

NOVEMBER 2018



**WIM #32  
US 52, MP 66.0  
ORONOCO, MN**

**MONTHLY  
REPORT**



*Your Destination...Our Priority*



## WIM Site Location

WIM #32 is located on US 52 near Oronoco in Olmsted county.

## System Operation

WIM #32 was operational for the entire month of November 2018. Volume was computed using all monthly data.

## System Calibration

WIM #32 was most recently calibrated on 2017-05-05. Table 1 summarizes the front axle weights of class 9s by lane <sup>1</sup>. Table 1 indicates that the class 9 front axle weights were all within +/- 9% of baseline calibration values for all lanes except lane 3. Figure 1 shows the distribution of gross vehicle weights (GVW) in Class 9 vehicles at this site for the last 12 months of operation <sup>2</sup>. Figure 2 depicts the average front axle weight as a percent difference from the first full month following calibration.

## Summary of Volume Statistics

Total Monthly Volume: 807078 | Passenger Vehicles: 742577 | Heavy Commercial Vehicles: 64501

Monthly Average Daily Traffic (MADT): 31041 | Monthly Heavy Commercial Average Daily Traffic (MHCADT): 2150

See Table 2 for vehicle class breakdown

## Passenger Vehicles (PVs) and Heavy Commercial Vehicles (HCVs)

**Volume trends.** NB vehicles typically reached highest volume levels on Fridays, with lowest volumes reported on Mondays. SB vehicles typically reached highest volume levels on Fridays, with lowest volumes reported on Tuesdays (see Figure 3 and 4).

### Passenger Vehicles (PVs)

**Volume trends.** On an average 24-hour day (see Figure 5), NB PVs generally reached peak volume levels between 03 PM and 05 PM. Similarly, SB PVs peaked in volume between 07 AM and 05 PM

### Heavy Commercial Vehicles (HCVs)

**Volume trends.** On an average 24-hour day, HCVs traveling NB typically reached peak volume levels between 03 PM and 05 PM, while volume going SB peaked between 07 AM and 05 PM. See Figure 6. Out of all HCVs, the two highest traffic volumes were generated by Class 9's and Class 5's.

## Overweight HCVs

**Volume trends.** Of a total of 64501 HCVs, 1165 of them were overweight<sup>3</sup>. These overweight HCVs contributed to 0.1% of total monthly volume, and 1.6% of total monthly HCV volume. NB overweight vehicles typically reached highest numbers on Wednesdays, with lowest volumes reported on Sundays. SB overweight vehicles tended to reach highest volumes on Mondays, with lowest volumes reported on Sundays. See Figure 3 .

The top two overweight violators by class were the class 9 and class 10 vehicles . Overall, overweight vehicles tended to reach peak volume concentrations during typical business hours, with 70.5% of all overweight vehicles traveling NB this month (see Figure 7 & 8). Figure 9 shows the number of vehicles exceeding 88,000 pounds that crossed the WIM over the last 12 months. The highest number of 88,000+ vehicles within the last 12 months occurred in June.

WIMs are currently used as a screening tool for weight enforcement, and it is estimated that the WIM scales can measure gross vehicle weights (GVW) within 90-95% of static weight scale measurements. Due to the possibility of measurement error, vehicles exceeding 10% of their legal weight limits (or 1.1 times their legal weight limits) are considered overweight in this report<sup>4</sup>.

Using normal load limits ,68 NB vehicles exceeded 88,000 pounds (47 vehicles were Class 13's; 12 vehicles were Class 10's). Of vehicles traveling SB,

57 NB vehicles exceeded 88,000 pounds (42 vehicles were Class 13's; 10 vehicles were Class 10's). Refer to Table 3 for the Top 10 highest recorded GVWs from Classes 9 and 10 from November 2018.

**Loaded vs. Unloaded HCVs.** Figure 10 shows the GVW distributions of Class 9s and 10s in November 2018. Data suggests that there were greater numbers of fully\_loaded Class 9's than empty Class 9's traveling NB, while there were more empty Class 9's than fully\_loaded traveling SB. Data also suggests that there were more fully\_loaded Class 10's than empty traveling in the NB direction. In the SB direction, there were more fully\_loaded class 10 vehicles.

**Freight Totals.** A total of 490273 tons of freight was recorded to have crossed the WIM. More freight was shipped NB (53.3%) than SB (46.7%). See Table 4 and Figure 11 for more freight information.

## Infrastructure Considerations

**Bridge.** Bridge No. 55X13 (a box culvert) is approximately 1/3 of a mile north of WIM #32, and Bridge No. 8960 (a box culvert) is approximately 1 ¾ miles south of WIM #32. WIM #32 recorded a total of 807078 vehicles with a combined GVW of 6160283 kips (1 kip = 1,000 pounds = 0.5 tons) in November 2018. See Table 5 and Figures 12-13 for GVW information by vehicle class and lane.

**Pavement Design.** A total of 34973 equivalent single axle loads (ESALs) passed over the pavement at this site. Approximately 54.8% of all ESALs were recorded NB while 45.2% was observed SB. In particular, 76% of all ESALs were generated by the Class 9's (Class 9's were also responsible for generating 35% of total GVW observed this month). See Table 6

and Figures 14-15 for more information on ESALs (Table 6 also provides flexible ESAL factors for each vehicle class using a terminal serviceability of 2.5 and a structural number of 5).

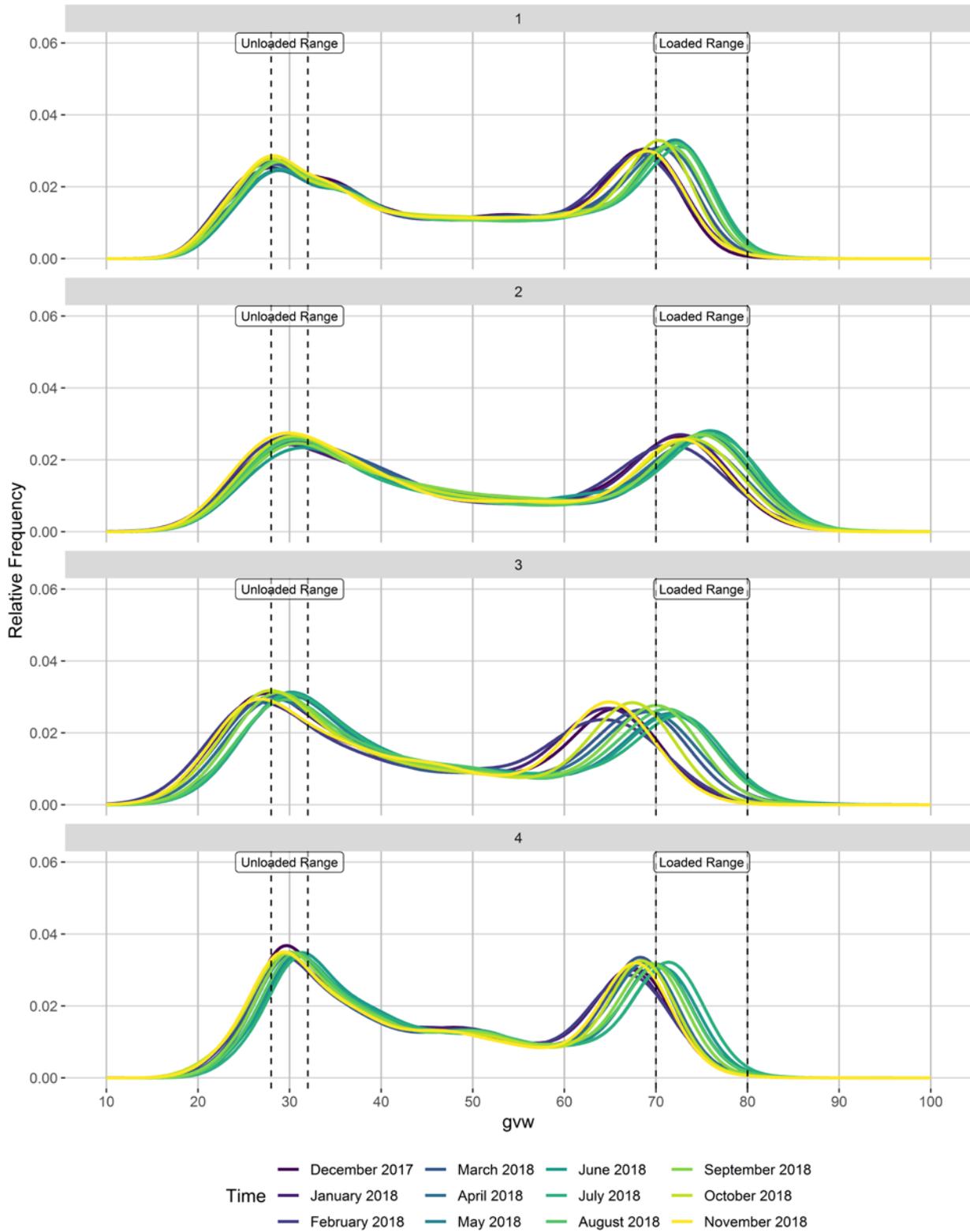
*WIM monthly reports can be found at: <http://www.dot.state.mn.us/traffic/data/reports-monthly-wim.html>*

