

OCTOBER 2018



**WIM #38  
I-535, MP 1.1  
DULUTH, MN**

**MONTHLY  
REPORT**



*Your Destination...Our Priority*



## WIM Site Location

WIM #38 is located on I-535 near Duluth in St Louis county.

## System Operation

WIM #38 was operational for the entire month of October 2018. Volume was computed using all monthly data.

## System Calibration

WIM #38 was most recently calibrated on 2017-01-23. 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. 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: 1084866 | Passenger Vehicles: 1018760 | Heavy Commercial Vehicles: 66106

Monthly Average Daily Traffic (MADT): 34996 | Monthly Heavy Commercial Average Daily Traffic (MHCADT): 2132

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 Thursdays, with lowest volumes reported on Fridays. SB vehicles typically reached highest volume levels on Thursdays, with lowest volumes reported on Sundays (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 07 AM and 04 PM. Similarly, SB PVs peaked in volume between 03 PM and 05 PM

## Heavy Commercial Vehicles (HCVs)

**Volume trends.** On an average 24-hour day, HCVs traveling NB typically reached peak volume levels between 07 AM and 04 PM, while volume going SB peaked between 03 PM 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 66106 HCVs, 4240 of them were overweight<sup>3</sup>. These overweight HCVs contributed to 0.4% of total monthly volume, and 7% of total monthly HCV volume. NB overweight vehicles typically reached highest numbers on Thursdays, with lowest volumes reported on Sundays. SB overweight vehicles tended to reach highest volumes on Thursdays, with lowest volumes reported on Sundays. See Figure 3 .

The top two overweight violators by class were the class 9 and class 6 vehicles . Overall, overweight vehicles tended to reach peak volume concentrations during typical business hours, with 55.5% 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 November.

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 ,61 NB vehicles exceeded 88,000 pounds (28 vehicles were Class 10's; 27 vehicles were Class 13's). Of vehicles traveling SB,

123 NB vehicles exceeded 88,000 pounds (58 vehicles were Class 10's; 54 vehicles were Class 13's). Refer to Table 3 for the Top 10 highest recorded GVWs from Classes 9 and 10 from October 2018.

**Loaded vs. Unloaded HCVs.** Figure 10 shows the GVW distributions of Class 9s and 10s in October 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 fully\_loaded Class 9's than empty 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 473110 tons of freight was recorded to have crossed the WIM. More freight was shipped SB (52.7%) than NB (47.3%). See Table 4 and Figure 11 for more freight information.

## Infrastructure Considerations

**Bridge.** Bridge No. 9030 (Blatnik Bridge) is approximately 1.1 miles south of WIM #38, and Bridge No. 69808 is 0.45 miles south of WIM #38. A pair of bridges also exists 0.4 miles north of WIM #38 (Bridge No. 69801C on the NB side and Bridge No. 69801N on the SB side). WIM #38 recorded a total of 1084866 vehicles with a combined GVW of 6540191 kips (1 kip = 1,000 pounds = 0.5 tons) in October 2018. See Table 5 and Figures 12-13 for GVW information by vehicle class and lane.

**Pavement Design.** A total of 41414 equivalent single axle loads (ESALs) passed over the pavement at this site. Approximately 50.7% of all ESALs were recorded SB while 49.3% was observed NB. In particular, 59% of all ESALs were generated by the Class 9's (Class 9's

were also responsible for generating 21% 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).

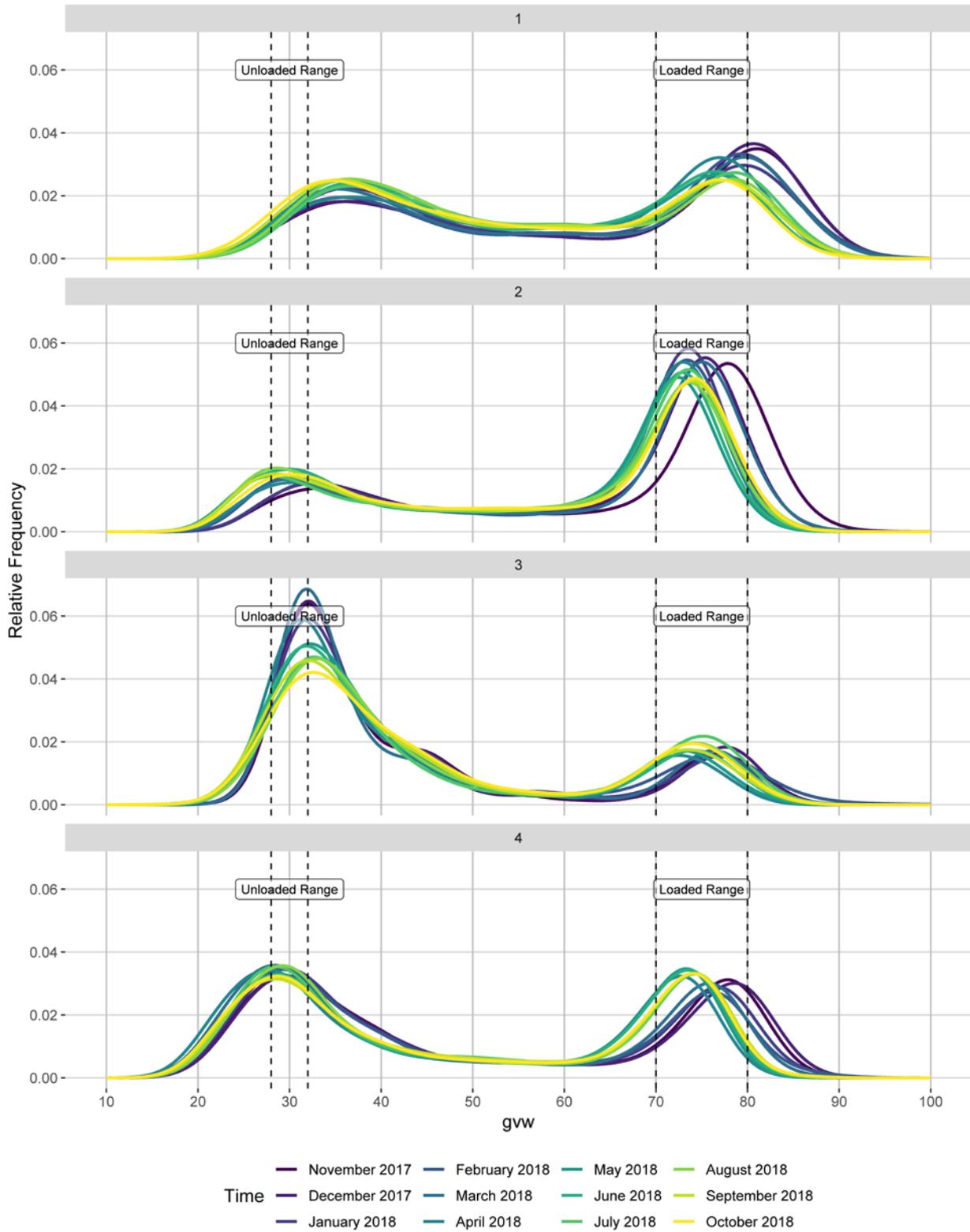
*WIM monthly reports can be found at: <http://www.dot.state.mn.us/traffic/data/reports-monthly-wim.html>*

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.

