

OCTOBER 2018



**WIM #27  
MN 60,  
MP 64.8  
ST. JAMES, MN**

**MONTHLY  
REPORT**



*Your Destination...Our Priority*



## WIM Site Location

WIM #27 is located on MN 60 near St. James in Watonwan county.

## System Operation

WIM #27 was operational for the entire month of October 2018. Volume was computed using all monthly data.

## System Calibration

WIM #27 was most recently calibrated on 2018-04-18. 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 within +/- 9% of baseline calibration values for lanes 1 and 4 but not lanes 2 and 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: 187358 | Passenger Vehicles: 151826 | Heavy Commercial Vehicles: 35532

Monthly Average Daily Traffic (MADT): 6044 | Monthly Heavy Commercial Average Daily Traffic (MHCADT): 1146

See Table 2 for vehicle class breakdown

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

**Volume trends.** EB vehicles typically reached highest volume levels on Sundays, with lowest volumes reported on Wednesdays. WB vehicles typically reached highest volume levels on Fridays, with lowest volumes reported on Wednesdays (see Figure 3 and 4).

### Passenger Vehicles (PVs)

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

### Heavy Commercial Vehicles (HCVs)

**Volume trends.** On an average 24-hour day, HCVs traveling EB typically reached peak volume levels between 03 PM and 05 PM, while volume going WB 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 35532 HCVs, 6152 of them were overweight<sup>3</sup>. These overweight HCVs contributed to 3.6% of total monthly volume, and 19% of total monthly HCV volume. EB overweight vehicles typically reached highest numbers on Fridays, with lowest volumes reported on Saturdays. WB overweight vehicles tended to reach highest volumes on Mondays, with lowest volumes reported on Saturdays. 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 72.2% of all overweight vehicles traveling EB 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 January.

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 ,832 EB vehicles exceeded 88,000 pounds (322 vehicles were Class 9's; 241 vehicles were Class 13's). Of vehicles traveling WB,

86 EB vehicles exceeded 88,000 pounds (36 vehicles were Class 10's; 30 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 EB, while there were more fully\_loaded Class 9's than empty traveling WB. Data also suggests that there were more fully\_loaded Class 10's than empty traveling in the EB direction. In the WB direction, there were more fully\_loaded class 10 vehicles.

**Freight Totals.** A total of 361335 tons of freight was recorded to have crossed the WIM. More freight was shipped EB (54.2%) than WB (45.8%). See Table 4 and Figure 11 for more freight information.

## Infrastructure Considerations

**Bridge.** Bridge No. 93716, an arch pipe, is approximately 3.0 miles west of WIM #27 and Bridge No. 83030 is approximately 8.1 miles east of WIM #27. WIM #27 recorded a total of 187358 vehicles with a combined GVW of 2381036 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 78483 equivalent single axle loads (ESALs) passed over the pavement at this site. Approximately 81.4% of all ESALs were recorded EB while 18.6% was observed WB. In particular, 55% of all ESALs were generated by the Class 14's (Class 14's were also responsible for generating % 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).

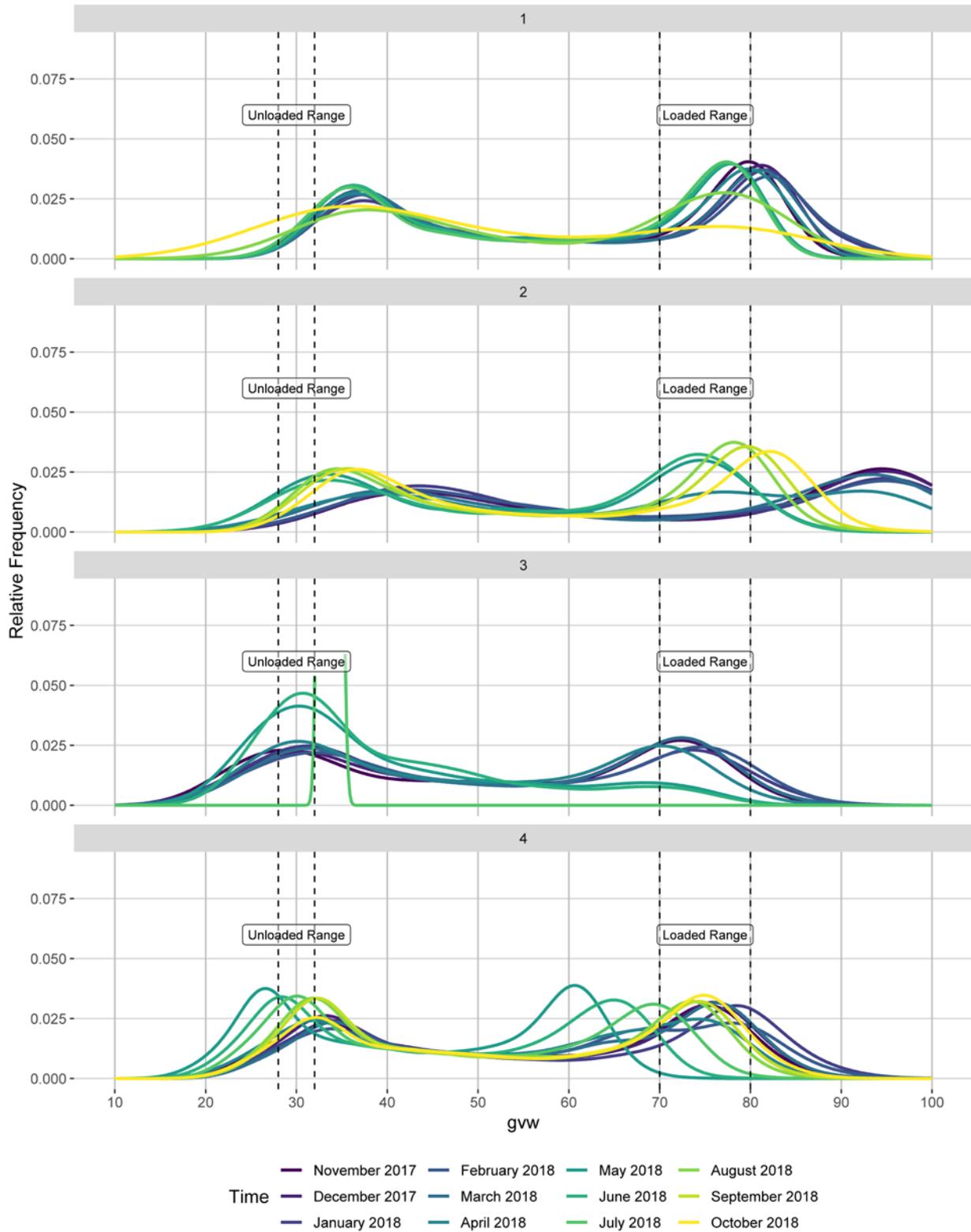
*WIM monthly reports can be found at: <http://www.dot.state.mn.us/traffic/data/reports-monthly-wim.html>*

