Northeastern Vermont Development Association
Hazardous Materials Transportation Study
FINAL REPORT

NVDA

Prepared for:
Northeastern Vermont
Development Association

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Table of Contents

Introduction…… 1
Truck Transport Volumes…… 1
Materials Transported by Truck……..... 5
Rail Transport Volumes and Materials…….. 7
Existing Accident Data…… 8
Company Reported Information ……11
Conclusions…….....15
Appendix A ...…….A-0
Appendix B ……...A-1

Introduction

The NVDA Hazardous Materials Flow Study was undertaken to determine the volume, composition, and route of Hazardous Materials transported through the three counties of the Northeast Kingdom: Essex, Orleans, and Caledonia. To this end, SMI conducted a review of existing information, specifically Automated Traffic Recorder data and vehicle class splits from state and US highways in the region, to determine the most appropriate locations to carry out Hazardous Materials placard surveys of passing road traffic. In consultation with the NVDA, SMI developed a survey methodology to adequately capture the extent of Hazardous-Materials transport through the County. The data collected in the surveys consists of freight traffic volume data for County highways and freight goods data for the materials transported.

Truck Transport Volumes

The data collected at each survey location included the number of passing trucks of 2 axle - 6 wheel construction or larger and whether each truck was carrying Hazardous Materials, as evidenced by placards on the truck. Figure 1 displays these traffic volumes for each survey location.

Figure 1: Survey Location and Traffic Volumes.

Route	Town	date	start	end	trucks	1st hr	2nd hr	3rd hr	4th hr	total	percent
US 5	Derby Line	7/27/2004	8:00	12:00	ALL	11	15	14	13	53	100%
					HazMat	1	0	0	2	3	5.7%
I-91	Derby Line	7/27/2004	12:20	16:20	ALL	52	65	78	74	269	100%
					HazMat	0	1	0	1	2	0.7%
US 5	St. Johnsbury	8/2/2004	8:30	12:30	ALL	47	61	56	43	207	100%
					HazMat	2	2	2	2	8	3.9%
US 2	Lunenburg	8/2/2004	13:30	17:30	ALL	60	37	44	40	181	100%
					HazMat	3	0	0	1	4	2.2%
VT 102	Lunenburg	8/2/2004	13:30	17:30	ALL	11	10	11	9	41	100%
					HazMat	0	0	0	0	0	0.0%
US 2	W. Danville (site 1)	8/6/2004	8:30	12:30	ALL	30	46	39	41	156	100%
					HazMat	0	3	3	2	8	5.1%
US 2	W. Danville (site 2)	8/6/2004	8:30	12:30	ALL	51	82	68	64	265	100%
					HazMat	0	7	5	3	15	5.7%
VT 15	W. Danville	8/6/2004	8:30	12:30	ALL	28	40	41	30	139	100%
					HazMat	0	4	4	1	9	6.5%
VT 15	Hardwick	8/6/2004	13:00	17:00	ALL	72	59	45	44	220	100%
					HazMat	3	1	1	1	6	2.7%
VT 14	Hardwick	8/6/2004	13:00	17:00	ALL	26	26	27	28	107	100%
					HazMat	0	0	1	0	1	0.9%
VT 15 / VT 14	Hardwick	8/6/2004	13:00	17:00	ALL	72	49	50	53	224	100%
					HazMat	3	1	2	1	7	3.1%
I-91	Wells River	8/9/2004	8:15	12:15	ALL	56	68	66	67	257	100%
					HazMat	0	1	4	1	6	2.3%
I-93	Waterford	8/9/2004	13:45	17:45	ALL	75	66	69	56	266	100%
					HazMat	5	1	1	2	9	3.4%
US 5	Newport	8/10/2004	9:00	13:00	ALL	11	12	20	20	63	100%
					HazMat	1	0	0	2	3	4.8%

Figure 1 (continued)

Route	Town	date	start	end	trucks	1st hr	2nd hr	3rd hr	4th hr	total	percent
VT 105	Newport	8/10/2004	9:00	13:00	ALL	32	42	44	34	152	100%
					HazMat	2	2	1	3	8	5.3%
US 5 / VT 105	Newport	8/10/2004	9:00	13:00	ALL	37	42	32	30	141	100%
	(site 1)				HazMat	3	2	1	5	11	7.8%
VT 100	Lowell	8/10/2004	14:15	18:15	ALL	50	31	24	26	131	100%
	(site 1)				HazMat	4	1	0	0	5	3.8%
VT 100	Lowell	8/10/2004	14:15	18:15	ALL	23	13	11	15	62	100%
	(site 2)				HazMat	2	1	0	0	3	4.8%
VT 58	Lowell	8/10/2004	14:15	18:15	ALL	29	20	20	15	84	100%
					HazMat	2	0	0	0	2	2.4%
US 5 / VT 105	Newport	8/10/2004	19:00	23:00	ALL	13	6	5	6	30	100%
	(site 2)				HazMat	0	0	0	0	0	0.0%
US 5 / VT 105	Newport	8/10/2004	19:00	23:00	ALL	29	16	12	11	68	100%
	(site 3)				HazMat	0	2	1	0	3	4.4%
US 5 TR	Newport	8/10/2004	19:00	23:00	ALL	16	9	11	5	41	100%
					HazMat	0	2	1	0	3	7.3%
US 5 / VT 105	Newport	8/11/2004	3:30	7:30	ALL	2	7	14	51	74	100%
	(site 2)				HazMat	0	1	0	1	2	2.7%
US 5 / VT 105	Newport	8/11/2004	3:30	7:30	ALL	7	18	28	81	134	100%
	(site 3)				HazMat	0	2	1	2	5	3.7%
US 5 TR	Newport	8/11/2004	3:30	7:30	ALL	5	11	16	40	72	100%
					HazMat	0	1	1	1	3	4.2%
US 2	W. Danville	8/24/2004	3:30	7:30	ALL	13	14	23	36	86	100%
	(site 2)				HazMat	0	1	1	1	3	3.5%
US 2	W. Danville	8/25/2004	19:00	23:00	ALL	26	12	12	11	61	100%
	(site 2)				HazMat	1	2	0	2	5	8.2%
ALL	-	-	-	-	ALL	-	-	-	-	3584	100%
					HazMat	-	-	-	-	134	3.7%

A total of 27 surveys were conducted at 22 separate locations in 14 discrete survey periods, spanning 56 hours total. Surveys lasted 4 hours and were conducted between 3:30am and 11pm on weekdays.

The percent of truck traffic determined to be carrying hazardous materials was 10% or less in every survey. This is consistent with existing research on hazardous materials transport in the US. The percentage varied between 0% and 8.2% amongst all the surveys as seen in Figure 1, but when averaged over route type (Figure 2) or time period (Figure 3) the variation is significantly less.

Figure 2: Observed Haz-Mat Percent of Truck Traffic by Route

	Trucks	HAZ-MAT	Percent
Interstates Only	792	17	2.1%
US 2 Only	749	35	4.7%
US 5 Only	883	41	4.6%
Smaller Roads Only	1160	41	3.5%
All Stations Total	3584	134	3.7%

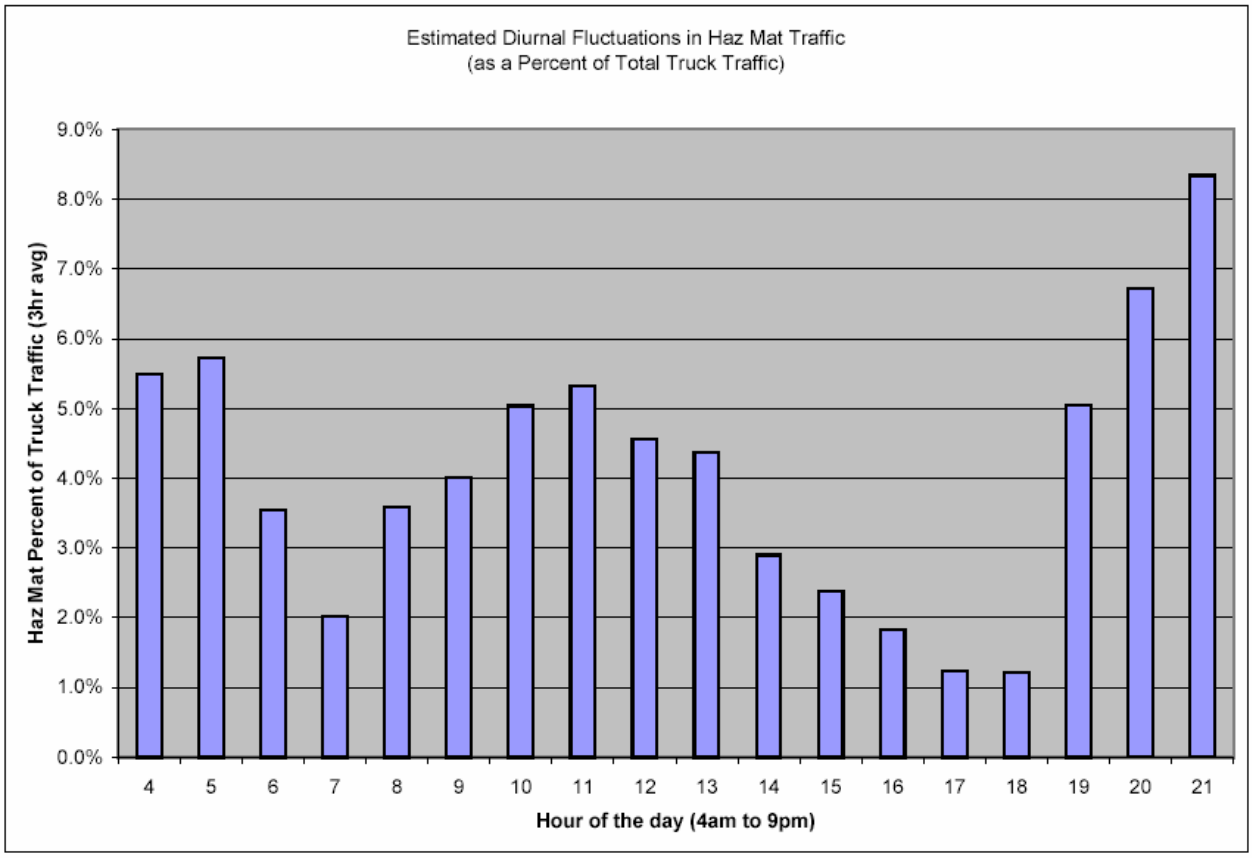
The average percent of trucks carrying Hazardous Materials was 3.7% for all surveys. The routes with the most significant deviance from this level were the interstates which carried much less Haz-Mat traffic at 2.1 percent (Figure 2).

Figure 3: Observed Haz-Mat Percent of Truck Traffic by Time Period

	Trucks	HAZ-MAT	Percent
3:30-7:30 am Stations Only	366	13	3.6%
Day Survey Stations Only	3018	110	3.6%
7-11 pm Stations Only	200	11	5.5%
All Stations Total	3584	134	3.7%

There is some variation in the percent of trucks carrying hazardous materials by time of day, with an increased percent of truck traffic carrying hazardous materials in the overnight period, as evidenced in Figure 3. This is even better illustrated in figure 4.

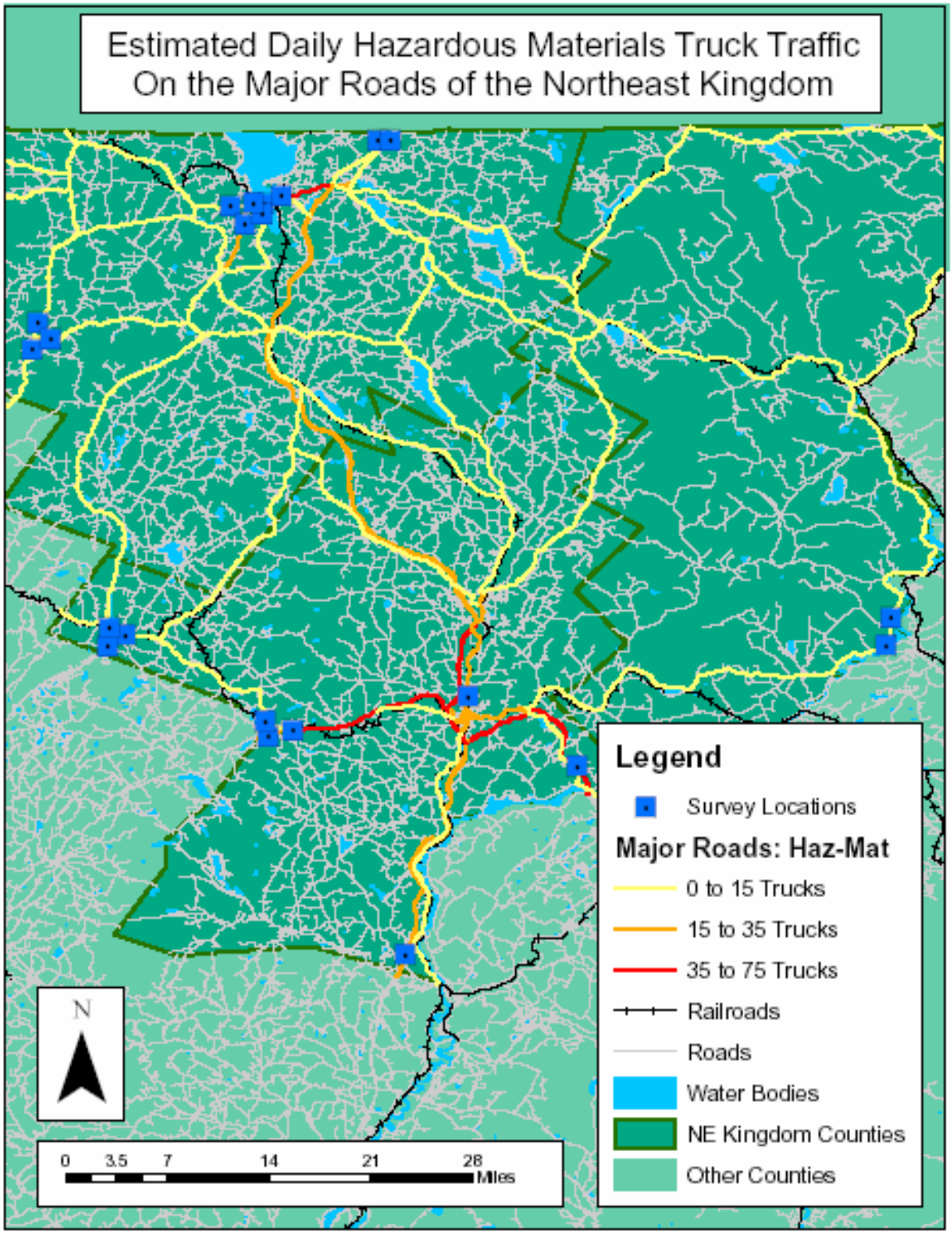
Figure 4



It is evident that the overnight traffic exhibits a higher percentage of haz-mat freight (as high as 8%). This percentage drops to a low of approximately 2% as morning deliveries begin, rises again to 5% at mid-day, and drops again to as low as 1% by dinner time.

These percentage data and raw counts, used in concert with existing traffic recorder data on daily truck traffic, have allowed SMI to estimate the average weekday levels of hazardous materials truck transport through the Northeast Kingdom on state and US highways. These estimates are presented in Figure 5.

Figure 5



As seen in Figure 5, the interstates exhibit high levels of hazardous materials transport on a daily basis; specifically I-91 from St. Johnsbury to Lyndon and the whole length of I-93 (on page 2 it is noted that interstates in the region generally have a low percentage of hazardous materials freight traffic; the overall volume of traffic however is very high and as such, these routes still carry the highest levels of haz-mat traffic in the region in spite of the fact that their overall freight levels are skewed more towards non-hazardous freight). Other routes

with high levels of haz-mat transport are US 2 from West Danville to St. Johnsbury, and US 5 between Newport and Derby. Roads with a moderate level of haz-mat traffic include I-91 from Wells River to St. Johnsbury and from Lyndon to Derby, US 5 through Newport, St. Johnsbury, and Lyndon respectively, and US 2 through St. Johnsbury and west of West Danville. All other roads through the Northeast Kingdom exhibit lower levels of hazardous materials traffic on a daily basis.

Materials Transported by Truck

Also included in the data collected at each survey location were the placard type and material ID number for each truck carrying hazardous materials. These data, as seen in Figure 6, allow identification of the materials transported.

Figure 6

Transported Materials

ID	Guide No.	Trucks	Percent of Total	Material
1075	115	27	20%	butane, propane, liquified petroleum gas and similar
1203	128	43	32%	Gasoline, gasahol, motor spirit, petrol
1223	128	39	29%	kerosene
1824	154	1	1%	Caustic soda solution or sodium hydroxide solution
1863	128	2	1%	Fuel, aviation, turbine engine
1866	127	1	1%	Resin solution
1993	128	1	1%	Combustible liquid
2014	140	2	1%	Hydrogen peroxide*
2187	120	2	1%	Carbon Dioxide, refridgerated liquid
2693	154	1	1%	Various sulphite and bisulphite solutions and solids
3257	128	3	2%	elevated temp liquid at or above 100C and below its flash point
1824/3266	154	1	1%	see above // Corrosive liquid, acidic, inorganic, n.o.s.
na	153	1	1%	na
none	111	1	1%	na
none	112	4	3%	na
none	127	1	1%	na
none	163	2	1%	na
none	118/121	1	1%	na
none	121/122	2	1%	na

* aqueous solution, with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)

**Ammonium bisulphite, bisulphites organic or inorganic aqueous solution n.o.s., calcium hydrogen sulphite solution, magnesium bisulphite solution, potassium bisulphite solution, or zinc bisulphite solution

Clearly, the bulk of the hazardous materials transported in the summer months are fuel products (82 percent). This would likely hold true for the fall and winter as well. The spring would most likely witness an increase in the transport of hazardous materials used in agricultural applications, but certainly not to a level that would displace fuel products from the majority.