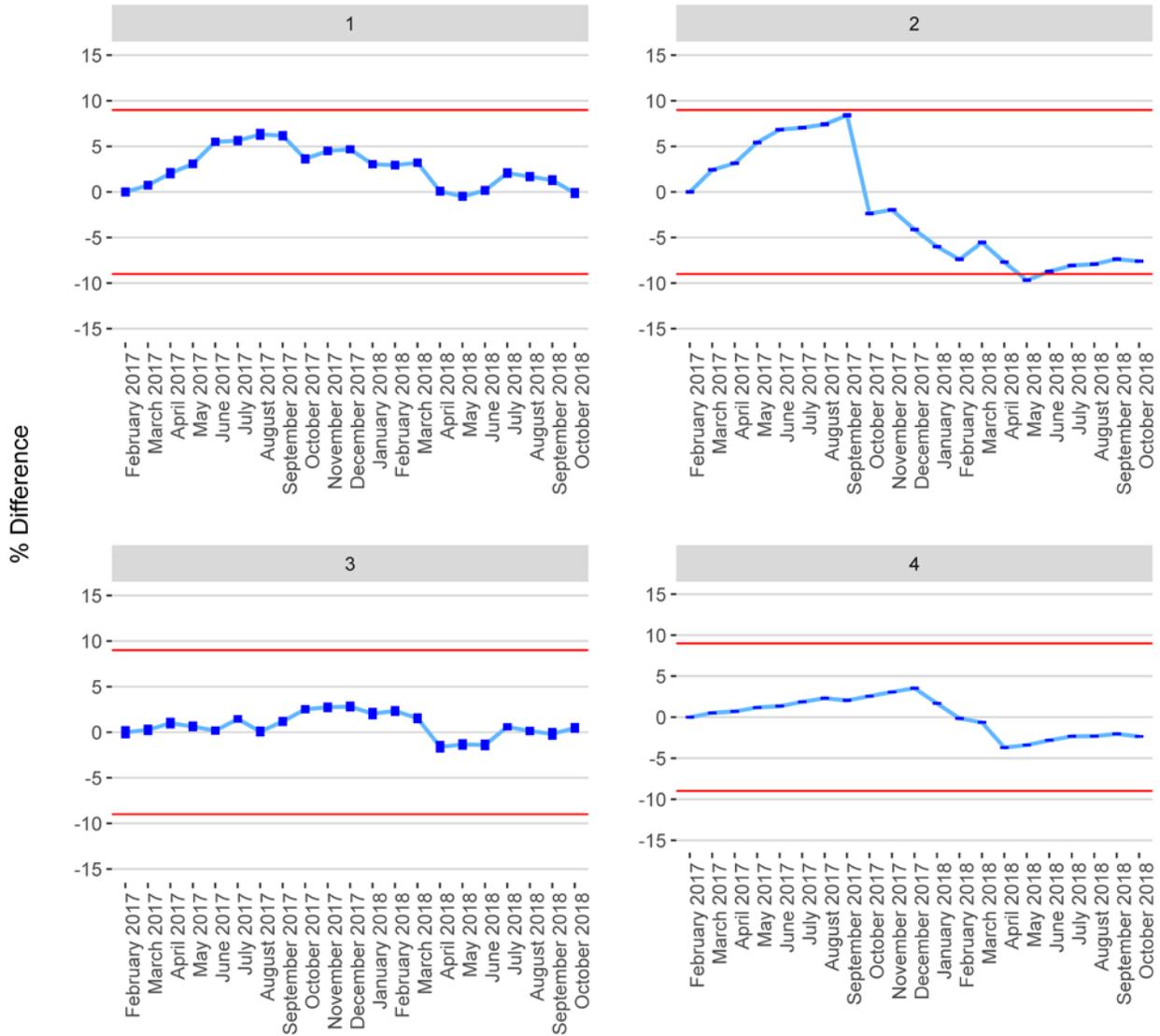
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Figure 1 - Monthly Class 9 GWW Histogram