MnDOT's vehicle classification scheme and vehicle class groupings for traffic forecasting can be found at: <http://www.dot.state.mn.us/traffic/data/data-products.html#weight>

- <sup>1</sup> Front axle weights of Class 9s are monitored on a monthly basis to assure performance between calibrations. The current goal of the WIM scale calibration is to have each individual axle weight stay within a range of ±9% of baseline calibration values
- <sup>2</sup> Previous WIM research indicates that unloaded Class 9s typically weigh 28-32 kips, while loaded Class 9s generally fall in the 70-80 kip range. More recent data from several WIM sites suggests that the unloaded Class 9 range may have moved a little higher over time (due to increased presence of sleeper cabs, etc.), although these ranges are also thought to be site-specific.
- <sup>3</sup> An HCV is considered overweight during normal load limits in this report if they satisfy any of the following 1) exceed a gross vehicle weight (GVW) of 80,000 pounds, 2) exceed any of the legal weight maximums on any axle configurations (legal maximums are: single axle = 20,000 pounds; tandem axles spaced 8' or less = 34,000 pounds; tridem axles spaced 9' or less = 43,000 pounds; quad axles spaced 13' or less = 51,000 pounds). Monthly reports use this standard regardless of the time of year however, the Winter Load Increase (WLI) allows a 10% across the board increase in axle and gross vehicle weights without a permit on US, state routes, and county roads. An HCV is considered overweight during Winter Load Increase(WLI) if they satisfy any of the following 1) exceed a gross vehicle weight (GVW) of 88,000 pounds, 2) exceed any of the legal weight maximums on any axle configurations (legal maximums are: single axle = 22,000 pounds; tandem axles spaced 8' or less = 37,400 pounds; tridem axles spaced 9' or less = 47,300 pounds; quad axles spaced 13' or less = 56,100 pounds). An overweight HCV is only included once in the overweight volume calculations regardless of how many of the aforementioned conditions are violated. For information on MN weight limit dates and statutes: [http://www.mrr.dot.state.mn.us/research/seasonal\\_load\\_limits/sllindex.asp](http://www.mrr.dot.state.mn.us/research/seasonal_load_limits/sllindex.asp)
- <sup>4</sup> For example, Class 9s and 10s can legally have gross vehicle weights up to 80,000 lbs (with the exception of permitted loads) during normal load limits. To account for measurement error on the WIM scales, those exceeding 10% of the legal GVW maximum (or 1.1 times the legal GVW) should be screened (e.g., 80,000 lbs + 8,000 lbs = 88,000 lbs). Similarly during WLI vehicles weighing 96,800 lbs should be screened.

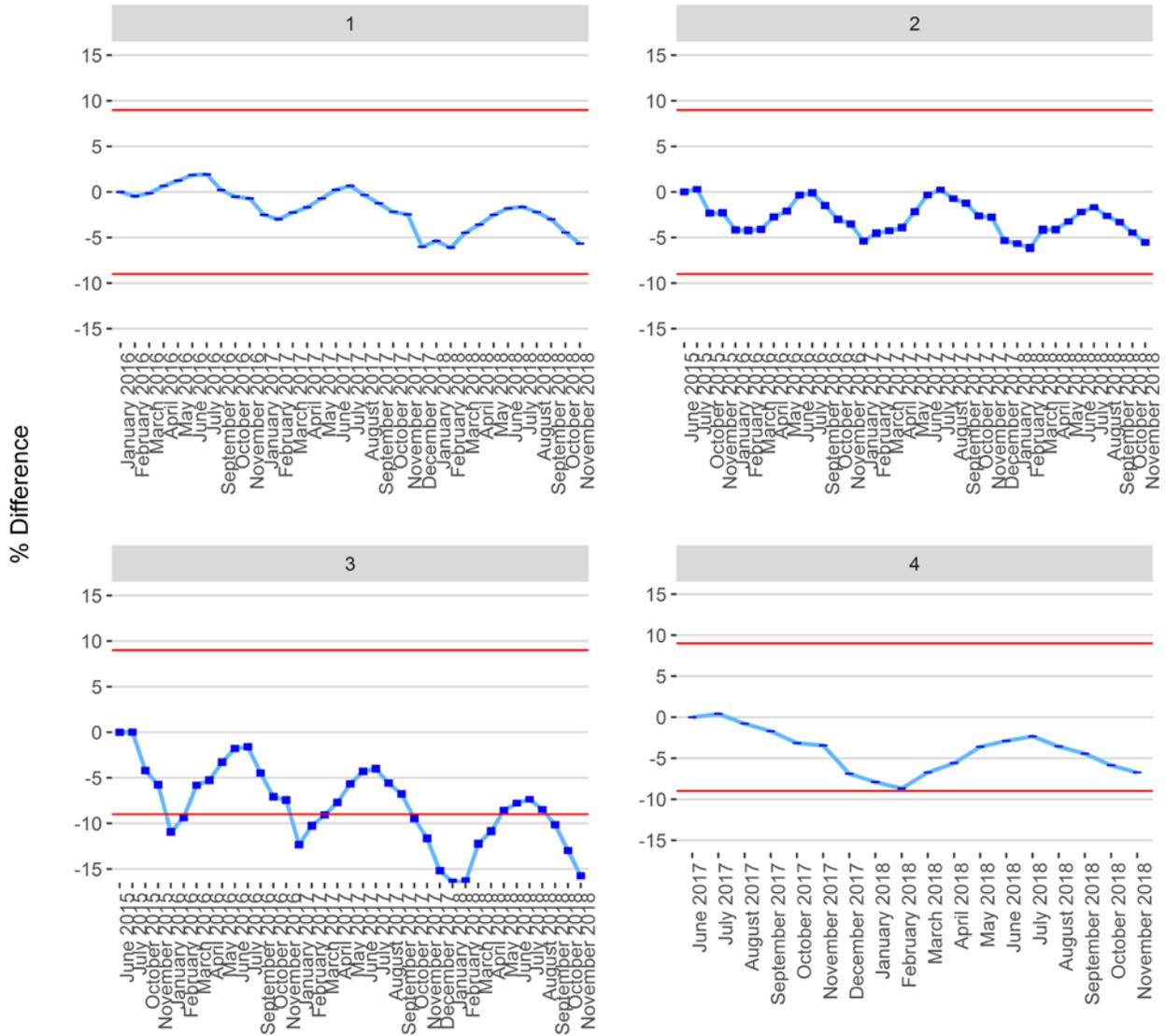
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Figure 1 - Monthly Class 9 GVW Histogram



Months that have not passed QC parameters are not displayed

Figure 2 - Percent Difference of Front Axle Weight from Last Calibration (+/- 95% CI)