Another function that the material ID code and placard type data allow is the identification of the appropriate emergency response code if such materials are spilled, as in a Hazardous Materials Accident. Such accidents are typically reported to the Vermont Emergency Management Agency. The response code allows emergency responders, dispatched to manage the accident, to take the appropriate safety measures in response to the accident. The response codes of the materials identified during the survey process are shown below in Figures 7 and 8.

Figure 7

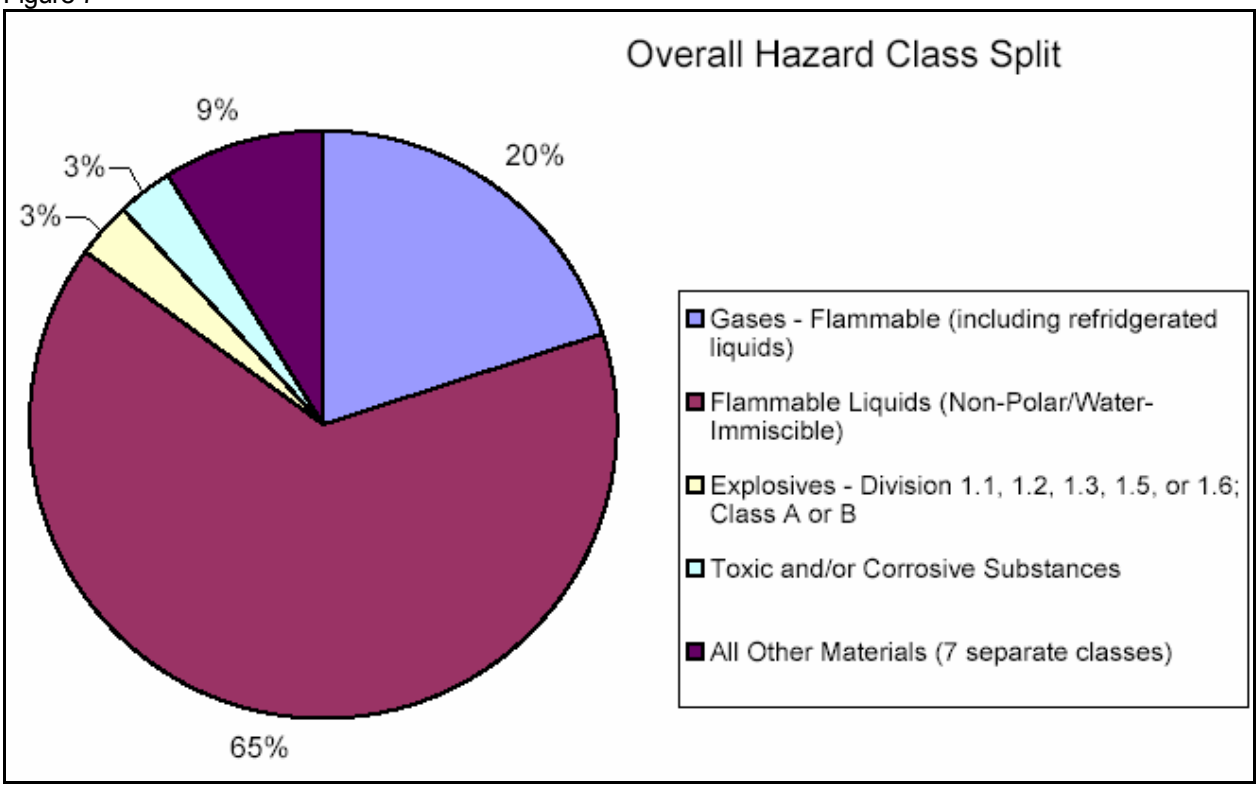


Figure 8

Response Guide No. for Transported Materials			
Guide No.	Trucks	Percent of Total	Material Group
111	1	1%	Mixed Load/Unidentified Cargo
112	4	3%	Explosives - Division 1.1, 1.2, 1.3, 1.5, or 1.6; Class A or B
115	27	20%	Gases - Flammable (Including Refridgerated Liquids)
120	2	1%	Gases - Inert (Including Refridgerated Liquids)
127	2	1%	Flammable Liquids (Polar/ Water-Miscible)
128	88	65%	Flammable Liquids (Non-Polar/Water-Immiscible)
140	2	1%	Oxidizers
153	1	1%	Substances - Toxic and/or Corrosive (Combustible)
154	3	2%	Substances - Toxic and/or Corrosive (Non-Combustible)
163	2	1%	Radioactive Materials (Low to High Level Radiation)
118/121	1	1%	Gases - Flammable - Corrosive // Gases - Inert
121/122	2	1%	See Above // Gases - Oxidizing (Including Refridgerated Liquids)

The data presented in Figures 7 and 8 will allow local emergency responders to gear their training toward dealing with the materials they are most likely to see in an accident in the Northeast Kingdom.

Rail Transport Volumes and Materials

Typically, rail freight companies cannot release data on the hazard class of materials they transport for confidentiality reasons. While it is true that the rail systems in the Northeast Kingdom are responsible for some transport of hazardous materials through the Northeast Kingdom, the accident data available from VEM suggest that hazardous materials accidents are much more rare than highway accidents (only 2 of 67 listed accidents from 2000-2004 are railroad accidents, while 20 of 67 are on major roads).

The St. Lawrence & Atlantic Railroad, a major rail shipper in the region, just recently released its Haz-Mat emergency response plans under pressure from local emergency response teams. In an appendix to the plan the company reports the content of its Haz-Mat freight. These data are depicted below in Figures 9 and 10. The data summarize all St. Lawrence & Atlantic freight traffic, only a portion of which passes through the Northeast Kingdom. As such, the data are useful for noting the materials passing through the region and relative volumes of the materials transported by rail, but are not accurate for determining the absolute volumes of said materials.

Figure 9

Transported Materials (by St. Lawrence & Atlantic Railroad Co. across their entire network, including NE Kingdom)						
ID	Guide No.	Carloads/yr	Percent by Carloads	Tons/yr	Percent by Mass	Material
1005	125	65	1.0%	3900	0.9%	Anhydrous Ammonia
3256	128	60	0.9%	3600	0.8%	Asphalt
2187	120	6	0.1%	360	0.1%	Carbon Dioxide Refrigerated Liquid
1170	127	25	0.4%	1500	0.3%	Ethyl Alcohol
3082	171	10	0.2%	600	0.1%	Ethylene Glycol
1993	128	125	1.9%	10000	2.2%	Fuel Oil #6 (combustible liquid)
1789	157	25	0.4%	1500	0.3%	Hydrochloric Acid
2015	143	275	4.2%	16500	3.6%	Hydrogen Peroxide Aqueous Solution
1075	115	2000	30.5%	120000	26.5%	Liquefied Petroleum Gas
1247	129P	260	4.0%	23400	5.2%	Methyl Methacrylate Monomer (Inhibited)
2693	154	40	0.6%	2400	0.5%	Sodium Bisulfite
1495	140	1650	25.2%	148500	32.8%	Sodium Chlorate
2922	154	20	0.3%	1200	0.3%	Sodium Hydrosulfide
1824	154	1600	24.4%	96000	21.2%	Sodium Hydroxide (Caustic Soda)
1830	137	340	5.2%	20400	4.5%	Sulfuric Acid
2448	133	50	0.8%	3000	0.7%	Sulfur, Molten

Figure 10

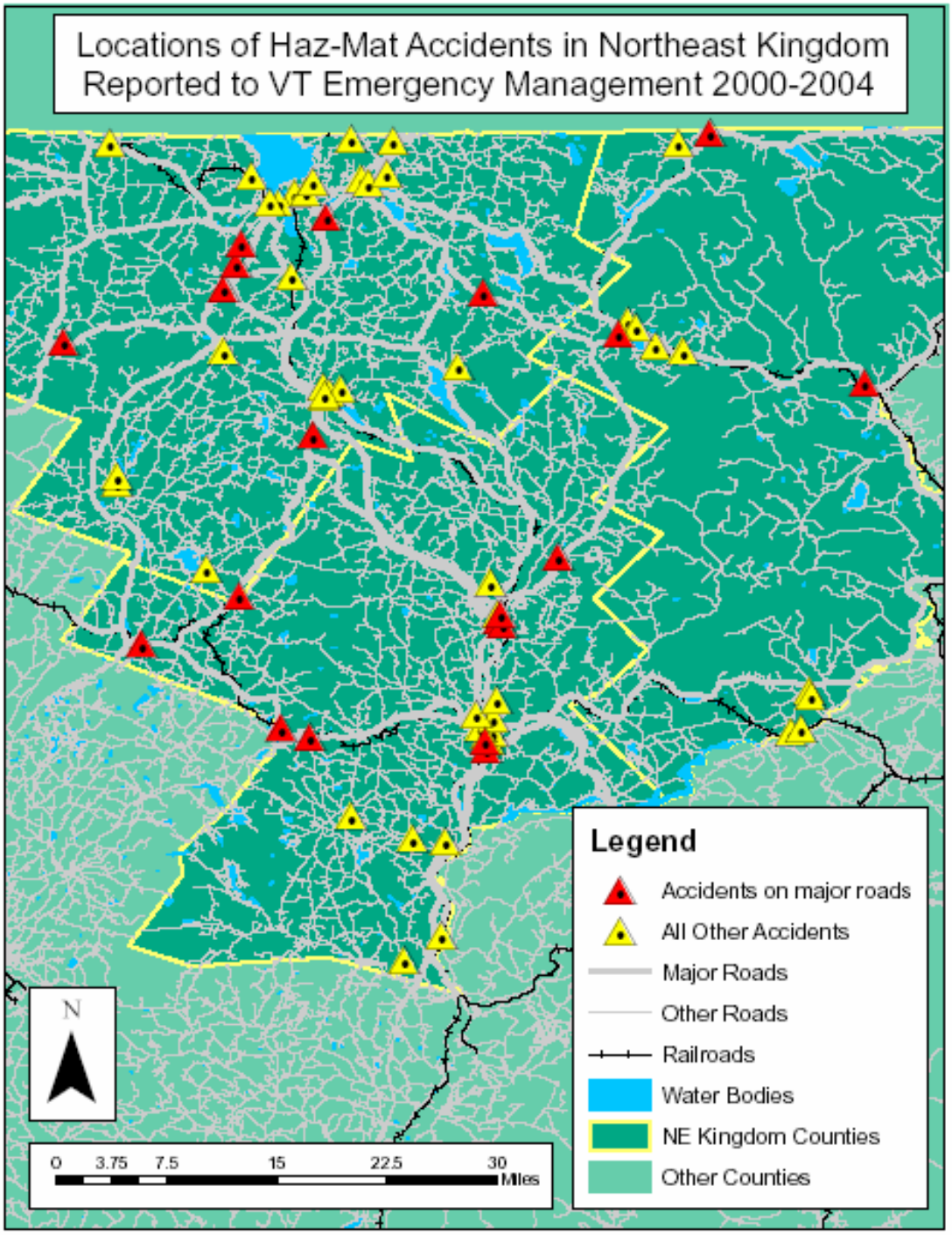
Response Guide No. for Transported Materials - St. Lawrence & Atlantic				
Guide No.	Carloads/yr	Percent by carloads	Tons/year	Percent by tonnage
115	2000	30.5%	120000	26.5%
120	6	0.1%	360	0.1%
125	65	1.0%	3900	0.9%
127	25	0.4%	1500	0.3%
128	185	2.8%	13600	3.0%
129P	260	4.0%	23400	5.2%
133	50	0.8%	3000	0.7%
137	340	5.2%	20400	4.5%
140	1650	25.2%	148500	32.8%
143	275	4.2%	16500	3.6%
154	1660	25.3%	99600	22.0%
157	25	0.4%	1500	0.3%
171	10	0.2%	600	0.1%

As seen in figures 9 and 10, fuel products (guide numbers 115 and 128) constitute a significant percentage of the Haz-Mat freight transported by rail, though not nearly at the same level as transport by truck. The other major hazardous materials transported are sodium chlorate, an herbicide (guide #140), and sodium hydroxide, a common manufacturing chemical (guide #154).

Existing Accident Data

The Vermont Emergency Management (VEM) Agency is typically the first to be notified in the event of a hazardous materials accident, and keeps records of the spills reported to them. Analysis of the data they provide lends insight into the most common times of day and year and the most common locations for spills to occur. During the period from the year 2000 to the present (summer 2004), the VEM has recorded 67 hazardous materials accidents (spills or releases) reported to them. These data have been split into two categories by SMI: 1) Accidents occurring on a state or US highway and 2) Accidents occurring not on a state or US highway, but on a local road or at a residence or place of business. Figure 11 shows the approximate locations of each of these accidents.

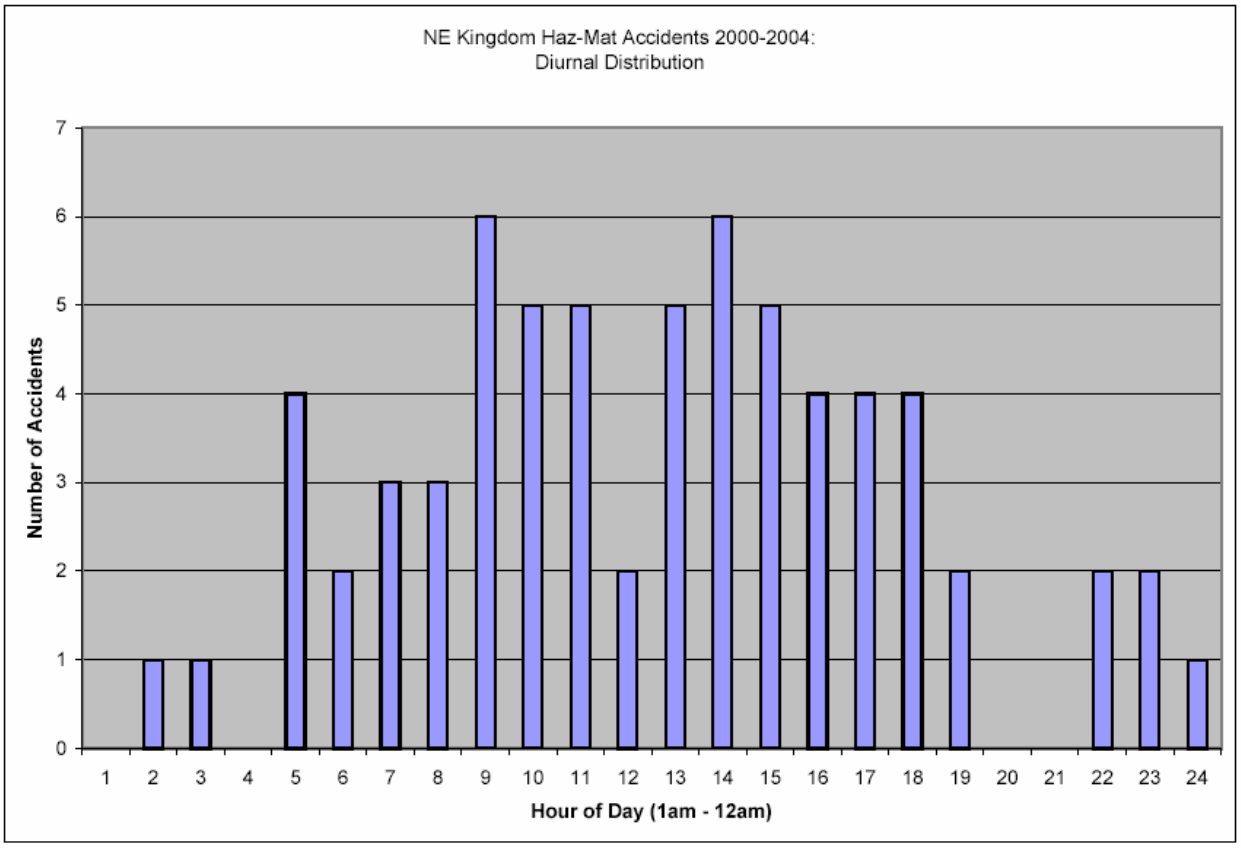
Figure 11



As seen in Figure 11, there are too few accidents in the Northeast Kingdom to discern any significant spatial pattern, save that more accidents occur in areas of greater activity (or population and business density).

The most frequent time of day of hazardous materials accidents is also important for first responders to be aware of. Figure 12 shows the diurnal distribution of hazardous materials accidents by hour, as reported to VEM.