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

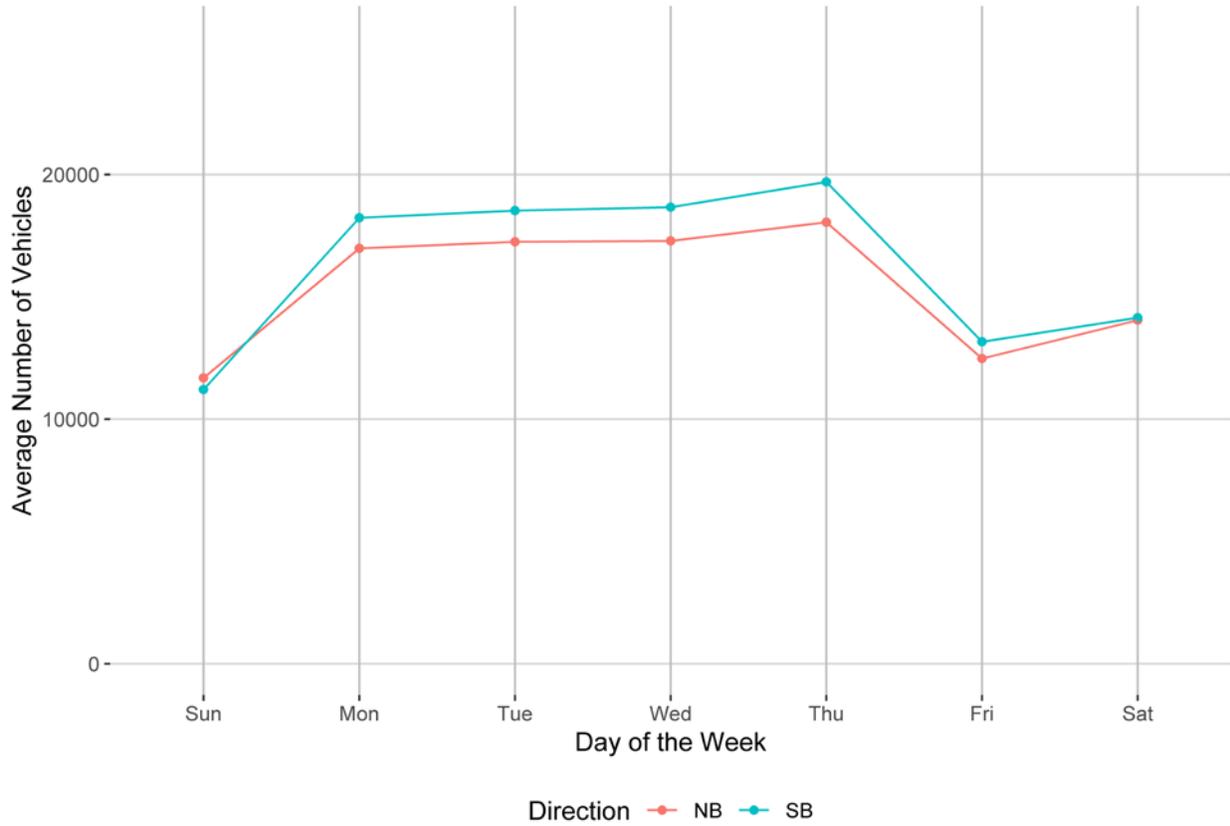


Figure 3 - Average Overweight Vehicle Volume vs. Day of the Week

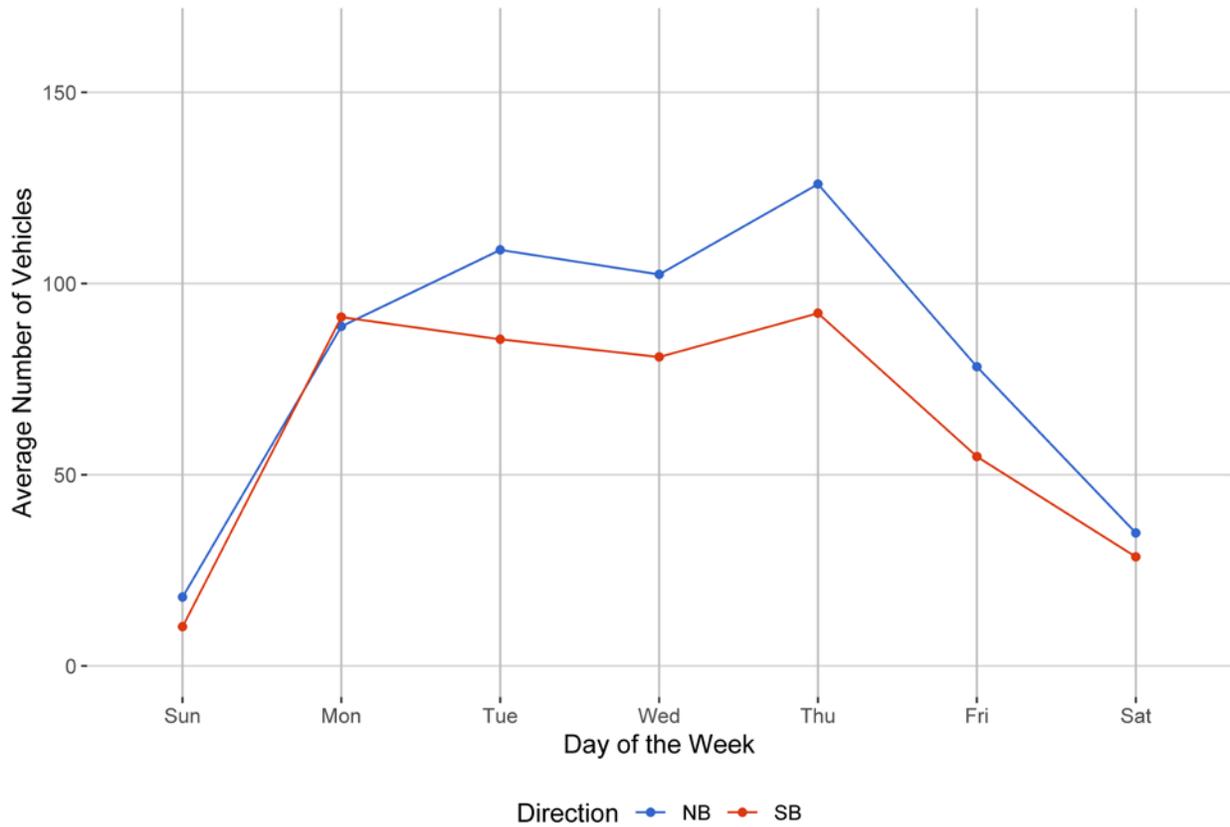