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.

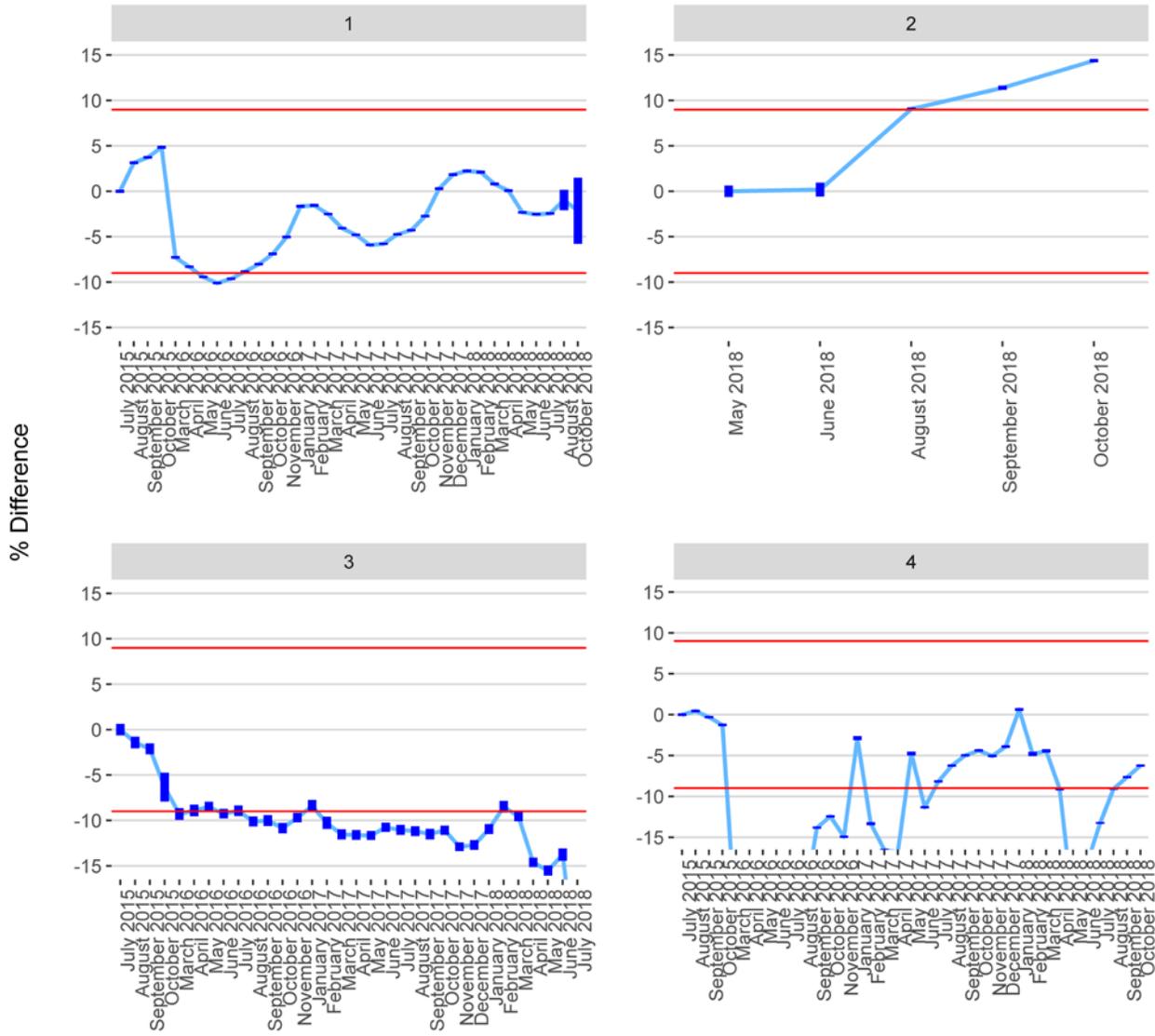
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Figure 1 - Monthly Class 9 GWW Histogram