Figure 12



As seen above, few accidents occur in the Northeast Kingdom between the hours of 8pm and 5am. This is likely due to the fact that there is very little overnight traffic in the Northeast Kingdom. While freight, makes up a larger percentage of total traffic at night than it does during the day, there is still very little truck transport at night compared to daytime traffic levels. Since hazardous materials transport makes up only a slightly larger percentage of overnight truck traffic than it does during the day, it seems reasonable to expect that there would be very few hazardous materials accidents in the overnight period.

Seasonal fluctuations in frequency of hazardous materials accidents are evident as well from the data provided by VEM. As seen in Figures 13 and 14, there are fewer hazardous materials accidents in the fall than in other seasons. Summer months it seems have the greatest frequency of accidents.

Figure 13

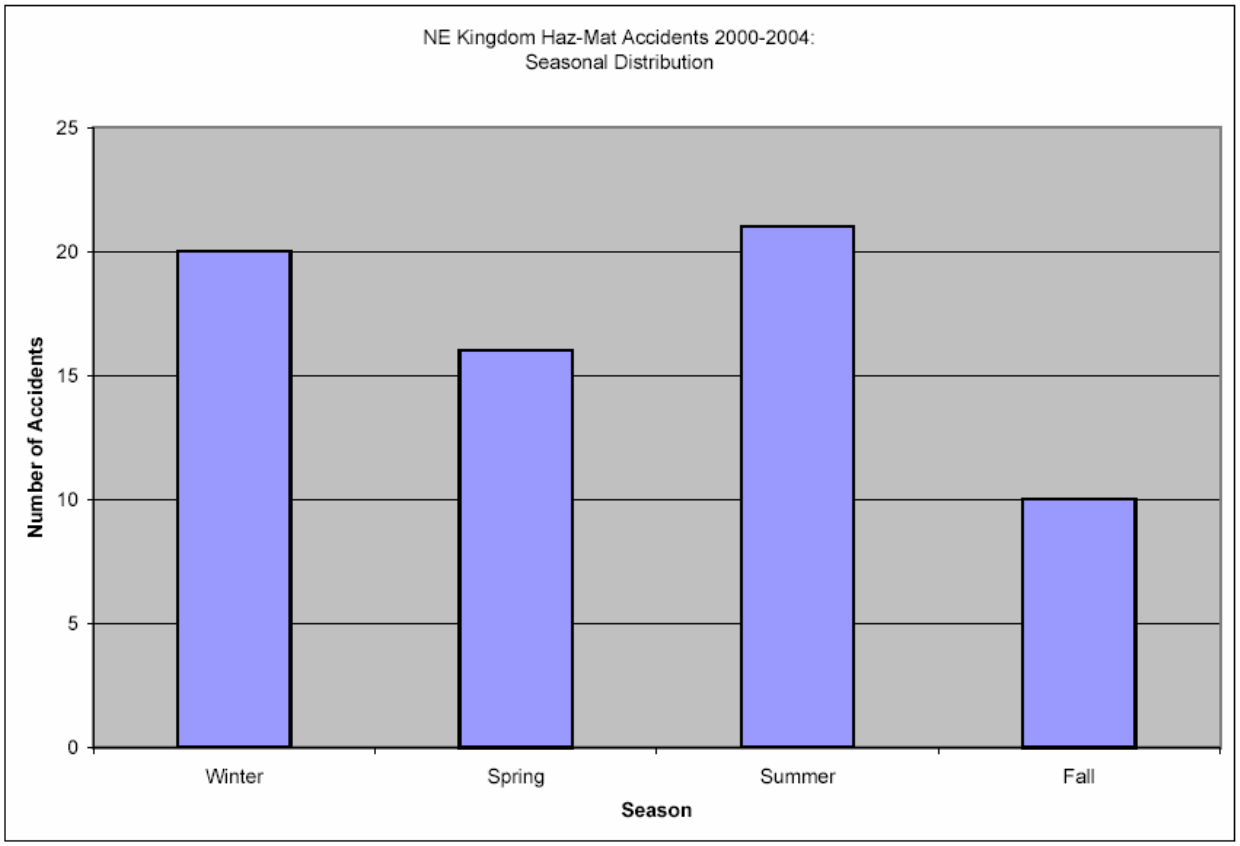
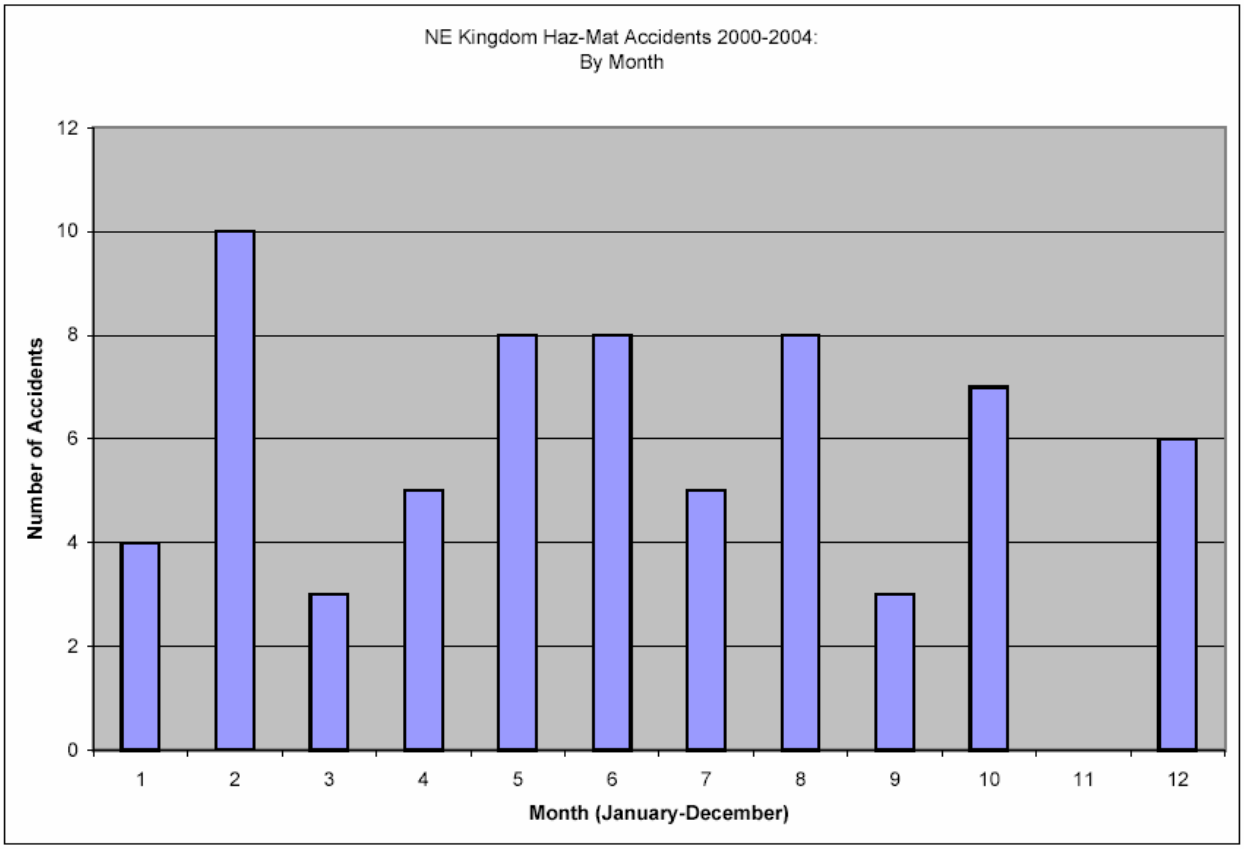


Figure 14



Company Reported Information

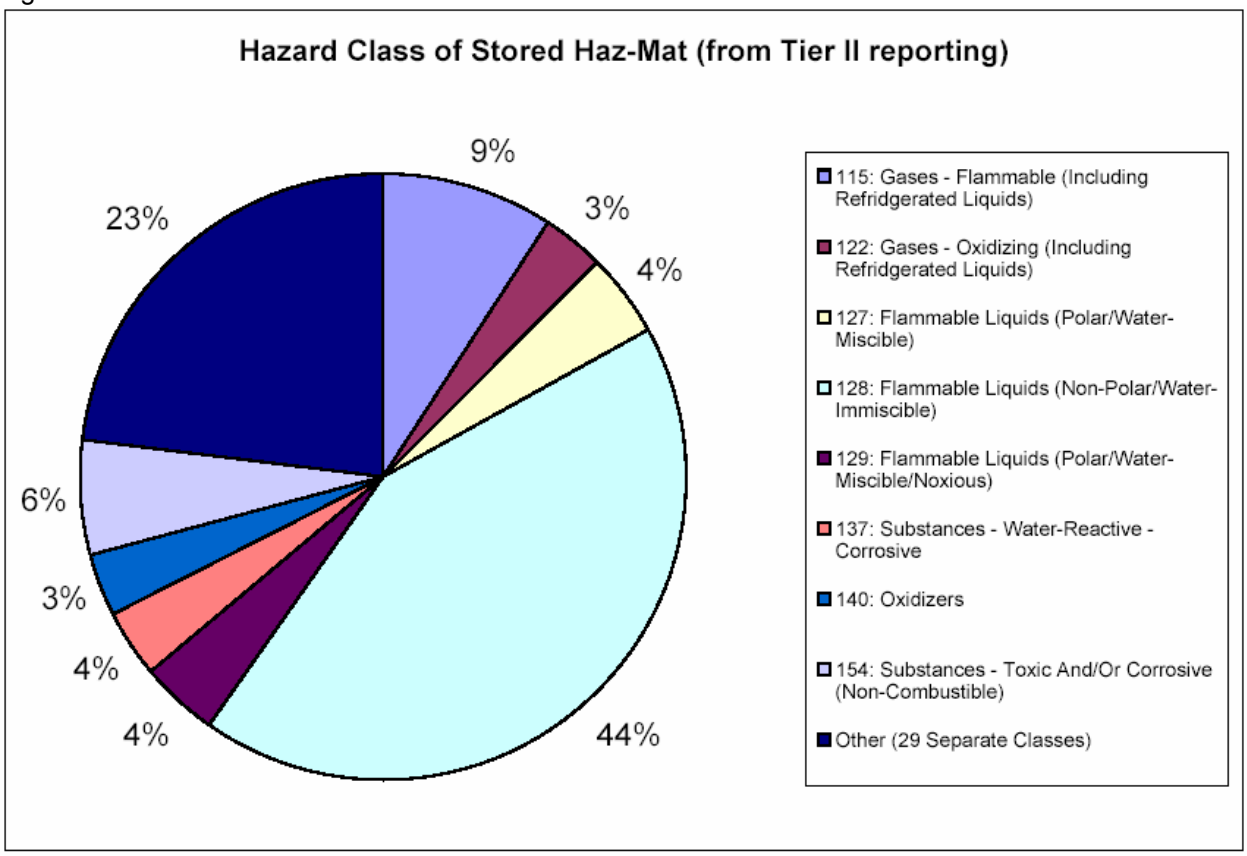
One component of the hazardous materials flow study was devoted to determining what chemicals were being used and stored by companies in the Northeast Kingdom. Telephone interviews proved to be very ineffectual at getting useful data, but the Tier II reporting information available from VEM covered all companies in the region storing hazardous materials. SMI analyzed this data to determine the Response Guide numbers for the stored materials. These are reported in Figure 15.

Figure 15

Hazard Class of Stored Haz-Mat (From Tier II reporting)		
Guide Number	Total Reported	Percent of Total
111 or NA	61	9.3%
112	1	0.2%
115	60	**9.1%**
116	13	**2.0%**
117	2	0.3%
120	2	0.3%
121	13	**2.0%**
122	23	**3.5%**
124	2	0.3%
125	4	0.6%
126	1	0.2%
127	28	**4.3%**
128	283	**43.0%**
129	27	**4.1%**
130	9	**1.4%**
131	6	0.9%
132	6	0.9%
133	2	0.3%
135	4	0.6%
137	24	**3.6%**
138	1	0.2%
140	22	**3.3%**
141	2	0.3%
143	1	0.2%
146	1	0.2%
152	3	0.5%
154	40	**6.1%**
157	5	0.8%
160	1	0.2%
170	1	0.2%
171	2	0.3%
172	1	0.2%
116P	1	0.2%
119P	1	0.2%
128P	2	0.3%
129, 127	2	0.3%
153P	1	0.2%
ALL CLASSES	658	100.0%

As seen in Figure 15, the most commonly stored materials are the same as those found in the region in other components of the study. Figure 16 shows the relative percentages of reported materials graphically.

Figure 16



Note that these percentages refer not to the volume or mass of materials stored, but merely the number of reported instances of storage for each material. As such it is likely that while materials with Guide Numbers 128 and 115 (fuel products) are still the most commonly reported, in fact they are probably vastly more common than indicated here as they are typically used in much higher volumes relative the other reported materials.

In keeping with a focus on transport, it is important to consider geographic distribution of the hazardous materials stored in the Northeast Kingdom. Figure 17 lists the number of records of stored hazardous materials by town as reported to VEM.

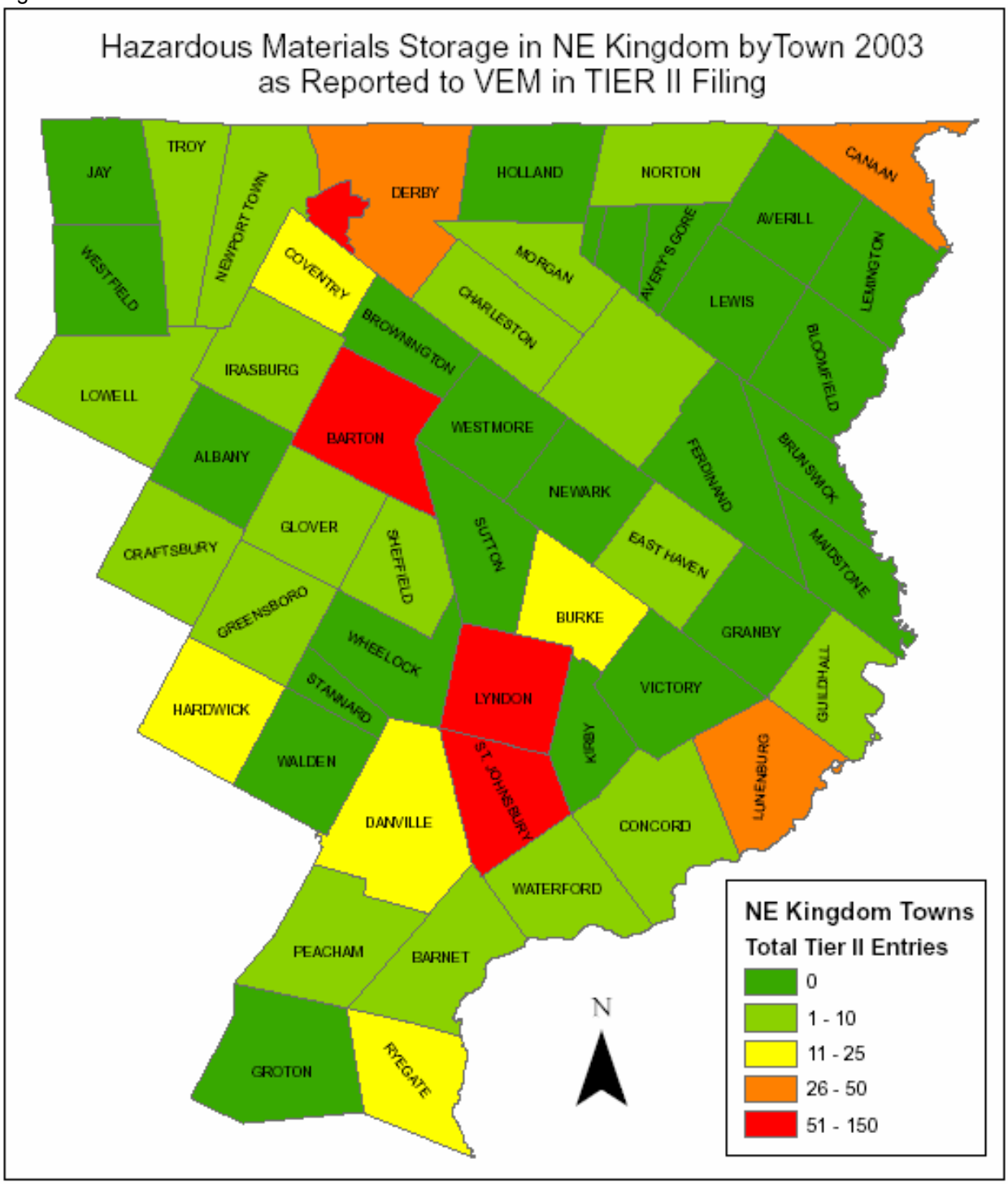
Figure 17

Instances of Stored Hazardous Materials by Town (Reported under Tier II to VEM)

TOWNNAME	Records		TOWNNAME (cont.)	Records (cont.)
LYNDON	135		MORGAN	1
ST. JOHNSBURY	122		LOWELL	1
BARTON	89		JAY	0
NEWPORT CITY	57		HOLLAND	0
LUNENBURG	39		AVERILL	0
CANAAN	38		LEMINGTON	0
DERBY	36		AVERY'S GORE	0
HARDWICK	23		WARREN'S GORE	0
RYEGATE	19		WARNER'S GRANT	0
COVENTRY	15		LEWIS	0
DANVILLE	13		WESTFIELD	0
BURKE	11		BROWNINGTON	0
NEWPORT TOWN	8		BLOOMFIELD	0
WATERFORD	8		WESTMORE	0
EAST HAVEN	7		FERDINAND	0
GREENSBORO	7		BRUNSWICK	0
CONCORD	7		ALBANY	0
TROY	6		NEWARK	0
BRIGHTON (ISL. POND)	6		SUTTON	0
SHEFFIELD	6		MAIDSTONE	0
NORTON	4		GRANBY	0
CHARLESTON	4		WHEELOCK	0
CRAFTSBURY	4		VICTORY	0
BARNET	4		STANNARD	0
IRASBURG	3		KIRBY	0
PEACHAM	3		WALDEN	0
GLOVER	2		GROTON	0
GUILDHALL	2			

According to this Tier II filing with VEM, Barton, Lyndon, Newport, and St. Johnsbury are all locations of relatively high levels of hazardous materials storage by public institutions and private companies (greater than 50 instances per town). Canaan, Derby, and Lunenburg are each locations of medium-high levels of hazardous materials storage (26 to 50 instances each). Burke, Coventry, Danville, Hardwick, and Ryegate are each locations of moderate levels of hazardous materials storage (11 to 25 instances each). The remainder of towns (43 towns total) exhibit low levels of hazardous materials storage (10 instances or less). Figure 18 plots these relative differences over the region.

