. Conceptual improvement costs assume (B) above. This option suggests 10' travel lanes and 3' shoulders, for a total road width of 26'.

8.1.4 Straighten South County Road

One alternative suggested at a Steering Committee meeting is to straighten South County Road such that the intersection with VT10 is to the west of its' existing location. The width of this road would be 26' wide (similar to identified in Section 8.1.3 above). Environmental resources along this alternative include about 100' of prime agricultural soils at the northern end of this road.

8.1.5 New Road between Precision Drive and VT10

A new road could be constructed running north-south between VT10 and Precision Drive, ending at the Main Street intersection with Precision Drive. Some key notes regarding this alternative are as follows:

- The width of this road would be 26' wide (similar to identified in Section 8.1.3 above)
- A new bridge or large culvert would be needed, similar in size to the one at the southern end of South County Road.
- Environmental resources along this alternative include about 230' of prime agricultural soils at the northern end of this alternative.
- Right-of-Way acquisitions necessary.

8.1.6 New Road Between Precision Drive and Fairbanks Road

According to business owners, there are some large trucks that turn around in Precision Drive and Fairbanks Road because they have difficulty finding their desired destinations. There are currently two businesses operating on Fairbanks Road. We assume that the AADT of this road will be between 400-1500, therefore based on VTrans State Design Standards the road will have 9' lanes with 2' shoulders, for a total width of 22'. This alternative includes widening and repaving a portion of Fairbanks Road.

Terrain between Precision Drive and Fairbanks Road is flat.

8.2 INTERSECTION IMPROVEMENTS

As shown in the turning templates at the various intersections within the project area, trucks at all of the intersections are able to make the turns, but need to go outside of the roadway slightly (by approximately a foot or two) in some locations. This is based on roadway edgelines digitized based

on orthophotos. At all locations trucks need to go into the opposing lane in order to make the turn. Based on information obtained at a steering committee meeting, making these turns is especially difficult during the winter due to snow along the roads and shoulders.

The degree of intersection improvements could vary depending on the extent to which the Town would like to widen the intersections. Costs per intersection could range from $75,000 to $200,000. Widening shoulders (including earthworks, etc.) at the VT10 and Main Street intersection would cost approximately $75,000. Improvement of the vertical alignment and widening shoulders at this intersection would cost about $200,000.

Improvements to the other intersections would be less than for the above mentioned intersection. Due to the low truck volumes and low percentages of large trucks, improvements are not recommended for the Main Street and Fairbanks Road intersection.

8.3 SIGNING IMPROVEMENTS

8.3.1 Industrial Park Sign

The large Industrial Park Sign is difficult to see in advance of the Main Street and Precision Drive intersection. If the sign were rotated approximately 20^{o} clockwise (tilted towards the east), the sign would be easier to see. One minor comment is that if the text for “Vermont Timber Works” were changed to “VT Timber Works” the size of the letters may be able to be larger, thus being the same size as the other text on this sign. It is our understanding that business owners are currently planning to change this sign.

8.3.2 Signing Within Industrial Park

There are some businesses which could be difficult for a driver to find if not familiar with the area. It would be beneficial for these drivers if improvements were made to signage for specific businesses. This could be accomplished by either (a) consistent signage at each drive’s intersection with Precision Drive or Fairbanks Road, or (b) new signage for businesses that do not currently have a sign within plain site of the road. In addition, it has been mentioned that vehicles turn around on both Precision Drive and Fairbanks Road because they cannot find their destination. From our site visit, it is harder to find a business headed northbound on Precision or Fairbanks than it is headed southbound because most signs are oriented for southbound drivers to see them.

Another possible option is to add a sign at the southern end of South County Road to tell trucks to turn right for the Industrial Park. However, if the above recommendations are implemented, there will be four OBDS stating “North Springfield Industrial Park”. An OBDS for a particular destination can only be at four locations within the town. Since the above improvements would make a total of four OBDS signs for the Industrial Park, the sign at this location would have to be for a different destination, perhaps a private sign paid for by Industrial Park tenants on Town right-of-way. This would need coordination between the Industrial Park, the Town, and VTrans.

The following is a summary of potential additions of OBDS signs relating to the Industrial Park.

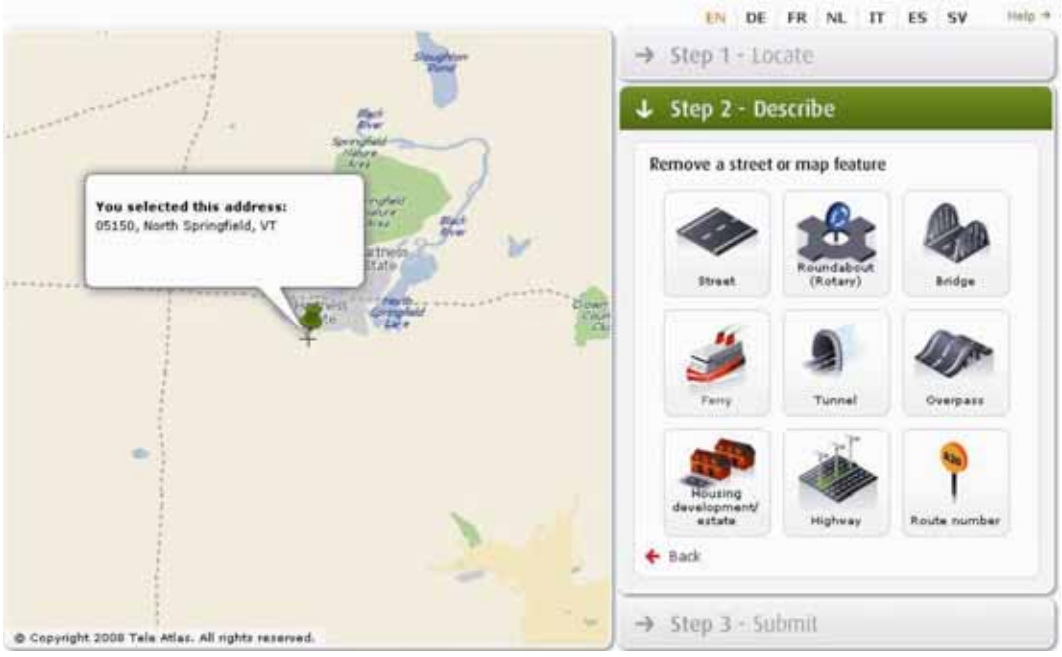
- Add a sign to say "North Springfield Industrial Park" at existing OBDS on VT 10 west of the South County Road intersection. Similar to above, there are currently three signs on this assembly (VT Timber Works, Hancor, and Holiday Inn Express). This assembly will need to be modified in a similar manner as the previously identified sign assembly.
- Add an OBDS at the Main Street and Fairbanks Road intersection for Ivek and Vermont Timber Works.

Lastly, a "freight entrance" sign could be added to South County Road to make vehicles aware of the Industrial Park.

8.4 IMPROVEMENTS TO ON-LINE MAPPING DIRECTIONS

As mentioned previously in this report, Google and Mapquest both route drivers to take a road that no longer exists (TH708 or the former Carpenter Road). It appears that map data in Google is generated via base mapping provided by NAVTEQ. The MapQuest web-site lists map data via NAVTEQ or TeleAtlas. There is a function on both NAVTEQ and TeleAtlas web-sites where you can report changes to the road network, these range from adding roads, removing roads, road restrictions, etc. Figure 12 shows a screen shot of TeleAtlas web-site where you can report changes to road data.

Figure 12: Reporting Changes to Mapping Database Example (TeleAtlas Web-Site Screen)



It is recommended that Carpenter Road be removed in both of these databases. In addition, if the Town feels it necessary, it could be requested that "no trucks" be allowed to take Main Street between VT10 and South County Road. However, if Carpenter Road is rebuilt or if Main Street is improved to allow trucks, the Town should make sure that the appropriate roads are opened/closed with appropriate restrictions on the above web-site databases.

8.5 CHANGES TO PERMITTING PROCESS

A short term option regarding the over-length permit process that could be discussed with VTrans and the DMV is making the permit application available on-line where the trucking company can apply for a permit on the Vermont DMV web-site, pay by credit card, and print out an "approved" permit.

In order for a change to be made to the process of obtaining over-length permits, a change would need to be made at the legislative level. This could be a lengthy process because it entails first determining and local agencies agreeing on a recommendation as to how the permitting process should be changed, getting this recommendation in front of the legislature, and then meeting the appropriate approvals at a legislative level. There have been a number of discussions within the Department of Motor Vehicles regarding this issue. Options to address this issue include the following:

1. Continue with existing process.
2. Seek legislative change to either eliminate or completely revamp the over-length permit process, or add routes onto the state truck route network.

The plan of action to address this concern will largely depend on which of these the SWCRPC and/or Town would like to pursue and how much effort they would like to commit to an improved permitting process. VTrans should be consulted with in regards to any such legislative changes. If the SWCRPC and/or Town would like to pursue adding VT10 onto the truck network, VTrans is likely to have concerns due to "S-curves" along this road. There are also sharp curves on VT106 which could be problematic if this route was desired to be added to the truck network.

Strengthening the Vermont Truck and Bus Association would encourage the second option listed above and would also assist industrial parks across the State to unite and guide them through the permitting process. There are a number of other states which have Truck Association web-sites which list a number of different resources from searching for trucking jobs to trucker forums to legislative support information, etc. For example, on the New Hampshire Motor Transport Association Homepage (www.nhmta.org) it states that there are lobbyists for the NHMTA. On the Ohio Trucking Association web-site (www.ohiotruckingassn.org) you can search for a vendor by category. Pursuing this option would imply that the association would serve not only the North Springfield Industrial Park, but other similar parks throughout Vermont. The overall trucking industry may be smaller in Vermont, but it does not mean that strengthening this organization would not be beneficial, especially if other Industrial Parks in the State face the same issues as businesses in

the North Springfield Industrial Park. For small words of encouragement on this issue, on the Ohio Trucking Association web-site it states that "54% of [their] current members operate 15 or fewer vehicles".

9.0 RECOMMENDED IMPROVEMENTS

As identified above, there are a number of improvements which could help in improving access to the North Springfield Industrial Park. RSG has worked in collaboration with the SWCRPC to recommend the following list of recommendations.

Short-Term:

General

1. Establish a North Springfield Industrial Park Association (NSIPA).
2. Town or SWCRPC to request changes to on-line routing programs (e.g. MapQuest, GoogleMap, TomTom, etc.).

Roadway

1. The Town to discuss snow removal and corner clearance issues with the Public Works Director and plow operators. The Town should make the plow operators aware of the conditions in the project area, and there may be the opportunity to improve plowing and snow removal in this area.

Signage

1. Additional official business directional signs:
   (A) The Town and SWCRPC to apply for OBDS on VT 10 as close to South County Road as possible in both directions.
   (B) The Town and SWCRPC to meet with VTrans to discuss other possible signage options (i.e. "freight entrance" sign).
   (C) The Town and SWCRPC to meet with Industrial Park owners if the above are not possible to see if any business(es) are willing to change their OBDS to a more general "North Springfield Industrial Park" sign.
2. Replace main park entrance sign at the intersection of Precision Drive and Main Street with assistance of NSIPA.
3. Internal signage improvements with assistance of NSIPA.

Permitting

1. The SWCRPC to work with the Town, State, legislators, businesses and towns to address the over-length permitting issue.

Mid-Term

Roadway

1. The Town to develop a feasibility study for new road projects and turning lanes as recommended in this report, with assistance from the SWCRPC.
2. The Town/SWCRPC to seek funding for improvements, with assistance from Legislators.

Long-Term

Roadway

1. The Town to construct a new road connecting Precision Drive to VT 10.
2. Construct turning lanes as development warrants. This should be a joint effort of the Town and the developer(s) within the Industrial Park.
3. Construct new road between Precision Drive and Fairbanks Road, and upgrade sections of Fairbanks Road. This should be a joint effort of the Town and developer(s) within the Industrial Park.

APPENDIX A

TURNING MOVEMENT COUNTS

VT10-VT106
Springfield, VT
AM: 7/27/2006

note:

Source: VTrans

AM: 4th Thursday
PM: 0th Saturday

	Eastbound VT 10						Westbound VT106						Northbound						Southbound VT106						Pedestrians				15 Min	Hour
	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	EB	WB	NB	SB	Total	Total
6:00 AM	1	0	14	1	0	0	0	0	24	3	9	0	0	0	0	0	0	0	11	0	0	0	5	0	0	0	0	0	68	
6:15 AM	5	0	16	0	0	0	0	0	10	1	8	0	0	0	0	0	0	0	10	0	0	0	3	0	0	0	0	0	53	
6:30 AM	8	0	16	0	0	0	0	0	14	5	7	1	0	0	0	0	0	0	14	0	0	0	3	0	0	0	0	0	68	
6:45 AM	5	1	25	1	0	0	0	0	7	0	5	2	0	0	0	0	0	0	10	1	0	0	8	1	0	0	0	0	66	255
7:00 AM	2	0	11	0	0	0	0	0	7	0	4	1	0	0	0	0	0	0	3	0	0	0	2	0	0	0	0	0	30	217
7:15 AM	6	1	16	0	0	0	0	0	15	0	11	0	0	0	0	0	0	0	12	1	0	2	3	0	0	0	0	0	67	231
7:30 AM	5	2	9	2	0	0	0	0	15	1	4	0	0	0	0	0	0	0	8	0	0	0	4	1	0	0	0	0	51	214
7:45 AM	8	0	23	2	0	0	0	0	20	2	15	1	0	0	0	0	0	0	31	1	0	0	4	0	0	0	0	0	107	255
8:00 AM	2	1	15	1	0	0	0	0	14	3	9	0	0	0	0	0	0	0	33	1	0	0	9	0	0	0	0	0	88	313
8:15 AM	2	0	24	0	0	0	0	0	14	1	13	1	0	0	0	0	0	0	21	1	0	0	8	0	0	0	0	0	85	331
8:30 AM	4	0	26	1	0	0	0	0	19	3	12	1	0	0	0	0	0	0	25	0	0	0	3	1	0	0	0	0	95	375
8:45 AM	6	0	23	0	0	0	0	0	19	0	9	1	0	0	0	0	0	0	26	1	0	0	6	0	0	0	0	0	91	359
9:00 AM	4	1	21	5	0	0	0	0	19	4	18	0	0	0	0	0	0	0	24	0	0	0	4	0	0	0	0	0	100	371
9:15 AM	6	0	19	0	0	0	0	0	16	0	16	0	0	0	0	0	0	0	22	0	0	0	5	0	0	0	0	0	84	370
9:30 AM	9	0	17	0	0	0	0	0	15	4	14	0	0	0	0	0	0	0	23	2	0	0	6	0	0	0	0	0	90	365
9:45 AM	6	0	16	3	0	0	0	0	15	6	21	0	0	0	0	0	0	0	22	0	0	0	6	2	0	0	0	0	97	371
10:00 AM	7	0	20	4	0	0	0	0	16	4	17	0	0	0	0	0	0	0	18	0	0	0	4	0	0	0	0	0	90	361
10:15 AM	6	0	13	1	0	0	0	0	29	3	18	1	0	0	0	0	0	0	17	0	0	0	7	2	0	0	0	0	97	374
10:30 AM	2	0	19	1	0	0	0	0	18	2	19	2	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	87	371
10:45 AM	8	2	19	1	0	0	0	0	15	3	14	1	0	0	0	0	0	0	18	3	0	0	4	1	0	0	0	0	89	363
11:00 AM	3	0	16	4	0	0	0	0	24	1	20	3	0	0	0	0	0	0	24	1	0	0	4	1	0	0	0	0	101	374
11:15 AM	6	1	21	4	0	0	0	0	17	3	22	0	0	0	0	0	0	0	16	1	0	0	6	0	0	0	0	0	97	374
11:30 AM	10	2	17	1	0	0	0	0	15	2	15	2	0	0	0	0	0	0	15	2	0	0	7	1	0	0	0	0	89	376
11:45 AM	7	2	18	3	0	0	0	0	19	3	18	1	0	0	0	0	0	0	12	2	0	0	10	1	0	0	0	0	96	383
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	282
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	185
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
																													AM (6AM-12PM) Peak	383
																													PM (12PM-6PM) Peak	0

AM Peak Hour

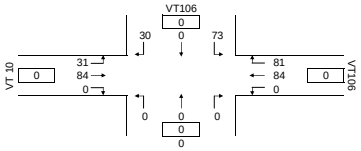
VT10-VT106
Springfield, VT
7/27/2006
4th Thursday

Volumes

	EB	WB	NB	SB	
LT	31	0	0	73	
TH	84	84	0	0	
RT	0	81	0	30	383
Enter	115	165	0	103	383
Exit	157	114	112	0	383
% Trucks	14.8%	9.1%	0.0%	8.7%	
Peds	0	0	0	0	PHF
Peak Hour	11:00 AM - 12:00 PM Peak				0.95

PHF

	EB	WB	NB	SB
LT	1.00	1.00	1.00	0.73
TH	1.00	0.84	1.00	1.00
RT	1.00	0.88	1.00	1.00
Appr.	1.00	0.86	1.00	0.86
Int.	0.95			



PM Peak Hour

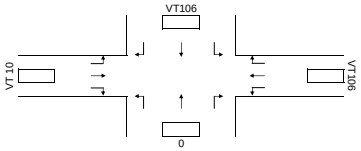
VT10-VT106
Springfield, VT
1/0/1900
0th Saturday

Volumes

	EB	WB	NB	SB	
LT					
TH					
RT					0
Enter	0	0	0	0	0
Exit	0	0	0	0	0
% Trucks					
Peds					PHF
Peak Hour					

PHF

	EB	WB	NB	SB
LT				
TH				
RT				
Appr.				
Int.				