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

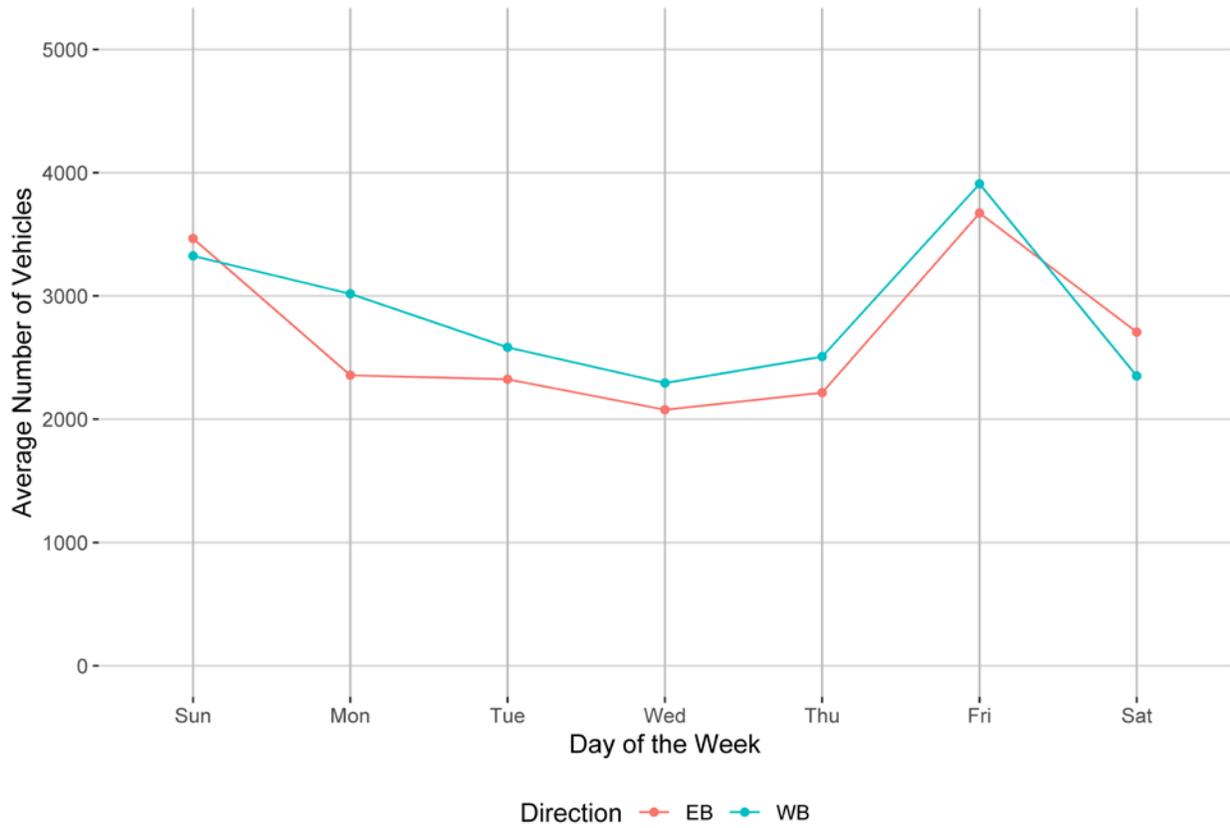


Figure 3 - Average Overweight Vehicle Volume vs. Day of the Week