Figure 18



The spatial distribution of hazardous materials in storage in Figure 18 corresponds very well with the estimated distribution of elevated levels of hazardous materials transport as shown previously in Figure 5.

Conclusions
The highest levels of hazardous materials transport in the Northeast Kingdom (on the order of 35 to 75 trucks per day) occur on I-91 from St. Johnsbury to Lyndon, on the whole length of I-93, on US 2 from West Danville to St. Johnsbury, and on US 5 between Newport and Derby.

Moderate levels of hazardous materials transport (on the order of 15 to 35 trucks per day) occur on I-91 from Wells River to St. Johnsbury, on I-91 from Lyndon to Derby, on US 5 through Newport, on US 5 through St. Johnsbury, on US 5 through Lyndon, on US 2 through St. Johnsbury, and on US 2 west of West Danville.

All other roads through the Northeast Kingdom exhibit lower levels of hazardous materials traffic on a daily basis (between 0 and 15 trucks per day).

The overall percentage of trucks carrying hazardous material in the Northeast Kingdom during the survey periods was 3.7 percent. This average fluctuates to some degree with time of day, but the vast majority of the hazardous materials transport in the region occurs between 7am and 7pm.

Fuel products constitute the majority (82 percent) of the hazardous materials transported by truck in the Northeast Kingdom in the summer.

Of all the hazardous materials transported by truck in the summer in the Northeast Kingdom, approximately 65 percent if spilled fall under the response guidelines outlined by guide number 128 in the Emergency Response Guidebook. Approximately 20 percent fall under guide number 115.

According to the limited rail transport data available from St. Lawrence and Atlantic Railroad Co., the preponderance of hazardous materials transported via rail, if spilled, fall under the response guidelines outlined by guide number 115 (31%), guide number 140 (25%), or guide number 154 (25%). However, it is likely that rail transport of hazardous materials makes up a relatively small percentage of the overall Haz-Mat freight transported in the Northeast Kingdom.

Almost all hazardous materials accidents occur between 5am and 8pm. More accidents occur in the summer, with the least occurring in the fall.

For the most part, the routes exhibiting the highest levels of hazardous materials transport are located in the towns with the highest levels of reported hazardous materials storage.

APPENDIX A: Hazardous Materials Emergency Response Guide Numbers

The Emergency Response Guidebook contains the proper emergency response guidelines for action in the event of a hazardous materials accident. This chart contains a brief description of the materials covered under each Guide Number mentioned in this report.

Guide Number	Description
111 or NA	Mixed Load / Unidentified Cargo
112	Explosives - Division 1.1, 1.2, 1.3, 1.5, or 1.6; Class A or B
115	Gases - Flammable (including refrigerated liquids)
116	Gases - Flammable (unstable)
116P	Gases - Flammable (unstable) *
117	Gases - Toxic - Flammable (extreme hazard)
119P	Gases - Toxic - Flammable *
120	Gases - Inert (including refrigerated liquids)
121	Gases - Inert
122	Gases - Oxidizing (including refrigerated liquids)
124	Gases - Toxic and / or Corrosive - Oxidizing
125	Gases - Corrosive
126	Gases - Compressed or Liquified (including refrigerated gases)
127	Flammable Liquids (Polar / Water - Miscible)
128	Flammable Liquids (Non-Polar / Water-Immiscible)
128P	Flammable Liquids (Non-Polar / Water-Immiscible) *
129	Flammable Liquids (Polar / Water - Miscible / Noxious)
129P	Flammable Liquids (Polar / Water - Miscible / Noxious)*
130	Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)
131	Flammable Liquids - Toxic
132	Flammable Liquids - Corrosive
133	Flammable Solids
135	Substances - Spontaneously Combustible
137	Substances - Water-Reactive - Corrosive
138	Substance - Water-Reactive (Emitting Flammable Gases)
140	Oxidizers
141	Oxidizers - Toxic (Solid)
143	Oxidizers (unstable)
146	Organic Peroxides (Heat, Contamination and Friction Sensitive)
152	Substances -Toxic (Combustible)
153P	Substances - Toxic and / or Corrosive (combustible) *
154	Substances - Toxic and/or Corrosive (Non-Combustible)
157	Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)
160	Halogenated Solvents
170	Metals (powders, dusts, shavings, borings, turnings, or cuttings, etc.)
171	Substances (low to moderate hazard)
172	Gallium and Mercury
P	* may polymerize explosively when heated or involved in a fire

APPENDIX B: Field Observations and Hazard Classes by Survey Period

Note: Pie Charts denote only the materials transported by trucks observed during the survey period. These should not be assumed to represent the general spread of hazardous materials transported past any particular survey point.

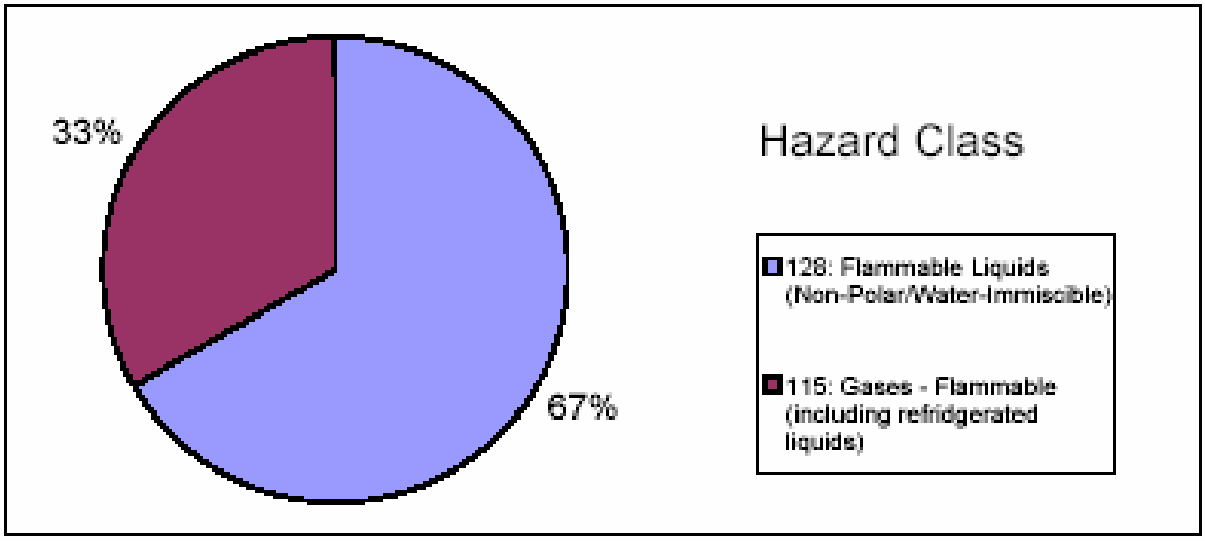
US 5 - in town in Derby Line (parked in front of Caswell & O'rourke inc.)*				
7/27/2004	8:00-12:00	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	8:45	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
8:00-9:00	7	1	6
9:00-10:00	7	3	4
10:00-11:0	6	3	3
11:00-12:0	7	3	4

US 5 - in town in Derby Line (parked in front of Caswell & O'rourke inc.)*				
7/27/2004	8:00-12:00	Peter R	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1075	10a	11:19	Amerigas	H
1223	12a	11:26	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
8:00-9:00	4	1	3
9:00-10:00	8	3	5
10:00-11:0	8	3	5
11:00-12:0	6	2	4

* This Border Crossing is closed to truck traffic except for local deliveries

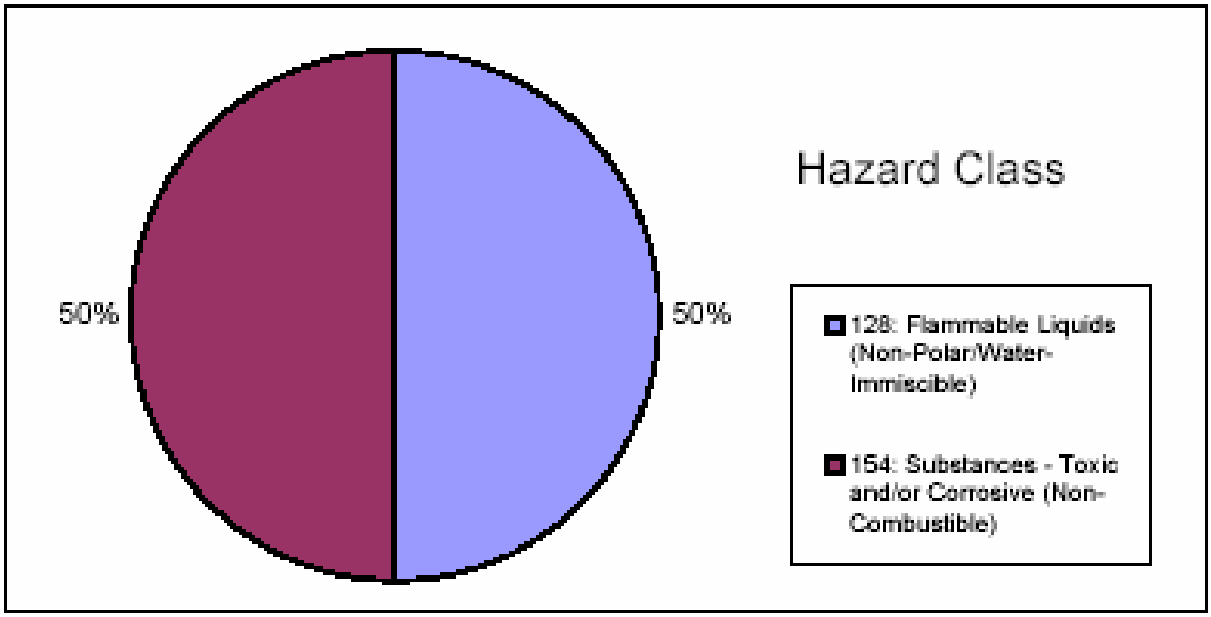


I-91 at border (from the U-turn just south of exit 29 VT)				
7/27/2004	12:20-16:20	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1824	19	14:15	-	H

Block	total trucks	Medium	Heavy
12:20-13:20	33	3	30
13:20-14:20	37	9	28
14:20-15:20	47	10	37
15:20-16:20	38	8	30

I-91 at border (from the U-turn just south of exit 29 VT)				
7/27/2004	12:20-16:20	Peter R	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	16:04	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
12:20-13:20	19	3	16
13:20-14:20	28	7	21
14:20-15:20	31	5	26
15:20-16:20	36	5	31

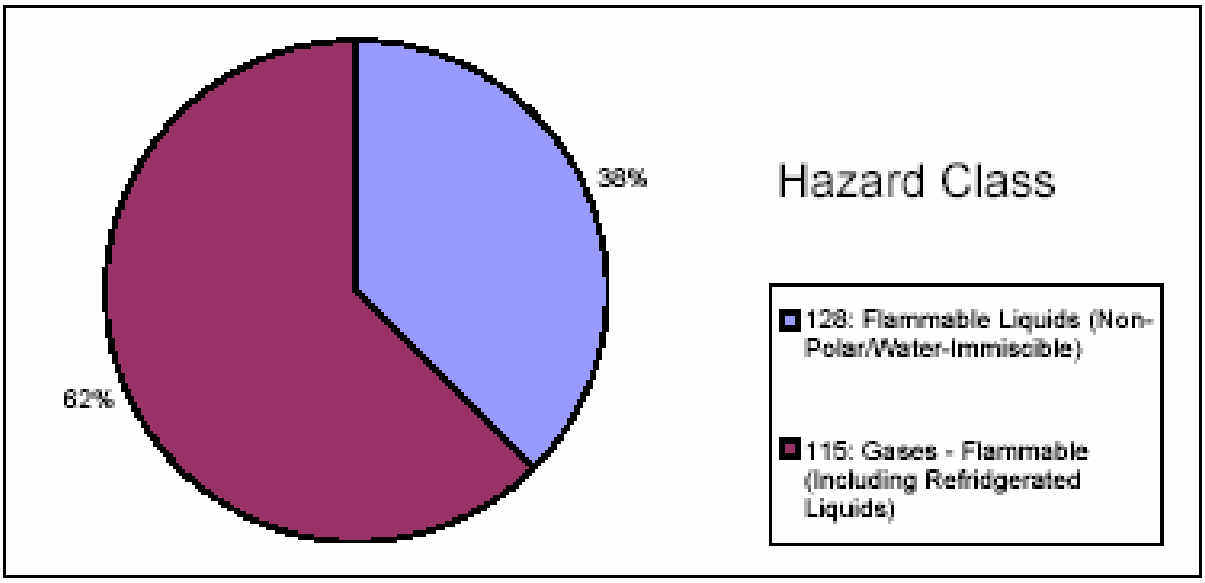


US 5 St. Johnsbury (just south of exit 22 on I-91, in Price Chopper parking lot)				
8/2/2004	8:30-12:30	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1075	10a	8:34	Fred's Heating Oil	H
1075	10a	9:04	Northern Petroleum Co.	H
1075	10a	9:31	Amerigas	H

Block	total trucks	Medium	Heavy
8:30-9:30	21	10	11
9:30-10:30	28	14	14
10:30-11:30	31	7	24
11:30-12:30	18	5	13

US 5 St. Johnsbury (just south of exit 22 on I-91, in Price Chopper parking lot)				
8/2/2004	8:30-12:30	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	10:29	Northern Petroleum Co.	H
1075	10a	11:00	Northern Petroleum Co.	H
1075	10a	11:03	Northern Petroleum Co.	H
1203	12a	11:48	-	H
3257	HOT	12:06	-	H

Block	total trucks	Medium	Heavy
8:30-9:30	26	13	13
9:30-10:30	33	15	18
10:30-11:30	25	7	18
11:30-12:30	25	9	16

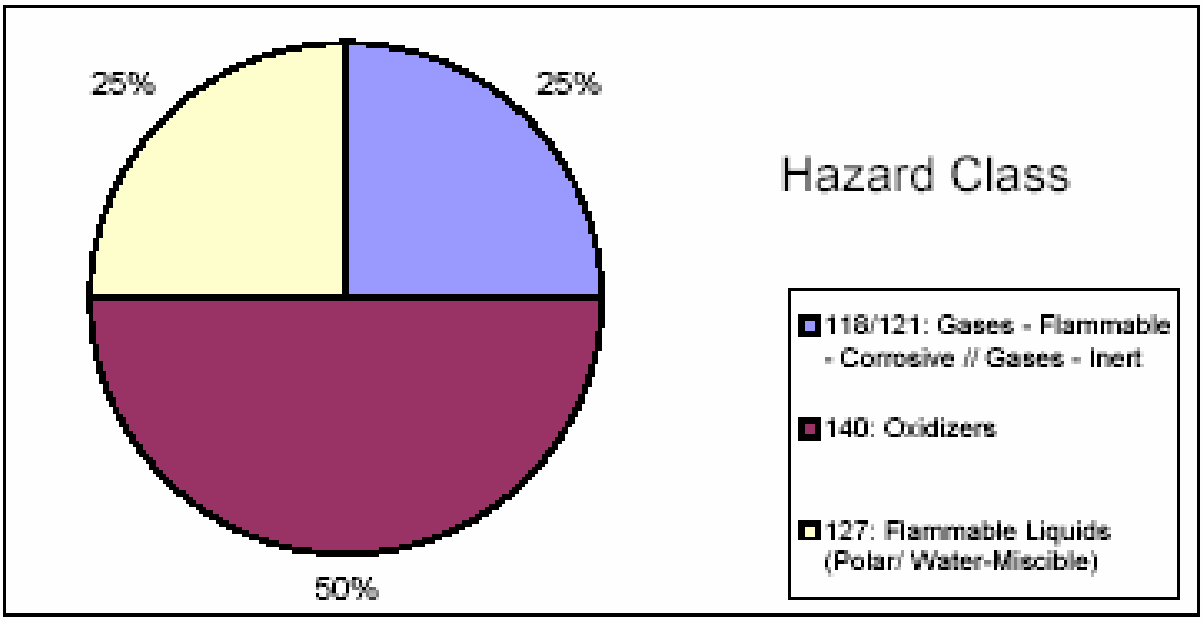


US 2 in Lunenburg, VT (just west of intersection w. VT 102)				
8/2/2004	13:30-17:30	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT
2014	15?	13:43	?	H
1868	12?	14:01	?	H