Figure 4 - Passenger Vehicles vs. Hour of the Day

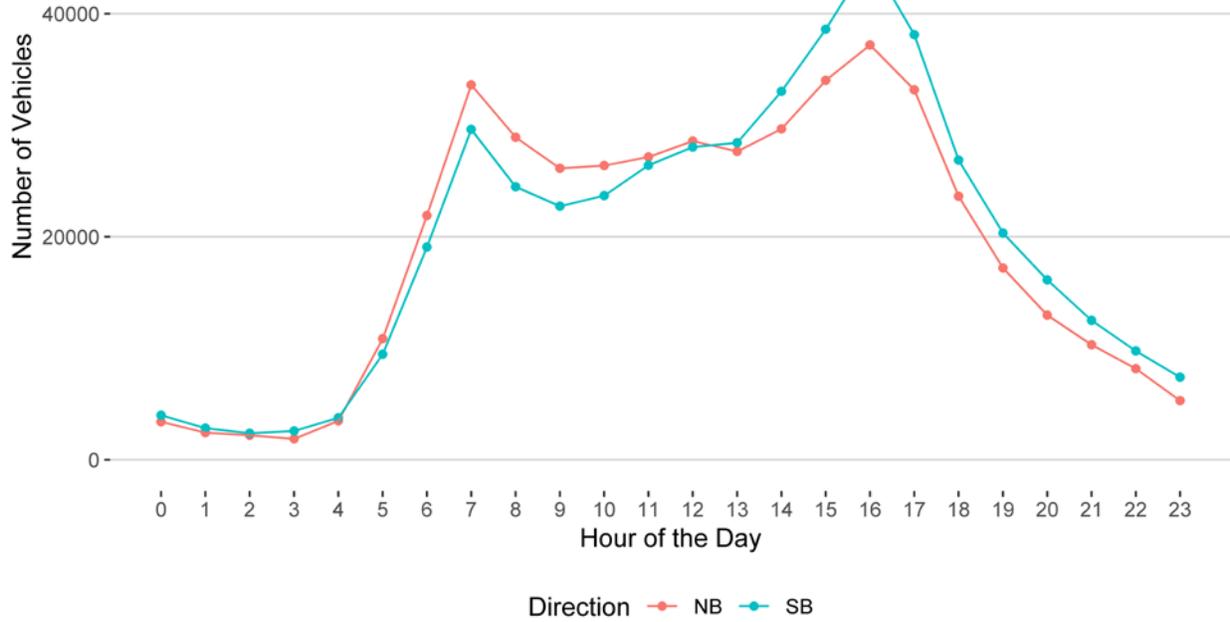


Figure 5 - Heavy Commercial Vehicles vs. Hour of the Day

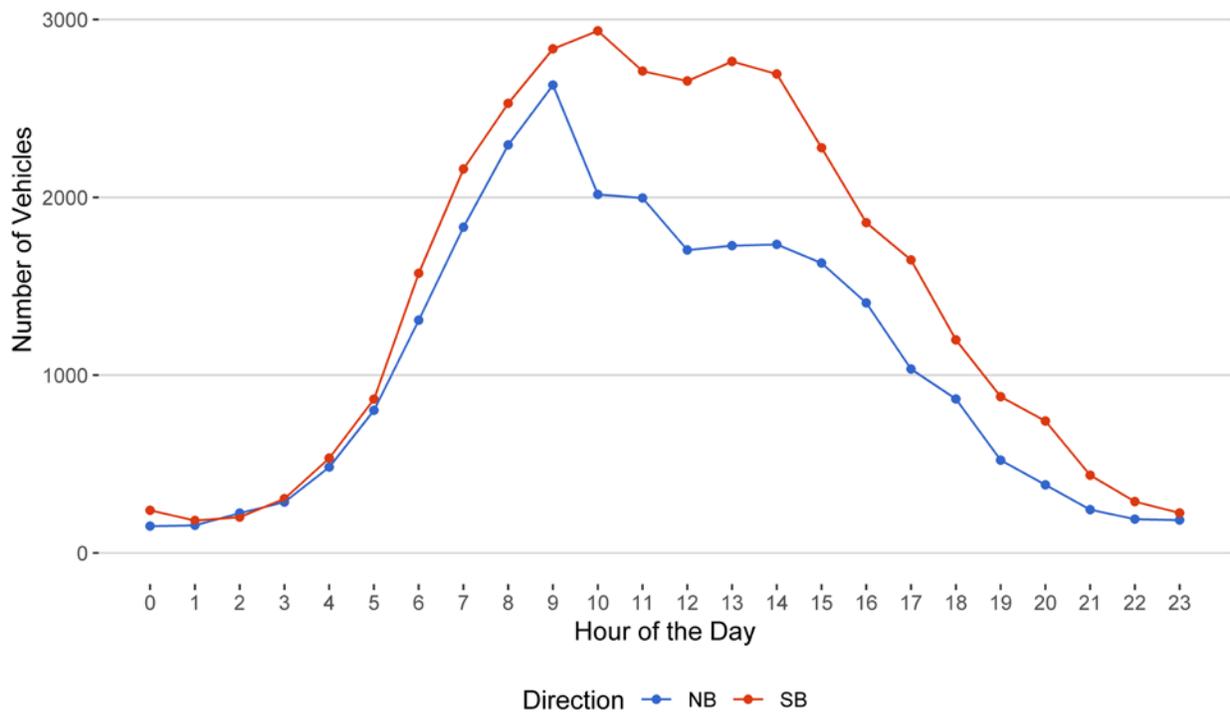


Figure 6 - Overweight Vehicles by Class vs. Hour of the Day