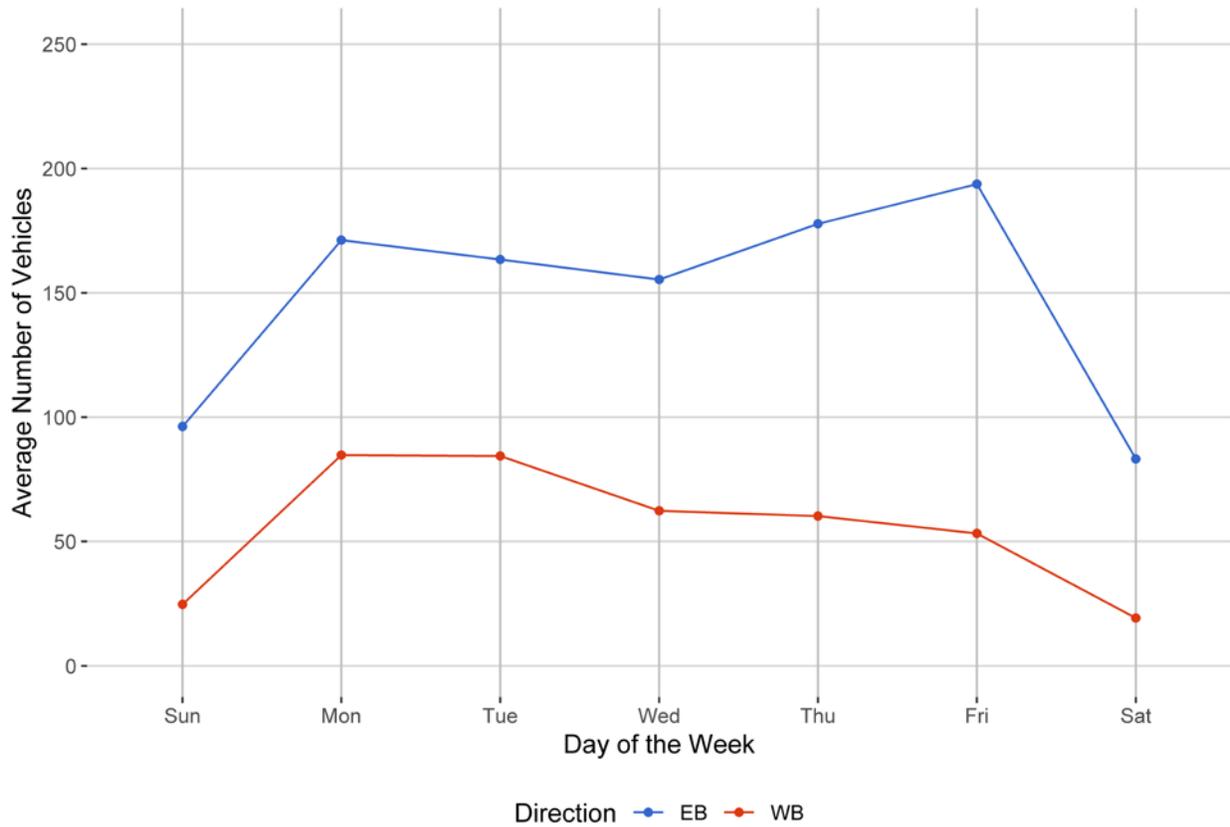


Figure 4 - Passenger Vehicles vs. Hour of the Day

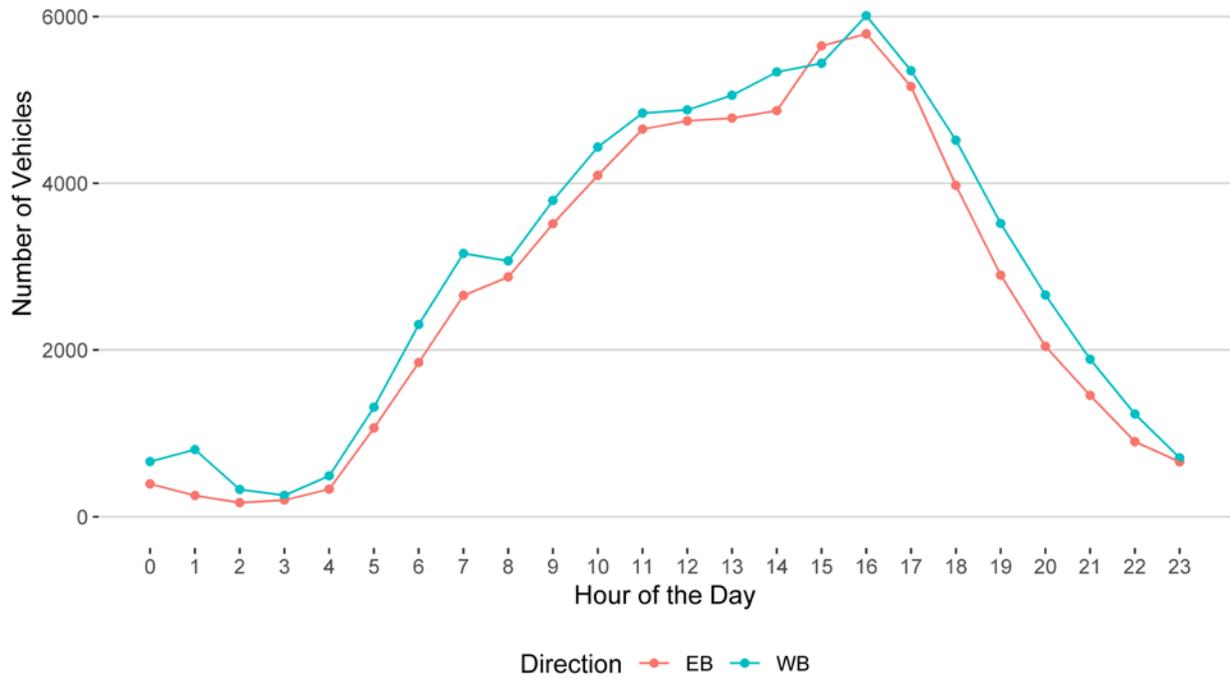


Figure 5 - Heavy Commercial Vehicles vs. Hour of the Day