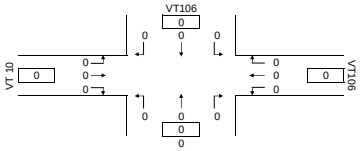
Alternate Analysis Hour

Volumes

	EB	WB	NB	SB	
LT	0	0	0	0	
TH	0	0	0	0	
RT	0	0	0	0	0
Enter	0	0	0	0	0
Exit	0	0	0	0	0
% Trucks	0.0%	0.0%	0.0%	0.0%	
Peds	0	0	0	0	PHF
Peak Hour	12:00 AM - 1:00 AM Peak				

PHF

	EB	WB	NB	SB
LT				
TH				
RT				
Appr.				
Int.				



VT10-VT106
Springfield, VT

AM: 7/27/2006
PM: 0th Saturday
PM: 4th Thursday

note:

Source: VTrans

	Eastbound VT 10						Westbound VT106						Northbound						Southbound VT106						Pedestrians				15 Min	Hour
	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	EB	WB	NB	SB	Total	Total
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	2	0	20	1	0	0	0	0	20	2	22	1	0	0	0	0	0	0	17	2	0	0	9	2	0	0	0	0	98	98
12:15 PM	10	1	29	7	0	0	0	0	24	3	18	0	0	0	0	0	0	0	11	1	0	0	7	3	0	0	0	0	114	212
12:30 PM	4	0	21	2	0	0	0	0	24	3	16	0	0	0	0	0	0	0	15	1	0	0	8	0	0	0	0	0	94	306
12:45 PM	2	0	23	1	0	0	0	0	12	2	16	1	0	0	0	0	0	0	23	1	0	0	4	2	0	2	0	0	87	393
1:00 PM	2	0	26	6	0	0	0	0	28	3	20	0	0	0	0	0	0	0	11	1	0	0	4	0	0	1	0	0	101	396
1:15 PM	5	2	17	3	0	0	0	0	12	0	17	0	0	0	0	0	0	0	31	1	0	0	4	1	0	0	0	0	93	375
1:30 PM	2	1	26	1	0	0	0	0	29	1	23	0	0	0	0	0	0	0	23	2	0	0	5	2	0	0	0	0	115	396
1:45 PM	2	4	22	1	0	0	0	0	23	1	18	4	0	0	0	0	0	0	29	1	0	0	8	1	0	0	0	0	114	423
2:00 PM	6	1	20	1	0	0	0	0	33	1	16	2	0	0	0	0	0	0	21	0	0	0	5	3	0	0	0	0	109	431
2:15 PM	10	0	24	3	0	0	0	0	25	2	32	0	0	0	0	0	0	0	24	0	0	0	8	0	0	0	0	0	128	466
2:30 PM	13	2	17	0	0	0	0	0	28	6	21	2	0	0	0	0	0	0	44	2	0	0	6	1	0	0	0	0	142	493
2:45 PM	5	0	27	5	0	0	0	0	29	3	26	3	0	0	0	0	0	0	33	2	0	0	6	1	0	0	0	0	140	519
3:00 PM	13	1	12	1	0	0	0	0	23	1	31	2	0	0	0	0	0	0	18	3	0	0	8	0	0	0	0	0	113	523
3:15 PM	9	2	27	1	0	0	0	0	17	3	22	0	0	0	0	0	0	0	22	3	0	0	4	0	0	0	0	0	110	505
3:30 PM	21	0	30	2	0	0	0	0	29	3	37	2	0	0	0	0	0	0	27	1	0	0	5	1	0	0	0	0	158	521
3:45 PM	9	1	41	2	0	0	0	0	42	1	40	1	0	0	0	0	0	0	34	0	0	0	8	1	0	0	0	0	180	561
4:00 PM	17	1	30	3	0	0	0	0	36	2	29	0	0	0	0	0	0	0	40	0	0	0	11	1	0	0	0	0	170	618
4:15 PM	15	0	19	0	0	0	0	0	33	0	41	1	0	0	0	0	0	0	26	4	0	0	12	1	0	0	0	0	152	660
4:30 PM	12	0	36	1	0	0	0	0	36	1	29	2	0	0	0	0	0	0	26	4	0	0	8	1	0	1	0	0	156	658
4:45 PM	13	0	41	1	0	0	0	0	36	2	43	0	0	0	0	0	0	0	23	1	0	0	16	1	0	0	0	0	177	655
5:00 PM	14	0	35	0	0	0	0	0	33	0	38	0	0	0	0	0	0	0	25	1	0	0	14	0	0	0	0	0	160	645
5:15 PM	12	1	32	2	0	0	0	0	31	3	34	1	0	0	0	0	0	0	23	3	0	0	12	2	0	0	0	0	156	649
5:30 PM	9	0	30	0	0	0	0	0	30	0	29	1	0	0	0	0	0	0	22	2	0	0	9	1	0	0	0	0	133	626
5:45 PM	9	0	27	2	0	0	0	0	29	2	28	0	0	0	0	0	0	0	21	1	0	0	9	1	0	0	0	0	129	578
																													AM (6AM-12PM) Peak	306
																													PM (12PM-6PM) Peak	660

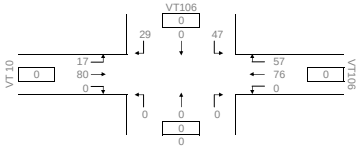
AM Peak Hour

Volumes

	EB	WB	NB	SB	
LT	17	0	0	47	
TH	80	76	0	0	
RT	0	57	0	29	306
Enter	97	133	0	76	306
Exit	127	105	74	0	306
% Trucks	11.3%	6.8%	0.0%	11.8%	
Peds	0	0	0	0	PHF
Peak Hour	11:45 AM - 12:45 PM Peak				0.67

PHF

	EB	WB	NB	SB
LT	0.39	1.00	1.00	0.98
TH	0.56	0.70	1.00	1.00
RT	1.00	0.79	1.00	0.73
Appr.	0.52	0.74	1.00	0.86
Int.	0.67			



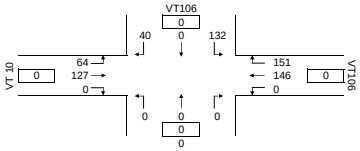
PM Peak Hour

Volumes

	EB	WB	NB	SB	
LT	64	0	0	132	
TH	127	146	0	0	
RT	0	151	0	40	660
Enter	191	297	0	172	660
Exit	259	186	215	0	660
% Trucks	4.7%	3.4%	0.0%	5.2%	
Peds	0	0	0	0	PHF
Peak Hour	3:30 PM - 4:30 PM Peak				0.92

PHF

	EB	WB	NB	SB
LT	1.00	1.00	1.00	0.97
TH	0.74	0.85	1.00	1.00
RT	1.00	0.92	1.00	1.00
Appr.	0.88	0.88	1.00	0.98
Int.	0.92			



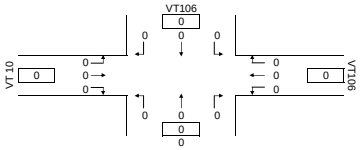
Alternate Analysis Hour

Volumes

	EB	WB	NB	SB	
LT	0	0	0	0	
TH	0	0	0	0	
RT	0	0	0	0	0
Enter	0	0	0	0	0
Exit	0	0	0	0	0
% Trucks	0.0%	0.0%	0.0%	0.0%	
Peds	0	0	0	0	PHF
Peak Hour	12:00 AM - 1:00 AM Peak				

PHF

	EB	WB	NB	SB
LT				
TH				
RT				
Appr.				
Int.				



VT10-South County Rd
North Springfield, VT
AM: 5/8/2008
PM: 5/8/2008
AM: 2nd Thursday
PM: 2nd Thursday

note:

Source: JDA

	Eastbound Street Name						Westbound Street Name						Northbound Street Name						Southbound Street Name						Pedestrians				15 Min	Hour
	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	EB	WB	NB	SB	Total	Total
6:00 AM	0	0	12	0	0	0	10	0	15	0	0	0	0	0	0	0	7	1	1	0	1	0	0	0	0	0	0	0	47	
6:15 AM	0	0	13	0	1	0	14	1	22	0	0	0	2	0	0	0	8	1	2	0	0	0	1	0	0	0	0	0	65	
6:30 AM	0	0	23	0	0	0	15	1	31	1	1	0	0	0	0	0	7	2	5	0	1	0	0	0	0	0	0	0	87	
6:45 AM	0	0	30	0	0	0	24	2	18	0	0	0	0	0	0	0	7	1	5	0	3	0	0	0	0	0	0	0	90	289
7:00 AM	0	0	31	2	0	0	6	1	20	3	0	0	0	0	0	0	8	1	6	0	0	0	0	0	0	0	0	0	78	320
7:15 AM	0	0	29	1	0	0	9	1	24	1	2	0	0	0	0	0	9	5	8	0	0	0	0	0	0	0	0	0	89	344
7:30 AM	0	0	34	2	0	0	18	3	31	0	2	1	0	1	0	0	7	2	11	0	0	1	1	0	0	0	0	0	114	371
7:45 AM	2	0	33	2	0	0	20	0	20	3	2	0	0	2	1	0	6	2	3	0	0	0	1	1	0	1	0	0	98	379
8:00 AM	0	0	38	1	1	0	11	0	15	2	1	0	1	1	0	0	7	1	3	1	0	0	0	0	0	0	0	0	83	384
8:15 AM	0	0	23	4	0	1	14	0	15	1	2	0	0	0	0	0	9	0	6	0	0	0	0	0	0	0	0	0	75	370
8:30 AM	0	0	33	3	0	0	5	0	21	0	1	1	0	0	0	0	4	1	4	0	0	0	0	0	0	0	0	0	73	329
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	231
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	148
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	23	1	0	0	6	1	23	1	3	1	1	0	1	0	38	2	3	0	0	0	0	0	0	0	0	0	104	104
2:15 PM	0	0	25	3	0	1	4	4	24	0	2	1	0	0	0	0	9	2	4	0	0	0	1	0	0	0	0	0	80	184
2:30 PM	2	0	24	1	0	0	7	3	27	1	3	1	0	1	2	0	9	0	0	0	0	0	2	1	0	0	0	1	84	268
2:45 PM	2	0	34	6	1	1	10	4	30	1	6	0	1	1	0	0	8	1	5	1	1	0	0	0	0	0	0	0	113	381
3:00 PM	0	0	29	7	0	1	3	3	32	0	7	0	1	0	1	0	9	3	4	0	1	0	0	0	0	0	0	0	101	378
3:15 PM	1	1	42	1	0	0	10	2	33	3	3	0	0	3	1	0	8	2	5	0	2	0	1	0	0	0	0	0	118	416
3:30 PM	0	0	27	3	2	0	6	1	35	1	7	1	0	0	1	0	33	2	6	2	0	0	1	0	0	0	0	0	128	460
3:45 PM	0	0	40	3	0	0	11	5	32	1	8	1	0	0	0	0	13	0	5	1	0	1	0	0	0	0	0	0	121	468
4:00 PM	1	0	31	1	0	0	18	3	39	1	10	0	0	0	1	0	14	3	3	0	1	0	0	0	0	0	0	0	126	493
4:15 PM	1	0	25	1	0	0	7	5	32	1	5	0	0	0	1	0	10	1	4	1	0	0	1	0	0	0	0	0	95	470
4:30 PM	0	0	33	2	1	0	11	3	36	1	3	1	0	1	0	1	15	3	6	0	0	0	1	0	0	0	4	0	118	460
4:45 PM	0	0	29	5	0	0	9	0	36	1	10	0	0	0	2	0	9	0	5	0	0	0	1	0	0	0	0	0	107	446
5:00 PM	1	1	23	1	0	0	14	2	36	1	6	0	1	0	2	0	14	3	2	0	1	0	0	0	0	0	0	0	108	428
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	333
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	215
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108
		1		8		0		11		6		2		3		0		7		3		1		0		0		0	AM (6AM-12PM) Peak	384
																													PM (12PM-6AM) Peak	493

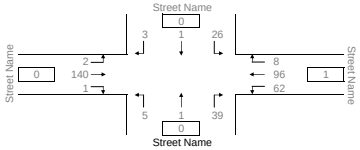
AM Peak Hour

Volumes

	EB	WB	NB	SB	
LT	2	62	5	26	
TH	140	96	1	1	
RT	1	8	39	3	384
Enter	143	166	45	30	384
Exit	205	104	11	64	384
% Trucks	4.2%	6.6%	31.1%	10.0%	
Peds	0	1	0	0	PHF
Peak Hour	7:15 AM - 8:15 AM Peak				0.84

PHF

	EB	WB	NB	SB
LT	1.00	0.74	1.00	0.59
TH	0.97	0.77	1.00	0.25
RT	1.00	0.67	1.00	0.75
Appr.	0.99	0.75	1.00	0.58
Int.	0.84			



				east	west
to from east	11	100%	11 to	18	3
to from west	0	0%		86%	14%
from to west	3	30%	10 from		
from to east	7	70%			

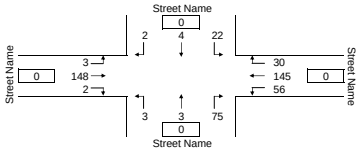
PM Peak Hour

Volumes

	EB	WB	NB	SB	
LT	3	56	3	22	
TH	148	145	3	4	
RT	2	30	75	2	493
Enter	153	231	81	28	493
Exit	245	150	36	62	493
% Trucks	5.9%	8.2%	12.3%	14.3%	
Peds	0	0	0	0	PHF
Peak Hour	3:15 PM - 4:15 PM Peak				0.96

PHF

	EB	WB	NB	SB
LT	1.00	1.00	1.00	0.69
TH	1.00	1.00	0.75	1.00
RT	0.25	0.94	0.54	0.50
Appr.	1.00	1.00	0.56	0.78
Int.	0.96			



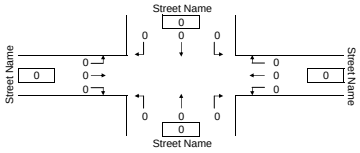
Alternate Analysis Hour

Volumes

	EB	WB	NB	SB	
LT	0	0	0	0	
TH	0	0	0	0	
RT	0	0	0	0	0
Enter	0	0	0	0	0
Exit	0	0	0	0	0
% Trucks	0.0%	0.0%	0.0%	0.0%	
Peds	0	0	0	0	PHF
Peak Hour	12:00 AM - 1:00 AM Peak				

PHF

	EB	WB	NB	SB
LT				
TH				
RT				
Appr.				
Int.				



Main St - Fairbanks
North Springfield, VT
AM: 5/21/2008
PM: 5/21/2008
AM: 3rd Wednesday
PM: 3rd Wednesday

note:

Source: JDA

	Eastbound Street Name						Westbound Street Name						Northbound Street Name						Southbound Street Name						Pedestrians				15 Min	Hour
	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	EB	WB	NB	SB	Total	Total
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	2	0	1	0	1	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	8	8
10:15 AM	0	0	3	0	0	0	1	2	3	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	12	20
10:30 AM	0	0	2	0	0	0	4	0	1	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	10	30
10:45 AM	0	0	3	0	3	0	1	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	13	43
11:00 AM	0	0	6	0	1	0	2	2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	13	48
11:15 AM	0	0	5	0	1	0	2	0	3	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	15	51
11:30 AM	0	0	6	0	0	0	3	0	2	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	15	56
11:45 AM	0	0	8	0	4	1	3	1	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	22	65
12:00 PM	0	0	6	0	4	0	4	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	20	72
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
																													AM (6AM-12PM) Peak	72
																													PM (12PM-6PM) Peak	20

Warning: Two peak 15-minute periods

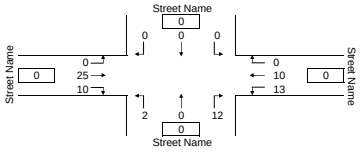
AM Peak Hour

Volumes

	EB	WB	NB	SB	
LT	0	13	2	0	
TH	25	10	0	0	
RT	10	0	12	0	72
Enter	35	23	14	0	72
Exit	37	12	0	23	72
% Trucks	2.9%	4.3%	7.1%	0.0%	
Peds	0	0	0	0	PHF
Peak Hour	11:15 AM - 12:15 PM Peak				0.82

PHF

	EB	WB	NB	SB
LT	1.00	0.81	1.00	1.00
TH	0.78	0.83	1.00	1.00
RT	0.50	1.00	1.00	1.00
Appr.	0.67	0.82	1.00	1.00
Int.	0.82			



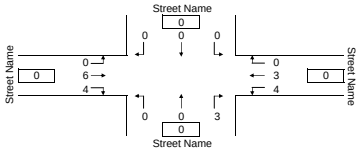
PM Peak Hour

Volumes

	EB	WB	NB	SB	
LT	0	4	0	0	
TH	6	3	0	0	
RT	4	0	3	0	20
Enter	10	7	3	0	20
Exit	9	3	0	8	20
% Trucks	0.0%	0.0%	0.0%	0.0%	
Peds	0	0	0	0	PHF
Peak Hour	12:00 PM - 1:00 PM Peak				0.25

PHF

	EB	WB	NB	SB
LT	1.00	0.25	1.00	1.00
TH	0.25	0.25	1.00	1.00
RT	0.25	1.00	0.25	1.00
Appr.	0.25	0.25	0.25	1.00
Int.	0.25			



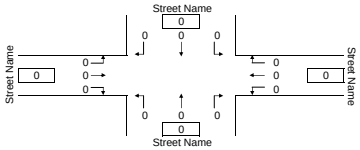
Alternate Analysis Hour

Volumes

	EB	WB	NB	SB	
LT	0	0	0	0	
TH	0	0	0	0	
RT	0	0	0	0	0
Enter	0	0	0	0	0
Exit	0	0	0	0	0
% Trucks	0.0%	0.0%	0.0%	0.0%	
Peds	0	0	0	0	PHF
Peak Hour	12:00 AM - 1:00 AM Peak				

PHF

	EB	WB	NB	SB
LT				
TH				
RT				
Appr.				
Int.				