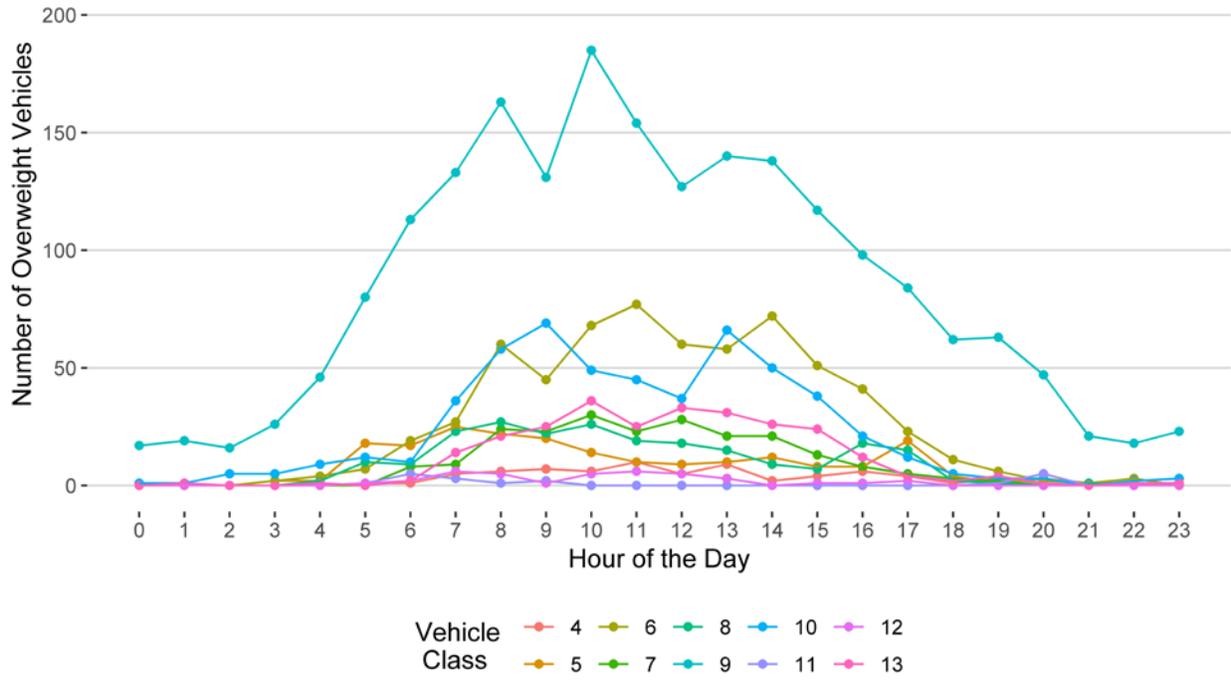


Figure 7 - Overweight Vehicles by Direction  
Hour of the Day

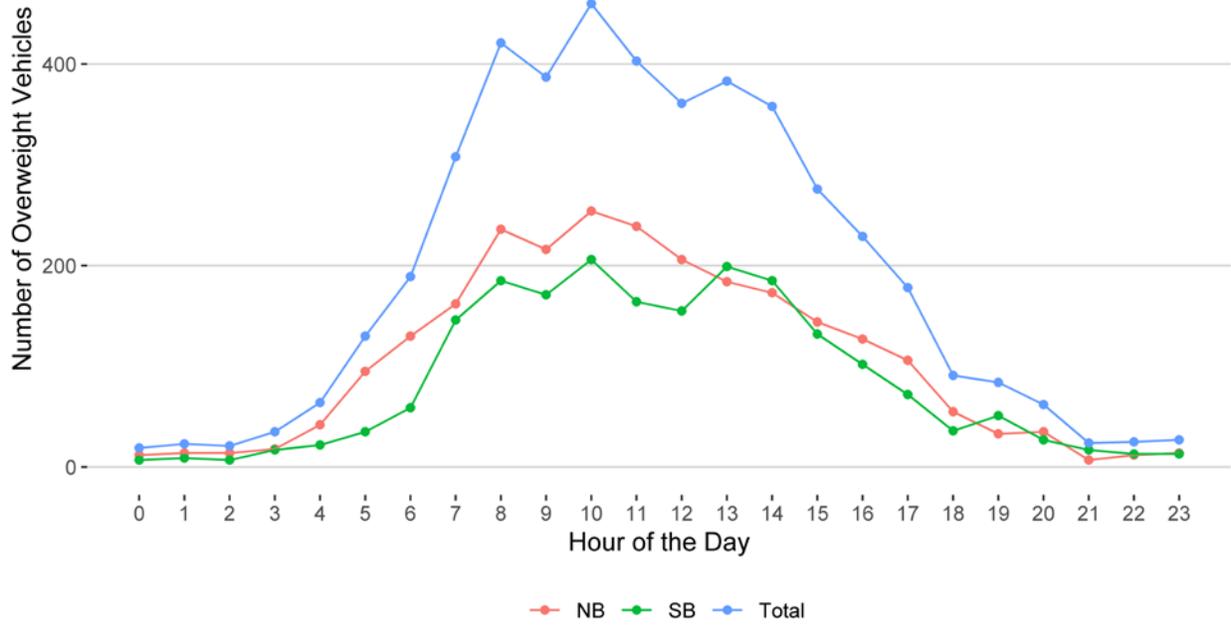
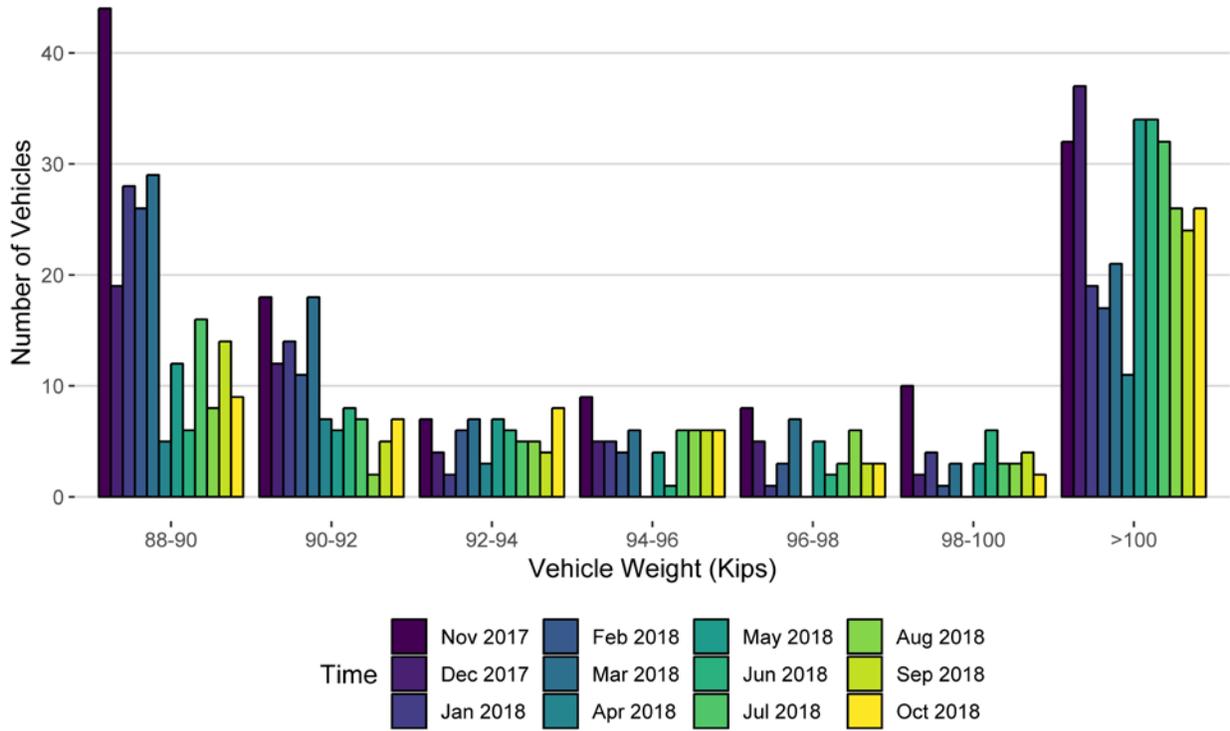
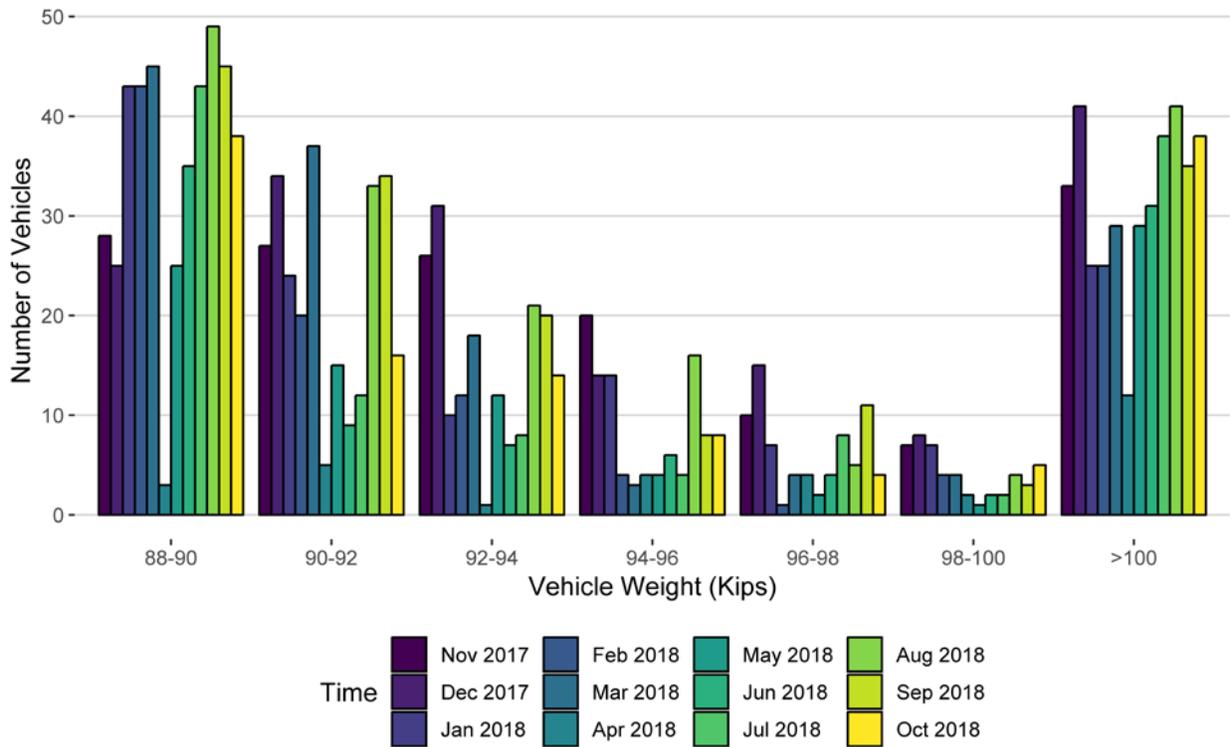