Block	total trucks	Medium	Heavy
13:30-14:30	23	10	13
14:30-15:30	19	9	10
15:30-16:30	14	4	10
16:30-17:30	12	8	4

US 2 in Lunenburg, VT (just west of intersection w. VT 102)				
8/2/2004	13:30-17:30	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
?	10a, 11	14:19	Merriam Graves	M
2014	15	17:14	?	H

Block	total trucks	Medium	Heavy
13:30-14:30	37	12	25
14:30-15:30	18	5	13
15:30-16:30	30	11	19
16:30-17:30	28	13	15



VT 102 in Lunenburg, VT (just north of intersection with US 2)				
8/2/2004	13:30-17:30	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT

Block	total trucks	Medium	Heavy
13:30-14:30	6	3	3
14:30-15:30	4	3	1
15:30-16:30	1	0	1
16:30-17:30	4	1	3

VT 102 in Lunenburg, VT (just north of intersection with US 2)				
8/2/2004	13:30-17:30	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT

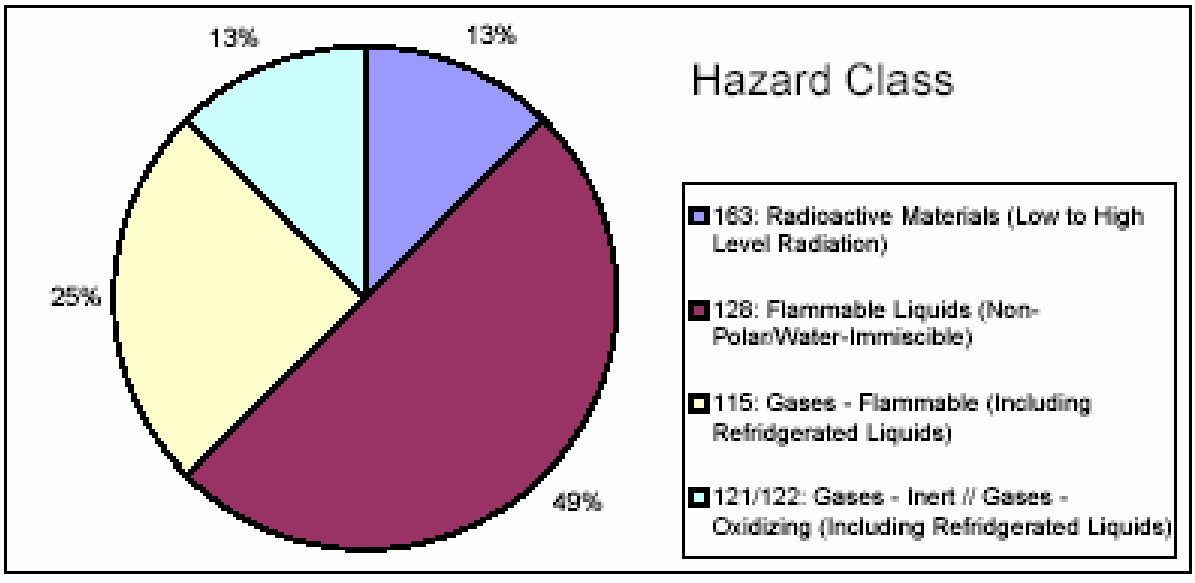
Block	total trucks	Medium	Heavy
13:30-14:30	5	2	3
14:30-15:30	6	1	5
15:30-16:30	10	3	7
16:30-17:30	5	2	3

US 2 in W. Danville (just west of the intersection with VT 15)				
8/6/2004	8:30-12:30	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT
-	6a	9:59	Fedex	H
1075	10a	10:57	Northern Gas Transport	H
1203	12a	11:02	Bradford Oil	H
1075	10a	11:38	Northern Petroleum Co.	H
1203	12a	12:18	Irving	H

Block	total trucks	Medium	Heavy
8:30-9:30	11	4	7
9:30-10:30	26	12	14
10:30-11:30	18	7	11
11:30-12:30	21	13	8

US 2 in W. Danville (just west of the intersection with VT 15)				
8/6/2004	8:30-12:30	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
-	11a, 11b	9:33	Merriam Graves	M
1203	12a	10:04	Bradford Oil	H
1223	12a	10:44	Mom's & Pop's	H

Block	total trucks	Medium	Heavy
8:30-9:30	19	6	13
9:30-10:30	20	10	10
10:30-11:30	21	8	13
11:30-12:30	20	8	12

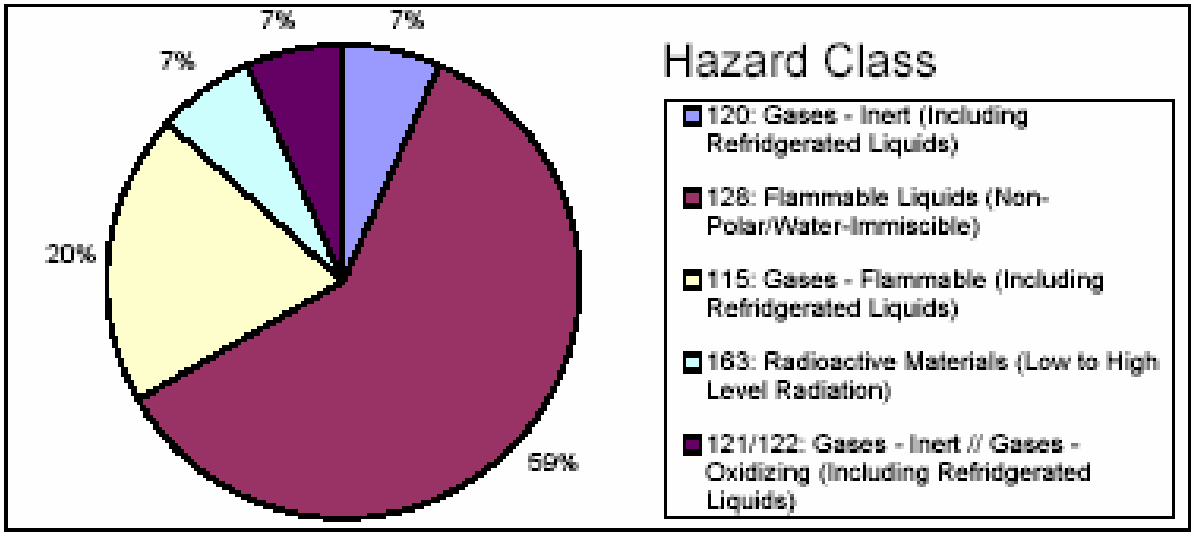


US 2 in W. Danville (just east of the intersection with VT 15)				
8/6/2004	8:30-12:30	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT
2187	11a	9:35	NuCO2	H
1223	12a	9:39	Calkin's Oil	H
-	8a	9:59	Fedex	H
1075	10a	10:35	Northern Petroluem Co.	M
1223	12a	10:48	-	H
1075	10a	10:57	Northern Gas Transport	H
1203	12a	11:02	Bradford Oil	H
1075	10a	11:38	Northern Petroluem Co.	H
1203	12a	12:08	Bradford Pratts Petroleum Co.	H
1203	12a	12:18	Irving	H

Block	total trucks	Medium	Heavy
8:30-9:30	26	10	16
9:30-10:30	47	22	25
10:30-11:30	31	14	17
11:30-12:30	34	16	18

US 2 in W. Danville (just east of the intersection with VT 15)				
8/6/2004	8:30-12:30	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
-	11a, 11b	9:33	Merriam Graves	M
1223	12a	9:41	Northern Petroleum Co.	H
1203	12a	10:04	Bradford Oil	H
1203	12a	10:28	Bradford Pratts Petroleum Co.	H
1223	12a	11:19	-	H

Block	total trucks	Medium	Heavy
8:30-9:30	25	10	15
9:30-10:30	35	15	20
10:30-11:30	37	12	25
11:30-12:30	30	14	16

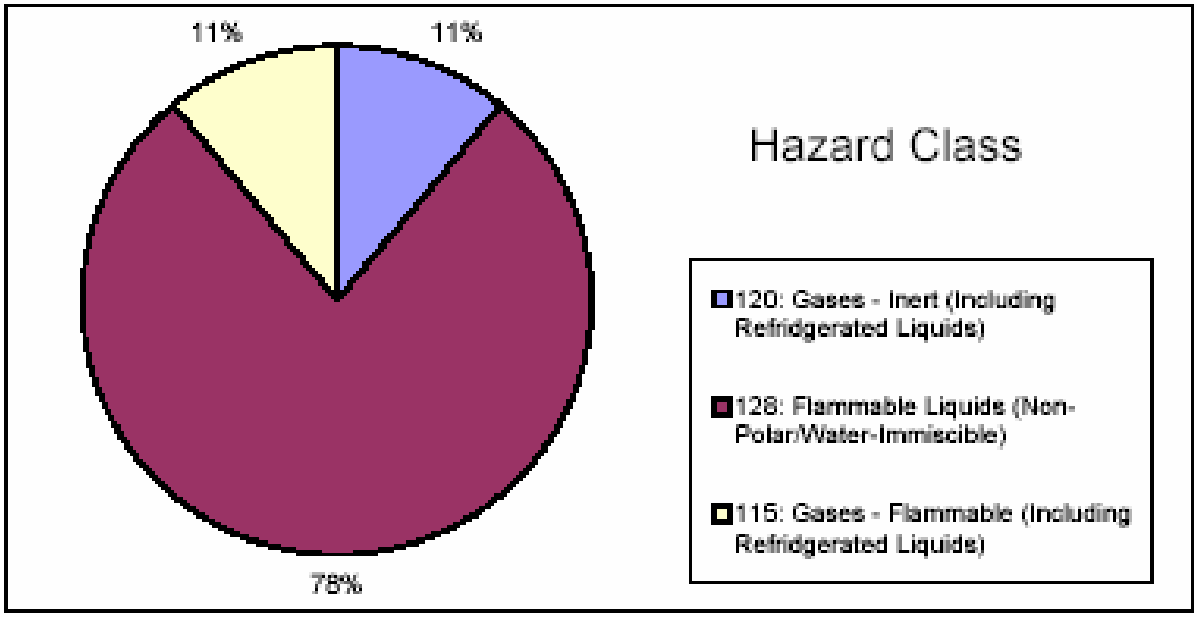


VT 15 in W. Danville (just north of the intersection with US 2)				
8/6/2004	8:30-12:30	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	9:41	Northern Petroleum Co.	H
1203	12a	10:28	Bradford Pratts Petroleum Co.	H
1223	12a	11:19	-	H

Block	total trucks	Medium	Heavy
8:30-9:30	10	4	6
9:30-10:30	16	5	11
10:30-11:30	22	7	15
11:30-12:30	13	7	6

VT 15 in W. Danville (just north of the intersection with US 2)				
8/6/2004	8:30-12:30	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
2187	11a	9:35	NuCO2	H
1223	12a	9:39	Calkin's Oil	H
1075	10a	10:35	Northern Petroleum Co.	M
1223	12a	10:44	Mom's & Pop's	H
1223	12a	10:48	-	H
1203	12a	11:41	Bradford Pratts Petroleum Co.	H

Block	total trucks	Medium	Heavy
8:30-9:30	18	6	12
9:30-10:30	24	11	13
10:30-11:30	19	11	8
11:30-12:30	17	4	13

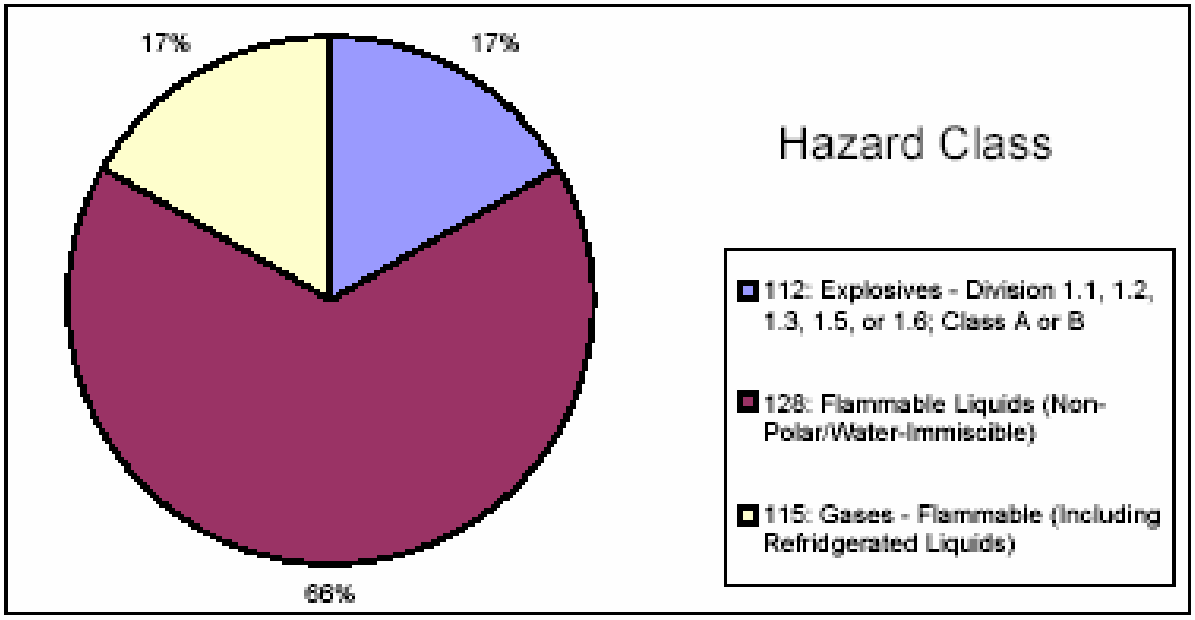


VT 15 in Hardwick (just east of the intersection with VT 14)				
8/6/2004	13:00-17:00	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	13:59	Bradford Oil Co.	H
1203	12a	15:42	Perry's Oil Service	H
-	Explosive 1.1D	16:17	?	L

Block	total trucks	Medium	Heavy
13:00-14:00	36	13	23
14:00-15:00	29	17	12
15:00-16:00	30	14	16
16:00-17:00	27	17	10

VT 15 in Hardwick (just east of the intersection with VT 14)				
8/6/2004	13:00-17:00	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	13:07	Northern Gas Transport	H
1075	10a	13:49	Ultramar	H
1203	12a	14:34	Perry's Oil Service	H

Block	total trucks	Medium	Heavy
13:00-14:00	36	18	18
14:00-15:00	30	14	16
15:00-16:00	15	8	7
16:00-17:00	17	7	10

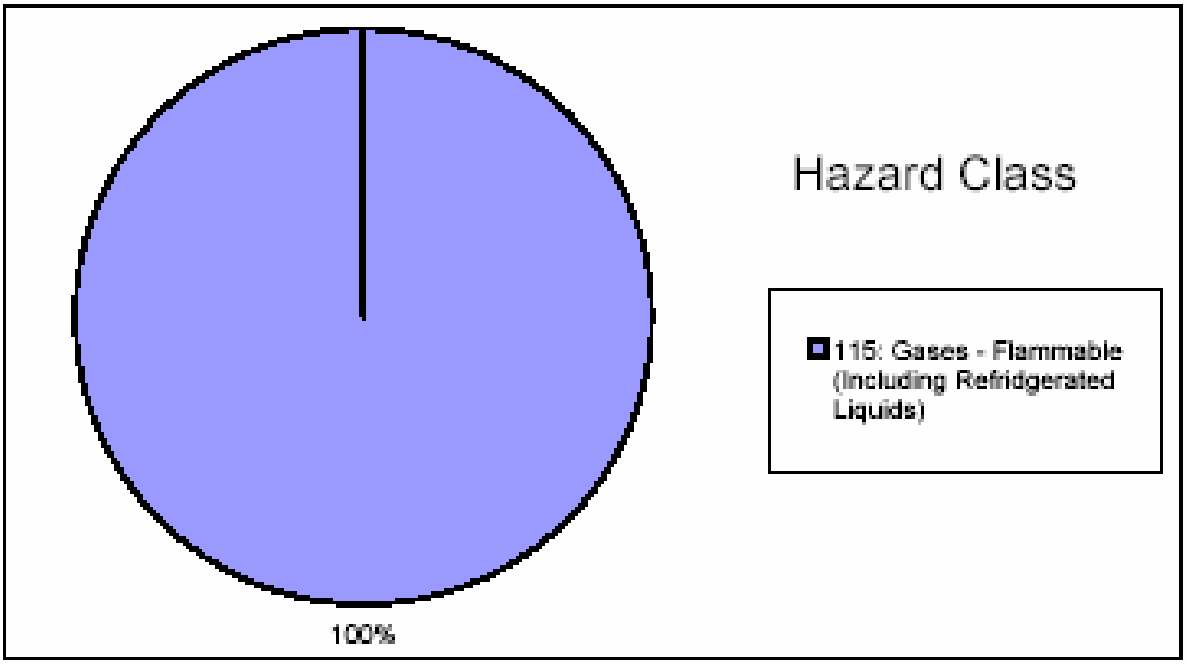


VT 14 in Hardwick (just south of the intersection with VT 15)				
8/6/2004	13:00-17:00	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1075	10a	15:22	Irving	H