Main St - Precision Dr
North Springfield, VT
AM: 5/21/2008
PM: 5/21/2008
AM: 3rd Wednesday
PM: 3rd Wednesday

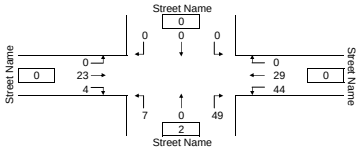
note:

Source: JDA

	Eastbound Street Name						Westbound Street Name						Northbound Street Name						Southbound Street Name						Pedestrians				15 Min	Hour
	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	L	(t)	T	(t)	R	(t)	EB	WB	NB	SB	Total	Total
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	3	0	0	0	6	0	5	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	18	18
10:15 AM	0	0	2	0	1	0	1	1	4	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	13	31
10:30 AM	0	0	5	1	1	1	2	6	7	0	0	0	1	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	29	60
10:45 AM	0	0	4	0	0	0	4	1	5	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	19	79
11:00 AM	0	0	6	0	0	0	4	4	3	2	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	23	84
11:15 AM	0	0	6	0	1	0	3	5	3	0	0	0	1	0	0	0	3	4	0	0	0	0	0	0	0	0	0	0	26	97
11:30 AM	0	0	3	0	2	0	8	3	7	0	0	0	1	0	0	0	6	2	0	0	0	0	0	0	0	0	1	0	32	100
11:45 AM	0	0	7	0	1	0	10	2	4	1	0	0	4	0	0	0	15	2	0	0	0	0	0	0	0	0	0	0	46	127
12:00 PM	0	0	7	0	0	0	10	3	12	2	0	0	1	0	0	0	15	2	0	0	0	0	0	0	0	0	1	0	52	156
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	130
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
																													AM (6AM-12PM) Peak	156
																													PM (12PM-6PM) Peak	52

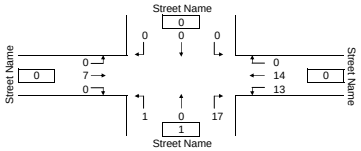
AM Peak Hour

	Volumes					PHF				
	EB	WB	NB	SB			EB	WB	NB	SB
LT	0	44	7	0		LT	1.00	0.85	1.00	1.00
TH	23	29	0	0		TH	0.82	0.52	1.00	1.00
RT	4	0	49	0	156	RT	1.00	1.00	0.72	1.00
Enter	27	73	56	0	156	Appr.	0.96	0.68	0.78	1.00
Exit	72	36	0	48	156	Int.	0.75			
% Trucks	0.0%	21.9%	17.9%	0.0%						
Peds	0	0	2	0	PHF					
Peak Hour	11:15 AM - 12:15 PM Peak				0.75					



PM Peak Hour

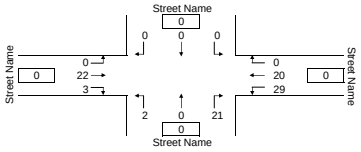
	Volumes					PHF				
	EB	WB	NB	SB			EB	WB	NB	SB
LT	0	13	1	0		LT	1.00	0.25	0.25	1.00
TH	7	14	0	0		TH	0.25	0.25	1.00	1.00
RT	0	0	17	0	52	RT	1.00	1.00	0.25	1.00
Enter	7	27	18	0	52	Appr.	0.25	0.25	0.25	1.00
Exit	24	15	0	13	52	Int.	0.25			
% Trucks	0.0%	18.5%	11.1%	0.0%						
Peds	0	0	1	0	PHF					
Peak Hour	12:00 PM - 1:00 PM Peak				0.25					



Alternate Analysis Hour

10:30 AM

	Volumes					PHF				
	EB	WB	NB	SB			EB	WB	NB	SB
LT	0	29	2	0		LT	1.00	0.91	0.50	1.00
TH	22	20	0	0		TH	0.92	0.71	1.00	1.00
RT	3	0	21	0	97	RT	0.38	1.00	1.00	1.00
Enter	25	49	23	0	97	Appr.	0.78	0.82	0.96	1.00
Exit	43	22	0	32	97	Int.	0.84			
% Trucks	8.0%	36.7%	47.8%	0.0%						
Peds	0	0	0	0	PHF					
Peak Hour	10:30 AM - 11:30 AM Peak				0.84					



APPENDIX B

TUBE COUNT DATA

Summary of Tube Count Data for Fairbanks Road

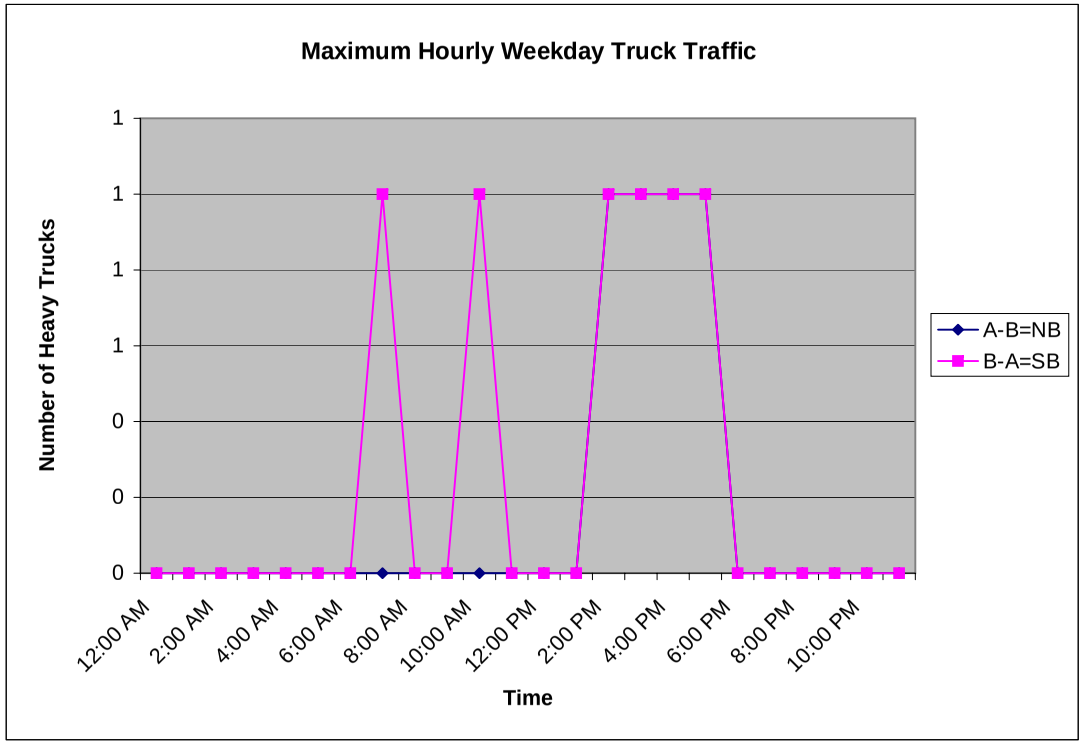
North Springfield, VT

A-B=NB

		Autos	Medium	Heavy	%A	%M	%H	%T
R	5/1/2008	214	11	1	77%	4%	0%	4%
F	5/2/2008	326	16	2	78%	4%	0%	4%
Sat	5/3/2008	326	11	1	83%	3%	0%	3%
Sun	5/4/2008	172	1	0	94%	1%	0%	1%
M	5/5/2008	130	1	0	93%	1%	0%	1%
T	5/6/2008	301	16	1	79%	4%	0%	4%
			Average:	1				
			Maximum:	2				

B-A=SB

		Autos	Medium	Heavy	%A	%M	%H	%T
Sat	6/23/2007	182	10	8	91%	5%	4%	9%
Sun	6/24/2007	76	4	2	93%	5%	2%	7%
M	6/25/2007	574	85	39	82%	12%	6%	18%
T	6/26/2007	580	94	62	79%	13%	8%	21%
W	6/27/2007	578	90	52	80%	13%	7%	20%
R	6/28/2007	575	102	55	79%	14%	8%	21%
			Average:	36				
			Maximum:	62				



Summary of Tube Count Data for Precision Drive

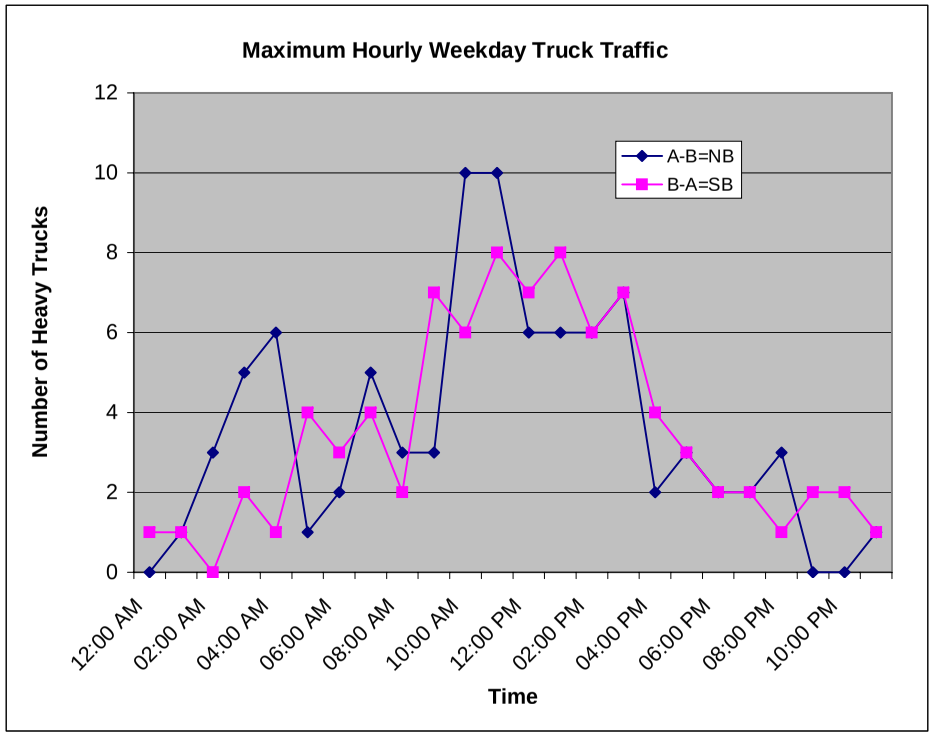
North Springfield, VT

A-B=NB

		Autos	Medium	Heavy	%A	%M	%H	%T
Sat	6/23/2007	235	6	1	97%	2%	0%	3%
Sun	6/24/2007	74	1	2	96%	1%	3%	4%
M	6/25/2007	522	71	45	82%	11%	7%	18%
T	6/26/2007	613	83	51	82%	11%	7%	18%
W	6/27/2007	590	82	41	83%	12%	6%	17%
R	6/28/2007	578	99	48	80%	14%	7%	20%
			Average:	31				
			Maximum:	51				

B-A=SB

		Autos	Medium	Heavy	%A	%M	%H	%T	
Sat	6/23/2007	182	10	8	91%	5%	4%	9%	Sat
Sun	6/24/2007	76	4	2	93%	5%	2%	7%	Sun
M	6/25/2007	574	85	39	82%	12%	6%	18%	M
T	6/26/2007	580	94	62	79%	13%	8%	21%	T
W	6/27/2007	578	90	52	80%	13%	7%	20%	W
R	6/28/2007	575	102	55	79%	14%	8%	21%	**R**
			Average:	36					
			Maximum:	62					



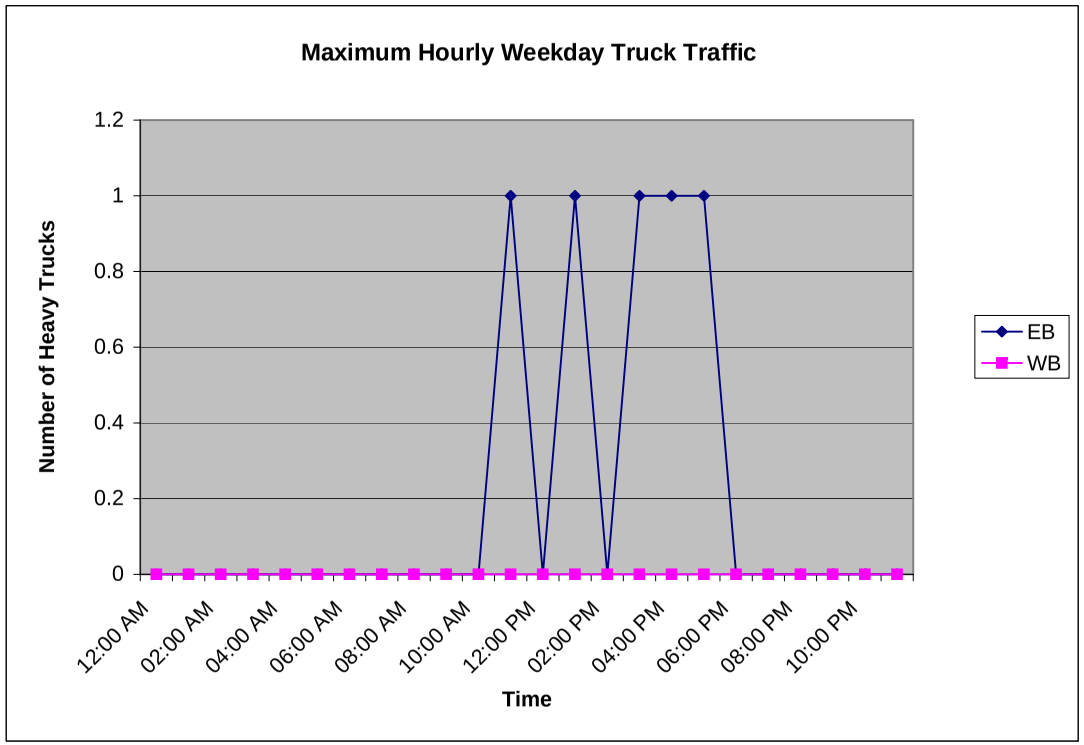
Summary of Tube Count Data for Main Street west of Fairbanks Rd
North Springfield, VT

EB

		Autos	Medium	Heavy	%A	%M	%H	%T
F	5/9/2008	12	299	1	4%	96%	0%	96%
Sat	5/10/2008	12	207	2	5%	94%	1%	95%
Sun	5/11/2008	5	173	1	3%	97%	1%	97%
M	5/12/2008	21	282	0	7%	93%	0%	93%
T	5/13/2008	18	259	3	6%	93%	1%	94%
W	5/14/2008	18	275	2	6%	93%	1%	94%
			Average:	2				
			Maximum:	3				

WB

		Autos	Medium	Heavy	%A	%M	%H	%T
F	5/9/2008	277	1	0	100%	0%	0%	0%
Sat	5/10/2008	217	0	0	100%	0%	0%	0%
Sun	5/11/2008	153	0	0	100%	0%	0%	0%
M	5/12/2008	290	2	0	99%	1%	0%	1%
T	5/13/2008	264	2	0	99%	1%	0%	1%
W	5/14/2008	253	2	0	99%	1%	0%	1%
			Average:	0				
			Maximum:	0				