Figure 8 - Histogram of NB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018
88-90	44	19	28	26	29	5	12	6	16	8	14	9
90-92	18	12	14	11	18	7	6	8	7	2	5	7
92-94	7	4	2	6	7	3	7	6	5	5	4	8
94-96	9	5	5	4	6	0	4	1	6	6	6	6
96-98	8	5	1	3	7	0	5	2	3	6	3	3
98-100	10	2	4	1	3	0	3	6	3	3	4	2
>100	32	37	19	17	21	11	34	34	32	26	24	26
Total	128	84	73	68	91	26	71	63	72	56	60	61

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



Vehicle Weights (Kips)	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018
88-90	28	25	43	43	45	3	25	35	43	49	45	38
90-92	27	34	24	20	37	5	15	9	12	33	34	16
92-94	26	31	10	12	18	1	12	7	8	21	20	14
94-96	20	14	14	4	3	4	4	6	4	16	8	8
96-98	10	15	7	1	4	4	2	4	8	5	11	4
98-100	7	8	7	4	4	2	1	2	2	4	3	5
>100	33	41	25	25	29	12	29	31	38	41	35	38
Total	151	168	130	109	140	31	88	94	115	169	156	123

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

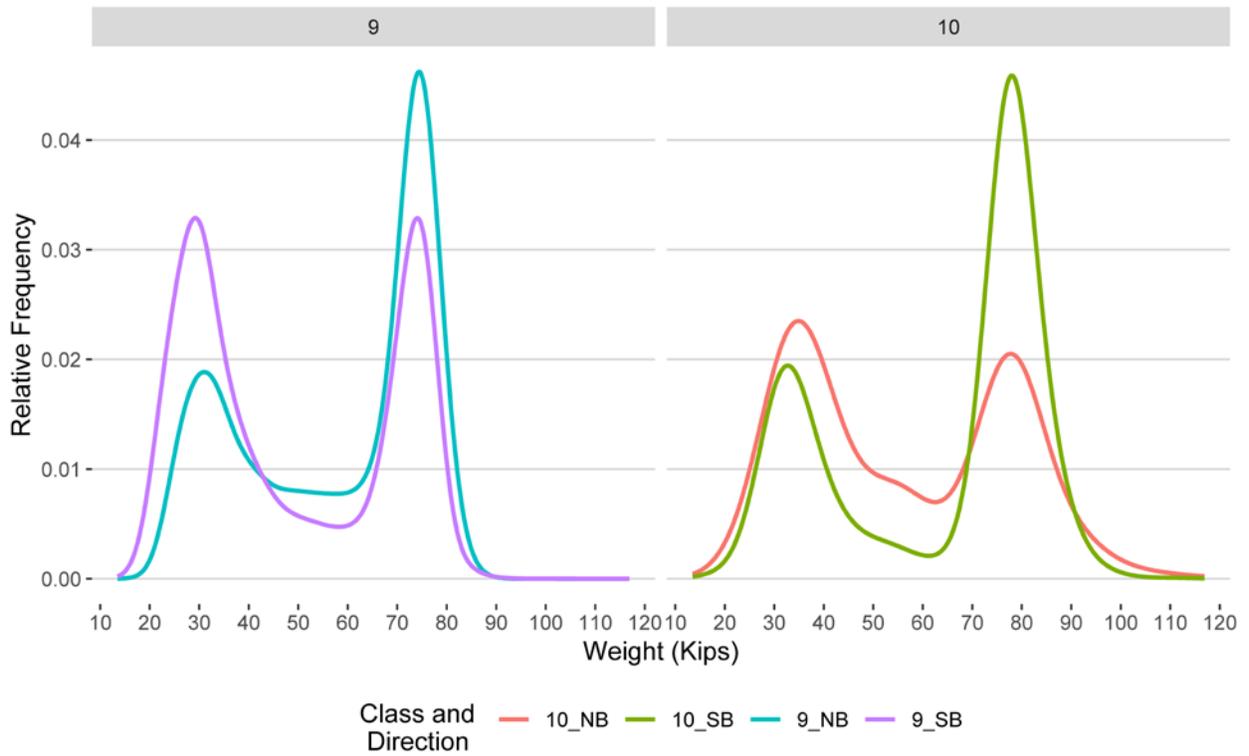


Figure 9 - Freight Percentage by Direction and Class

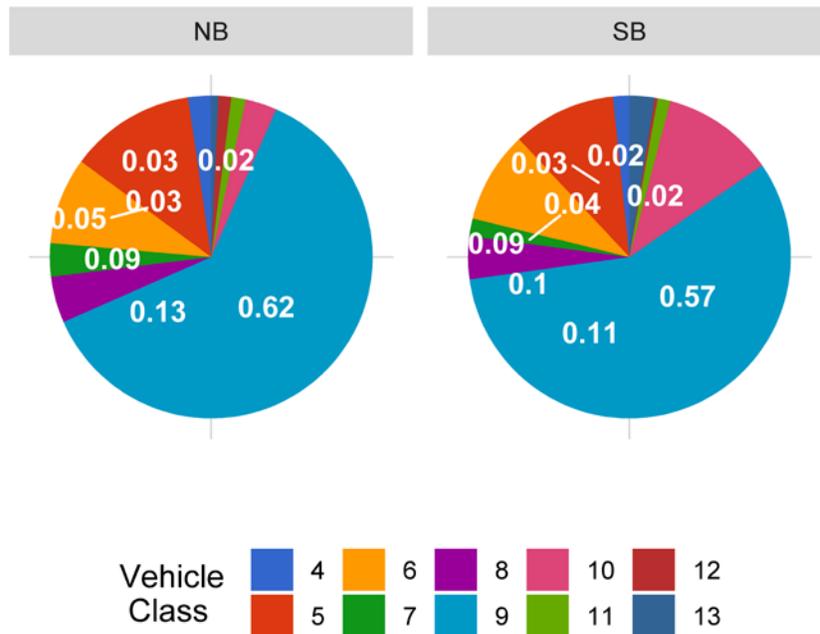


Figure 10 - Total Gross Vehicle Weight Percentage by Class and Lane

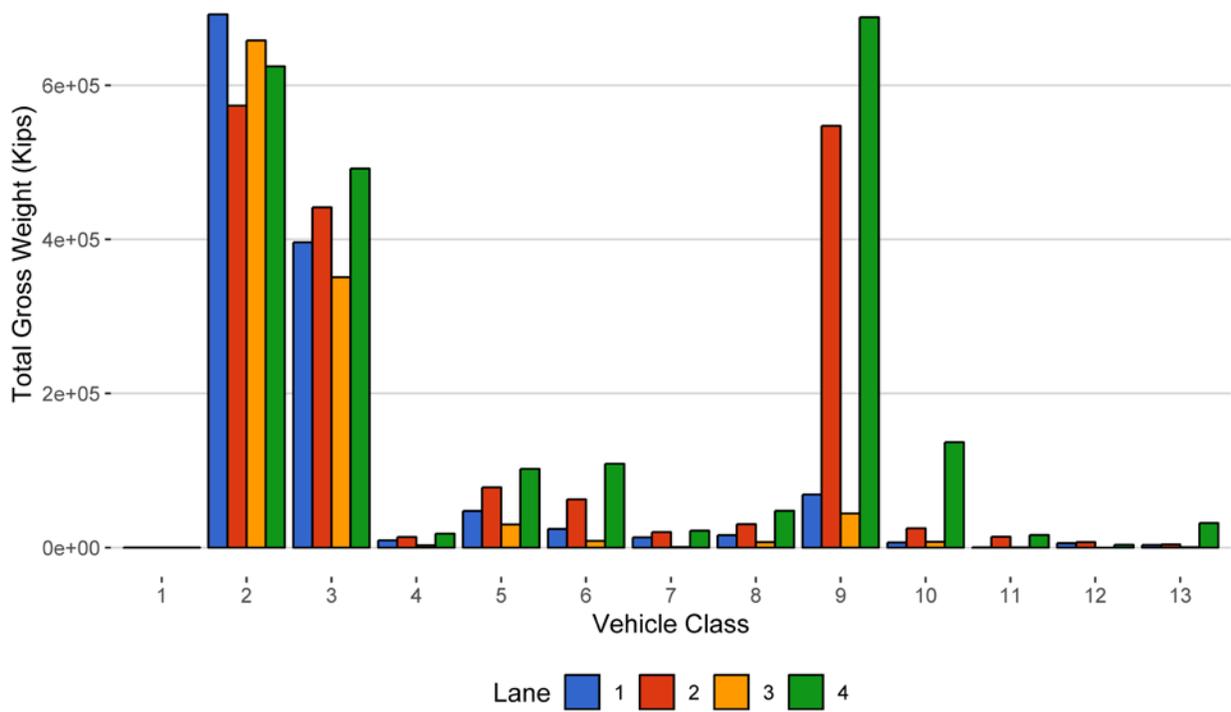


Figure 11 - Total Gross Vehicle Weight t

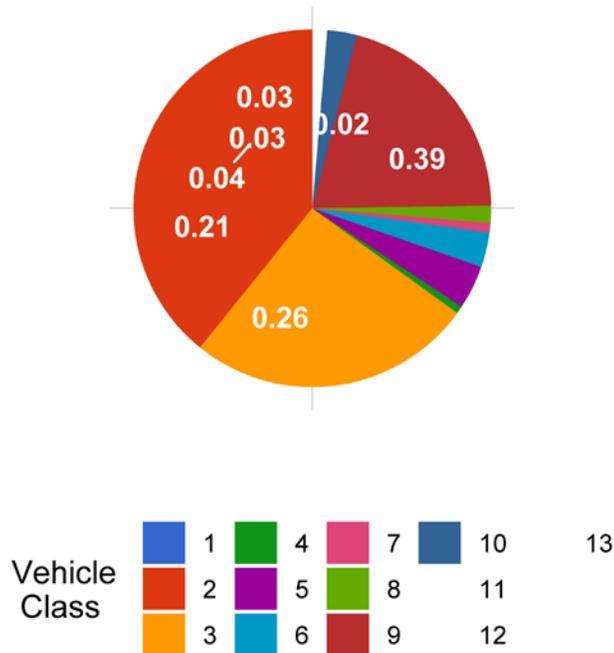


Figure 12 - Total ESALs by Class and Lane

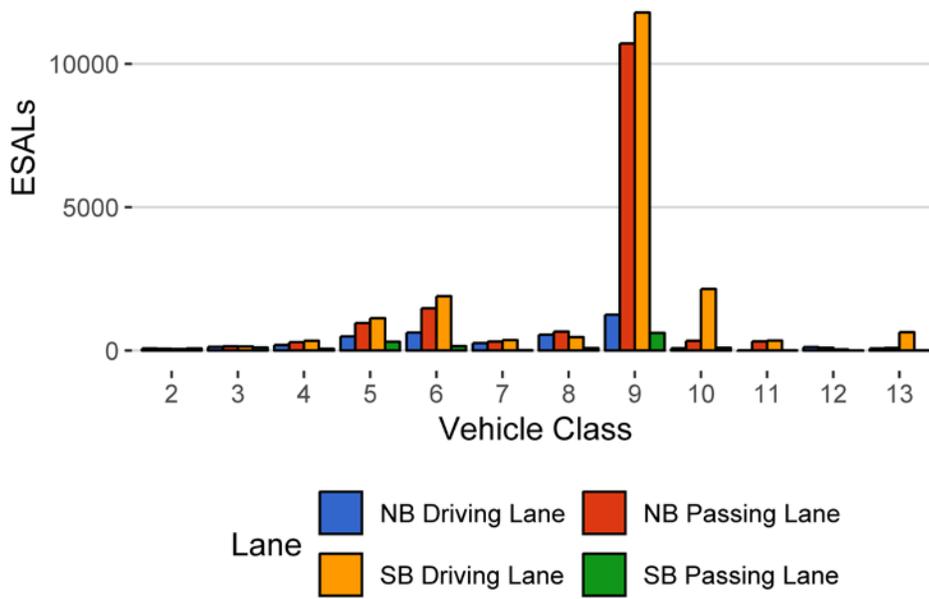
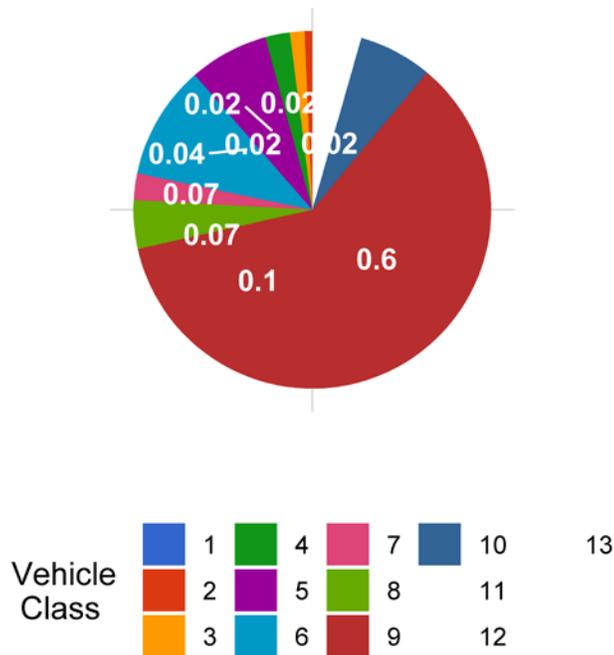


Figure 13 - ESALs by Class



**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>
February 2017	11.58	0.00	11.71	0.00	11.07	0.00	10.45	0.00
March 2017	11.67	0.74	12.00	2.43	11.10	0.26	10.50	0.53
April 2017	11.82	2.05	12.08	3.15	11.18	1.00	10.52	0.71
May 2017	11.94	3.09	12.35	5.42	11.14	0.64	10.57	1.18
June 2017	12.22	5.51	12.51	6.84	11.09	0.18	10.59	1.36
July 2017	12.23	5.63	12.54	7.05	11.23	1.46	10.64	1.87