Months that have not passed QC parameters are not displayed

Figure 2 - Average Vehicle Volume vs. Day of the Week

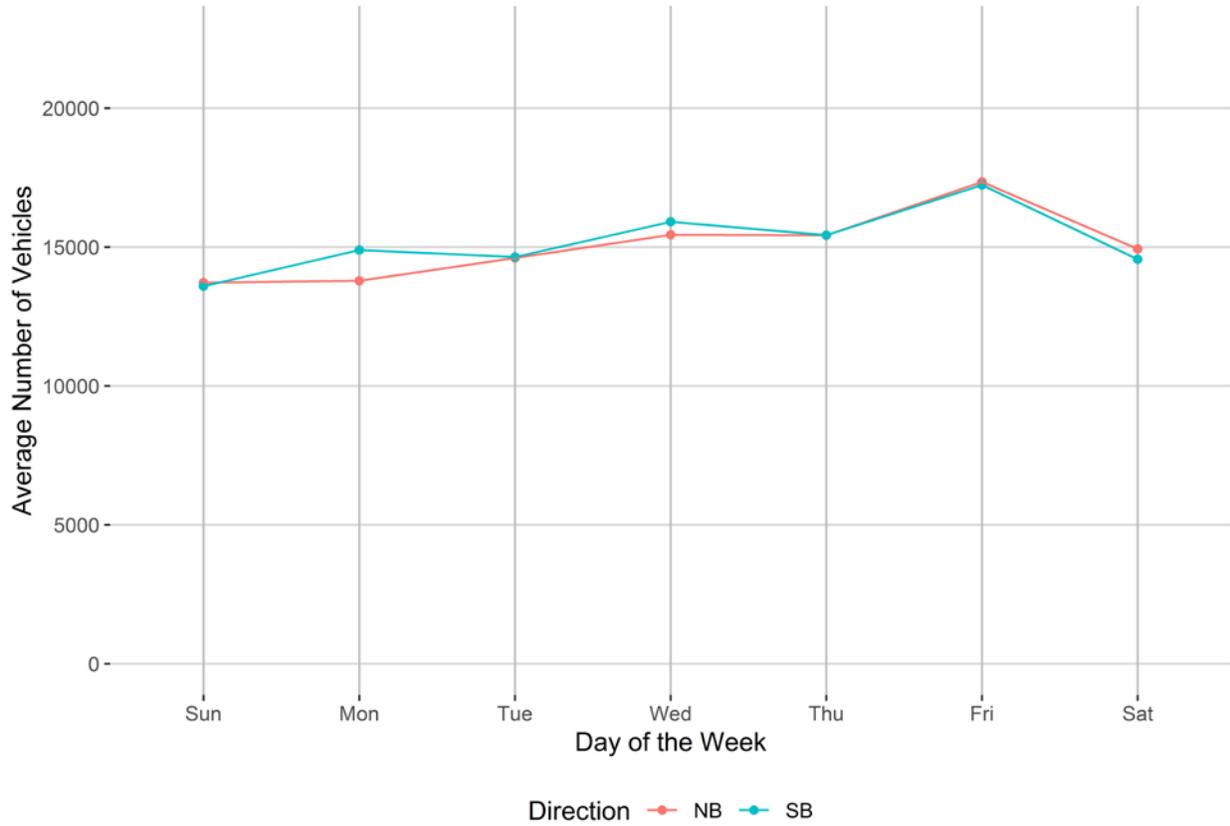


Figure 3 - Average Overweight Vehicle Volume vs. Day of the Week

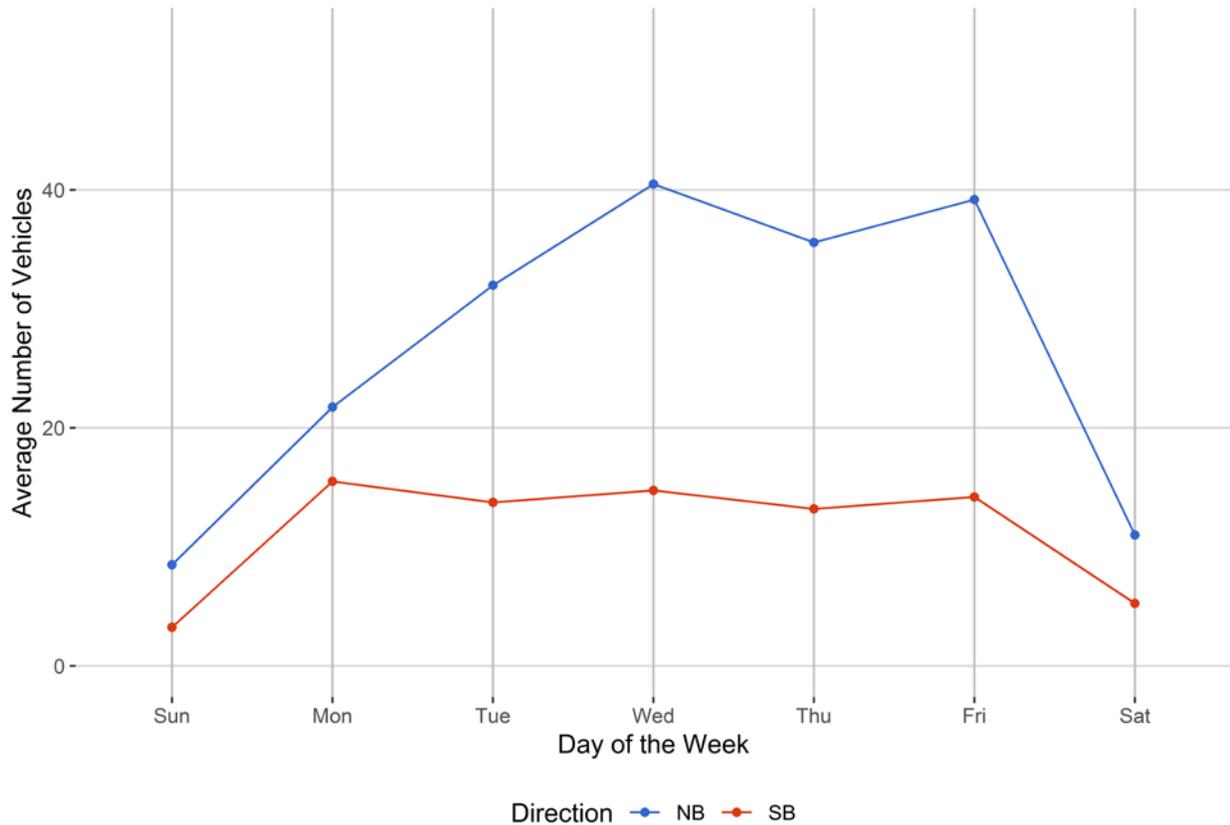