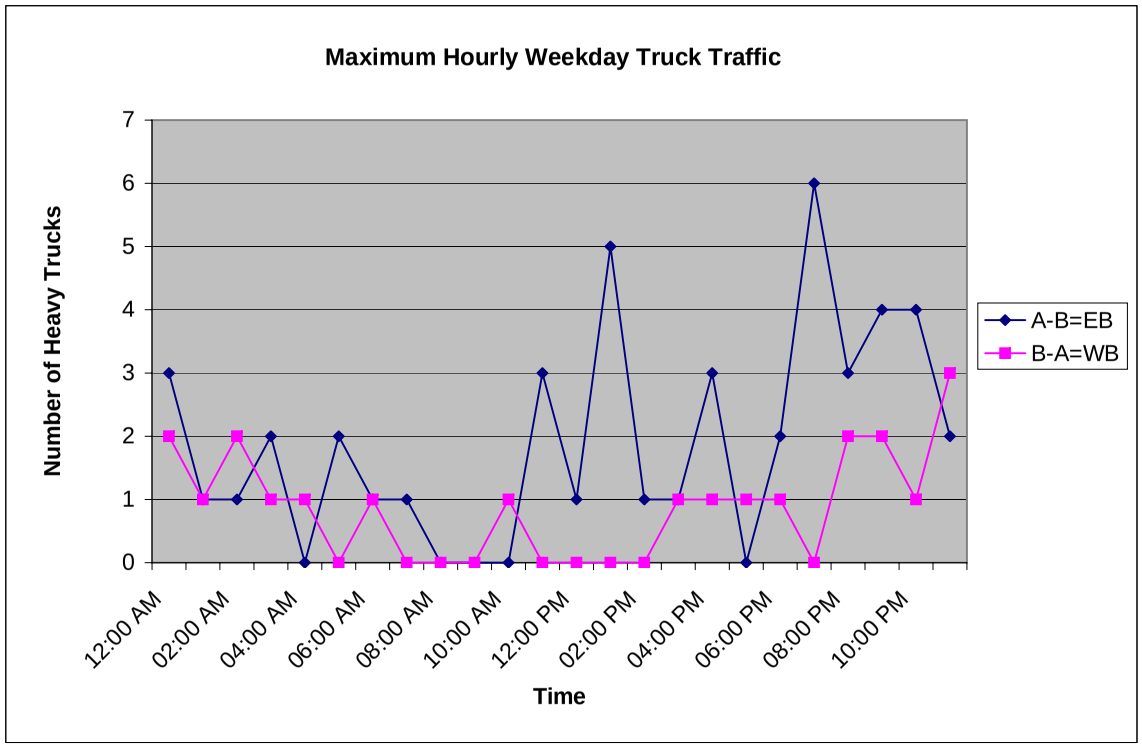
Summary of Tube Count Data for Main Street west of South County Rd
North Springfield, VT

A-B=EB

		Autos	Medium	Heavy	%A	%M	%H	%T	
Sat	6/23/2007	770	88	12	89%	10%	1%	11%	870
Sun	6/24/2007	413	21	2	95%	5%	0%	5%	436
M	6/25/2007	661	98	19	85%	13%	2%	15%	778
T	6/26/2007	924	177	27	82%	16%	2%	18%	1128
W	6/27/2007	1004	151	19	86%	13%	2%	14%	1174
R	6/28/2007	963	165	27	83%	14%	2%	17%	1155
			Average:	18					
			Maximum:	27					

B-A=WB

		Autos	Medium	Heavy	%A	%M	%H	%T	
Sat	6/23/2007	735	35	9	94%	4%	1%	6%	779
Sun	6/24/2007	380	14	5	95%	4%	1%	5%	399
M	6/25/2007	870	62	5	93%	7%	1%	7%	937
T	6/26/2007	1030	93	10	91%	8%	1%	9%	1133
W	6/27/2007	1003	87	4	92%	8%	0%	8%	1094
R	6/28/2007	962	96	11	90%	9%	1%	10%	1069
			Average:	7					
			Maximum:	11					



Summary of Tube Count Data for South County Rd

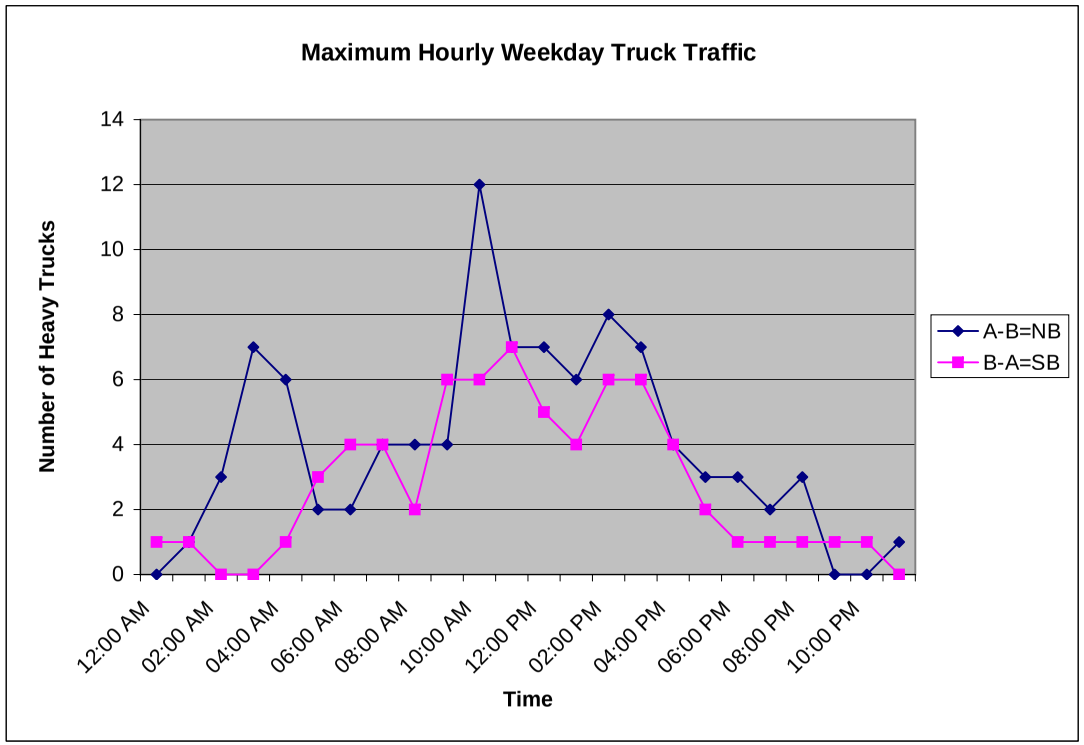
North Springfield, VT

A-B=NB

		Autos	Medium	Heavy	%A	%M	%H	%T
Sat	6/23/2007	313	9	4	96%	3%	1%	4%
Sun	6/24/2007	206	2	3	98%	1%	1%	2%
M	6/25/2007	469	51	59	81%	9%	10%	19%
T	6/26/2007	495	62	64	80%	10%	10%	20%
W	6/27/2007	441	59	50	80%	11%	9%	20%
R	6/28/2007	452	58	59	79%	10%	10%	21%
			Average:	40				
			Maximum:	64				

B-A=SB

		Autos	Medium	Heavy	%A	%M	%H	%T
Sat	6/23/2007	291	13	6	94%	4%	2%	6%
Sun	6/24/2007	210	2	5	97%	1%	2%	3%
M	6/25/2007	514	67	32	84%	11%	5%	16%
T	6/26/2007	543	74	42	82%	11%	6%	18%
W	6/27/2007	497	63	40	83%	11%	7%	17%
R	6/28/2007	500	75	35	82%	12%	6%	18%
			Average:	27				
			Maximum:	42				



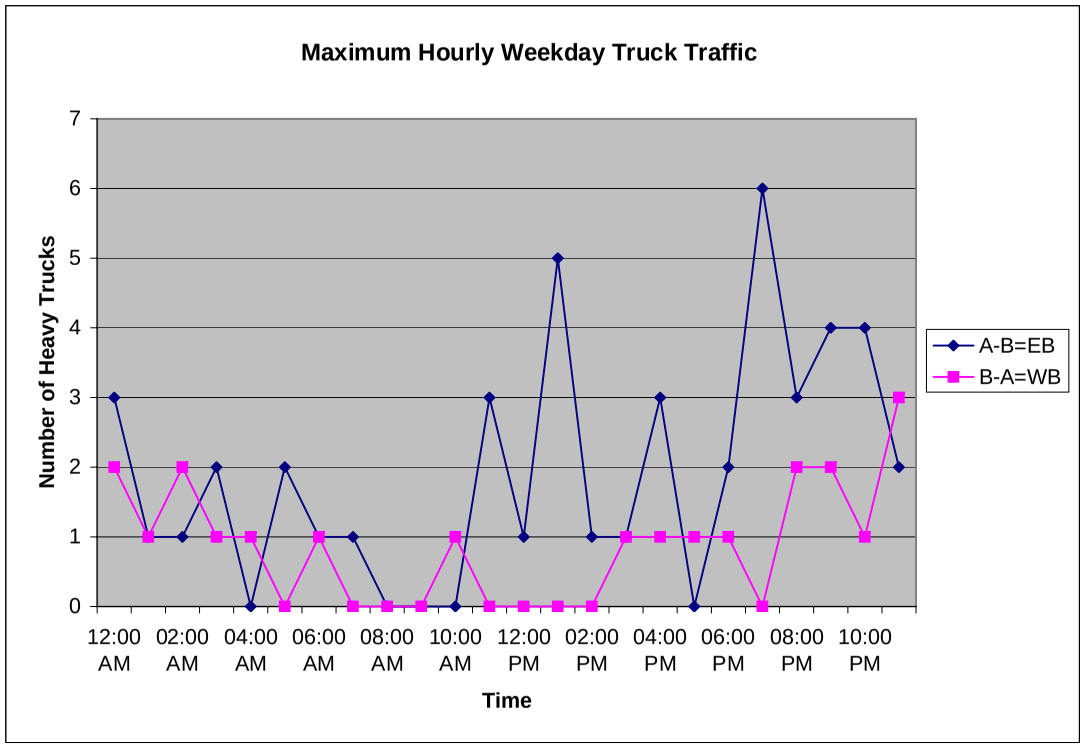
Summary of Tube Count Data for VT10 west of South County Rd
North Springfield, VT

A-B=EB

		0	Autos	Medium	Heavy	%A	%M	%H
Sat	6/23/2007	14	40	17	20%	56%	24%	80%
Sun	6/24/2007	31	12	16	53%	20%	27%	47%
M	6/25/2007	16	41	36	17%	44%	39%	83%
T	6/26/2007	24	55	58	18%	40%	42%	82%
W	6/27/2007	33	57	56	23%	39%	38%	77%
R	6/28/2007	11	74	62	7%	50%	42%	93%
			Average:	41				
			Maximum:	62				

B-A=WB

		0	Autos	Medium	Heavy	%A	%M	%H
Sat	6/23/2007	9	51	25	11%	60%	29%	89%
Sun	6/24/2007	35	33	18	41%	38%	21%	59%
M	6/25/2007	12	76	43	9%	58%	33%	91%
T	6/26/2007	19	117	66	9%	58%	33%	91%
W	6/27/2007	30	86	56	17%	50%	33%	83%
R	6/28/2007	50	85	47	27%	47%	26%	73%
			Average:	43				
			Maximum:	66				



Summary of Tube Count Data for VT106 south of VT10

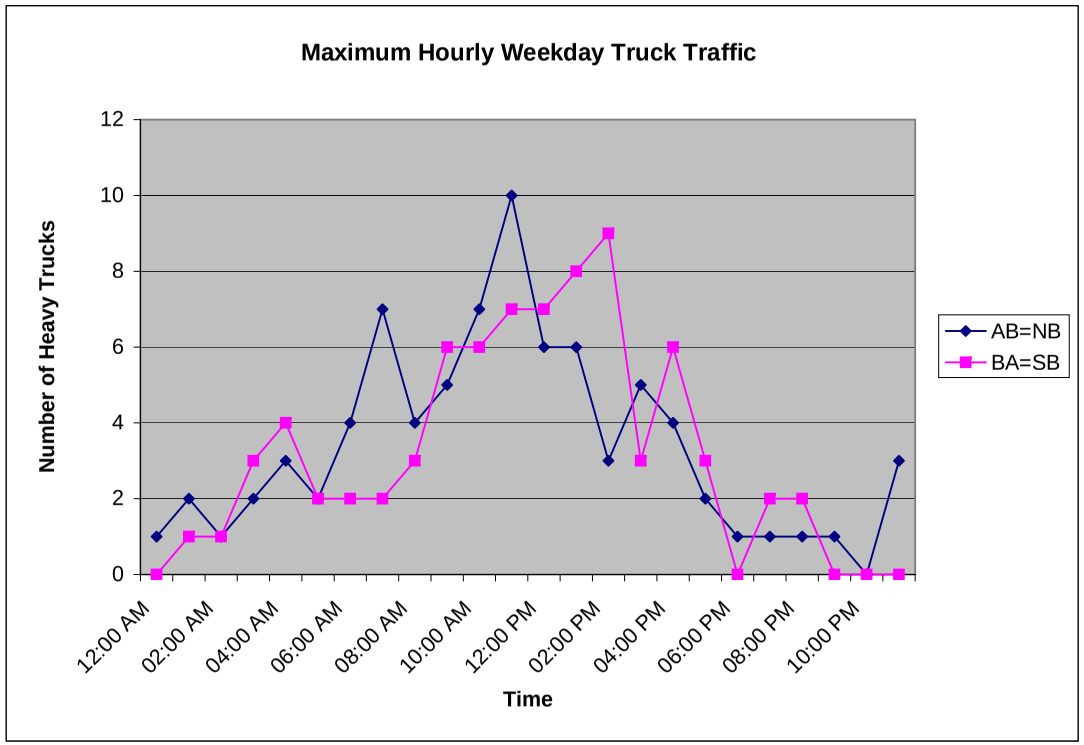
North Springfield, VT

AB=NB

		Autos	Medium	Heavy	%A	%M	%H	%T
W	10/17/2007	3280	187	66	93%	5%	2%	7%
R	10/18/2007	3336	221	62	92%	6%	2%	8%
F	10/19/2007	3308	231	61	92%	6%	2%	8%
Sat	10/20/2007	2749	84	12	97%	3%	0%	3%
Sun	10/21/2007	2249	46	13	97%	2%	1%	3%
M	10/22/2007	1315	122	28	90%	8%	2%	10%
			Average:	40				
			Maximum:	66				

B-A=SB

		Autos	Medium	Heavy	%A	%M	%H	%T
W	10/17/2007	3146	253	78	90%	7%	2%	10%
R	10/18/2007	3219	293	55	90%	8%	2%	10%
F	10/19/2007	3165	318	68	89%	9%	2%	11%
Sat	10/20/2007	2558	239	10	91%	9%	0%	9%
Sun	10/21/2007	2192	171	15	92%	7%	1%	8%
M	10/22/2007	1417	191	32	86%	12%	2%	14%
			Average:	43				
			Maximum:	78				



APPENDIX C

CRASH DATA & ANALYSES

Vermont Agency of Transportation

General Yearly Summaries - Crash Listing: State Highways and All Federal Aid Highway Systems

2002-2006 General Yearly Summaries Information

*	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	No. Of Inj.	No. Of Fat.	Dir.	Road Group
VT10	Springfield	0	8/25/2003	7:13	Clear	No improper driving	Single Vehicle Crash	1	0	N	SH
VT10	Springfield	0	1/11/2005	7:28	Clear	No improper driving, Disregarded traffic signs, signals, road markings, Exceeded authorized speed	Opp Direction Sideswipe	0	0		SH
VT10	Springfield	0.16	4/22/2005	9:50	Clear	Operating vehicle in erratic, reckless, careless, negligent, or aggressive manner, Disregarded traffic	Same Direction Sideswipe	0	0		SH
VT10	Springfield	0.66	1/15/2002	12:12	Snow	Failed to yield right of way, Driving too fast for conditions		0	0	S	SH
VT10	Springfield	0.66	9/22/2004	14:00	Clear	No improper driving, Failed to yield right of way, Inattention	Left Turn and Thru, Same Direction Sideswipe/Angle Crash vv--	1	0		SH
VT10	Springfield	0.66	12/26/2004	14:15	Snow	Inattention, Followed too closely, No improper driving	Rear End	0	0		SH
VT10	Springfield	0.75	11/14/2006	7:26	Rain	No improper driving	Single Vehicle Crash	0	0	S	SH
VT10	Springfield	0.77	7/14/2004	0:17	Cloudy	No improper driving	Single Vehicle Crash	0	0	E	SH
VT10	Springfield	0.83	2/11/2005	7:38	Clear	Driving too fast for conditions, No improper driving	Rear End	0	0	S	SH
VT10	Springfield	0.83	5/23/2005	13:30	Rain	Unknown	Single Vehicle Crash	0	0	W	SH
VT106	Springfield	2.31	10/24/2002	16:24	Clear	Inattention, No improper driving	Same Direction Sideswipe	0	0	N	SH
VT106	Springfield	2.31	10/1/2003	16:52	Clear	Unknown	Rear End	0	0		SH
VT106	Springfield	2.31	11/28/2006	11:15	Clear	Followed too closely, Inattention, No improper driving	Rear End	0	0	E	SH
VT106	Springfield	2.42	9/5/2003	10:25	Cloudy	Inattention, No improper driving	Rear End	0	0		SH
VT106	Springfield	2.42	4/30/2004	13:15	Clear	No improper driving	Opp Direction Sideswipe	1	0		SH
VT106	Springfield	2.42	12/21/2004	10:19	Cloudy	Inattention, No improper driving	Rear End	0	0	N	SH
VT106	Springfield	2.56	8/17/2006	15:52	Clear	Inattention, Visibility obstructed, No improper driving	Rear End	2	0	N	SH
VT106	Springfield	2.59	7/30/2005	16:22	Clear	Inattention, Fatigued, asleep, No improper driving	Rear End	2	0		SH
VT106	Springfield	2.58	10/26/2006	7:42	Clear	No improper driving, Exceeded authorized speed limit,	Opp Direction Sideswipe	1	0	N	SH
VT106	Springfield	2.6	3/19/2005	18:58	Clear	Inattention	Opp Direction Sideswipe	3	0		SH
VT106	Springfield	2.6	12/9/2002	14:02	Clear	Inattention, No improper driving	Right Turn, Same Direction, Rear End [illegible]	1	0	S	SH