August 2017	12.31	6.32	12.58	7.42	11.08	0.08	10.69	2.32
September 2017	12.29	6.17	12.70	8.41	11.20	1.18	10.66	2.06
October 2017	12.00	3.63	11.43	-2.37	11.35	2.52	10.72	2.56
November 2017	12.10	4.50	11.48	-1.96	11.37	2.73	10.77	3.08
December 2017	12.12	4.67	11.23	-4.12	11.38	2.82	10.82	3.54
January 2018	11.93	3.05	11.01	-6.00	11.30	2.06	10.63	1.69
February 2018	11.92	2.95	10.85	-7.39	11.33	2.33	10.43	-0.15
March 2018	11.95	3.20	11.06	-5.53	11.24	1.53	10.38	-0.63
April 2018	11.59	0.09	10.81	-7.70	10.89	-1.59	10.06	-3.69
May 2018	11.52	-0.49	10.58	-9.68	10.92	-1.34	10.09	-3.39
June 2018	11.60	0.17	10.69	-8.71	10.91	-1.39	10.16	-2.80
July 2018	11.82	2.08	10.77	-8.07	11.13	0.60	10.21	-2.33
August 2018	11.78	1.69	10.78	-7.92	11.08	0.13	10.21	-2.30
September 2018	11.73	1.30	10.85	-7.37	11.05	-0.18	10.24	-2.04
October 2018	11.57	-0.12	10.82	-7.60	11.12	0.47	10.20	-2.34

**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	5	169	0	0	0
2	22915	710378	65.5	0	0
3	9942	308213	28.4	0	0
4	49	1513	0.1	71	1.7
5	668	20694	1.9	207	4.9
6	226	6992	0.6	637	15
7	34	1049	0.1	218	5.1
8	110	3405	0.3	225	5.3
9	903	27980	2.6	2021	47.7
10	99	3072	0.3	540	12.7
11	19	599	0.1	19	0.4
12	9	278	0	38	0.9
13	17	523	0	264	6.2
<b>TOTAL</b>	<b>34996</b>	<b>1084866</b>	<b>100</b>	<b>4240</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>
2018-10-01	Monday	11:31:24	10	NB	1	116.92
2018-10-02	Tuesday	15:26:25	10	SB	4	113.42
2018-10-08	Monday	12:31:45	10	NB	2	109.92
2018-10-31	Wednesday	06:59:59	10	SB	4	109.33
2018-10-01	Monday	07:19:08	10	NB	2	106.63
2018-10-28	Sunday	14:40:39	9	NB	2	106.53
2018-10-31	Wednesday	22:02:41	10	NB	2	105.86
2018-10-27	Saturday	10:01:35	10	SB	4	104.95
2018-10-08	Monday	05:25:41	10	NB	1	103.67
2018-10-06	Saturday	20:01:21	9	SB	4	103.3