Block	total trucks	Medium	Heavy
13:00-14:00	16	8	8
14:00-15:00	15	7	8
15:00-16:00	12	7	5
16:00-17:00	15	6	9

VT 14 in Hardwick (just south of the intersection with VT 15)				
8/6/2004	13:00-17:00	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT

Block	total trucks	Medium	Heavy
13:00-14:00	10	6	4
14:00-15:00	11	6	5
15:00-16:00	15	6	9
16:00-17:00	13	8	5

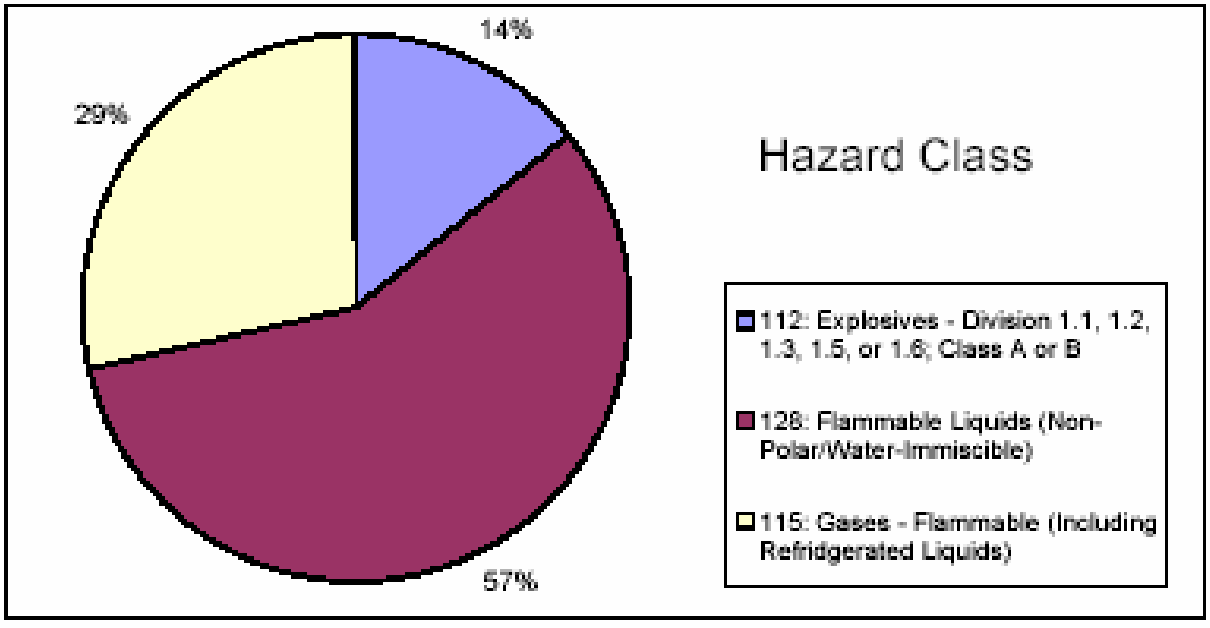


VT 15/ VT 14 in Hardwick (just west of the 14-15 intersection)				
8/6/2004	13:00-17:00	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	13:59	Bradford Oil Co.	H
1075	10a	15:22	Irving	H
1203	12a	15:42	Perry's Oil Service	H
-	Explosive 1.1D	16:17	-	L

Block	total trucks	Medium	Heavy
13:00-14:00	39	12	27
14:00-15:00	26	13	13
15:00-16:00	30	15	15
16:00-17:00	33	19	14

VT 15/ VT 14 in Hardwick (just west of the 14-15 intersection)				
8/6/2004	13:00-17:00	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	13:07	Northern Gas Transport	H
1075	10a	13:49	Ultramar	H
1203	12a	14:34	Perry's Oil Service	H

Block	total trucks	Medium	Heavy
13:00-14:00	33	15	18
14:00-15:00	23	9	14
15:00-16:00	20	8	12
16:00-17:00	20	9	11

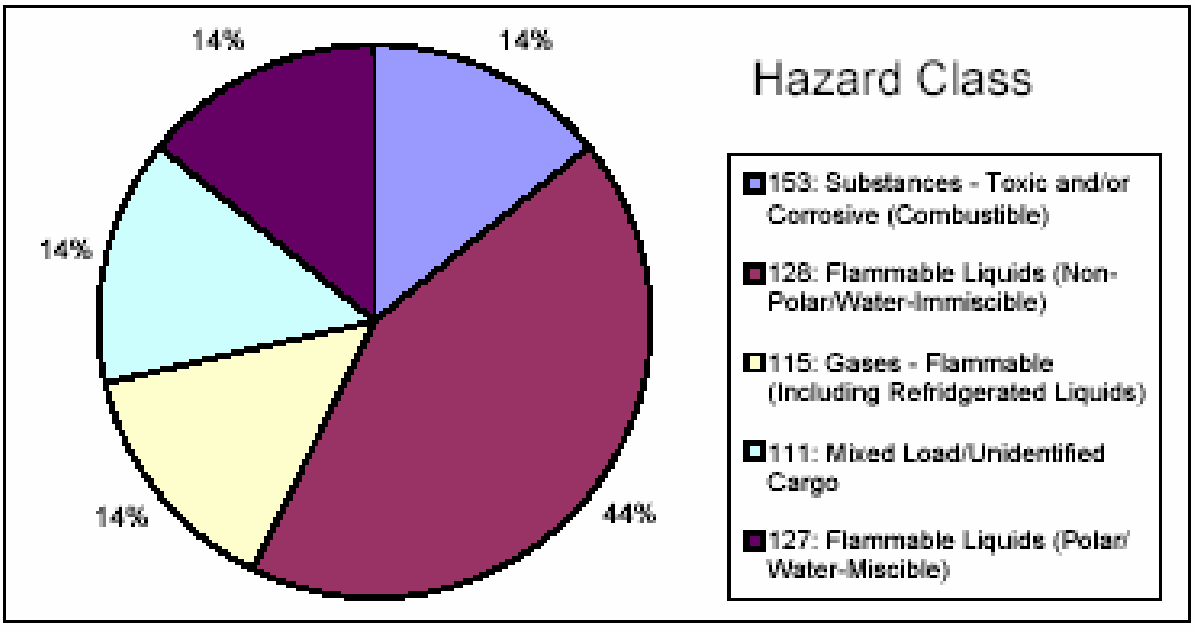


I-91 near Wells River (1 mile north of wells river exit at overpass)				
8/9/2004	8:15-12:15	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
?	19 or 20??	9:58	Allen Engineering	H
1223	12a	10:18	Northern Petroleum Co.	H
1993	12a	10:19	BOC Gases	H
1075	10a	11:07	Abenaqui	H

Block	total trucks	Medium	Heavy
8:15-9:15	35	18	17
9:15-10:15	33	12	21
10:15-11:15	31	17	14
11:15-12:15	32	7	25

I-91 near Wells River (1 mile north of wells river exit at overpass)				
8/9/2004	8:15-12:15	Peter R	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
-	7	10:46	BSP	H
1223	12a	11:05	Northern Petroleum Co.	H
-	12a	11:18	CCX	H

Block	total trucks	Medium	Heavy
8:15-9:15	21	8	13
9:15-10:15	35	15	20
10:15-11:15	35	4	31
11:15-12:15	35	10	25



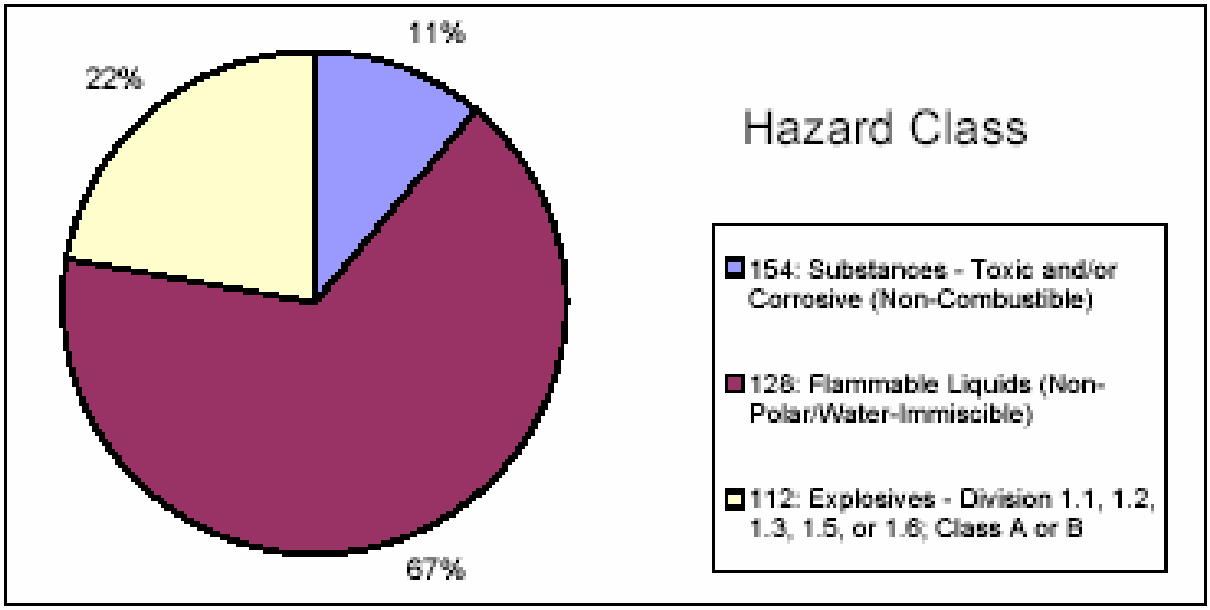
I-93 in Waterford (from route 18 shoulder 200yds south of Remick Rd.)*				
8/9/2004	13:45-17:45	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
3257	HOT	13:58	BFC Asphalt Maintenance	M
1203	12a	14:23	P+H Transportation	H
2893?	19?	14:44	?	H
1203	12a	16:42	Bradford Oil	H

Block	total trucks	Medium	Heavy
13:45-14:45	50	16	34
14:45-15:45	40	10	30
15:45-16:45	38	11	27
16:45-17:45	29	10	19

I-93 in Waterford (from route 18 shoulder 200yds south of Remick Rd.)*				
8/9/2004	13:45-17:45	Peter R	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
-	Explosive 1.1D	14:11	-	H
-	Explosive 1.5	14:11	-	H
3257	HOT	15:42	BFC Asphalt Maintenance	M
1203	12a	17:05	Irving	H
1203	12a	17:41	Irving	H

Block	total trucks	Medium	Heavy
13:45-14:45	25	10	15
14:45-15:45	26	12	14
15:45-16:45	31	7	24
16:45-17:45	27	6	21

* there's road work on 93N right at our location today, closed down to 1 lane

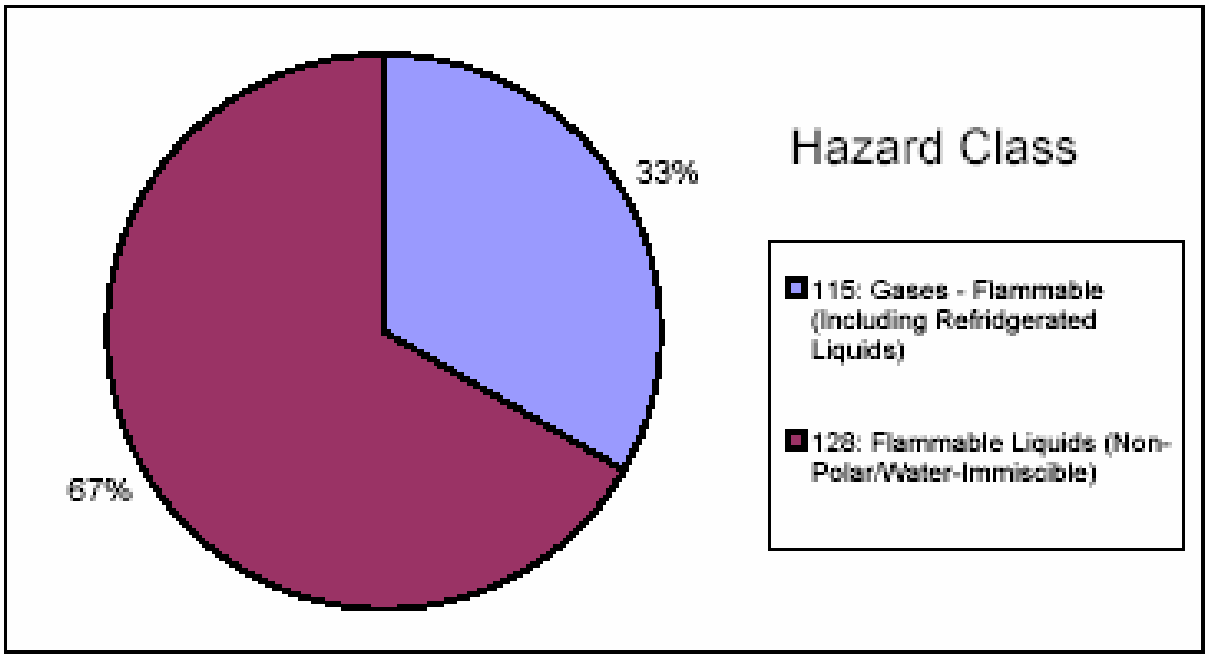


US 5 in Newport (just south of the intersection of US 5 and VT 105)				
8/10/2004	9:00-13:00	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	12:17	Blanchard Oil	H
1075	10a	12:52	Blanchard Oil	H

Block	total trucks	Medium	Heavy
9:00-10:00	5	4	1
10:00-11:00	4	1	3
11:00-12:00	12	8	4
12:00-13:00	12	7	5

US 5 in Newport (just south of the intersection of US 5 and VT 105)				
8/5/2004	9:00-13:00	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	9:30	Blanchard Oil	H

Block	total trucks	Medium	Heavy
9:00-10:00	6	4	2
10:00-11:00	8	4	4
11:00-12:00	8	3	5
12:00-13:00	8	3	5

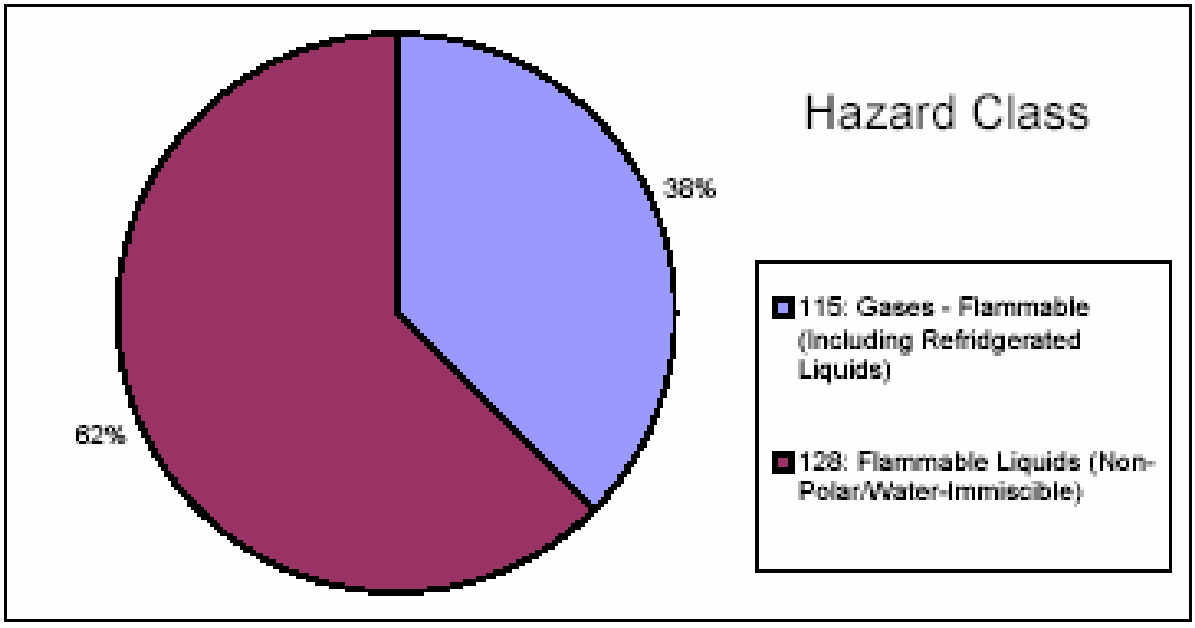


VT 105 in Newport (just west of the intersection with US 5)				
8/10/2004	9:00-13:00	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	9:43	DesJarlais Fuel	H
1223	12a	10:28	Fred's Heating Oil	H
1075	10a	11:03	Blue Flame Gas	H
1223	12a	12:13	Wright's Heating Oil	H