Figure 4 - Passenger Vehicles vs. Hour of the Day

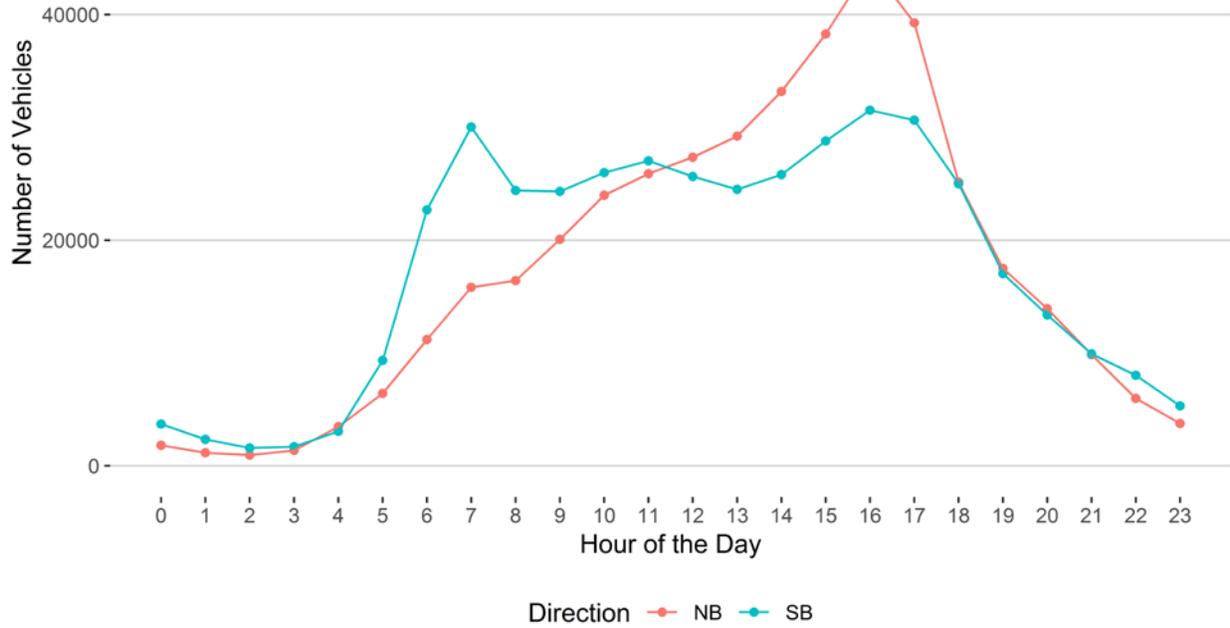


Figure 5 - Heavy Commercial Vehicles vs. Hour of the Day

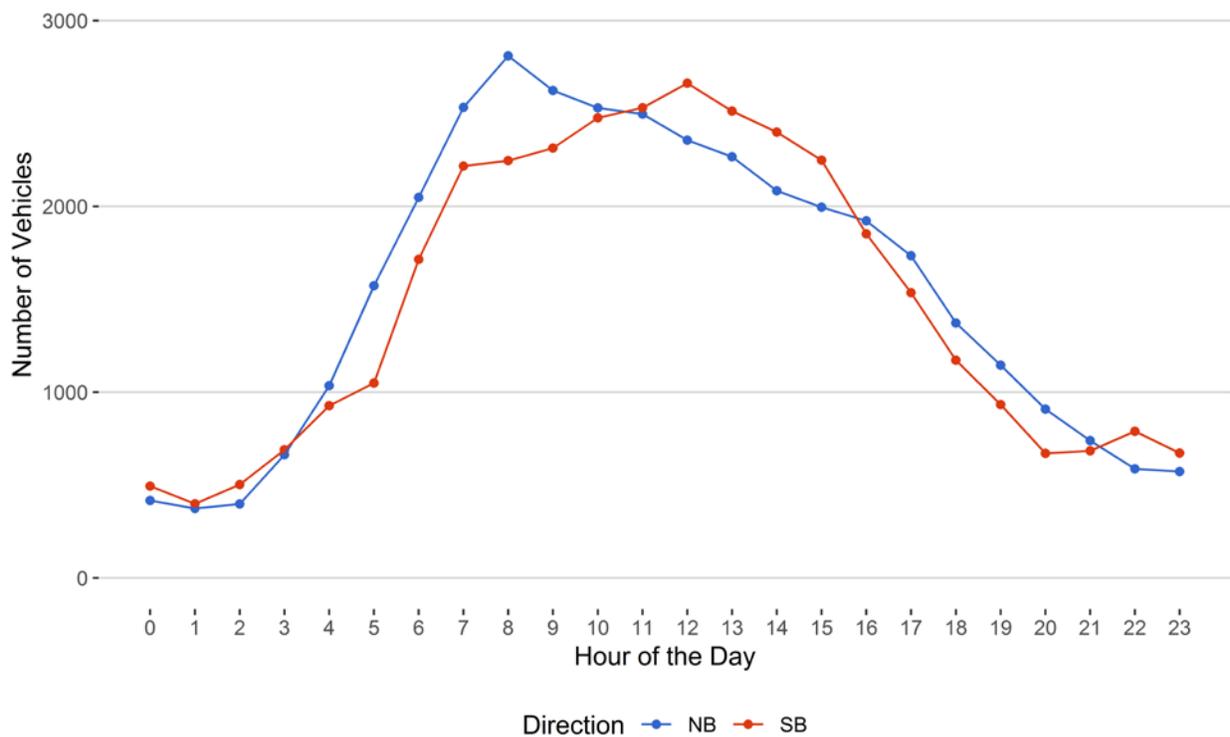


Figure 6 - Overweight Vehicles by Class vs. Hour of the Day