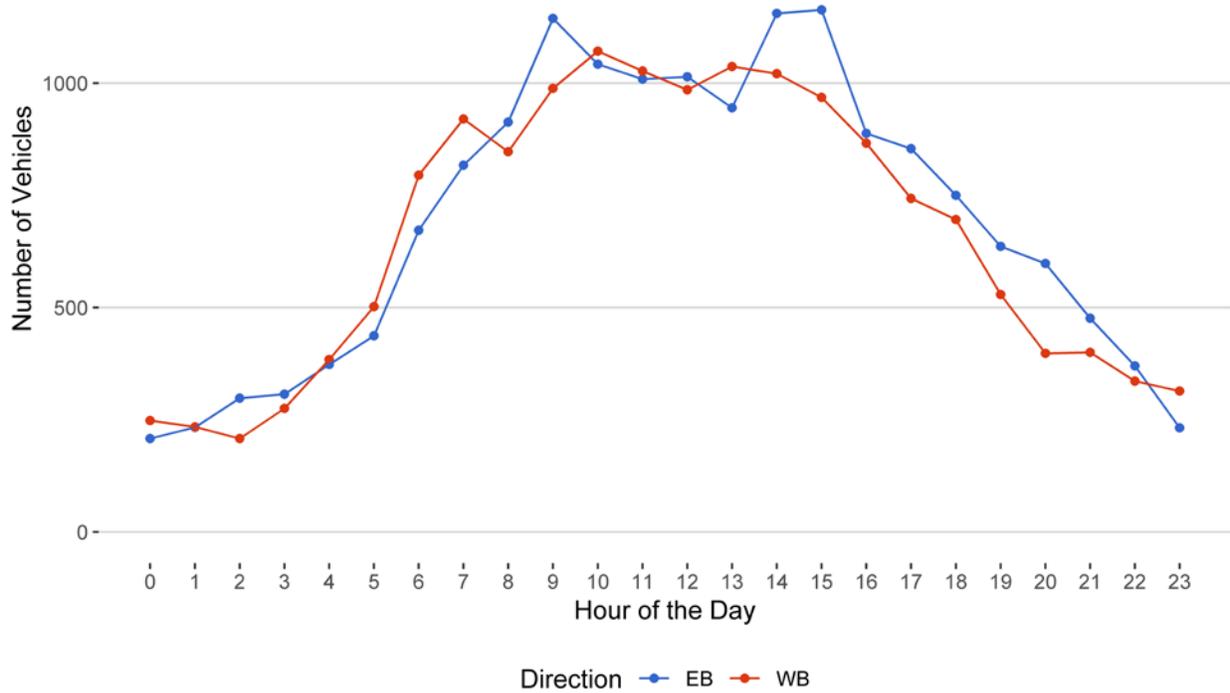


Figure 6 - Overweight Vehicles by Class vs. Hour of the Day

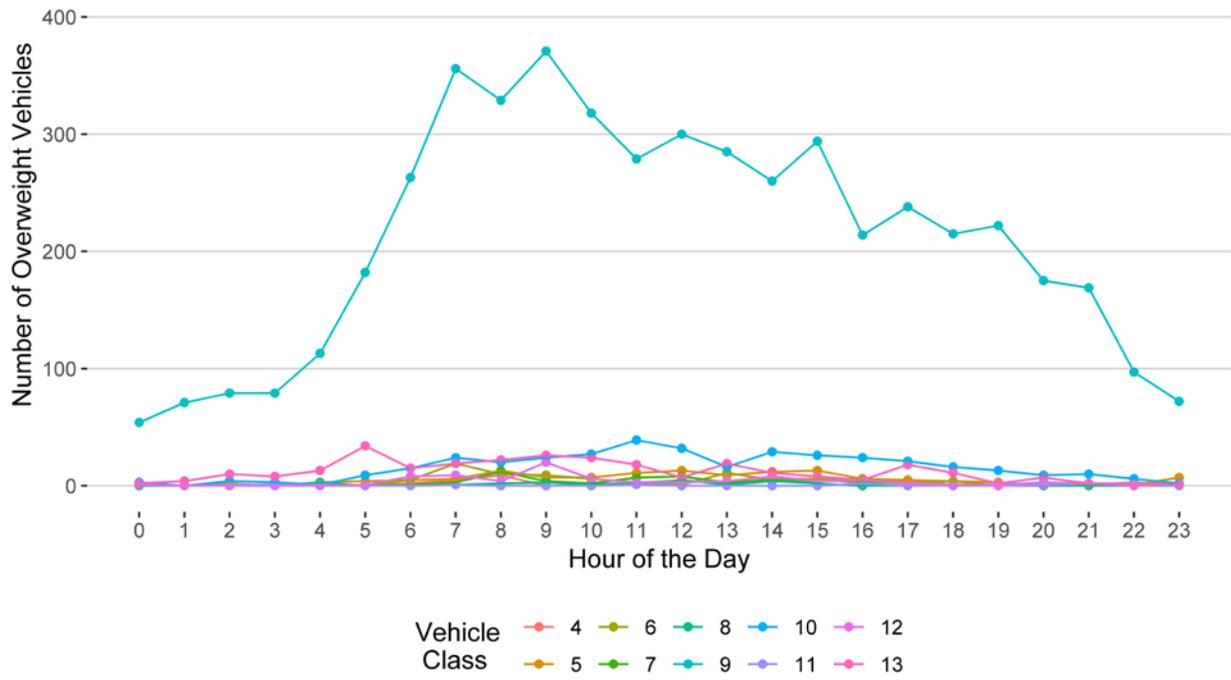