Block	total trucks	Medium	Heavy
9:00-10:00	22	16	6
10:00-11:00	17	8	9
11:00-12:00	25	12	13
12:00-13:00	14	9	5

VT 105 in Newport (just west of the intersection with US 5)				
8/10/2004	9:00-13:00	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1075	10a	9:00	-	M
1223	12a	10:53	Wright's Heating Oil	H
1075	10a	12:02	Blue Flame Gas	H
1223	12a	12:41	Wright's Heating Oil	H

Block	total trucks	Medium	Heavy
9:00-10:00	10	6	4
10:00-11:00	25	17	8
11:00-12:00	19	8	11
12:00-13:00	20	7	13

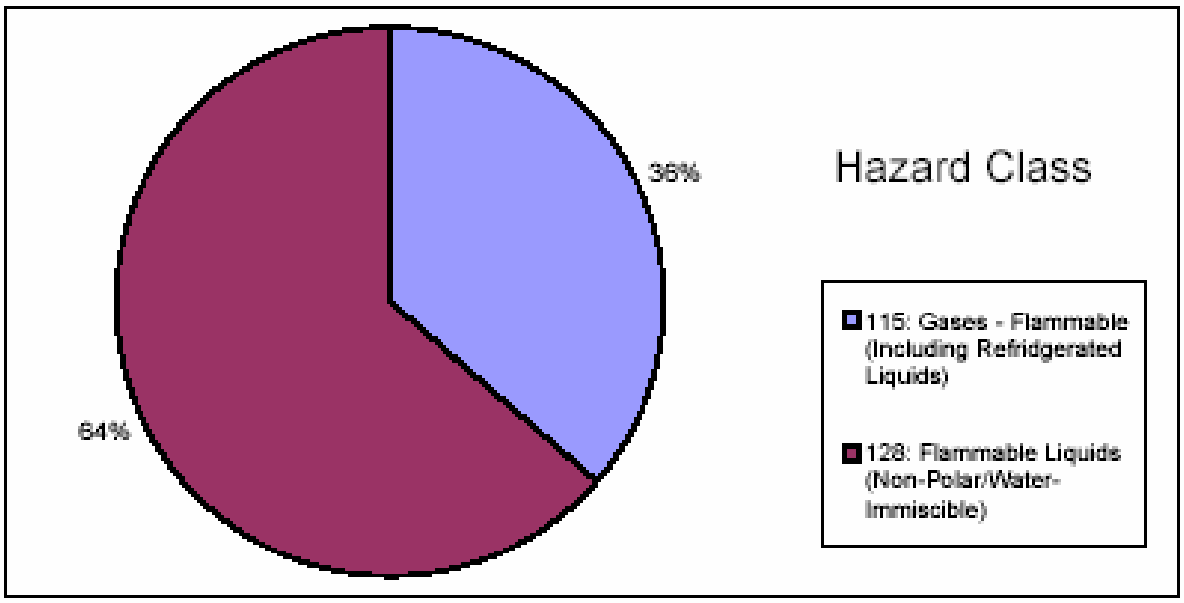


US 5 / VT 105 in Newport (just north of the intersection of US 5 and VT 105)				
8/10/2004	9:00-13:00	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1075	10a	9:00	-	M
1223	12a	10:53	Wright's Heating Oil	H
1075	10a	12:02	Blue Flame Gas	H
1223	12a	12:17	Blanchard Oil	H
1223	12a	12:41	Wright's Heating Oil	H
1075	10a	12:52	Blanchard Oil	H

Block	total trucks	Medium	Heavy
9:00-10:00	12	9	3
10:00-11:00	23	17	6
11:00-12:00	15	9	6
12:00-13:00	20	9	11

US 5 / VT 105 in Newport (just north of the intersection of US 5 and VT 105)				
8/10/2004	9:00-13:00	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	9:30	Blanchard Oil	H
1223	12a	9:43	DesJarlais Fuel	H
1223	12a	10:28	Fred's Heating Oil	H
1075	10a	11:03	Blue Flame Gas	H
1223	12a	12:13	Wright's Heating Oil	H

Block	total trucks	Medium	Heavy
9:00-10:00	25	19	6
10:00-11:00	19	11	8
11:00-12:00	17	8	9
12:00-13:00	10	7	3

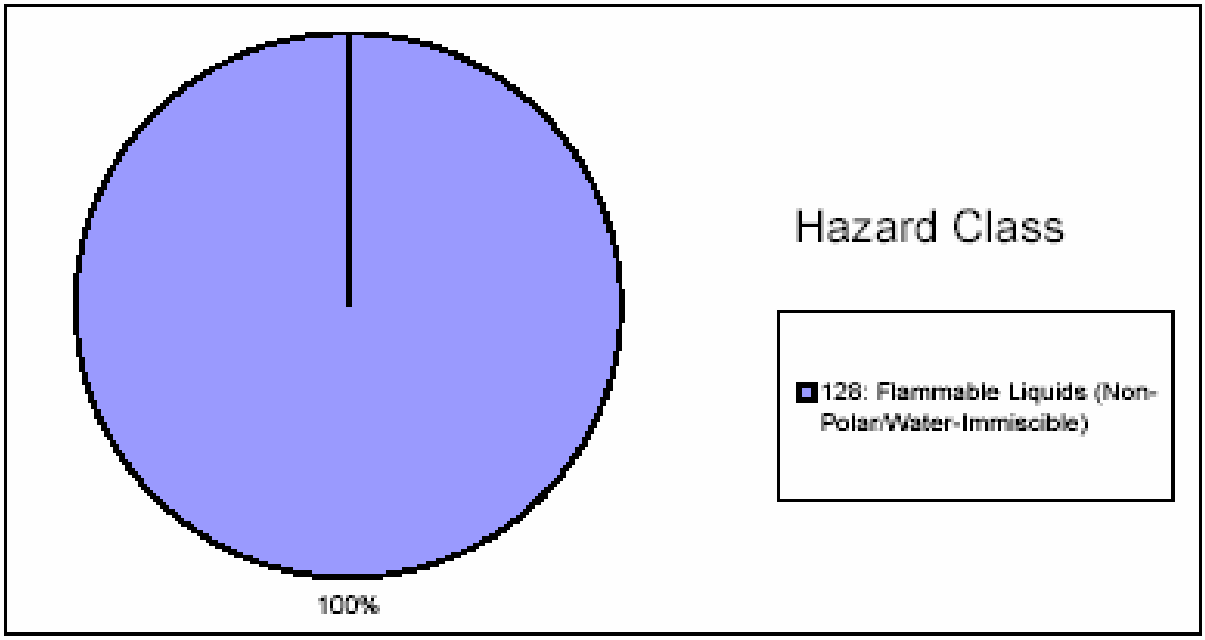


VT 100 in Lowell (just south of intersection with VT 58)				
8/10/2004	14:15-18:15	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	14:24	DesJarlais	H
1223	12a	14:26	Wright's Heating Oil	H
1223	12a	14:45	Oil Supply Corp.	H
1203	12a	15:54	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
14:15-15:15	22	7	15
15:15-16:15	12	2	10
16:15-17:15	11	6	5
17:15-18:15	17	9	8

VT 100 in Lowell (just south of intersection with VT 58)				
8/10/2004	14:15-18:15	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	14:41	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
14:15-15:15	28	9	19
15:15-16:15	19	5	14
16:15-17:15	13	2	11
17:15-18:15	9	2	7

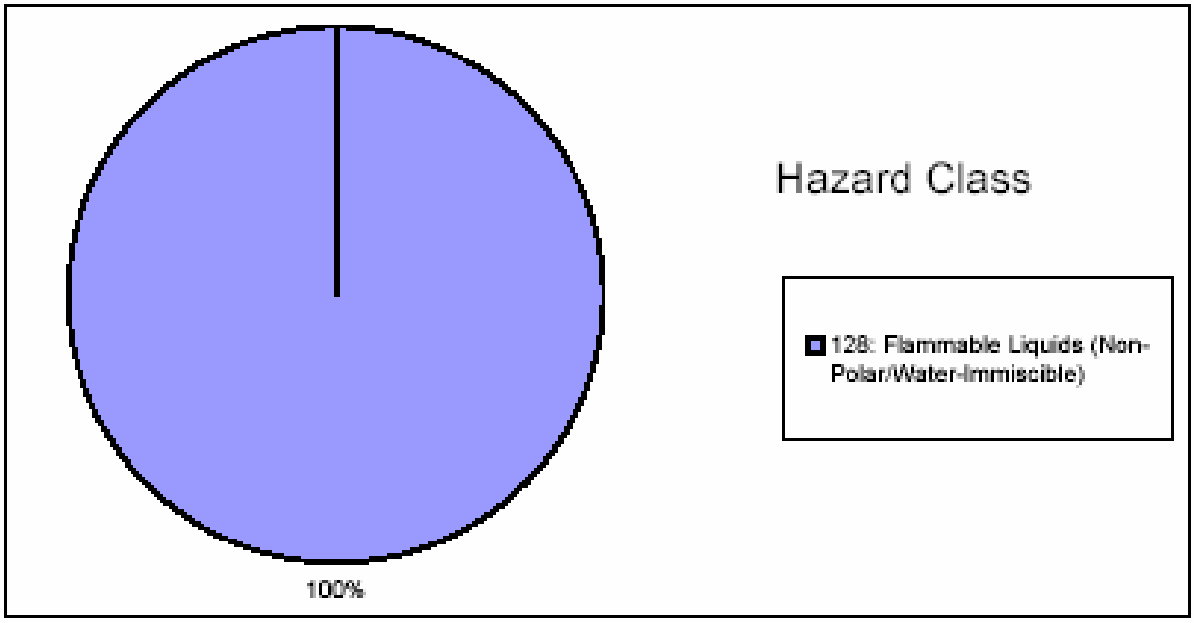


VT 100 in Lowell (just north of intersection with VT 58)				
8/10/2004	14:15-18:15	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	14:24	DesJarlais	H
1223	12a	14:57	Oil Supply Corp.	H
1203	12a	15:54	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
14:15-15:15	10	2	8
15:15-16:15	7	1	6
16:15-17:15	3	3	0
17:15-18:15	10	4	6

VT 100 in Lowell (just north of intersection with VT 58)				
8/10/2004	14:15-18:15	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT

Block	total trucks	Medium	Heavy
14:15-15:15	13	5	8
15:15-16:15	6	1	5
16:15-17:15	8	3	5
17:15-18:15	5	1	4

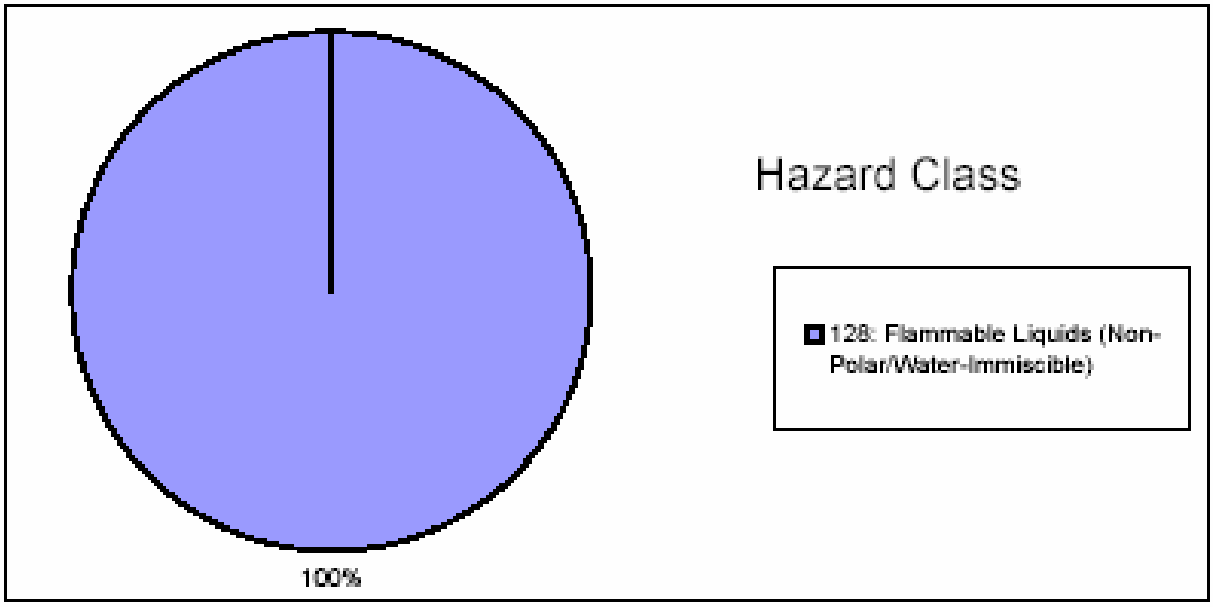


VT 58 in Lowell (just east of intersection with VT 100)				
8/10/2004	14:15-18:15	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	14:26	Wright's Heating Oil	H

Block	total trucks	Medium	Heavy
14:15-15:15	12	5	7
15:15-16:15	9	1	8
16:15-17:15	10	5	5
17:15-18:15	10	7	3

VT 58 in Lowell (just east of intersection with VT 100)				
8/10/2004	14:15-18:15	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	14:41	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
14:15-15:15	17	4	13
15:15-16:15	11	3	8
16:15-17:15	10	4	6
17:15-18:15	5	1	4



US 5 / VT 105 in Newport (just south of the intersection with US 5 truck route)				
8/10/2004	19:00-23:00	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT

Block	total trucks	Medium	Heavy
19:00-20:00	6	5	1
20:00-21:00	2	0	2
21:00-22:00	3	3	0
22:00-23:00	4	3	1

US 5 / VT 105 in Newport (just south of the intersection with US 5 truck route)				
8/10/2004	19:00-23:00	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT

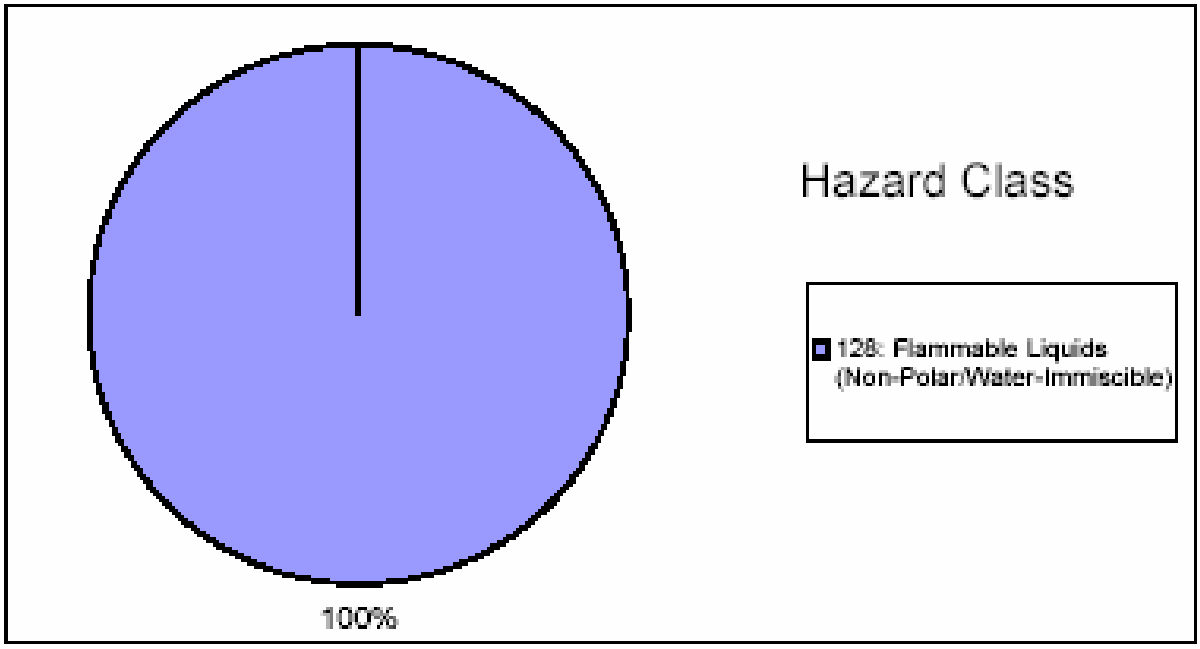
Block	total trucks	Medium	Heavy
19:00-20:00	7	4	3
20:00-21:00	4	4	0
21:00-22:00	2	2	0
22:00-23:00	2	2	0

US 5 / VT 105 in Newport (just north of the intersection with US 5 truck route)				
8/10/2004	19:00-23:00	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	20:22	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
19:00-20:00	8	6	2
20:00-21:00	6	1	5
21:00-22:00	5	3	2
22:00-23:00	6	3	3

US 5 / VT 105 in Newport (just north of the intersection with US 5 truck route)				
8/10/2004	19:00-23:00	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1863	12a	20:32	US Army vehicle	H
1203	12a	21:01	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
19:00-20:00	21	8	13
20:00-21:00	10	7	3
21:00-22:00	7	1	6
22:00-23:00	5	3	2