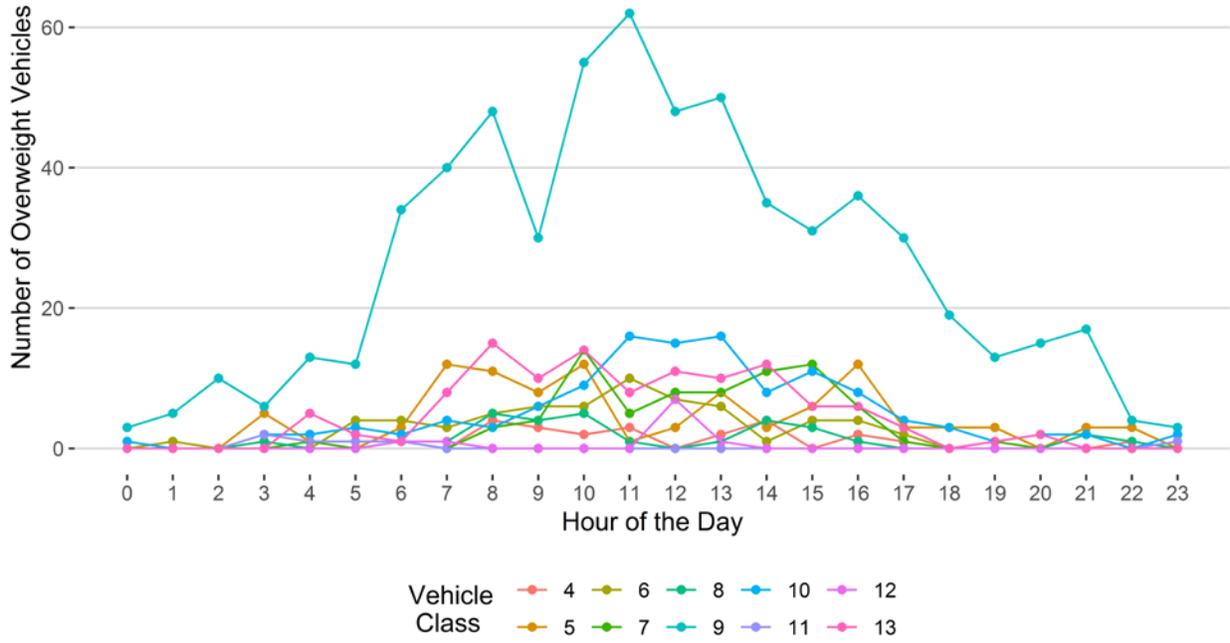


Figure 7 - Overweight Vehicles by Direction  
Hour of the Day

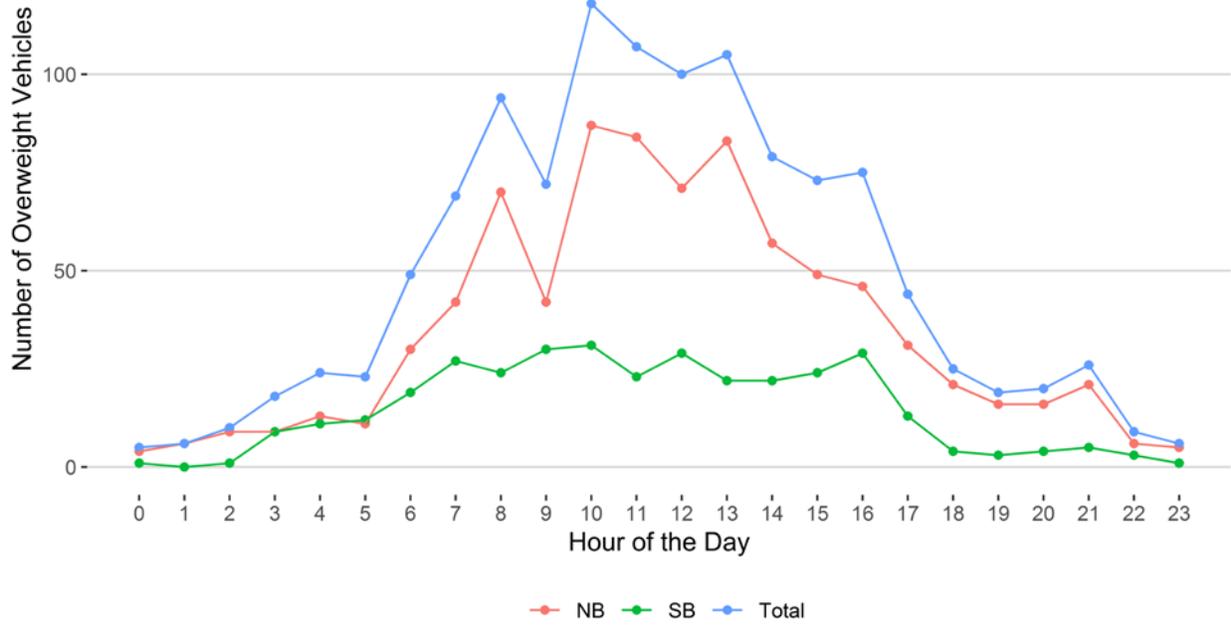
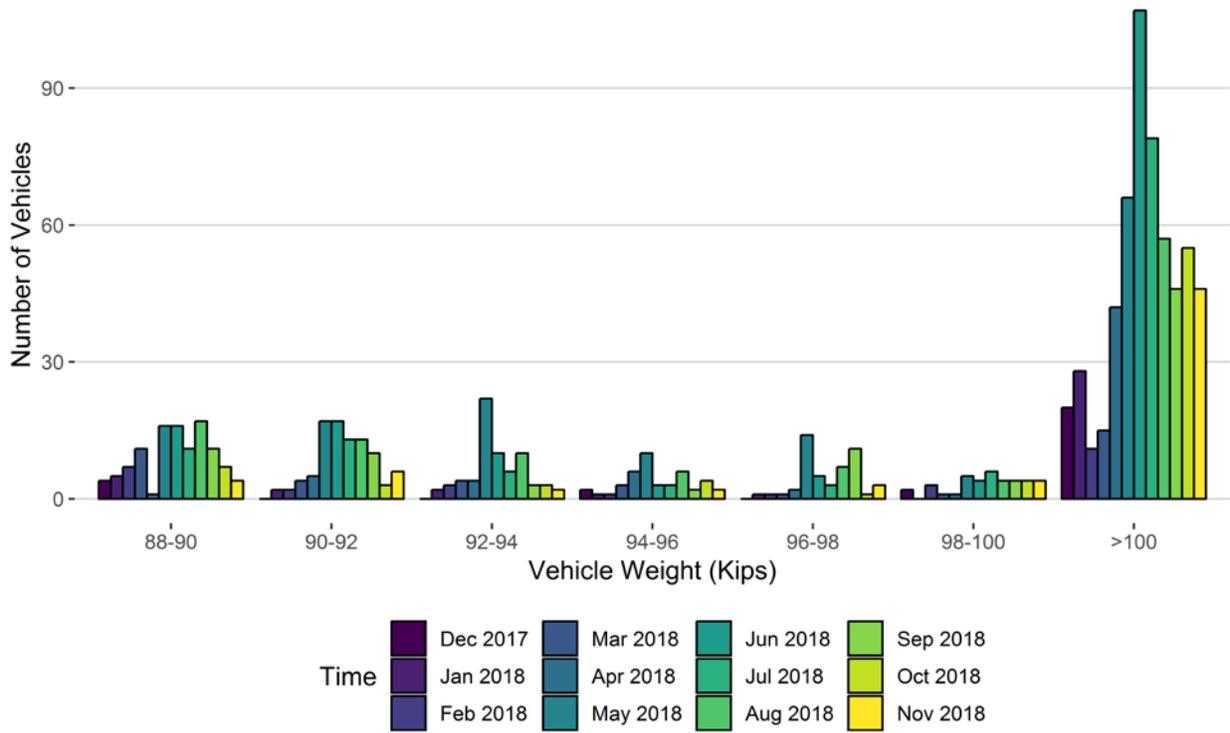
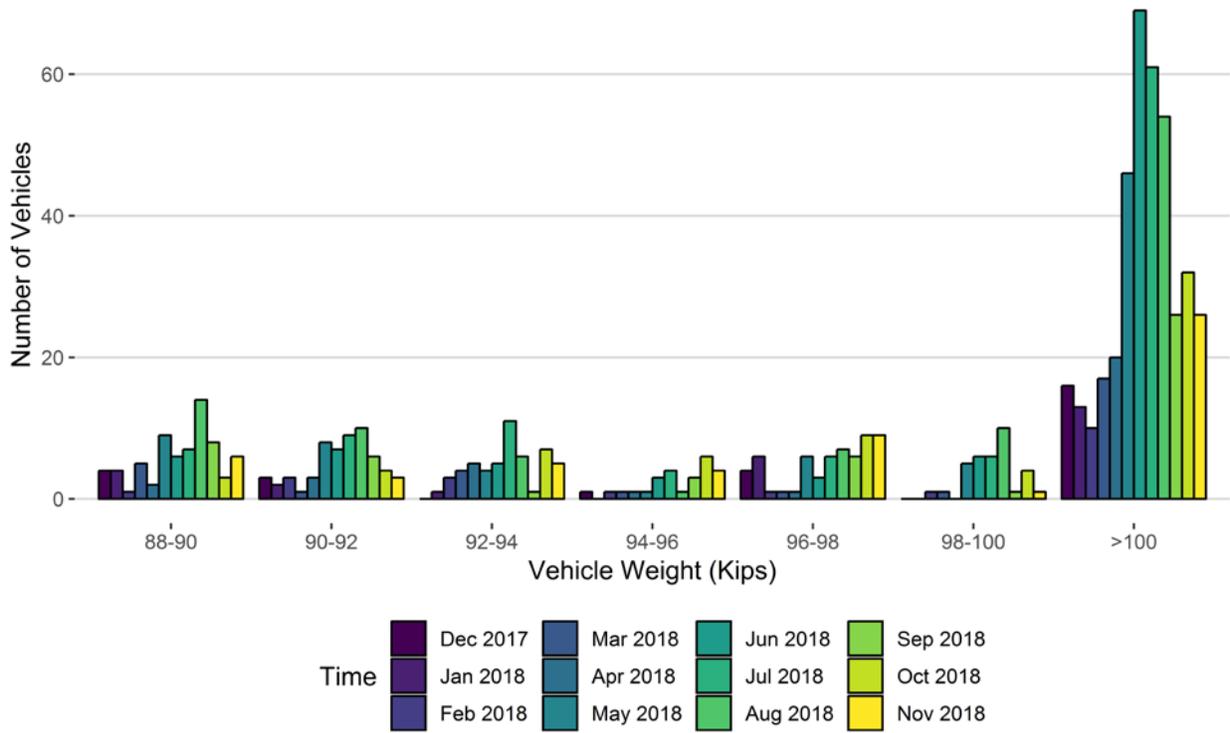