Figure 7 - Overweight Vehicles by Direction  
Hour of the Day

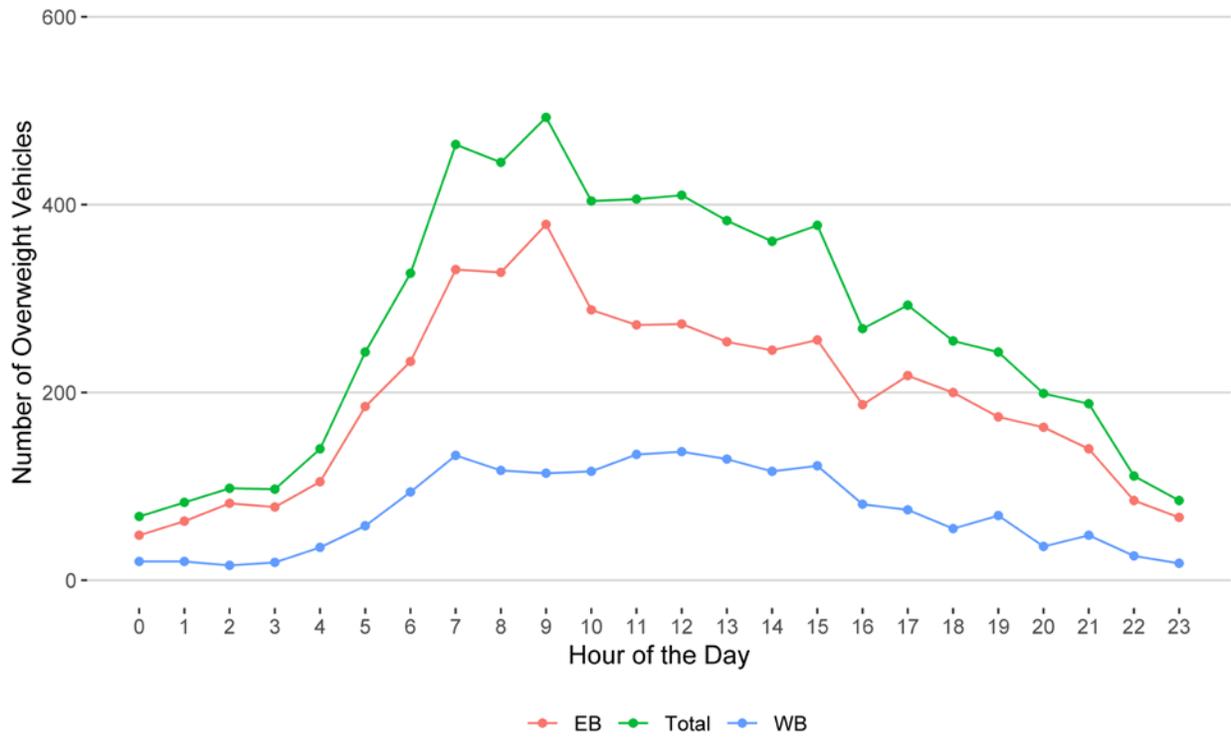
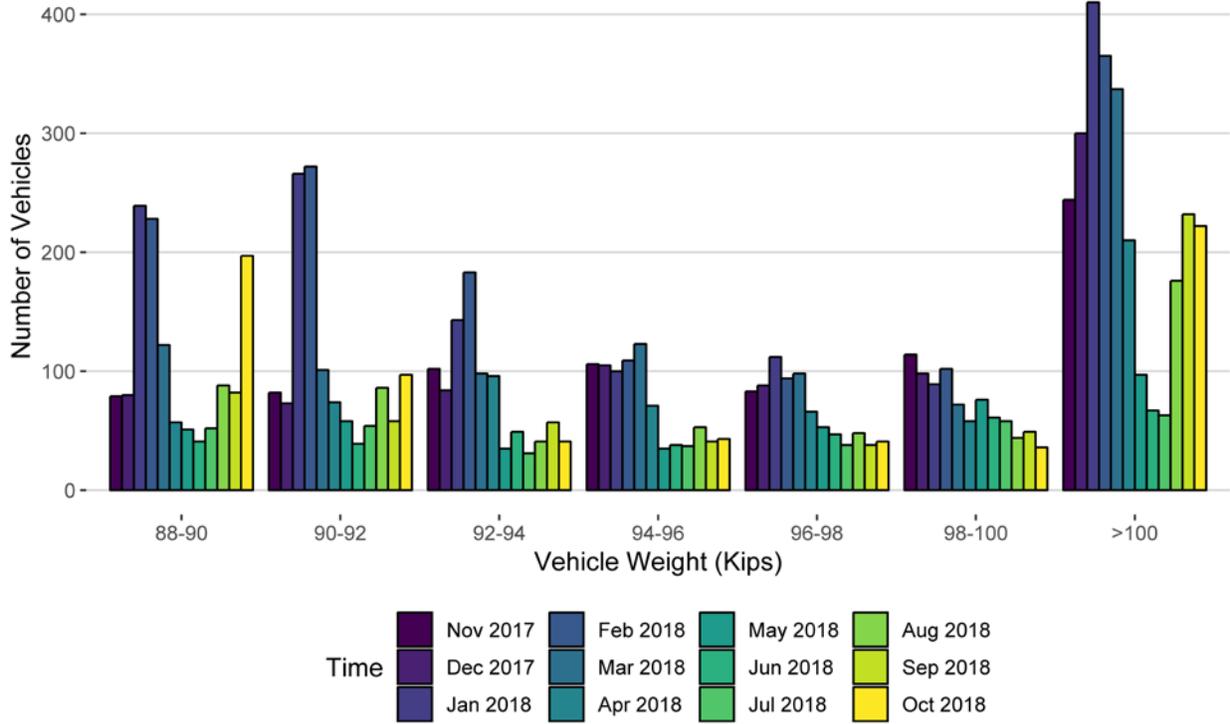
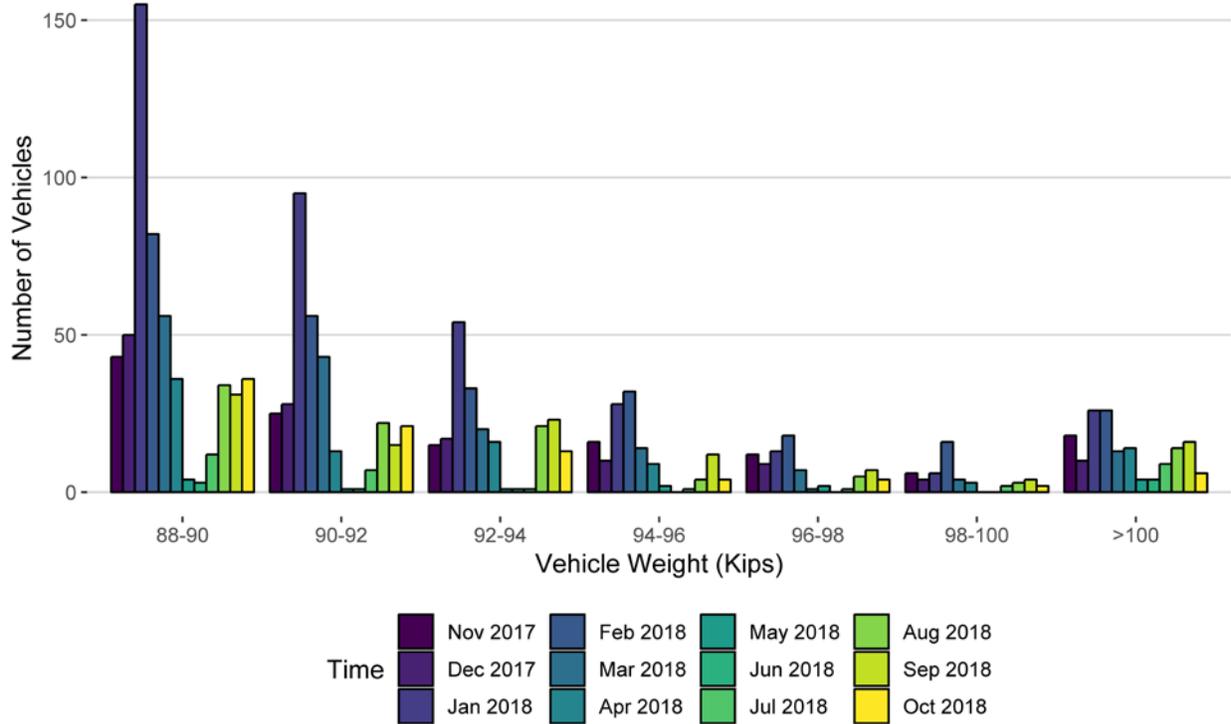