*	Town	Mile Marker	Date MM/DD/YY	Time	Weather	Contributing Circumstances	Direction Of Collision	Of Inj.	Of Fat.	Dir.	Road Group
VT106	Springfield	2.6	12/26/2006	12:28	Cloudy	Disregarded traffic signs, signals, road markings, No	No Turns, Thru moves only, Broadside ^<	0	0	E	SH
VT106	Springfield	2.75	10/27/2005	6:39	Cloudy	No improper driving	Single Vehicle Crash	0	0	S	SH
VT106	Springfield	2.8	8/18/2006	13:59	Clear	Failure to keep in proper lane or running off road,	Single Vehicle Crash	1	0	N	SH
VT106	Springfield	2.92	8/20/2005	11:33	Cloudy	No improper driving	Single Vehicle Crash	0	0	N	SH
VT106	Springfield	3.06	3/4/2003	16:37	Cloudy	Failed to yield right of way, No improper driving	No Turns, Thru moves only, Broadside ^<	0	0	E	SH
VT106	Springfield	3.07	1/16/2002	12:32	Clear	Failed to yield right of way	Head On	2	0		SH
VT106	Springfield	3.09	1/31/2006	18:16	Snow	Failure to keep in proper lane or running off road,	Single Vehicle Crash	1	0		SH
VT106	Springfield	3.26	10/17/2002	13:27	Cloudy	No improper driving, Failure to keep in proper lane or running off road	Opp Direction Sideswipe	1	0		SH
VT106	Springfield	3.26	4/26/2006	16:50	Clear	No improper driving, Failed to yield right of way	Left Turn and Thru, Angle Broadside -->v--	1	0		SH
VT106	Springfield	3.27	9/10/2003	14:50	Clear	Disregarded traffic signs, signals, road markings, Inattention	Single Vehicle Crash	0	0		SH
VT106	Springfield	3.28	11/7/2002	10:18	Clear	No improper driving, Failed to yield right of way	Left Turn and Thru, Broadside v<--	2	0		SH
VT106	Springfield	3.28	6/30/2004	13:30	Cloudy	Failed to yield right of way, Inattention, No improper driving	Left Turn and Thru, Angle Broadside -->v--	0	0	N	SH
VT106	Springfield	3.28	2/10/2005	19:23	Sleet, Hail (Freezing Rain or Drizzle)	Inattention, Disregarded traffic signs, signals, road markings	Single Vehicle Crash	1	0	S	SH
VT106	Springfield	3.28	6/22/2006	18:17	Clear	Unknown	Rear End	1	0	S	SH
VT106	Springfield	3.3	12/1/2002	16:03	Clear	Inattention, No improper driving	Rear End	0	0		SH
* VT106	Springfield	3.44	3/10/2005	13:55	Clear	No improper driving, Failed to yield right of way	Head On	0	0		SH
* VT106	Springfield	3.53	6/2/2006	13:15	Rain	Inattention	Single Vehicle Crash	0	0	E	SH
* VT106	Springfield	3.64	6/22/2006	16:27	Clear	Failed to yield right of way, Distracted, No improper	Head On	3	0	N	SH
* VT106	Springfield	3.78	7/2/2006	10:25	Clear	Followed too closely, No improper driving	Rear End	0	0		SH

Notes:

VT10 mm 0.66 is intersection with South County Rd.

VT10 mm .833 is intersection with VT106.

VT106 mm 3.283 is intersection with VT10.

The only intersection with 5 or greater accidents within 5 years is VT106 at mm3.28 (intersection with VT106).

The only sections with 5 or greater accidents within 5 years is VT10 mm0.533 - mm0.833 (contains intersections with South County Rd and VT106) and VT106 section containing intersection with VT10.

CALCULATIONS

VTmm0 = Chester Town Line
VT10mm.664=intersection with County Rd
VT10mm.833=intersection with VT106

SECTION NAME	VT10 - mm.533-mm0.833	VT106-mm2.30-mm2.60
Number of Years	5	5
Total Crashes	7	12
Segment Length (mi)	0.30	0.3
AADT	3570.00	6222.00
Average Rate	1.1013	1.1013
K	2.58	2.58
M	1.95	3.4065
Actual Rate (segment)	3.581	3.523
Critical Rate	2.782	2.421
Actual/Critical Ratio	**1.287**	**1.455**
High Crash Location	**Yes**	**Yes**

INTERSECTION NAME	VT10/VT106	
Number of Years	5	
Total Crashes	10	
ADT - EB Approach	1551	
ADT - WB Approach	2568	
ADT - NB Approach	0	
ADT - SB Approach	1369	
Average Rate	0.556	
K	2.58	2.58
M	5.0075	0.0000
Actual Rate	1.997	#DIV/0!
Critical Rate	1.316	#DIV/0!
Actual/Critical Ratio	**1.518**	**#DIV/0!**
High Crash Location	**Yes**	**#DIV/0!**

Count = 2006 Growth, per red book chart (2006->2008)= 1.02

DHV = 0.1084 * AADT + 30	DHV	AADT
EB	195	1520
WB	303	2518
NB	0	0
SB	175	1342

APPENDIX D

TRIP GENERATION

WINSTANLEY

Weekday

ITE Code 110 General Light Industrial

Name	Winstanley							Number of Studies			18
Size	0	1000 Sq. Feet Gross Area						Average Size of Independent Variable			203
% Enter	50%							Range of Rates (low)			1.58
% Exit	50%							Range of Rates (high)			16.88
Passby Rate	0%							Standard Deviation			4.24
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				7.67
Average Trip Rate	6.97	0	0	0	0	0					
r^2	0.81	-102	-51	-51	0	0					

ITE Code 130 Industrial Park

Name	Winstanley							Number of Studies			49
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			375
% Enter	50%							Range of Rates (low)			0.91
% Exit	50%							Range of Rates (high)			36.70
Passby Rate	0%							Standard Deviation			5.64
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				7.66
Average Trip Rate	6.96	3828	1914	1914	0	0					
r^2	0.51	3476	1738	1738	0	0					

ITE Code 140 Manufacturing

Name	Winstanley							Number of Studies			62
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			349
% Enter	50%							Range of Rates (low)			0.50
% Exit	50%							Range of Rates (high)			52.05
Passby Rate	0%							Standard Deviation			3.07
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				4.20
Average Trip Rate	3.82	2101	1051	1051	0	0					
r^2	0.87	2113	1057	1057	0	0					

ITE Code 150 Warehousing

Name	Winstanley							Number of Studies			16
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			273
% Enter	50%							Range of Rates (low)			1.51
% Exit	50%							Range of Rates (high)			17.00
Passby Rate	0%							Standard Deviation			4.05
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				5.46
Average Trip Rate	4.96	2728	1364	1364	0	0					
r^2	0.82	2374	1187	1187	0	0					

AM Peak Hour of Adjacent Street Traffic

ITE Code 110 General Light Industrial

Name	Winstanley							Number of Studies			29
Size	0	1000 Sq. Feet Gross Area						Average Size of Independent Variable			336
% Enter	88%							Range of Rates (low)			0.17
% Exit	12%							Range of Rates (high)			4.00
Passby Rate	0%							Standard Deviation			1.07
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				1.01
Average Trip Rate	0.92	0	0	0	0	0					
r^2	0.92	-89	-79	-11	0	0					

ITE Code 130 Industrial Park

Name	Winstanley							Number of Studies			40
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			439
% Enter	82%							Range of Rates (low)			0.12
% Exit	18%							Range of Rates (high)			2.28
Passby Rate	0%							Standard Deviation			1.03
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.92
Average Trip Rate	0.84	462	379	83	0	0					
r^2	0.59	383	314	69	0	0					

ITE Code 140 Manufacturing

Name	Winstanley							Number of Studies			50
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			297
% Enter	77%							Range of Rates (low)			0.1
% Exit	23%							Range of Rates (high)			8.75
Passby Rate	0%							Standard Deviation			1.04
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.80
Average Trip Rate	0.73	402	309	92	0	0					
r^2	0.67	428	329	98	0	0					

ITE Code 150 Warehousing

Name	Winstanley							Number of Studies			19
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			531
% Enter	82%							Range of Rates (low)			0.21
% Exit	18%							Range of Rates (high)			1.93
Passby Rate	0%							Standard Deviation			0.74
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.50
Average Trip Rate	0.45	248	203	45	0	0					
r^2	0.79	279	229	50	0	0					

PM Peak Hour of Adjacent Street Traffic

ITE Code 110 General Light Industrial

Name	Winstanley							Number of Studies			26
Size	0	1000 Sq. Feet Gross Area						Average Size of Independent Variable			357
% Enter	12%							Range of Rates (low)			0.08
% Exit	88%							Range of Rates (high)			4.50
Passby Rate	0%							Standard Deviation			1.16
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				1.08
Average Trip Rate	0.98	0	0	0	0	0					
r^2	0.88	-163	-20	-144	0	0					

ITE Code 130 Industrial Park

Name	Winstanley							Number of Studies			42
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			447
% Enter	21%							Range of Rates (low)			0.13
% Exit	79%							Range of Rates (high)			2.85
Passby Rate	0%							Standard Deviation			1.07
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.95
Average Trip Rate	0.86	473	99	374	0	0					
r^2	0.61	466	98	368	0	0					

ITE Code 140 Manufacturing

Name	Winstanley							Number of Studies			54
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			325
% Enter	36%							Range of Rates (low)			0.07
% Exit	64%							Range of Rates (high)			7.85
Passby Rate	0%							Standard Deviation			1.01
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.81
Average Trip Rate	0.74	407	147	260	0	0					
r^2	0.75	416	150	266	0	0					

ITE Code 150 Warehousing

Name	Winstanley							Number of Studies			26
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			403
% Enter	25%							Range of Rates (low)			0.16
% Exit	75%							Range of Rates (high)			1.66
Passby Rate	0%							Standard Deviation			0.80
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.52
Average Trip Rate	0.47	259	65	194	0	0					
r^2	0.75	251	63	188	0	0					

WINSTANLEY

AM Peak Hour of Generator

ITE Code 110 General Light Industrial

Name	Winstanley							Number of Studies			27
Size	0	1000 Sq. Feet Gross Area						Average Size of Independent Variable			358
% Enter	90%							Range of Rates (low)			0.27
% Exit	10%							Range of Rates (high)			4.00
Passby Rate	0%							Standard Deviation			1.10
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				1.11
Average Trip Rate	1.01	0	0	0	0	0					
r^2	0.92	-61	-55	-6	0	0					

ITE Code 130 Industrial Park

Name	Winstanley							Number of Studies			36
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			473
% Enter	86%							Range of Rates (low)			0.12
% Exit	14%							Range of Rates (high)			2.28
Passby Rate	0%							Standard Deviation			1.03
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.90
Average Trip Rate	0.82	451	388	63	0	0					
r^2	0.57	439	378	61	0	0					

ITE Code 140 Manufacturing

Name	Winstanley							Number of Studies			50
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			370
% Enter	68%							Range of Rates (low)			0.10
% Exit	32%							Range of Rates (high)			8.75
Passby Rate	0%							Standard Deviation			1.01
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.86
Average Trip Rate	0.78	429	292	137	0	0					
r^2	0.81	439	298	140	0	0					

ITE Code 150 Warehousing

Name	Winstanley							Number of Studies			19
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			340
% Enter	59%							Range of Rates (low)			0.28
% Exit	41%							Range of Rates (high)			1.93
Passby Rate	0%							Standard Deviation			0.84
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.63
Average Trip Rate	0.57	314	185	129	0	0					
r^2	0.86	278	164	114	0	0					

PM Peak Hour of Generator

ITE Code 110 General Light Industrial

Name	Winstanley							Number of Studies			27
Size	0	1000 Sq. Feet Gross Area						Average Size of Independent Variable			364
% Enter	14%							Range of Rates (low)			0.36
% Exit	86%							Range of Rates (high)			4.50
Passby Rate	0%							Standard Deviation			1.18
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				1.19
Average Trip Rate	1.08	0	0	0	0	0					
r^2	0.89	-125	-18	-108	0	0					

ITE Code 130 Industrial Park

Name	Winstanley							Number of Studies			36
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			473
% Enter	21%							Range of Rates (low)			0.13
% Exit	79%							Range of Rates (high)			2.95
Passby Rate	0%							Standard Deviation			1.09
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.95
Average Trip Rate	0.86	473	99	374	0	0					
r^2	0.54	461	97	364	0	0					

ITE Code 140 Manufacturing

Name	Winstanley							Number of Studies			50
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			370
% Enter	52%							Range of Rates (low)			0.09
% Exit	48%							Range of Rates (high)			7.85
Passby Rate	0%							Standard Deviation			0.98
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.83
Average Trip Rate	0.75	413	215	198	0	0					
r^2	0.83	413	215	198	0	0					

ITE Code 150 Warehousing

Name	Winstanley							Number of Studies			18
Size	550	1000 Sq. Feet Gross Area						Average Size of Independent Variable			354
% Enter	8%							Range of Rates (low)			0.34
% Exit	92%							Range of Rates (high)			1.65
Passby Rate	0%							Standard Deviation			0.85
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt				0.67
Average Trip Rate	0.61	336	27	309	0	0					
r^2	0.88	306	24	282	0	0					

ELLSWORTH

Weekday

ITE Code 130 Industrial Park

Name	Ellsworth						Number of Studies	49
Size	38	1000 Sq. Feet Gross Area					Average Size of Independent Variable	375
% Enter	50%						Range of Rates (low)	0.91
% Exit	50%						Range of Rates (high)	36.70
Passby Rate	0%						Standard Deviation	5.64
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt	7.66
Average Trip Rate	6.96	264	132	132	0	0		
r^2	0.51	936	468	468	0	0		

AM Peak Hour of Adjacent Street Traffic

ITE Code 130 Industrial Park

Name	Ellsworth						Number of Studies	40
Size	38	1000 Sq. Feet Gross Area					Average Size of Independent Variable	439
% Enter	82%						Range of Rates (low)	0.12
% Exit	18%						Range of Rates (high)	2.28
Passby Rate	0%						Standard Deviation	1.03
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt	0.92
Average Trip Rate	0.84	32	26	6	0	0		
r^2	0.59	49	40	9	0	0		

PM Peak Hour of Adjacent Street Traffic

ITE Code 130 Industrial Park

Name	Ellsworth						Number of Studies	42
Size	38	1000 Sq. Feet Gross Area					Average Size of Independent Variable	447
% Enter	21%						Range of Rates (low)	0.13
% Exit	79%						Range of Rates (high)	2.85
Passby Rate	0%						Standard Deviation	1.07
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt	0.95
Average Trip Rate	0.86	33	7	26	0	0		
r^2	0.61	71	15	56	0	0		

ELLSWORTH

AM Peak Hour of Generator

ITE Code 130 Industrial Park

Name	Ellsworth						Number of Studies	36
Size	38	1000 Sq. Feet Gross Area					Average Size of Independent Variable	473
% Enter	86%						Range of Rates (low)	0.12
% Exit	14%						Range of Rates (high)	2.28
Passby Rate	0%						Standard Deviation	1.03
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt	0.90
Average Trip Rate	0.82	31	27	4	0	0		
r^2	0.57	101	87	14	0	0		

PM Peak Hour of Generator

ITE Code 130 Industrial Park

Name	Ellsworth						Number of Studies	36
Size	38	1000 Sq. Feet Gross Area					Average Size of Independent Variable	473
% Enter	21%						Range of Rates (low)	0.13
% Exit	79%						Range of Rates (high)	2.95
Passby Rate	0%						Standard Deviation	1.09
		Total TG	Prim. Enter	Prim. Exit	Pass. Enter	Pass. Exit	10%AvgRt	0.95
Average Trip Rate	0.86	33	7	26	0	0		
r^2	0.54	87	18	69	0	0		

		Weekday	AM Peak Hr of adjacent traffic	PM Peak Hr of adjacent traffic
---------- EXISTING TRAFFIC ----------				
	Precision Drive trucks	304	26	31
	autos	1153	121	138
	total	1457	147	169
---------- TRIP GENERATION ----------				
Precision	**ITE Trip Generation: Winstanley**			
	by development (assuming averages below)			
	200000sf expansion	1049	135	138
	350000sf new building	1836	236	242
	combined developments (Trip Generation Ranges)			
	Manufacturing LCU (550k sf)	2101	402	407
	Warehousing LCU (550k sf)	2728	248	259
	Industrial Park LCU (550k sf)	3828	462	473
	average	2886	370	380
	Trip Generation based on existing Park rates: Winstanley			
		by development		
	200000sf expansion	569	57	66
	350000sf new building	996	100	116
		combined developments		
	all vehicles	1565	158	182
	trucks only	327	28	33
Fairbanks	**ITE Trip Generation: Ellsworth, using Industrial Park LCU**			
	38000sf bldg revitalization	264	32	33
	Trip Generation based on existing Park rates: Ellsworth			
	38000sf bldg revitalization	108	11	13

1. Assume 0% Pass-By Rate.
2. Pro-Rated Trip Generation assumes a similar rate of traffic generated/sf foot development as the existing Park generates (existing square footage of Industrial Park, based on orthophotos, is approximately 512000 sf.