Figure 8 - Histogram of NB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018
88-90	4	5	7	11	1	16	16	11	17	11	7	4
90-92	0	2	2	4	5	17	17	13	13	10	3	6
92-94	0	2	3	4	4	22	10	6	10	3	3	2
94-96	2	1	1	3	6	10	3	3	6	2	4	2
96-98	0	1	1	1	2	14	5	3	7	11	1	3
98-100	2	0	3	1	1	5	4	6	4	4	4	4
>100	20	28	11	15	42	66	107	79	57	46	55	46
Total	28	39	28	39	61	150	162	121	114	87	77	67

Figure 8 - Histogram of SB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018
88-90	4	4	1	5	2	9	6	7	14	8	3	6
90-92	3	2	3	1	3	8	7	9	10	6	4	3
92-94	0	1	3	4	5	4	5	11	6	1	7	5
94-96	1	0	1	1	1	1	3	4	1	3	6	4
96-98	4	6	1	1	1	6	3	6	7	6	9	9
98-100	0	0	1	1	0	5	6	6	10	1	4	1
>100	16	13	10	17	20	46	69	61	54	26	32	26
Total	28	26	20	30	32	79	99	104	102	51	65	54

Figure 8 - Class 9's and 10's by Direction vs Gross Vehicle Weight

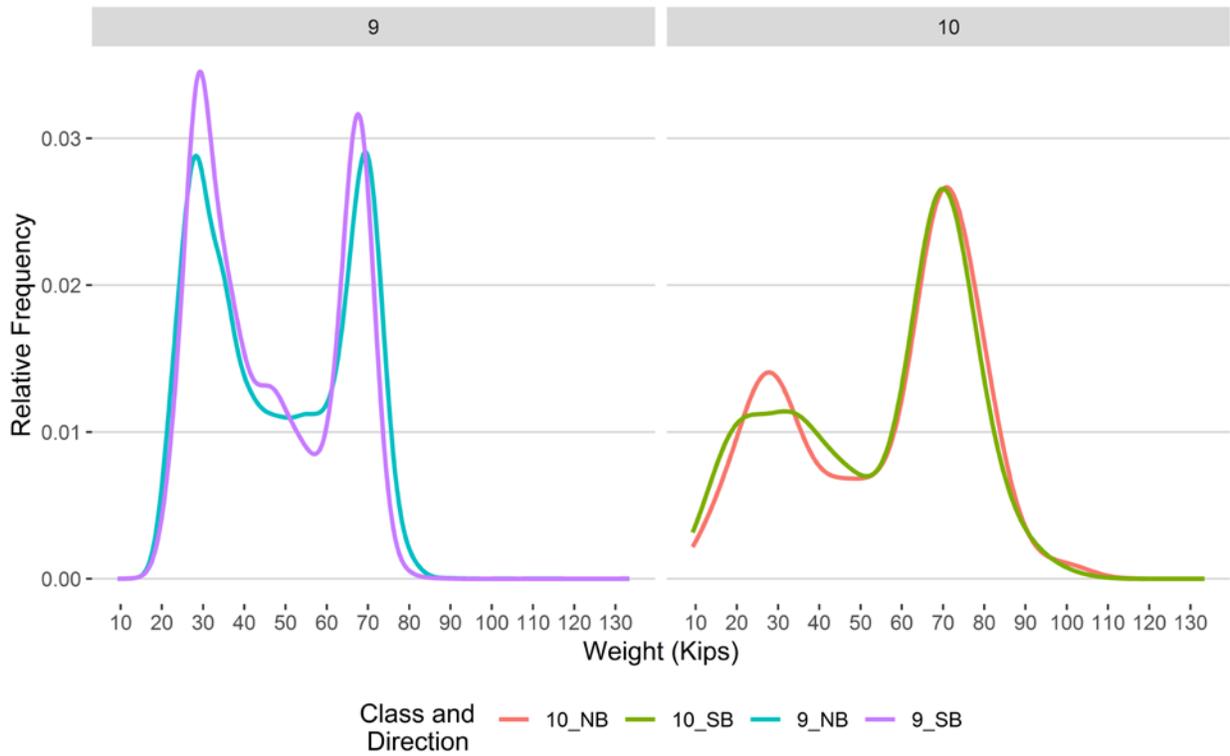


Figure 9 - Freight Percentage by Direction and Class

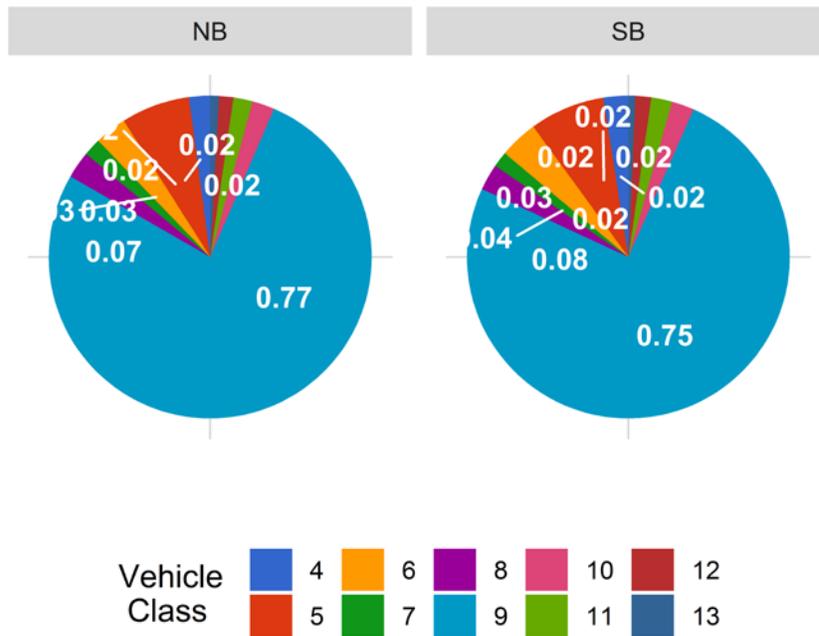


Figure 10 - Total Gross Vehicle Weight Percentage by Class and Lane

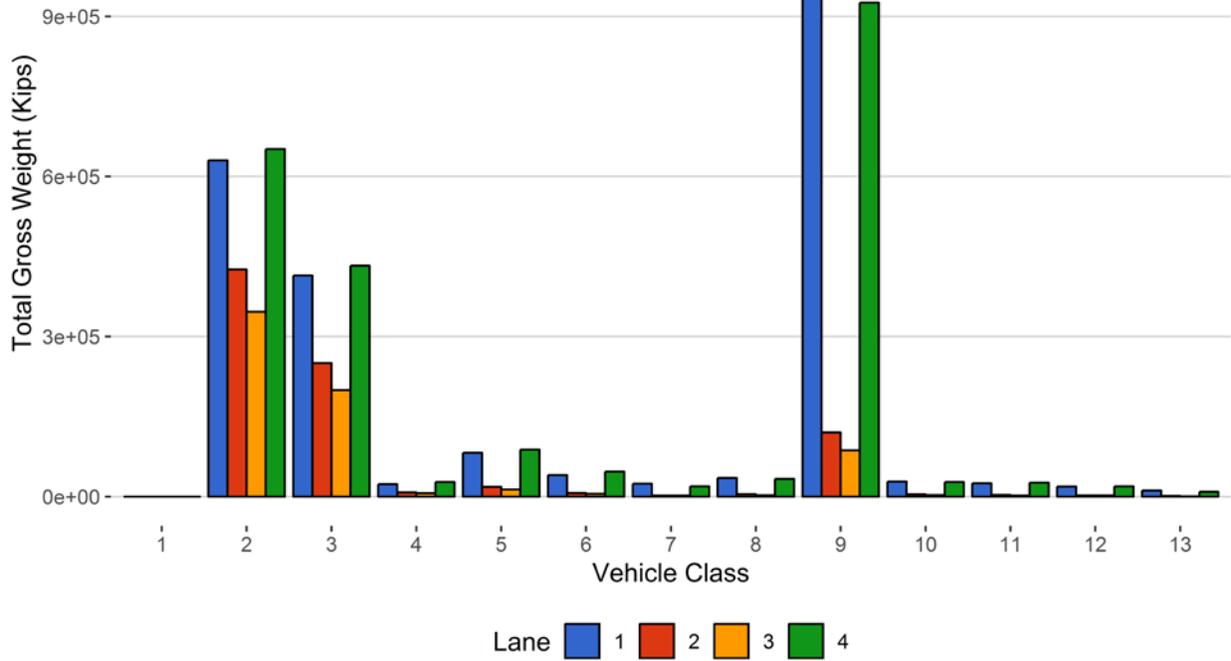


Figure 11 - Total Gross Vehicle Weight t

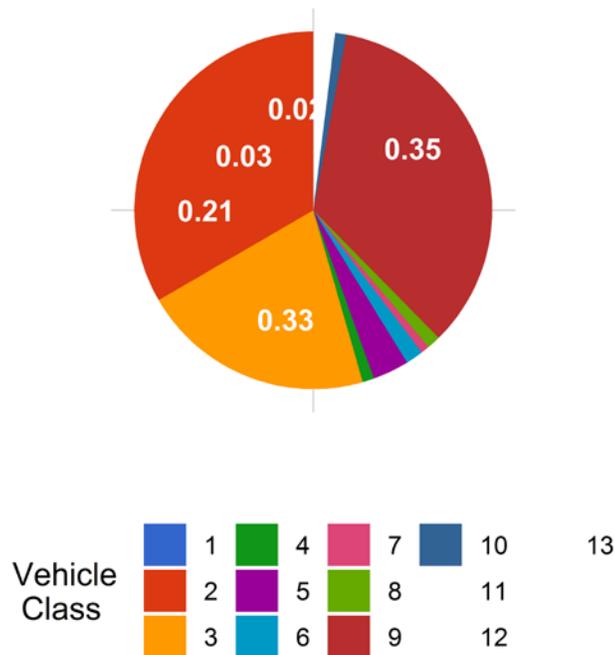


Figure 12 - Total ESALs by Class and Lane

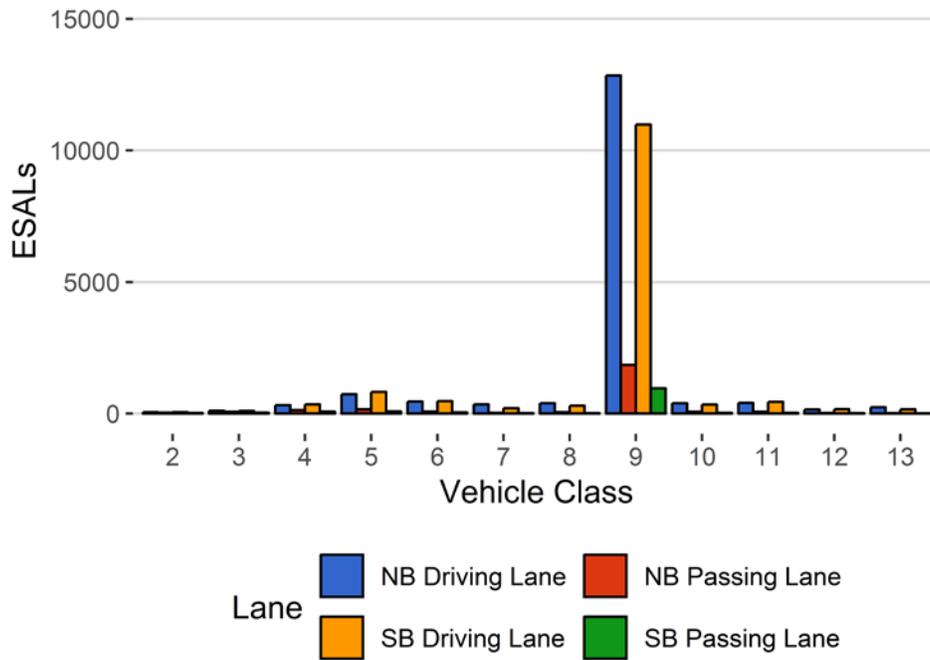
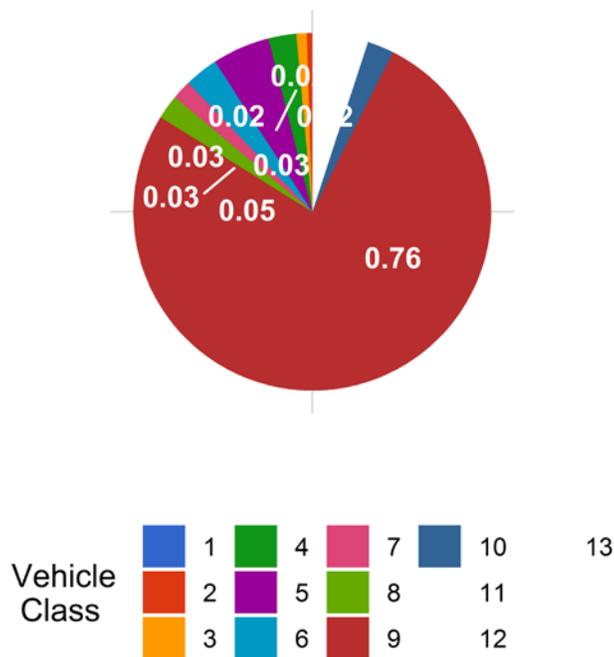