**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	691	110	15.9	21635	1407	6460
5	NB	8	9024	1120	12.4	117510	8233	27139
6	NB	19	2560	273	10.7	82046	4681	19296
7	NB	11.5	568	0	0	33307	0	13387
8	NB	31	1276	545	42.7	34147	12097	5743
9	NB	33	10603	1812	17.1	564582	51692	137240
10	NB	33.5	557	103	18.5	28229	3097	6510
11	NB	36.5	252	2	0.8	14412	44	2643
12	NB	36.5	194	3	1.5	12692	107	2860
13	NB	31.5	81	0	0	7122	0	2285
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>25806</b>	<b>3968</b>	<b>****</b>	<b>915681</b>	<b>****</b>	<b>223564</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	695	143	20.6	19129	1802	5424
5	SB	8	9928	1981	20	117989	13894	27206
6	SB	19	3843	564	14.7	108201	9099	22950
7	SB	11.5	393	0	0	22745	0	9113
8	SB	31	1842	1053	57.2	29691	24961	2616
9	SB	33	15021	5541	36.9	580776	151687	133968
10	SB	33.5	2256	365	16.2	133028	10941	34840
11	SB	36.5	297	33	11.1	15406	1132	2885
12	SB	36.5	61	2	3.3	3557	70	702
13	SB	31.5	398	1	0.3	32189	16	9842
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>34734</b>	<b>9683</b>	<b>****</b>	<b>1062710</b>	<b>****</b>	<b>249546</b>
<b>GRAND TOTAL</b>	<b>****</b>	<b>****</b>	<b>60540</b>	<b>13651</b>	<b>300</b>	<b>1978392</b>	<b>294960</b>	<b>473110</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	50	57	47	46	200	0
2	692080	573512	658183	624562	2548337	39.2
3	396230	441621	350765	491996	1680612	25.8
4	9416	13627	2908	18022	43972	0.7
5	47545	78199	29848	102034	257626	4
6	24123	62604	8643	108657	204027	3.1
7	13145	20162	806	21939	56052	0.9
8	15986	30258	7023	47629	100896	1.6
9	68908	547366	44164	688299	1348737	20.7
10	6474	24851	7293	136676	175295	2.7
11	402	14053	347	16190	30993	0.5
12	5742	7057	0	3627	16426	0.3
13	3262	3860	499	31707	39327	0.6
<b>TOTAL</b>	<b>1283363</b>	<b>1817228</b>	<b>1110526</b>	<b>2291384</b>	<b>6502501</b>	<b>100</b>
<b>GVW/LANE</b>	<b>19.74</b>	<b>27.95</b>	<b>17.08</b>	<b>35.24</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	0.0064
2	79	65	80	58	281	0.7	9e-04
3	129	148	112	142	531	1.32	0.0038
4	196	293	63	346	899	2.23	1.3
5	493	964	308	1131	2895	7.18	0.31
6	628	1477	156	1898	4159	10.31	1.3
7	265	316	14	371	967	2.4	2.01
8	556	662	87	471	1776	4.4	1.14
9	1252	10709	619	11789	24369	60.39	1.9
10	86	346	105	2153	2689	6.66	1.91
11	7	321	12	352	692	1.72	2.49
12	125	102	0	41	268	0.66	2.06
13	75	94	12	642	823	2.04	3.38
<b>TOTAL</b>	<b>3891</b>	<b>15498</b>	<b>1568</b>	<b>19392</b>	<b>40349</b>	<b>100</b>	<b>18</b>
<b>ESALS/LANE</b>	<b>9.6</b>	<b>38.4</b>	<b>3.9</b>	<b>48.1</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>
Nov 2017	923269	30776	1811	868925	94.1	54344.1	5.9	60.9	39.1
Dec 2017	913329	29462	1624	862996	94.5	50333.1	5.5	60.5	39.5
Jan 2018	858959	27708	1616	808848	94.2	50110.6	5.8	60.1	39.9
Feb 2018	795786	28421	1662	749260	94.2	46525.6	5.8	59.1	40.9
Mar 2018	957360	30883	1728	903798	94.4	53562.5	5.6	60.8	39.2
Apr 2018	934763	31159	1628	885913	94.8	48850.1	5.2	60.9	39.1
May 2018	1053607	33987	1904	994590	94.4	59016.7	5.6	61.7	38.3
Jun 2018	1050563	35019	2037	989463	94.2	61099.9	5.8	60.7	39.3
Jul 2018	1102714	35571	2065	1038708	94.2	64005.8	5.8	59	41
Aug 2018	1185009	38226	2338	1112539	93.9	72469.6	6.1	61.4	38.6
Sep 2018	1060284	35343	2000	1000271	94.3	60012.8	5.7	62.2	37.8
Oct 2018	1084866	34996	2132	1018760	93.9	66105.8	6.1	61.6	38.4
<b>TOTAL</b>	<b>11920509</b>	<b>-</b>	<b>-</b>	<b>11234071</b>	<b>-</b>	<b>686437</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERA GE</b>	<b>993376</b>	<b>32629</b>	<b>1879</b>	<b>936173</b>	<b>94</b>	<b>57203</b>	<b>6</b>	<b>61</b>	<b>39</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>
Nov 2017	4502	18335	1386	19614	43837	55	45	2.6
Dec 2017	5033	14652	1411	18341	39436	59	41	3.4
Jan 2018	3867	13495	1148	15629	34139	57	43	3.7
Feb 2018	4269	13000	1411	14675	33354	57	43	2.6
Mar 2018	4256	15982	1290	16709	38236	55	45	3.5
Apr 2018	2887	12198	902	12945	28932	55	45	0.4
May 2018	4057	12762	1206	16207	34231	59	41	1.4
Jun 2018	4502	14753	1337	17081	37672	57	43	1.4
Jul 2018	5462	15767	2447	17423	41100	56	44	1.5
Aug 2018	5680	16641	2158	21001	45480	59	41	2.5
Sep 2018	6002	14061	1404	17344	38811	60	40	2.7
Oct 2018	4620	15798	1569	19426	41414	58	42	1.3
<b>TOTAL</b>	<b>55137</b>	<b>177444</b>	<b>17668</b>	<b>206394</b>	<b>456643</b>	-	-	-
<b>AVERAGE</b>	<b>4595</b>	<b>14787</b>	<b>1472</b>	<b>17200</b>	<b>38054</b>	<b>57</b>	<b>43</b>	<b>2</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>
Nov 2017	1100540	1437948	924675	1711001	5174164
Dec 2017	1096990	1404045	940384	1574511	5015929
Jan 2018	1259004	1655262	1055154	1973361	5942780
Feb 2018	1149562	1493254	972731	1803124	5418670
Mar 2018	1319432	1720244	1091705	2152815	6284196
Apr 2018	1325028	1870703	1115831	2261593	6573155
May 2018	1448213	1938169	1296696	2275279	6958356
Jun 2018	1453125	2018291	1322478	2609501	7403395
Jul 2018	1389961	1747847	1152367	2222883	6513058
Aug 2018	1308390	1827931	1110723	2293147	6540191
Sep 2018	1205042	1716301	1046717	2030046	5998106
Oct 2018	1216056	1589362	1057242	1926795	5789455
<b>TOTAL</b>	<b>15271343</b>	<b>20419356</b>	<b>13086703</b>	<b>24834054</b>	<b>73611456</b>
<b>AVERAGE</b>	<b>1272612</b>	<b>1701613</b>	<b>1090559</b>	<b>2069505</b>	<b>6134288</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>
Nov 2017	7927	0.9	14.9	279	82
Dec 2017	6568	0.7	13.3	253	88
Jan 2018	4336	0.5	9.3	204	55
Feb 2018	4386	0.6	9.6	178	48
Mar 2018	4983	0.5	9.5	232	58
Apr 2018	2100	0.2	4.5	57	25
May 2018	2603	0.3	4.6	159	67
Jun 2018	3262	0.3	5.4	158	73
Jul 2018	4147	0.4	6.6	187	75
Aug 2018	4748	0.4	6.8	226	74
Sep 2018	4151	0.4	7.1	220	70
Oct 2018	4558	0.5	7.4	184	71
<b>TOTAL</b>	<b>53769</b>	<b>-</b>	<b>-</b>	<b>2337</b>	<b>786</b>
<b>AVERAGE</b>	<b>4480.8</b>	<b>0.5</b>	<b>8.2</b>	<b>194.8</b>	<b>65.5</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>
Nov 2017	235864	214931	450795	52.3	47.7
Dec 2017	206917	196474	403391	51.3	48.7
Jan 2018	193276	170391	363667	53.1	46.9
Feb 2018	190177	163838	354015	53.7	46.3
Mar 2018	219841	189443	409283	53.7	46.3
Apr 2018	176275	162266	338541	52.1	47.9
May 2018	195567	213437	409004	47.8	52.2
Jun 2018	219771	218945	438715	50.1	49.9
Jul 2018	234161	233004	467165	50.1	49.9
Aug 2018	247311	274046	521356	47.4	52.6
Sep 2018	222327	220969	443297	50.2	49.8
Oct 2018	223564	249546	473110	47.3	52.7
<b>TOTAL</b>	<b>2565051</b>	<b>2507289</b>	<b>5072340</b>	-	-
<b>AVERAGE</b>	<b>213754.3</b>	<b>208940.8</b>	<b>422695</b>	<b>50.8</b>	<b>49.2</b>