APPENDIX E

TURN LANE WARRANTS

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **VT10 & South County Rd**
Location: North Springfield, VT
Analysis Period: **2008 No Build AM Peak Hour**

HOURLY VOLUMES:

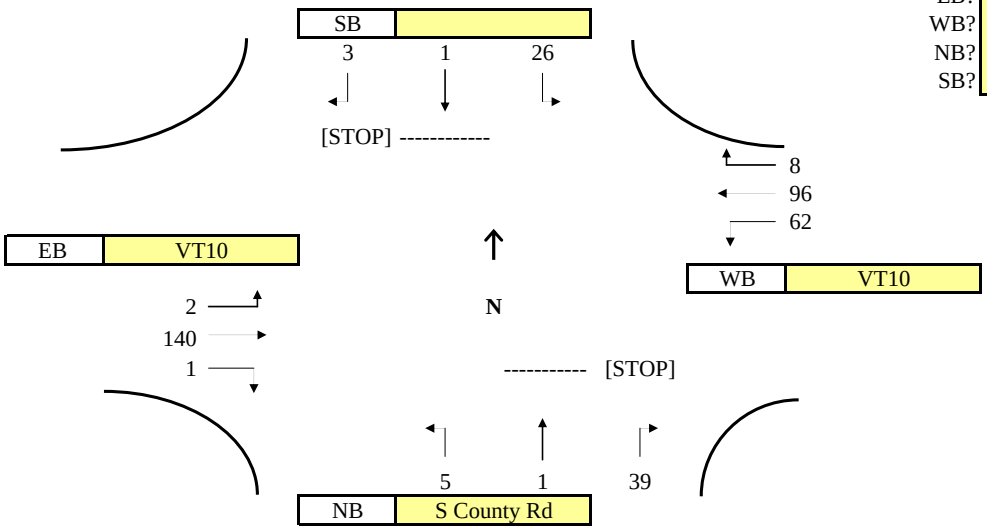
		EB	WB	NB	SB	
Base Volumes:	LT	2	62	5	26	
	TH	140	96	1	1	
	RT	1	8	39	3	
Devel Volumes:	LT					
	TH					
	RT					
Analysis Volumes:	LT	2	62	5	26	
	TH	140	96	1	1	
	RT	1	8	39	3	
TOTAL		143	166	45	30	384 vph

VOLUME ADJUSTMENTS:

Time of Day =	AM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	50 mph
Add Development?	n

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	143	166	45	30
Opposing Volume:	166	143	30	45
% Left Turns:	1%	37%	11%	87%
Adv. Volume not to exceed:	1067	266	NA	NA
Harmelink Lane Warranted?	**N**	**N**	**NA**	**NA**
PLTF	1	0	0	0
PLTT	0	0	0	0
PLTW	0	0	1	0
Adv. Volume not to exceed:	744	340	445	381
Kikuchi and Chakroborty Lane Warranted?	**N**	**N**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	143	166	45	30
% Right Turns:	1%	5%	87%	10%
Adv. Volume not to exceed:	2169	844	NA	NA
Right Turn Lane Warranted?	**N**	**N**	**NA**	**NA**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **VT10 & South County Rd**
Location: North Springfield, VT
Analysis Period: **2008 Projected AM Peak Hour**

HOURLY VOLUMES:

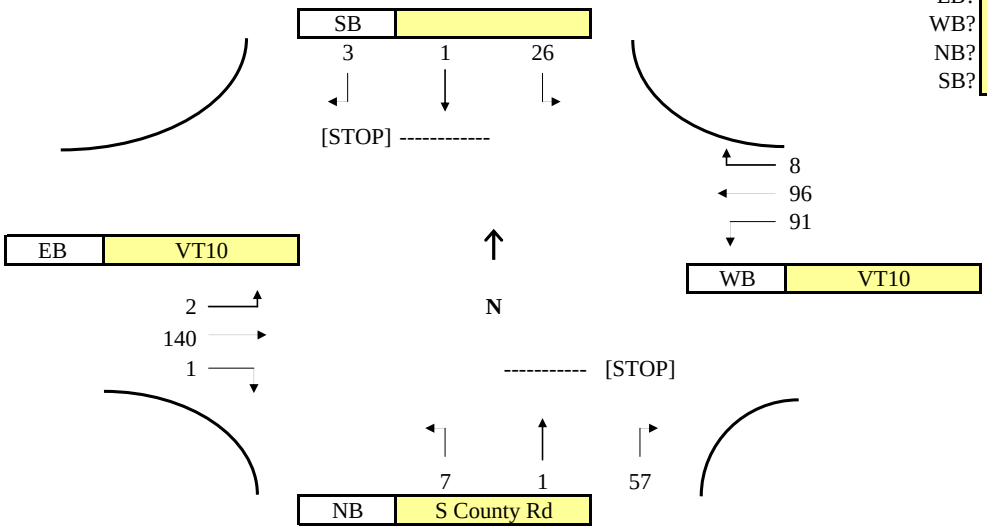
		EB	WB	NB	SB	
Base Volumes:	LT	2	**62**	**5**	26	SITE RELATED
	TH	140	96	**1**	1	TRIPS:
	RT	**1**	8	**39**	3	108
Devel Volumes:	LT		29	2		
(Background based on	TH			0		
Survey answers)	RT	0		18		
Analysis Volumes:	LT	2	91	7	26	
	TH	140	96	1	1	
	RT	1	8	57	3	
	TOTAL	143	195	66	30	434 vph

VOLUME ADJUSTMENTS:

Time of Day =	AM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	50 mph
Add Development?	Y

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	143	195	66	30
Opposing Volume:	195	143	30	66
% Left Turns:	1%	47%	11%	87%
Adv. Volume not to exceed:	1035	258	NA	NA
Harmelink Lane Warranted?	**N**	**N**	**NA**	**NA**
PLTF	1	0	0	0
PLTT	0	0	0	0
PLTW	0	0	1	0
Adv. Volume not to exceed:	720	340	445	372
Kikuchi and Chakroborty Lane Warranted?	**N**	**N**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	143	195	66	30
% Right Turns:	1%	4%	87%	10%
Adv. Volume not to exceed:	1799	911	NA	NA
Right Turn Lane Warranted?	**N**	**N**	**NA**	**NA**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **VT10 & South County Rd**
Location: North Springfield, VT
Analysis Period: **2008 Build AM Peak Hour**

HOURLY VOLUMES:

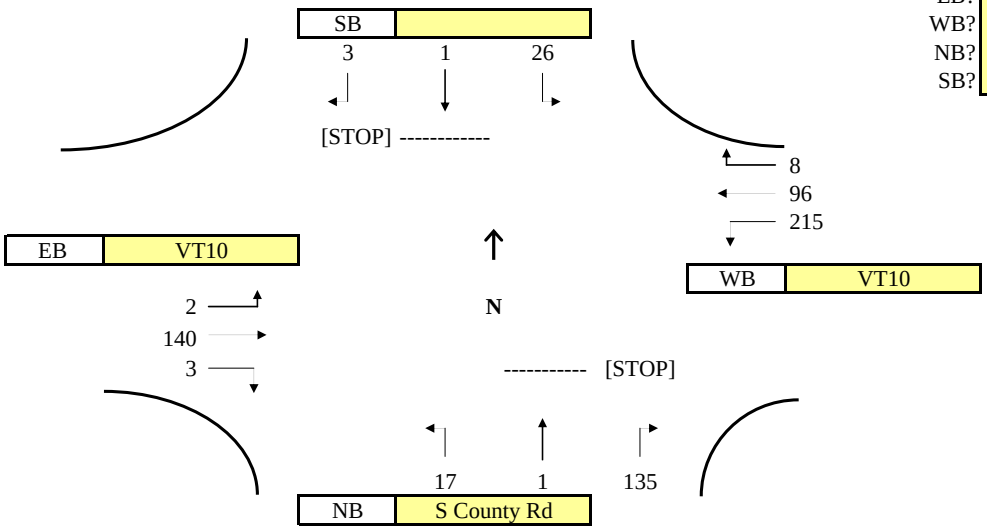
		EB	WB	NB	SB	
Base Volumes:	LT	2	62	5	26	SITE RELATED
	TH	140	96	1	1	TRIPS:
	RT	1	8	39	3	107
Devel Volumes:	LT		153	12		
	TH					
	RT	2		96		
Analysis Volumes:	LT	2	215	17	26	
	TH	140	96	1	1	
	RT	3	8	135	3	
	TOTAL	145	319	154	30	648 vph

VOLUME ADJUSTMENTS:

Time of Day =	AM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	50 mph
Add Development?	Y

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	145	319	154	30
Opposing Volume:	319	145	30	154
% Left Turns:	1%	67%	11%	87%
Adv. Volume not to exceed:	909	274	NA	NA
Harmelink Lane Warranted?	**N**	**Y**	**NA**	**NA**
PLTF	1	0	0	0
PLTT	0	0	0	0
PLTW	0	0	1	0
Adv. Volume not to exceed:	624	339	445	336
Kikuchi and Chakroborty Lane Warranted?	**N**	**N**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	145	104	154	30
% Right Turns:	2%	8%	88%	10%
Adv. Volume not to exceed:	1185	678	NA	NA
Right Turn Lane Warranted?	**N**	**N**	**NA**	**NA**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **VT10 & South County Rd**
Location: North Springfield, VT
Analysis Period: **2008 No Build PM Peak Hour**

HOURLY VOLUMES:

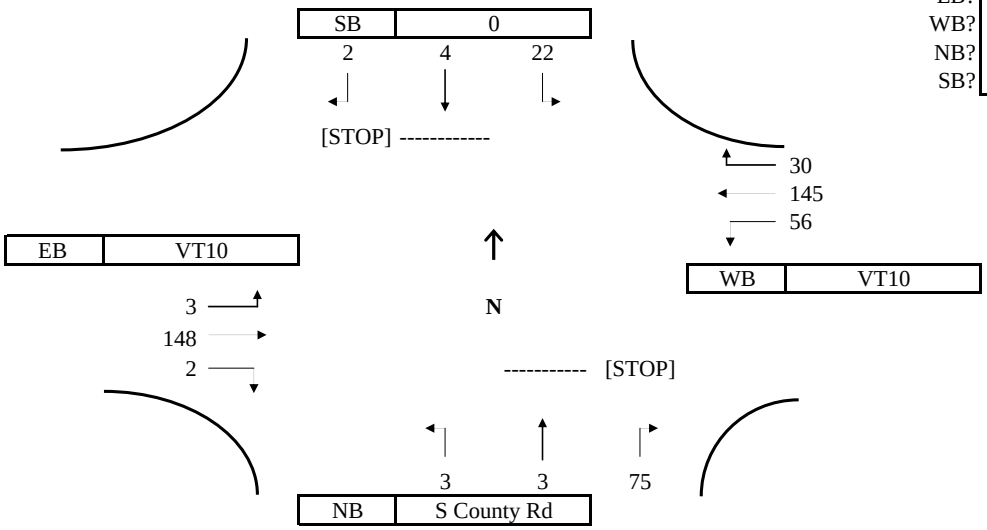
		EB	WB	NB	SB	
Base Volumes:	LT	3	56	3	22	
	TH	148	145	3	4	
	RT	2	30	75	2	
Devel Volumes:	LT					
	TH					
	RT					
Analysis Volumes:	LT	3	56	3	22	
	TH	148	145	3	4	
	RT	2	30	75	2	
TOTAL		153	231	81	28	493 vph

VOLUME ADJUSTMENTS:

Time of Day =	PM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	50 mph
Add Development?	n

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	153	231	81	28
Opposing Volume:	231	153	28	81
% Left Turns:	2%	24%	4%	79%
Adv. Volume not to exceed:	841	297	NA	NA
Harmelink Lane Warranted?	**N**	**N**	**NA**	**NA**
PLTF	1	0	1	0
PLTT	0	0	0	0
PLTW	0	0	0	0
AV	691	336	873	365
Kikuchi and Chakroborty Lane Warranted?	**N**	**N**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	153	231	81	28
% Right Turns:	1%	13%	93%	7%
Adv. Volume not to exceed:	1591	538	NA	NA
Right Turn Lane Warranted?	**N**	**N**	**NA**	**NA**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **VT10 & South County Rd**
Location: North Springfield, VT
Analysis Period: **2008 Projected PM Peak Hour**

HOURLY VOLUMES:

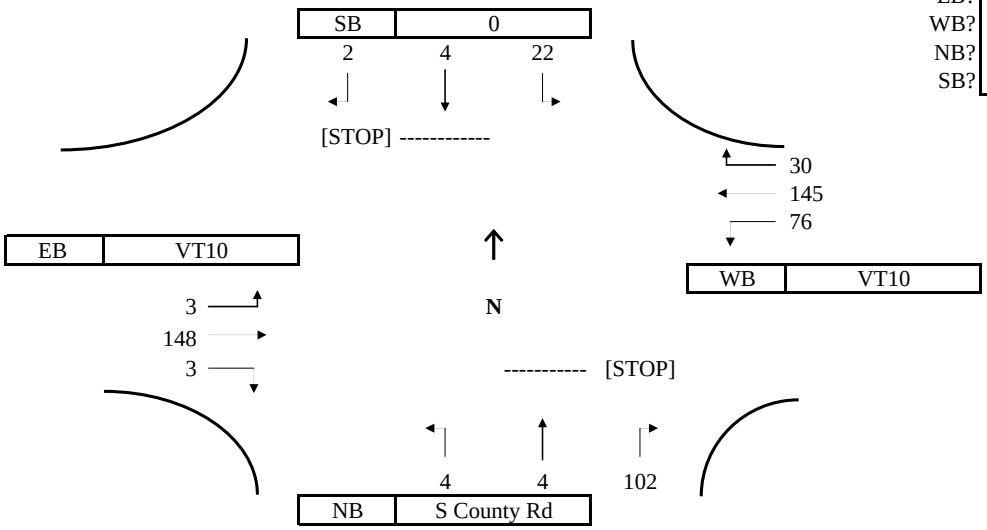
		EB	WB	NB	SB	
Base Volumes:	LT	3	**56**	**3**	22	SITE RELATED
	TH	148	145	**3**	4	TRIPS:
	RT	**2**	30	**75**	2	139
Devel Volumes:	LT		20	1		
(Background based on	TH			1		
Survey answers)	RT	1		27		
Analysis Volumes:	LT	3	76	4	22	
	TH	148	145	4	4	
	RT	3	30	102	2	
TOTAL		154	251	110	28	543 vph

VOLUME ADJUSTMENTS:

Time of Day =	PM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	50 mph
Add Development?	y

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	154	251	110	28
Opposing Volume:	251	154	28	110
% Left Turns:	2%	30%	4%	79%
Adv. Volume not to exceed:	824	276	NA	NA
Harmelink Lane Warranted?	**N**	**N**	**NA**	**NA**
PLTF	1	0	1	0
PLTT	0	0	0	0
PLTW	0	0	0	0
AV	675	336	873	353
Kikuchi and Chakroborty Lane Warranted?	**N**	**N**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	154	251	110	28
% Right Turns:	2%	12%	93%	7%
Adv. Volume not to exceed:	1371	557	NA	NA
Right Turn Lane Warranted?	**N**	**N**	**NA**	**NA**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **VT10 & South County Rd**
Location: North Springfield, VT
Analysis Period: **2008 Build PM Peak Hour**

HOURLY VOLUMES:

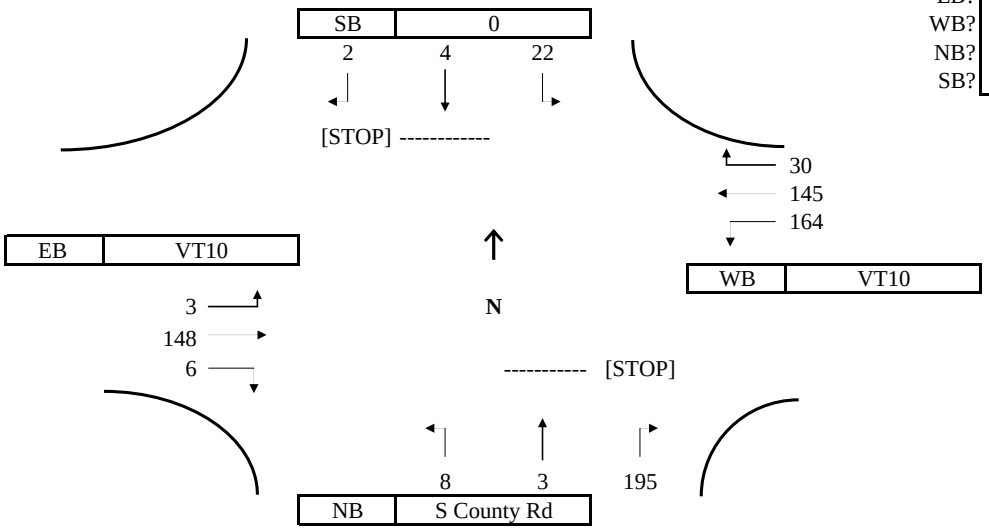
		EB	WB	NB	SB	
Base Volumes:	LT	3	56	3	22	SITE RELATED
	TH	148	145	3	4	TRIPS:
	RT	2	30	75	2	136
Devel Volumes:	LT		108	5		
	TH					
	RT	4		120		
Analysis Volumes:	LT	3	164	8	22	
	TH	148	145	3	4	
	RT	6	30	195	2	
	TOTAL	157	339	205	28	729 vph

VOLUME ADJUSTMENTS:

Time of Day =	PM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	50 mph
Add Development?	y

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	157	339	205	28
Opposing Volume:	339	157	28	205
% Left Turns:	2%	48%	4%	79%
Adv. Volume not to exceed:	757	253	NA	NA
Harmelink Lane Warranted?	**N**	**Y**	**NA**	**NA**
PLTF	1	0	1	0
PLTT	0	0	0	0
PLTW	0	0	0	0
AV	610	335	873	316
Kikuchi and Chakroborty Lane Warranted?	**N**	**Y**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	157	175	205	28
% Right Turns:	4%	17%	95%	7%
Adv. Volume not to exceed:	954	480	NA	NA
Right Turn Lane Warranted?	**N**	**N**	**NA**	**NA**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **Main St & Precision Dr**
Location: North Springfield, VT
Analysis Period: **2008 Build PM Peak Hour**

HOURLY VOLUMES:

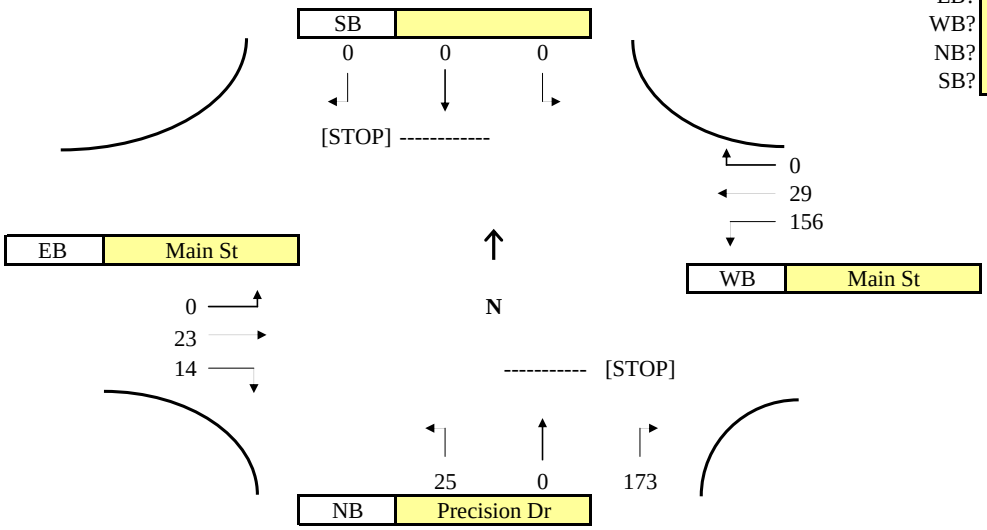
		EB	WB	NB	SB	
Base Volumes:	LT	0	44	7	0	SITE RELATED
	TH	23	29	0	0	TRIPS:
	RT	4	0	49	0	104
Devel Volumes:	LT		112	18		
	TH			0		
	RT	10		124		
Analysis Volumes:	LT	0	156	25	0	
	TH	23	29	0	0	
	RT	14	0	173	0	
	TOTAL	37	185	198	0	420 vph

VOLUME ADJUSTMENTS:

Time of Day =	PM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	25 mph
Add Development?	Y

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	37	185	198	0
Opposing Volume:	185	37	0	198
% Left Turns:	0%	84%	13%	NA
Adv. Volume not to exceed:	NA	540	NA	NA
Harmelink Lane Warranted?	**NA**	**N**	**NA**	**NA**
PLTF	1	0	0	0
PLTT	0	0	0	0
PLTW	0	0	1	0
Adv. Volume not to exceed:	1147	605	725	502
Kikuchi and Chakroborty Lane Warranted?	**NA**	**N**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	37	185	198	0
% Right Turns:	38%	0%	88%	NA
Adv. Volume not to exceed:	504	NA	NA	NA
Right Turn Lane Warranted?	**N**	**NA**	**NA**	**NA**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **S County Rd & Main St**
Location: North Springfield, VT
Analysis Period: **2008 Build PM Peak Hour**

HOURLY VOLUMES:

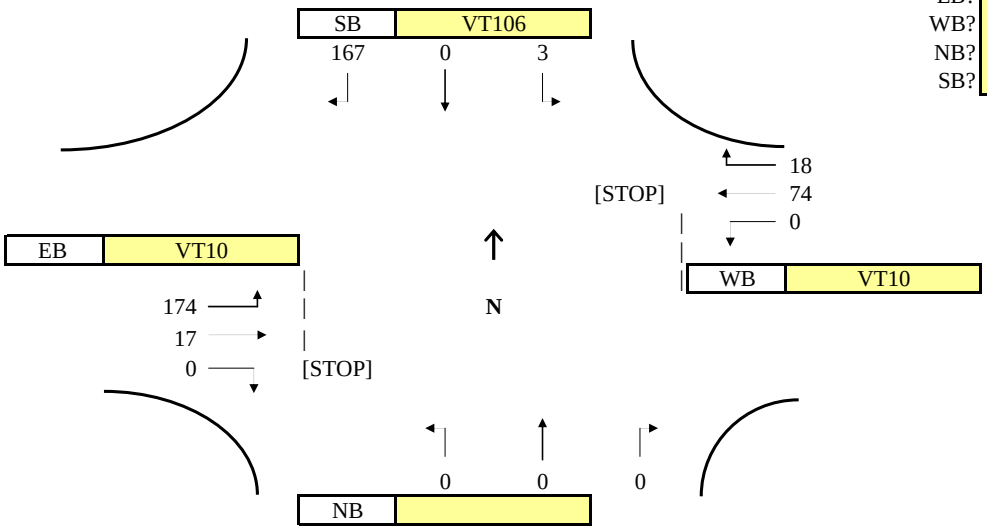
		EB	WB	NB	SB	
Base Volumes:	LT	50	0	0	3	SITE RELATED
	TH	17	74	0	0	TRIPS:
	RT	0	18	0	56	195
Devel Volumes:	LT	124				
	TH					
	RT				112	
Analysis Volumes:	LT	174	0	0	3	
	TH	17	74	0	0	
	RT	0	18	0	167	
	TOTAL	190	92	0	170	452 vph

VOLUME ADJUSTMENTS:

Time of Day =	PM
EB/WB= Major or Minor?	minor
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	25 mph
Add Development?	y

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	190	92	0	170
Opposing Volume:	92	190	170	0
% Left Turns:	91%	0%	NA	2%
Adv. Volume not to exceed:	NA	NA	########	#DIV/0!
Harmelink Lane Warranted?	**NA**	**NA**	########	**#DIV/0!**
PLTF	0	1	0	1
PLTT	0	0	0	0
PLTW	0	0	0	0
Adv. Volume not to exceed:	568	1140	519	1419
Kikuchi and Chakroborty Lane Warranted?	**NA**	**NA**	**NA**	**N**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	190	92	########	#DIV/0!
% Right Turns:	0%	20%	########	#DIV/0!
Adv. Volume not to exceed:	NA	NA	########	#DIV/0!
Right Turn Lane Warranted?	**NA**	**NA**	########	**#DIV/0!**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **VT10 & VT106**
Location: North Springfield, VT
Analysis Period: **2008 No Build PM Peak Hour**

HOURLY VOLUMES:

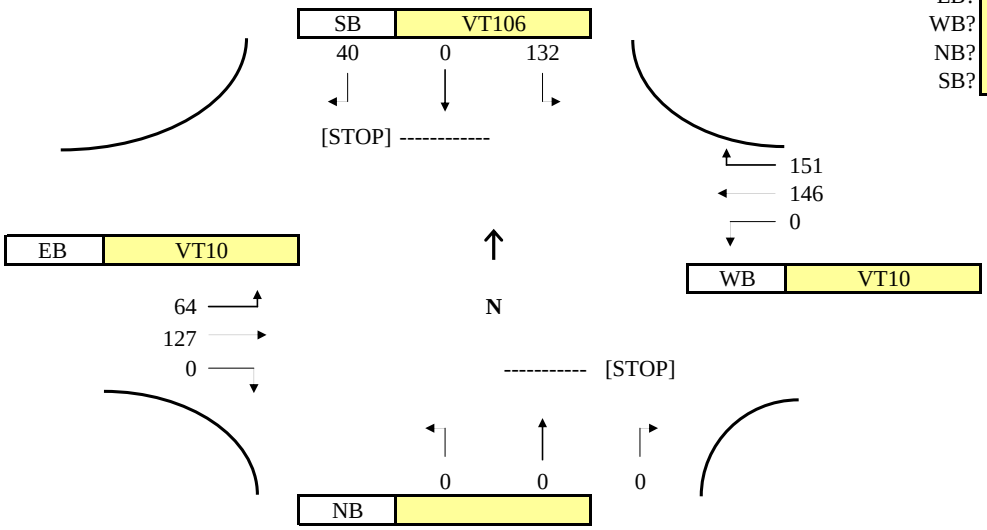
		EB	WB	NB	SB	
Base Volumes:	LT	64			132	SITE RELATED
	TH	127	146			TRIPS:
	RT		151		40	377
Devel Volumes:	LT					
	TH					
	RT					
Analysis Volumes:	LT	64	0	0	132	
	TH	127	146	0	0	
	RT	0	151	0	40	
	TOTAL	191	297	0	172	660 vph

VOLUME ADJUSTMENTS:

Time of Day =	PM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	50 mph
Add Development?	n

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	191	297	0	172
Opposing Volume:	297	191	172	0
% Left Turns:	34%	0%	NA	77%
Adv. Volume not to exceed:	230	NA	NA	NA
Harmelink Lane Warranted?	**N**	**NA**	**NA**	**NA**
PLTF	0	1	0	0
PLTT	0	0	0	0
PLTW	0	0	0	0
Adv. Volume not to exceed:	285	723	329	401
Kikuchi and Chakroborty Lane Warranted?	**N**	**NA**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

	EB	WB	NB	SB
Advancing Volume:	191	297	0	172
% Right Turns:	0%	51%	NA	23%
Adv. Volume not to exceed:	NA	362	NA	NA
Right Turn Lane Warranted?	**NA**	**N**	**NA**	**NA**

RoadRunner -- Turn Lane Warrants v5.2 -- Harmelink 1966 9:54 6/12/2008

Resource Systems Group, White River Junction, Vermont

Intersection: **VT10 & VT106**
Location: North Springfield, VT
Analysis Period: **2008 Build PM Peak Hour**

HOURLY VOLUMES:

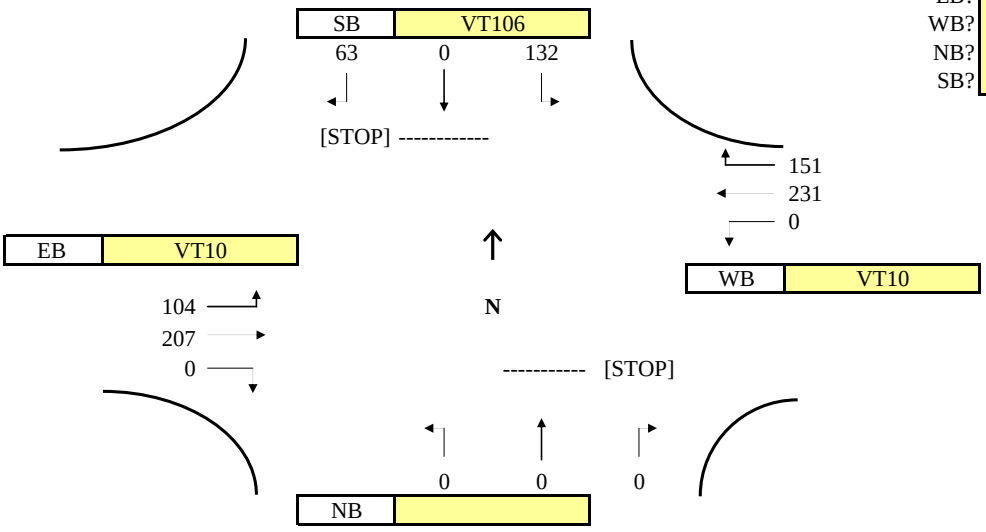
		EB	WB	NB	SB	
Base Volumes:	LT	64			132	SITE RELATED
	TH	127	146			TRIPS:
	RT		151		40	377
Devel Volumes:	LT	40				
	TH	80	85			
	RT				23	
Analysis Volumes:	LT	104	0	0	132	
	TH	207	231	0	0	
	RT	0	151	0	63	
TOTAL		311	382	0	195	888 vph

VOLUME ADJUSTMENTS:

Time of Day =	PM
EB/WB= Major or Minor?	major
Base Year =	2008
Analysis Year =	2008
Growth/Year =	1.02
DHV Adjustment =	1.00
Total Vol Adjustment =	1.00
Speed Limit =	50 mph
Add Development?	Y

Channelized right turn for:

EB?	N
WB?	N
NB?	N
SB?	N



CALCULATIONS:

LEFT TURN WARRANTS

	EB	WB	NB	SB
Advancing Volume:	311	382	0	195
Opposing Volume:	382	311	195	0
% Left Turns:	34%	0%	NA	68%
Adv. Volume not to exceed:	209	NA	NA	NA
Harmelink Lane Warranted?	**Y**	**NA**	**NA**	**NA**
PLTF	0	1	0	0
PLTT	0	0	0	0
PLTW	0	0	0	0
Adv. Volume not to exceed:	258	630	320	401
Kikuchi and Chakroborty Lane Warranted?	**Y**	**NA**	**NA**	**NA**

RIGHT TURN WARRANT

(VTrans Methodology)

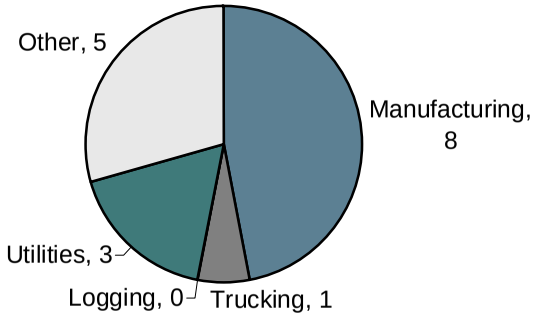
	EB	WB	NB	SB
Advancing Volume:	207	382	0	195
% Right Turns:	0%	39%	NA	32%
Adv. Volume not to exceed:	NA	370	NA	NA
Right Turn Lane Warranted?	**NA**	**Y**	**NA**	**NA**

APPENDIX F

BUSINESS SURVEY RESULTS

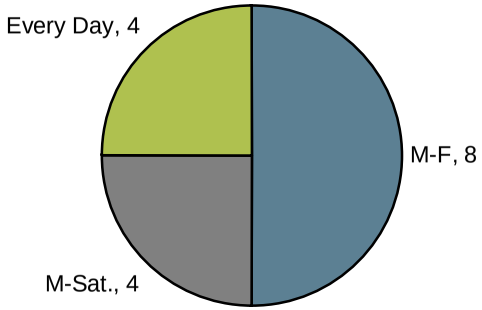
North Springfield Truck Study
Business Routing and Issues Survey Results

What is your type of business?