Figure 13 - ESALs by Class



**Table 1 Class 9 Front Axle Weight by Lane**

<i>Month</i>	<i>Lane 1 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 2 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 3 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 4 (kips)</i>	<i>Front Axle +/- 9%</i>
June 2015	NA	NA	11.20	0.00	11.34	0.00	NA	NA
July 2015	NA	NA	11.23	0.30	11.35	0.02	NA	NA
October 2015	NA	NA	10.93	-2.33	10.87	-4.19	NA	NA
November 2015	NA	NA	10.94	-2.29	10.69	-5.77	NA	NA
January 2016	10.55	0.00	10.73	-4.17	10.10	-10.94	NA	NA
February 2016	10.50	-0.47	10.72	-4.22	10.29	-9.33	NA	NA
March 2016	10.53	-0.14	10.74	-4.11	10.68	-5.82	NA	NA
April 2016	10.62	0.67	10.89	-2.75	10.75	-5.26	NA	NA
May 2016	10.68	1.24	10.96	-2.10	10.97	-3.27	NA	NA
June 2016	10.74	1.86	11.16	-0.34	11.14	-1.78	NA	NA
July 2016	10.75	1.92	11.18	-0.10	11.16	-1.59	NA	NA
September 2016	10.57	0.21	11.03	-1.49	10.84	-4.47	NA	NA
October 2016	10.49	-0.52	10.86	-3.01	10.54	-7.07	NA	NA
November 2016	10.47	-0.71	10.80	-3.51	10.50	-7.44	NA	NA
January 2017	10.28	-2.51	10.59	-5.39	9.94	-12.34	NA	NA
February 2017	10.23	-2.99	10.69	-4.53	10.18	-10.26	NA	NA
March 2017	10.31	-2.25	10.72	-4.26	10.32	-9.07	NA	NA
April 2017	10.37	-1.68	10.76	-3.92	10.47	-7.71	NA	NA
May 2017	10.47	-0.72	10.95	-2.16	10.70	-5.67	NA	NA
June 2017	10.57	0.24	11.16	-0.34	10.86	-4.30	10.78	0.00
July 2017	10.62	0.68	11.22	0.24	10.89	-4.00	10.82	0.42
August 2017	10.51	-0.35	11.11	-0.73	10.71	-5.58	10.69	-0.78
September 2017	10.41	-1.25	11.06	-1.23	10.58	-6.78	10.60	-1.70
October 2017	10.31	-2.19	10.90	-2.63	10.27	-9.46	10.44	-3.15
November 2017	10.29	-2.46	10.89	-2.77	10.02	-11.64	10.41	-3.43
December 2017	9.91	-6.02	10.60	-5.33	9.62	-15.19	10.04	-6.89

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January 2018	9.98	-5.37	10.56	-5.67	9.48	-16.42	9.93	-7.89
February 2018	9.90	-6.10	10.51	-6.15	9.48	-16.39	9.84	-8.68
March 2018	10.07	-4.48	10.73	-4.14	9.96	-12.23	10.05	-6.73
April 2018	10.17	-3.58	10.73	-4.13	10.11	-10.86	10.18	-5.59
May 2018	10.28	-2.51	10.83	-3.25	10.37	-8.56	10.39	-3.60
June 2018	10.36	-1.80	10.95	-2.19	10.46	-7.78	10.47	-2.88
July 2018	10.37	-1.65	11.01	-1.69	10.51	-7.36	10.53	-2.34
August 2018	10.31	-2.21	10.90	-2.63	10.38	-8.46	10.39	-3.56
September 2018	10.23	-3.00	10.82	-3.32	10.19	-10.15	10.30	-4.43
October 2018	10.08	-4.46	10.70	-4.45	9.87	-12.98	10.15	-5.86
November 2018	9.95	-5.67	10.57	-5.55	9.56	-15.75	10.05	-6.73

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**Table 2 Vehicle Classification Data**

<i>Vehicle Class</i>	<i>Monthly Average Daily Volume</i>	<i>Monthly Total Volume</i>	<i>Monthly Total Volume Percentage</i>	<i>Monthly Total Overweight Vehicles</i>	<i>Monthly Total Overweight Percentage</i>
1	0	5	0	0	0
2	17510	525290	65.1	0	0
3	7243	217282	26.9	0	0
4	66	1969	0.2	24	2.1
5	444	13316	1.6	100	8.6
6	113	3379	0.4	66	5.7
7	24	731	0.1	75	6.4
8	80	2405	0.3	31	2.7
9	1327	39797	4.9	619	53.1
10	34	1005	0.1	120	10.3
11	32	969	0.1	6	0.5
12	23	704	0.1	10	0.9
13	8	226	0	114	9.8
<b>TOTAL</b>	<b>26903</b>	<b>807078</b>	<b>100</b>	<b>1165</b>	<b>100</b>

**Table 3 Top 10 Gross Vehicle Weight, Class 9 and 10**

<i>Date</i>	<i>Day of Week</i>	<i>Time</i>	<i>Vehicle Class</i>	<i>Direction</i>	<i>Lane</i>	<i>GVW (lbs)</i>
2018-11-06	Tuesday	03:33:50	9	NB	1	133.4
2018-11-27	Tuesday	04:27:15	9	NB	1	115.3
2018-11-16	Friday	04:47:52	9	NB	1	110.05
2018-11-11	Sunday	14:01:49	10	NB	1	105.18
2018-11-30	Friday	10:59:30	10	NB	1	103.96
2018-11-15	Thursday	07:37:26	10	SB	4	102.73
2018-11-02	Friday	03:55:18	9	NB	1	102.68
2018-11-30	Friday	10:59:43	10	NB	1	101.12
2018-11-08	Thursday	13:25:11	10	NB	1	100.39
2018-11-09	Friday	09:54:23	10	NB	1	100.14

**Table 4 Freight Summary**

<i>Vehicle Class</i>	<i>Direction</i>	<i>Weight of Empty Vehicle (Kips)</i>	<i>Total Number of Vehicles</i>	<i>Number of Empty Vehicles</i>	<i>Percentage of Empty Vehicles</i>	<i>Total Weight of Vehicles with Freight (Kips)</i>	<i>Total Weight of Empty Vehicles (Kips)</i>	<i>Total Weight of Freight (Tons)</i>
4	NB	15	1023	111	10.9	29481	1402	7900
5	NB	8	7524	1480	19.7	89656	10506	20652
6	NB	19	1810	470	26	39377	7355	6958
7	NB	11.5	441	0	0	25842	0	10385
8	NB	31	1414	953	67.4	17558	21919	1633
9	NB	33	23291	6866	29.5	932293	187459	195134
10	NB	33.5	582	146	25.1	28966	3605	7180
11	NB	36.5	552	49	8.9	26467	1604	4054
12	NB	36.5	403	61	15.1	18927	1985	3222
13	NB	31.5	147	0	0	12693	0	4031
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>37187</b>	<b>10136</b>	<b>****</b>	<b>1221259</b>	<b>****</b>	<b>261150</b>
<i>Vehicle Class</i>	<i>Direction</i>	<i>Weight of Empty Vehicle (Kips)</i>	<i>Total Number of Vehicles</i>	<i>Number of Empty Vehicles</i>	<i>Percentage of Empty Vehicles</i>	<i>Total Weight of Vehicles with Freight (Kips)</i>	<i>Total Weight of Empty Vehicles (Kips)</i>	<i>Total Weight of Freight (Tons)</i>
4	SB	15	1202	203	16.9	30950	2560	7982
5	SB	8	7522	1748	23.2	89190	12110	21499
6	SB	19	2008	452	22.5	44744	7128	7590
7	SB	11.5	385	0	0	20914	0	8243
8	SB	31	1304	931	71.4	13853	21708	1145
9	SB	33	21677	6720	31	824332	188193	165376
10	SB	33.5	554	133	24	27139	3069	6518
11	SB	36.5	543	44	8.1	26696	1428	4241
12	SB	36.5	392	19	4.8	20684	635	3535
13	SB	31.5	108	0	0	9391	0	2994
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>35695</b>	<b>10250</b>	<b>****</b>	<b>1107892</b>	<b>****</b>	<b>229123</b>
<b>GRAND TOTAL</b>	<b>****</b>	<b>****</b>	<b>72882</b>	<b>20386</b>	<b>404</b>	<b>2329151</b>	<b>472667</b>	<b>490273</b>

**Table 5 Gross Vehicle Weight by Class and Lane**

<i>Vehicle Class</i>	<i>NB Driving Lane</i>	<i>NB Passing Lane</i>	<i>SB Passing Lane</i>	<i>SB Driving Lane</i>	<i>Total</i>	<i>Percentage</i>
1	1	1	2	2	6	0
2	630191	425856	346414	651414	2053875	33.4
3	414491	250192	199657	432878	1297219	21.1
4	23235	7648	6154	27356	64393	1
5	82088	18074	13175	88126	201463	3.3
6	40229	6503	5081	46791	98604	1.6
7	23920	1923	1856	19058	46756	0.8
8	34876	4600	2398	33163	75038	1.2
9	999522	120230	86582	925943	2132278	34.7
10	28236	4335	2897	27311	62778	1
11	25035	3036	1920	26204	56196	0.9
12	18814	2098	2104	19215	42231	0.7
13	11296	1396	448	8943	22083	0.4
<b>TOTAL</b>	<b>2331934</b>	<b>845893</b>	<b>668688</b>	<b>2306403</b>	<b>6152918</b>	<b>100</b>
<b>GVW/LANE</b>	<b>37.9</b>	<b>13.75</b>	<b>10.87</b>	<b>37.48</b>	<b>100</b>	<b>0</b>