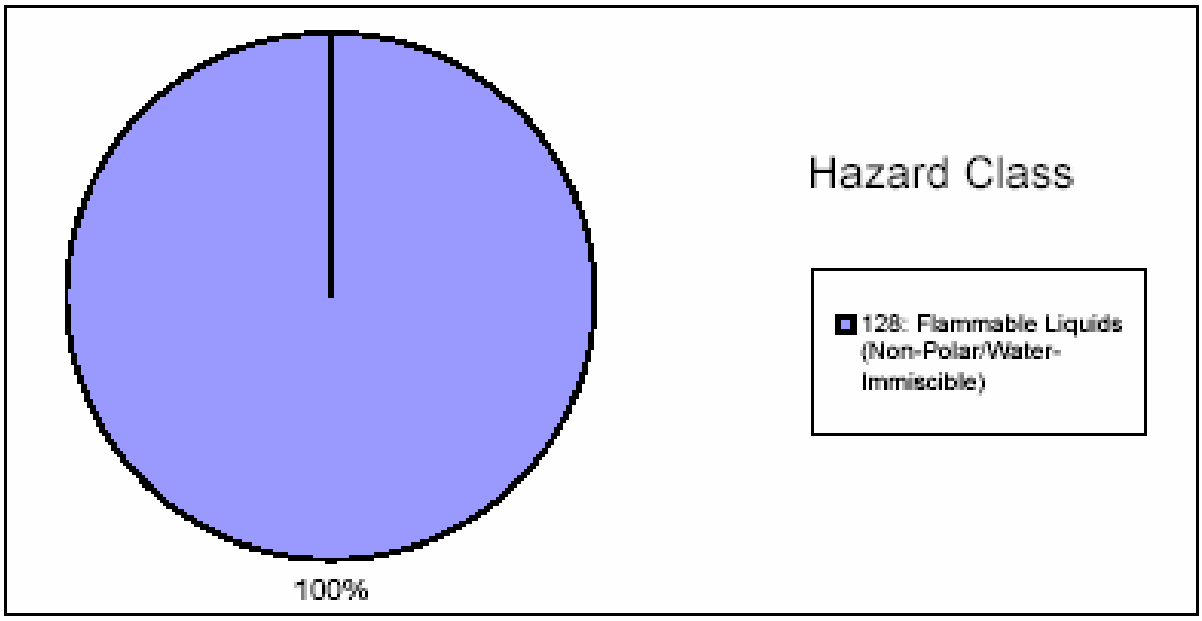


US 5 Truck Route in Newport (just south of the intersection with US 5 / VT105)				
8/10/2004	19:00-23:00	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	20:22	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
19:00-20:00	2	1	1
20:00-21:00	3	1	2
21:00-22:00	4	2	2
22:00-23:00	2	0	2

US 5 Truck Route in Newport (just south of the intersection with US 5 / VT105)				
8/10/2004	19:00-23:00	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1863	12a	20:32	US Army vehicle	H
1203	12a	21:01	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
19:00-20:00	14	4	10
20:00-21:00	6	3	3
21:00-22:00	7	1	6
22:00-23:00	3	1	2

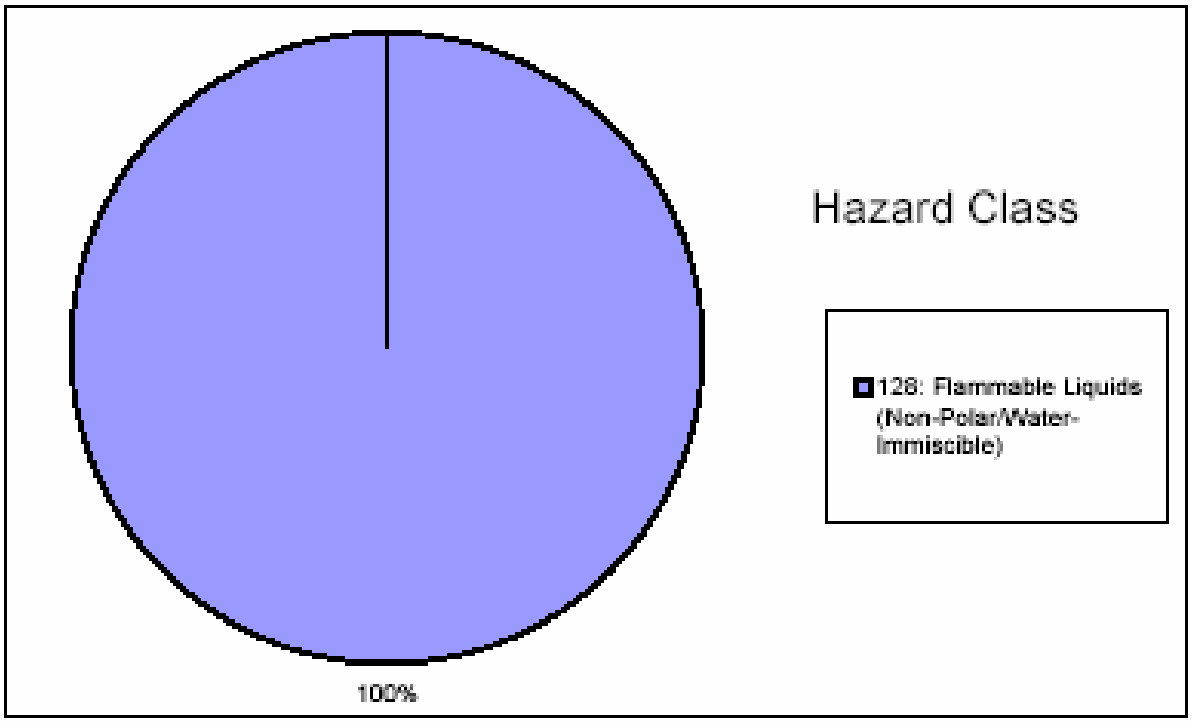


US 5 / VT 105 in Newport (just south of the intersection with US 5 truck route)				
8/11/2004	3:30-7:30	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	7:26	Wright's Heating Oil	H

Block	total trucks	Medium	Heavy
3:30-4:30	0	0	0
4:30-5:30	2	1	1
5:30-6:30	12	5	7
6:30-7:30	28	10	18

US 5 / VT 105 in Newport (just south of the intersection with US 5 truck route)				
8/11/2004	3:30-7:30	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	4:47	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
3:30-4:30	2	2	0
4:30-5:30	5	2	3
5:30-6:30	2	2	0
6:30-7:30	23	15	8

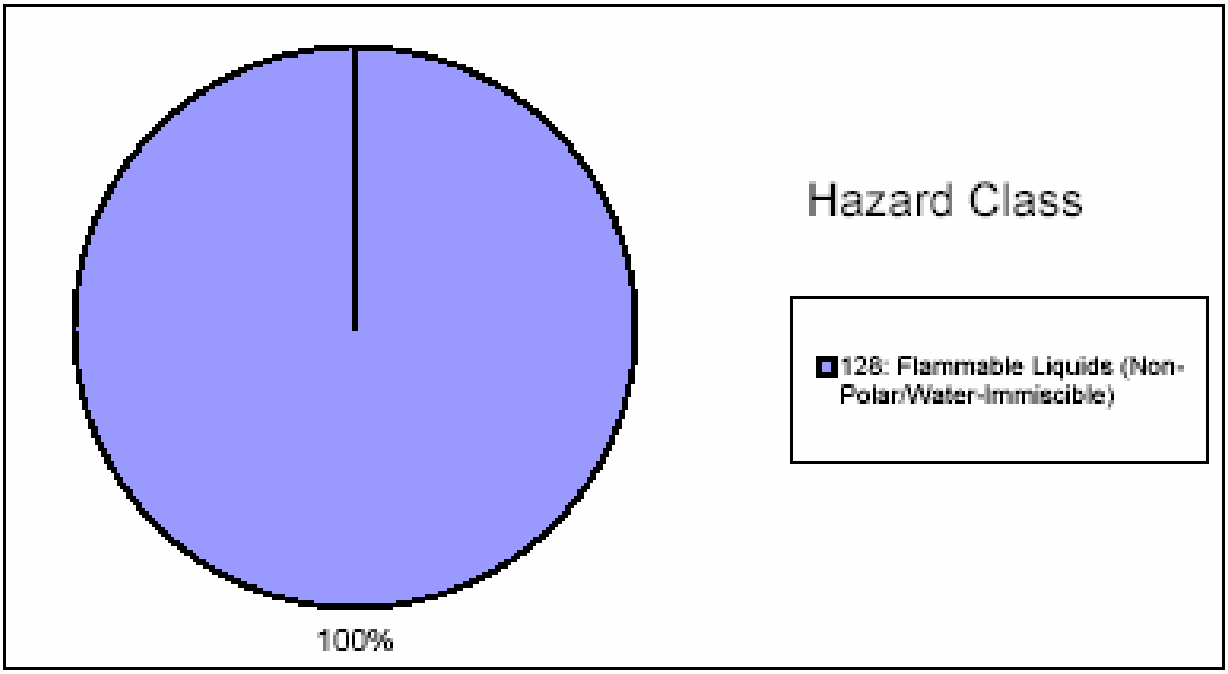


US 5 / VT 105 in Newport (just north of the intersection with US 5 truck route)				
8/11/2004	3:30-7:30	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	5:38	P&H Transportation	H
1223	12a	7:28	Wright's Heating Oil	H

Block	total trucks	Medium	Heavy
3:30-4:30	2	2	0
4:30-5:30	8	2	6
5:30-6:30	19	5	14
6:30-7:30	45	15	30

US 5 / VT 105 in Newport (just north of the intersection with US 5 truck route)				
8/11/2004	3:30-7:30	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1223	12a	4:47	Fred's Heating Oil	H
1203	12a	4:52	P&H Transportation	H
1203	12a	7:19	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
3:30-4:30	5	2	3
4:30-5:30	10	3	7
5:30-6:30	9	4	5
6:30-7:30	36	17	19

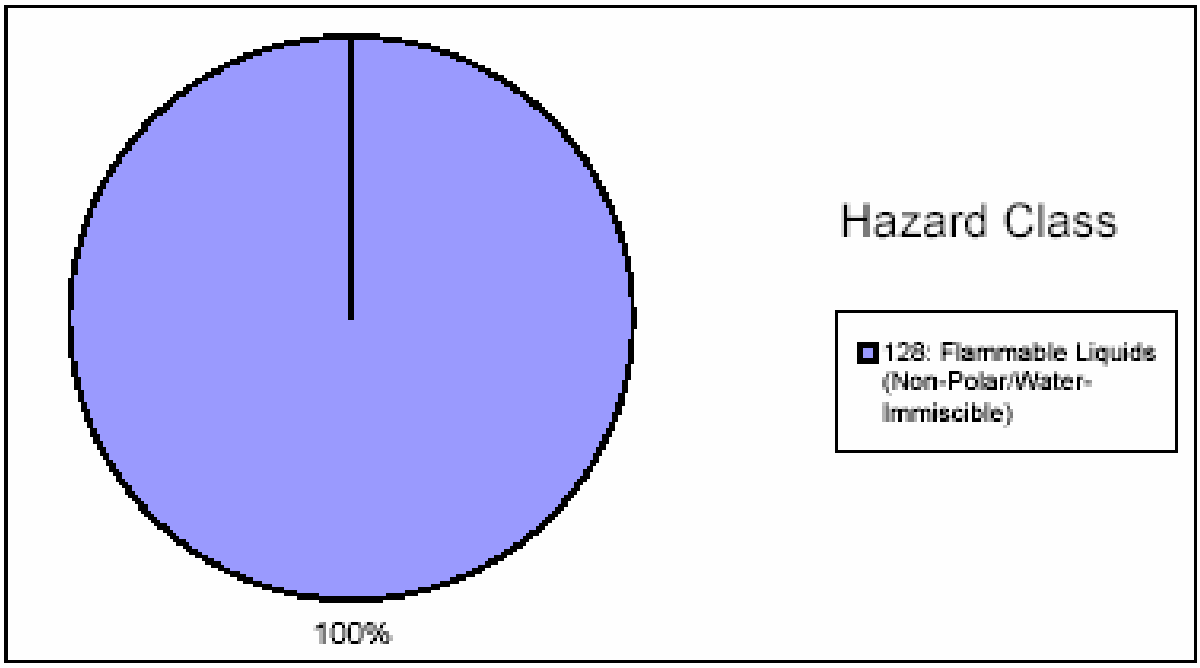


US 5 Truck Route in Newport (just south of the intersection with US 5 / VT105)				
8/11/2004	3:30-7:30	Jolyon	SB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	5:38	P&H Transportation	H

Block	total trucks	Medium	Heavy
3:30-4:30	2	2	0
4:30-5:30	6	1	5
5:30-6:30	8	1	7
6:30-7:30	21	7	14

US 5 Truck Route in Newport (just south of the intersection with US 5 / VT105)				
8/11/2004	3:30-7:30	Jolyon	NB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	4:52	P&H Transportation	H
1203	12a	7:19	Fred's Heating Oil	H

Block	total trucks	Medium	Heavy
3:30-4:30	3	0	3
4:30-5:30	5	1	4
5:30-6:30	8	3	5
6:30-7:30	19	6	13

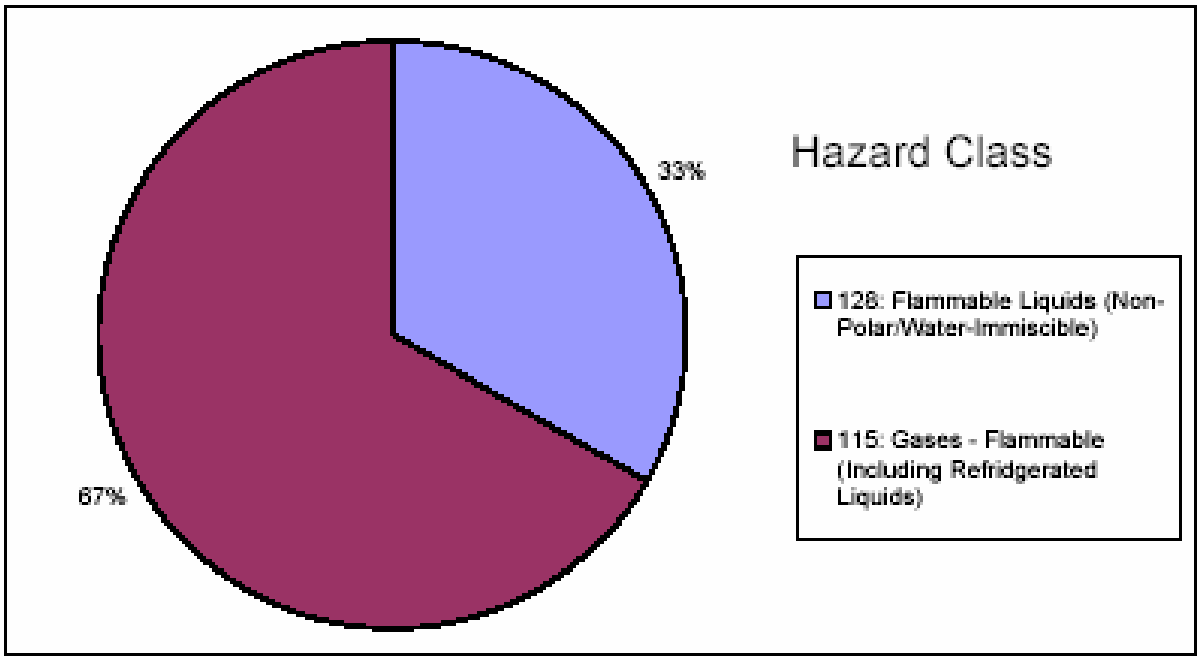


US 2 in W. Danville (just east of the intersection with VT 15)				
8/24/2004	3:30-7:30	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT

Block	total trucks	Medium	Heavy
3:30-4:30	7	2	5
4:30-5:30	6	1	5
5:30-6:30	7	3	4
6:30-7:30	18	3	15

US 2 in W. Danville (just east of the intersection with VT 15)				
8/24/2004	3:30-7:30	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	5:23	Irving	H
1075	10a	5:49	Northern Gas Transport	H
1075	10a	6:59	Abenaqui	H

Block	total trucks	Medium	Heavy
3:30-4:30	6	3	3
4:30-5:30	8	2	6
5:30-6:30	16	3	13
6:30-7:30	18	10	8



US 2 in W. Danville (just east of the intersection with VT 15)				
8/25/2004	19:00-23:00	Jolyon	EB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1824, 3266	19a	19:07	-	H
1203	12a	20:57	Irving	H
1203	12a	22:38	Gulf	H

Block	total trucks	Medium	Heavy
19:00-20:00	17	9	8
20:00-21:00	5	4	1
21:00-22:00	5	2	3
22:00-23:00	4	0	4

US 2 in W. Danville (just east of the intersection with VT 15)				
8/25/2004	19:00-23:00	Jolyon	WB	
ID	PLACARD	TIME	COMPANY	WEIGHT
1203	12a	20:28	Gulf	H
1203	12a	22:52	Irving	H

Block	total trucks	Medium	Heavy
19:00-20:00	9	5	4
20:00-21:00	7	2	5
21:00-22:00	7	3	4
22:00-23:00	7	0	7