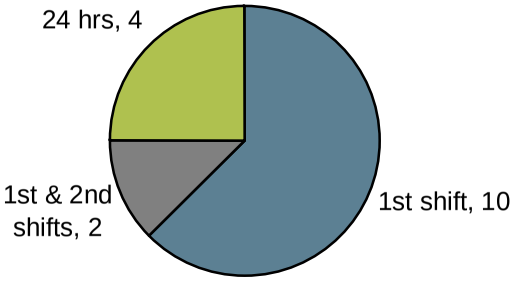


"Other" includes Sawmill/firewood sales, construction/gravel pit, distribution, tool distributor, and commercial business development.

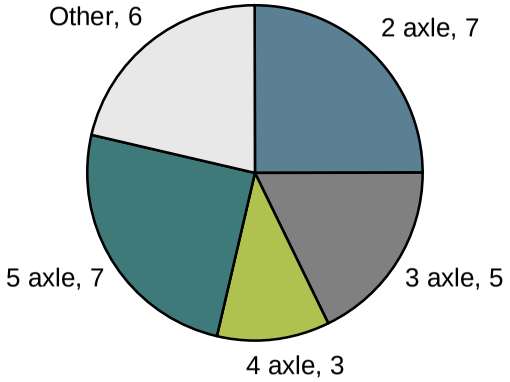
What are your days of operation?



What are your hours of operation?

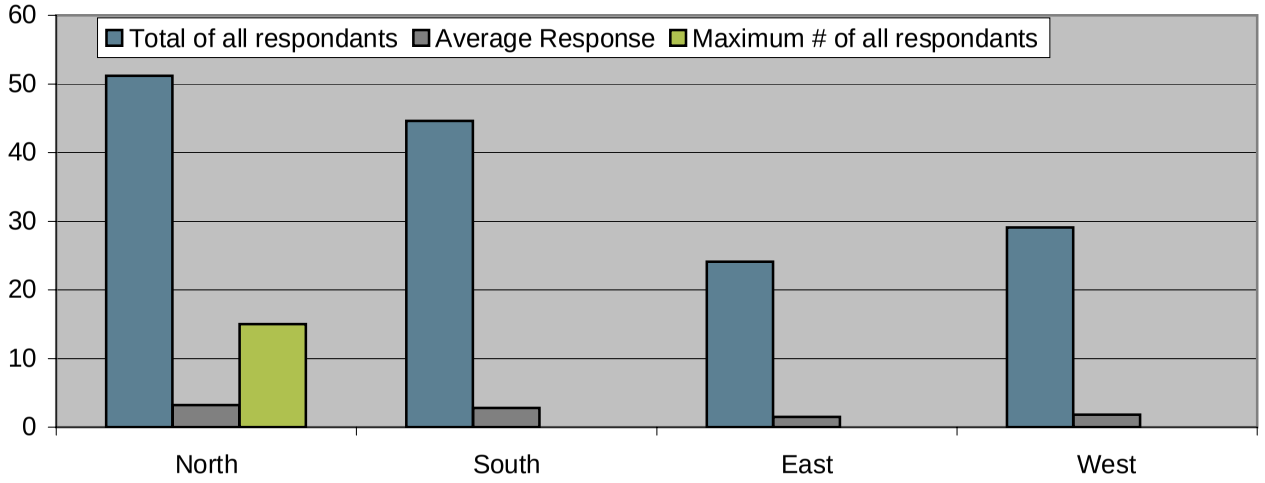


What types of trucks are in your fleet?

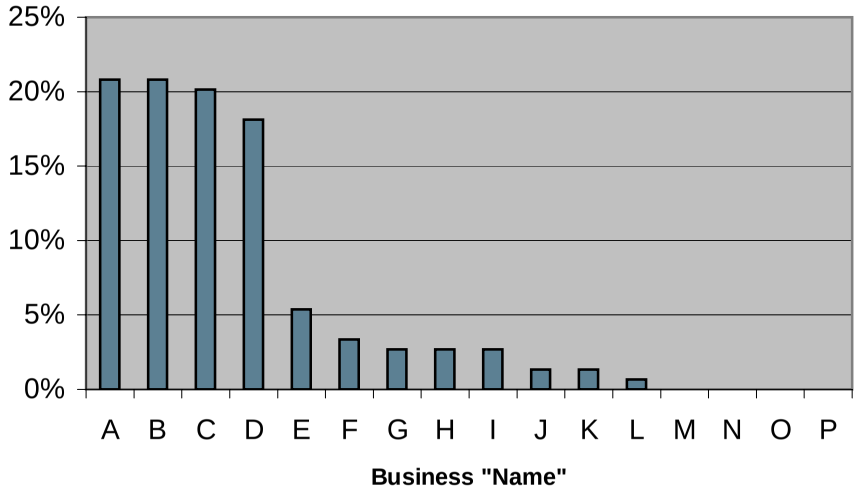


"Other" include: 4 axle truck & 2 axle trailer, LTL and Independent Only (we do not own or lease), No Fleet Vendors Trucks, Utility Bucket and Digger Trucks, Passenger Vehicles, and No Company Vehicles.

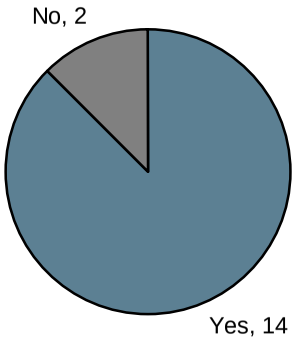
What are your typical daily truck volumes?



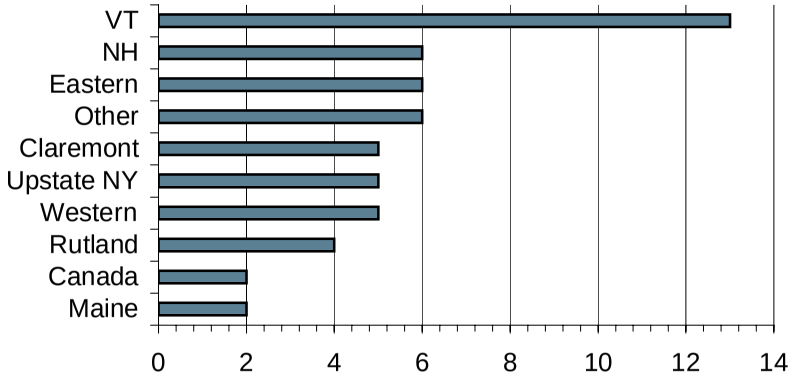
% of Truck Traffic per Business



Do you support businesses in the industrial park cost-sharing for general improvements within the park?

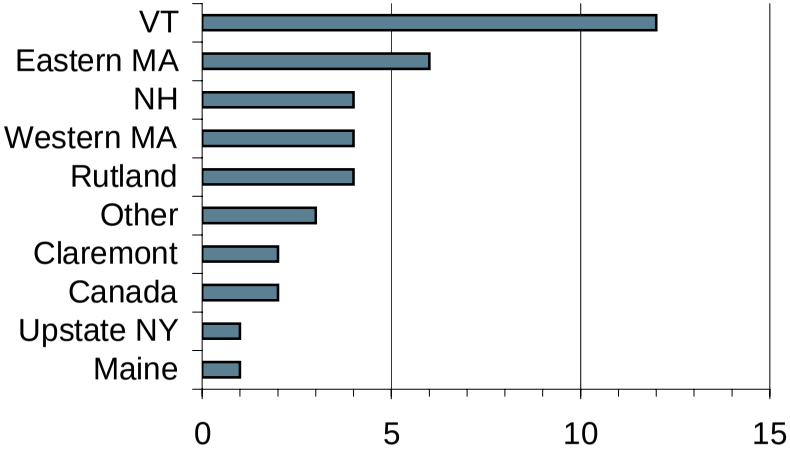


What are the typical destinations for your fleet?



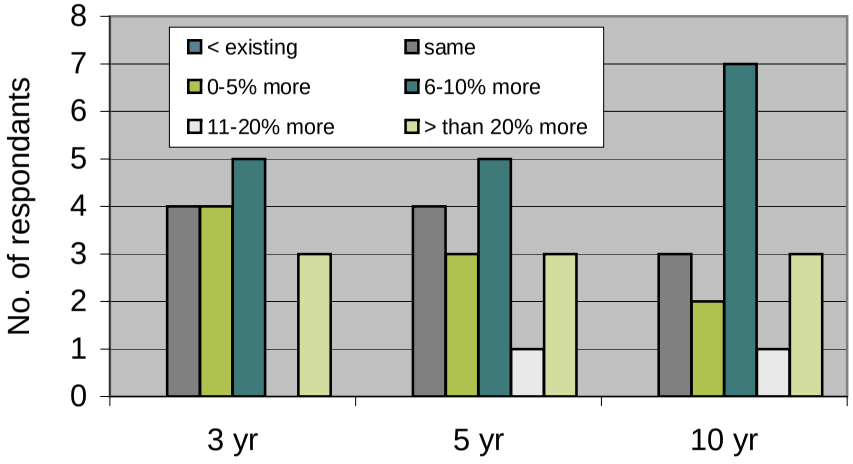
"Other" includes U.S. 48 states, within 50 miles of Spfld, Hartford CT, midwest, no fleet, NJ.

Where are your suppliers typically coming from?

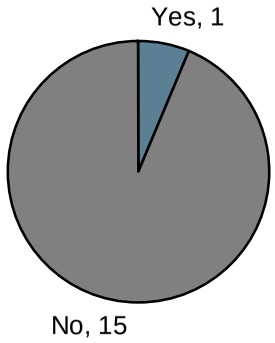


"Other" includes U.S. 48 states, within 50 miles of Spfld, Hartford CT, midwest, no fleet, NJ.

What is the anticipated truck traffic for your business in X years?



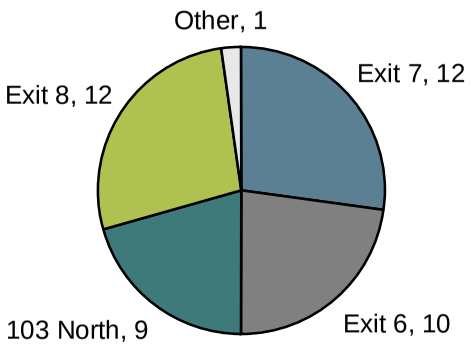
Do you anticipate using different trucking routes in the future than you currently use?



The "yes" respondant stated use of Exit 6, Exit 7, and VT103 North. This respondant answered existing route used is via Exit 7.

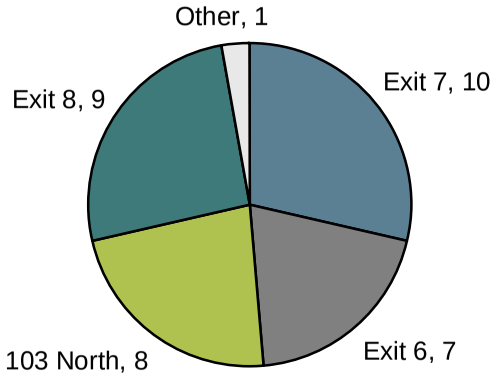
North Springfield Truck Study
Business Routing and Issues Survey Results

What routes do you typically take?



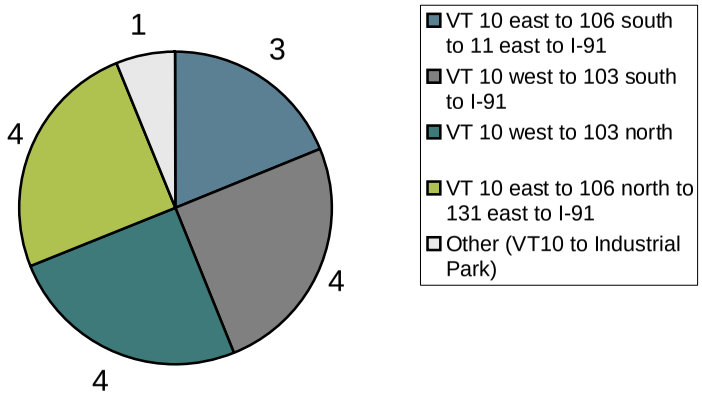
"Other" includes VT106 South to 91 South.

What routes do your suppliers typically use?

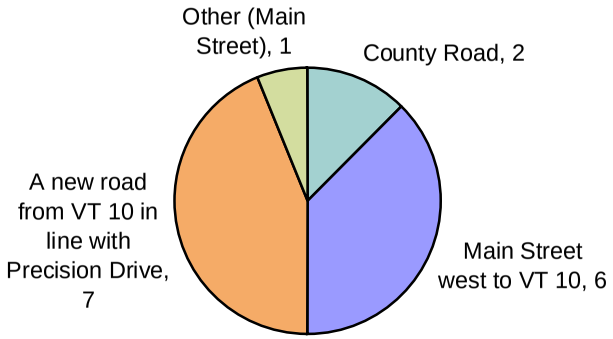


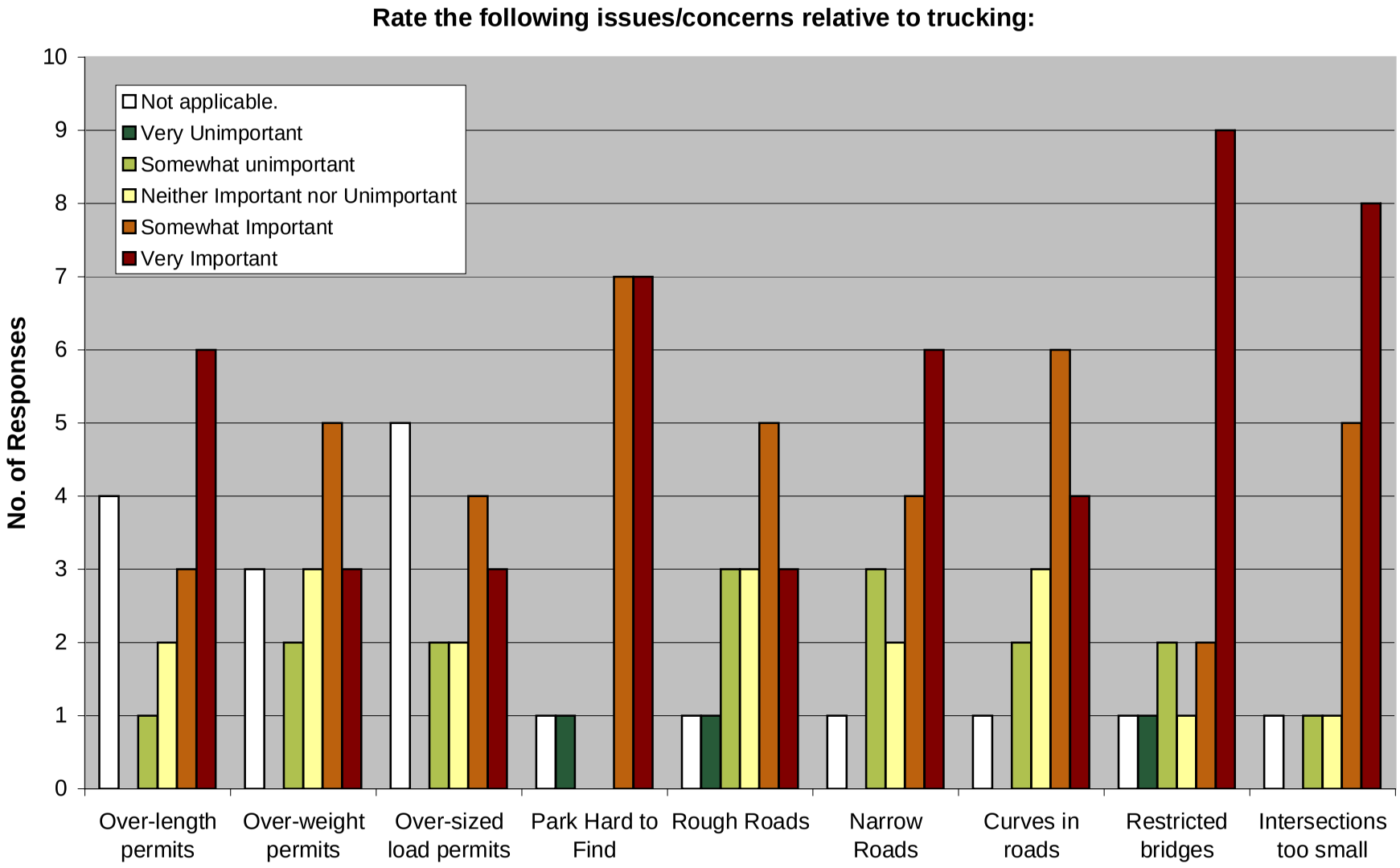
The "Other" answer stated that they did not know what route suppliers took.

If you were to target only one specific state highway route for roadway improvements, which would it be?



If you were to target only 1 specific local route for roadway improvements, which would it be?




Rate the following issues/concerns relative to trucking:
No. of Responses
0
1
2
3
4
5
6
7
8
9
10
Not applicable.
Very Unimportant
Somewhat unimportant
Neither Important nor Unimportant
Somewhat Important
Very Important
Over-length permits
Over-weight permits
Over-sized load permits
Park Hard to Find
Rough Roads
Narrow Roads
Curves in roads
Restricted bridges
Intersections too small

Rate the following issues/concerns relative to trucking (4 highest trucking companies only):