**Table 6 ESALs by Class and Lane and Flexible ESAL Factors**

<i>Vehicle Class</i>	<i>NB Driving Lane</i>	<i>NB Passing Lane</i>	<i>SB Passing Lane</i>	<i>SB Driving Lane</i>	<i>Total</i>	<i>Percentage</i>	<i>Flexible ESAL Factor</i>
1	0	0	0	0	0	0	0.1429
2	55	40	26	53	174	0.5	6e-04
3	115	67	38	106	326	0.93	0.0027
4	326	131	72	350	879	2.52	0.79
5	736	166	83	824	1808	5.19	0.24
6	462	79	48	474	1063	3.05	0.56
7	353	36	16	206	610	1.75	1.48
8	397	57	15	298	766	2.2	0.57
9	12845	1852	961	10985	26642	76.4	1.19
10	395	68	32	347	842	2.41	1.48
11	409	68	30	450	958	2.75	1.74
12	158	25	17	169	370	1.06	0.93
13	242	21	9	160	433	1.24	3.29
<b>TOTAL</b>	<b>16491</b>	<b>2609</b>	<b>1348</b>	<b>14423</b>	<b>34871</b>	<b>100</b>	<b>12</b>
<b>ESALS/LANE</b>	<b>47.3</b>	<b>7.5</b>	<b>3.9</b>	<b>41.4</b>	<b>100</b>	<b>-</b>	<b>-</b>

**Table 7 Site Summary: Volume and Vehicle Class**

<i>Month</i>	<i>Total Volume</i>	<i>Monthly ADT</i>	<i>Monthly HCAD T</i>	<i>Passenger Vehicles</i>	<i>Passenger Vehicles %</i>	<i>Heavy Commercial Vehicles</i>	<i>Heavy Commercial Vehicles %</i>	<i>Heavy Commercial Vehicles in Driving Lane %</i>	<i>Heavy Commercial Vehicles in Passing Lane %</i>
Dec 2017	869439	28046	2065	805426	92.6	64013	7.4	88.2	11.8
Jan 2018	777133	25069	2126	711218	91.5	65915.4	8.5	87.3	12.7
Feb 2018	732422	26158	2181	671341	91.7	61080.7	8.3	89.1	10.9
Mar 2018	899645	29021	2200	831445	92.4	68199.7	7.6	90.2	9.8
Apr 2018	850664	28356	2215	784220	92.2	66444	7.8	89.5	10.5
May 2018	1039431	33530	2662	956910	92.1	82521.5	7.9	87.5	12.5
Jun 2018	1097500	36583	2770	1014403	92.4	83097.5	7.6	87.6	12.4
Jul 2018	1120144	36134	2761	1034542	92.4	85602.1	7.6	87.3	12.7
Aug 2018	1096236	35362	2766	1010488	92.2	85748.4	7.8	87.8	12.2
Sep 2018	975288	32510	2516	899811	92.3	75477.3	7.7	88.6	11.4
Oct 2018	1005115	32423	2741	920135	91.5	84980	8.5	89	11
Nov 2018	807078	31042	2150	742577	92	64501	8	88.3	11.7
<b>TOTAL</b>	<b>11270095</b>	<b>-</b>	<b>-</b>	<b>10382516</b>	<b>-</b>	<b>887580</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>939175</b>	<b>31186</b>	<b>2429</b>	<b>865210</b>	<b>92</b>	<b>73965</b>	<b>8</b>	<b>88</b>	<b>12</b>

## ESALS

<i>Month</i>	<i>ESALS NB Passing Lane</i>	<i>ESALS NB Driving Lane</i>	<i>ESALS SB Driving Lane</i>	<i>ESALS SB Passing Lane</i>	<i>Total ESALS</i>	<i>Driving Lane ESALS %</i>	<i>Passing Lane ESALS %</i>	<i>Pavement Life Decrease Months</i>
Dec 2017	14090	2504	1185	12527	30306	88	12	0.7
Jan 2018	15526	2839	1441	13237	33043	87	13	1.2
Feb 2018	14098	2042	1177	12253	29570	89	11	0.5
Mar 2018	17718	2055	1307	14249	35330	90	10	1.1
Apr 2018	17911	2401	1428	13971	35711	89	11	1.5
May 2018	22396	3529	2349	18747	47020	88	12	2
Jun 2018	23012	3694	2374	19307	48387	87	13	2.4
Jul 2018	22415	3858	2407	21343	50024	87	13	1.7
Aug 2018	22748	3715	2300	19232	47995	87	13	1.7
Sep 2018	19416	3002	1725	16380	40523	88	12	1.2
Oct 2018	20621	3073	1569	17666	42930	89	11	1.1
Nov 2018	16547	2620	1352	14453	34973	89	11	1.2
<b>TOTAL</b>	<b>226499</b>	<b>35331</b>	<b>20614</b>	<b>193365</b>	<b>475811</b>	-	-	-
<b>AVERAGE</b>	<b>18875</b>	<b>2944</b>	<b>1718</b>	<b>16114</b>	<b>39651</b>	<b>88</b>	<b>12</b>	<b>1</b>

## Gross Vehicle Weight

<i>Month</i>	<i>GVW NB Passing Lane</i>	<i>GVW NB Driving Lane</i>	<i>GVW SB Passing Lane</i>	<i>GVW SB Driving Lane</i>	<i>Total GVW Kips</i>
Dec 2017	2084390	711458	548906	2059562	5404317
Jan 2018	1903489	608683	470517	1846133	4828823
Feb 2018	2337771	771441	616757	2244953	5970921
Mar 2018	2259387	759393	600722	2164611	5784113
Apr 2018	2707830	1023785	857182	2663473	7252270
May 2018	2805374	1107547	932861	2734606	7580388
Jun 2018	2846033	1123846	955181	2884472	7809531
Jul 2018	2838230	1095512	906826	2780943	7621510
Aug 2018	2508245	912624	761584	2459287	6641740
Sep 2018	2663414	939774	748845	2610840	6962873
Oct 2018	2335826	846388	669420	2308649	6160283
Nov 2018	2153551	784938	597727	2126715	5662931
<b>TOTAL</b>	<b>29443540</b>	<b>10685390</b>	<b>8666527</b>	<b>28884244</b>	<b>77679701</b>
<b>AVERAGE</b>	<b>2453628</b>	<b>890449</b>	<b>722211</b>	<b>2407020</b>	<b>6473308</b>

## Overweight Vehicles

<i>Month</i>	<i>Total Number of Overweight Vehicles</i>	<i>Overweight / Total Volume</i>	<i>Overweight / Heavy Commercial Volume</i>	<i>Number Over 88,000 lbs</i>	<i>Number Over 98,000 lbs</i>
Dec 2017	868	0.1	1.4	61	38
Jan 2018	1147	0.1	1.8	65	41
Feb 2018	1019	0.1	1.7	49	26
Mar 2018	1066	0.1	1.6	70	34
Apr 2018	1338	0.2	2	93	63
May 2018	2314	0.2	2.8	232	122
Jun 2018	2666	0.2	3.2	261	186
Jul 2018	2866	0.3	3.4	226	152
Aug 2018	2383	0.2	2.8	216	125
Sep 2018	1785	0.2	2.4	138	77
Oct 2018	1564	0.2	1.9	142	95
Nov 2018	1176	0.1	1.6	125	77
<b>TOTAL</b>	<b>20192</b>	<b>-</b>	<b>-</b>	<b>1678</b>	<b>1036</b>
<b>AVERAGE</b>	<b>1682.7</b>	<b>0.2</b>	<b>2.2</b>	<b>139.8</b>	<b>86.3</b>

## Freight

<i>Month</i>	<i>NB Freight Tons</i>	<i>SB Freight Tons</i>	<i>Total Freight</i>	<i>NB Freight %</i>	<i>SB Freight %</i>
Dec 2017	226392	195594	421986	53.6	46.4
Jan 2018	243904	210402	454307	53.7	46.3
Feb 2018	214845	184994	399839	53.7	46.3
Mar 2018	259219	219426	478646	54.2	45.8
Apr 2018	262841	213385	476226	55.2	44.8
May 2018	329620	285332	614952	53.6	46.4
Jun 2018	339294	288144	627438	54.1	45.9
Jul 2018	337328	317763	655090	51.5	48.5
Aug 2018	338350	290850	629200	53.8	46.2
Sep 2018	289856	250391	540246	53.7	46.3
Oct 2018	321475	280646	602121	53.4	46.6
Nov 2018	261150	229123	490273	53.3	46.7
<b>TOTAL</b>	<b>3424273</b>	<b>2966050</b>	<b>6390324</b>	-	-
<b>AVERAGE</b>	<b>285356.1</b>	<b>247170.8</b>	<b>532527</b>	<b>53.6</b>	<b>46.4</b>