Figure 8 - Histogram of EB Vehicles Over 88,000 Pounds for Current Month



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	79	80	239	228	122	57	51	41	52	88	82	197
90-92	82	73	266	272	101	74	58	39	54	86	58	97
92-94	102	84	143	183	98	96	35	49	31	41	57	41
94-96	106	105	100	109	123	71	35	38	37	53	41	43
96-98	83	88	112	94	98	66	53	47	38	48	38	41
98-100	114	98	89	102	72	58	76	61	58	44	49	36
>100	244	300	410	365	337	210	97	67	63	176	232	222
Total	810	828	1359	1353	951	632	405	342	333	536	557	677

Figure 8 - Histogram of WB 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	43	50	155	82	56	36	4	3	12	34	31	36
90-92	25	28	95	56	43	13	1	1	7	22	15	21
92-94	15	17	54	33	20	16	1	1	1	21	23	13
94-96	16	10	28	32	14	9	2	0	1	4	12	4
96-98	12	9	13	18	7	1	2	0	1	5	7	4
98-100	6	4	6	16	4	3	0	0	2	3	4	2
>100	18	10	26	26	13	14	4	4	9	14	16	6
Total	135	128	377	263	157	92	14	9	33	103	108	86

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

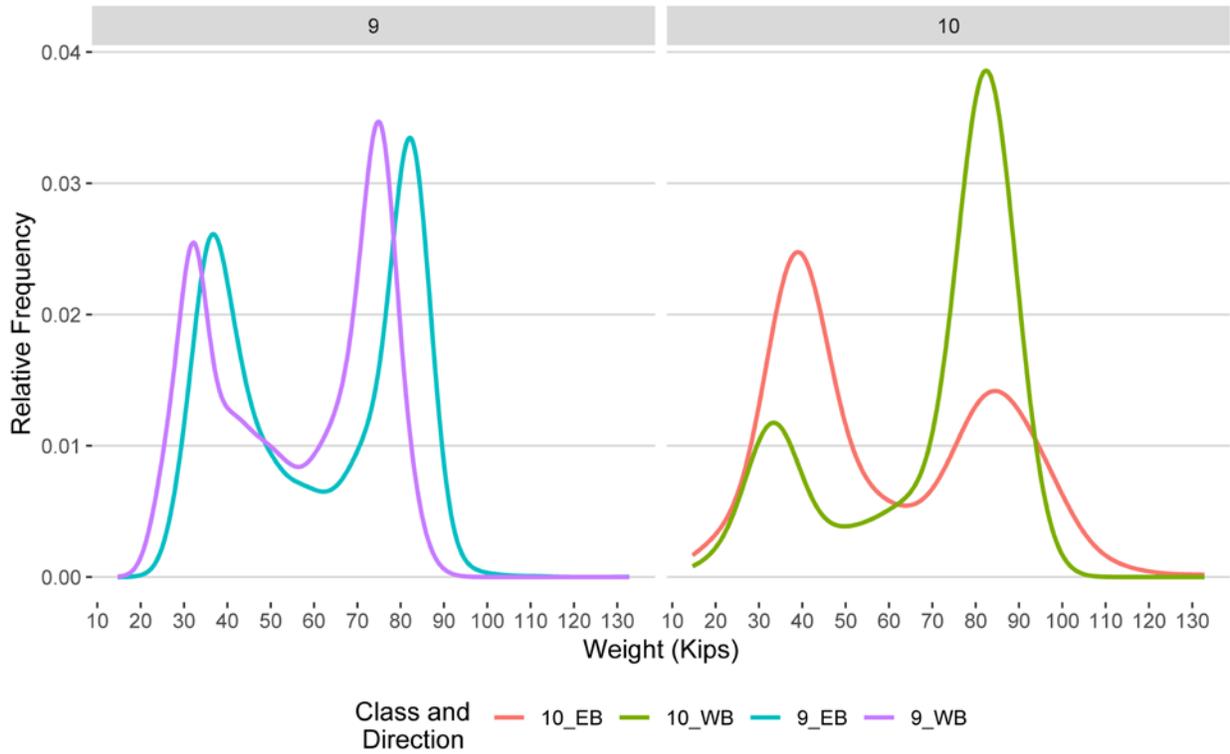


Figure 9 - Freight Percentage by Direction and Class

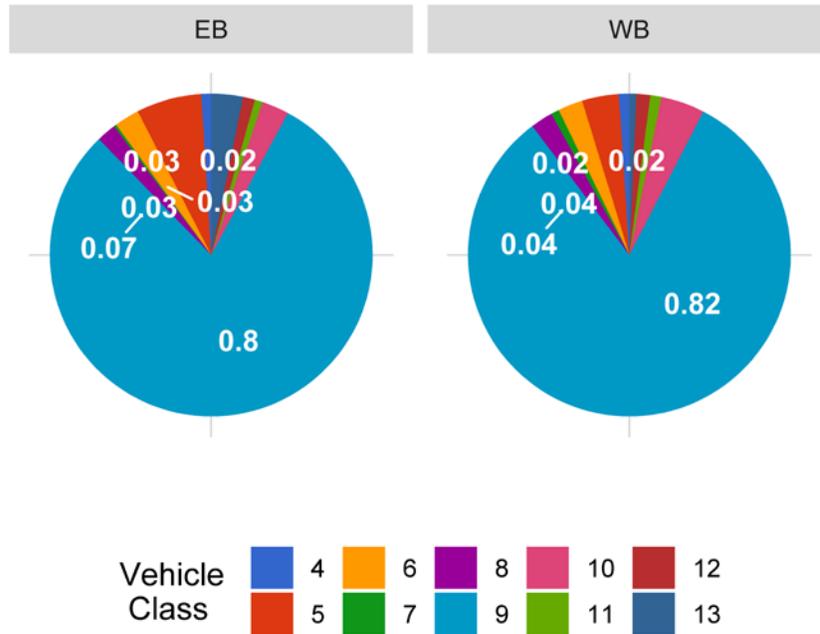


Figure 10 - Total Gross Vehicle Weight Percentage by Class and Lane

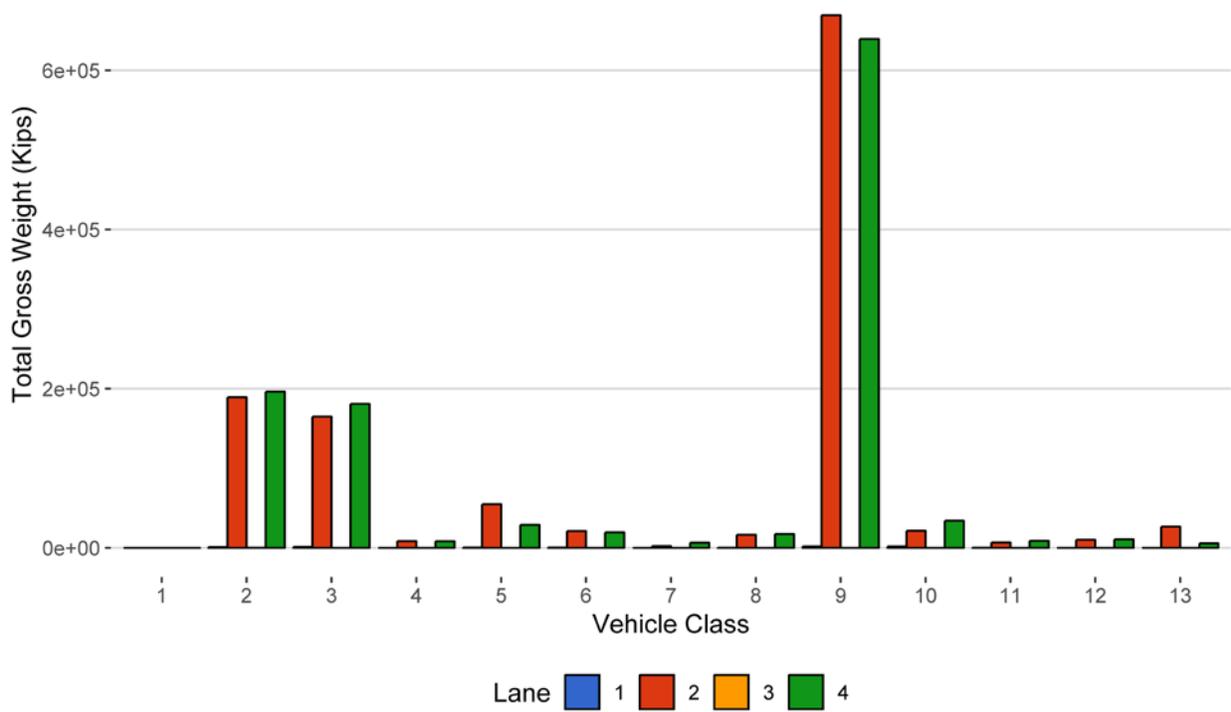


Figure 11 - Total Gross Vehicle Weight t

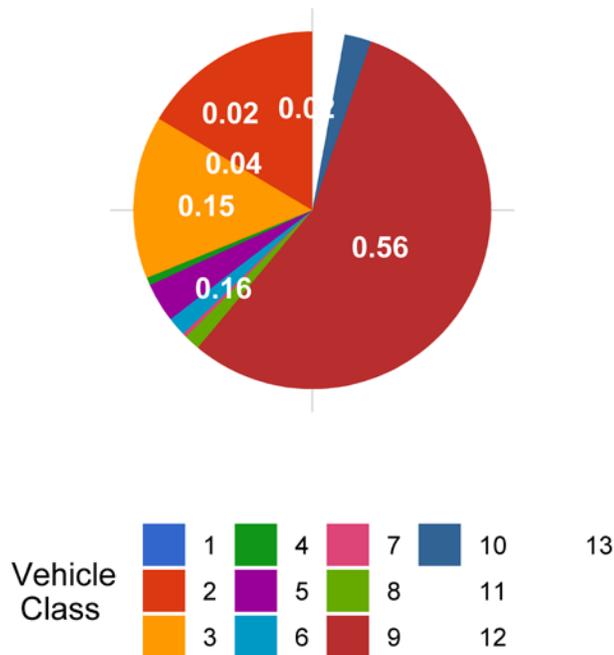


Figure 12 - Total ESALs by Class and Lane

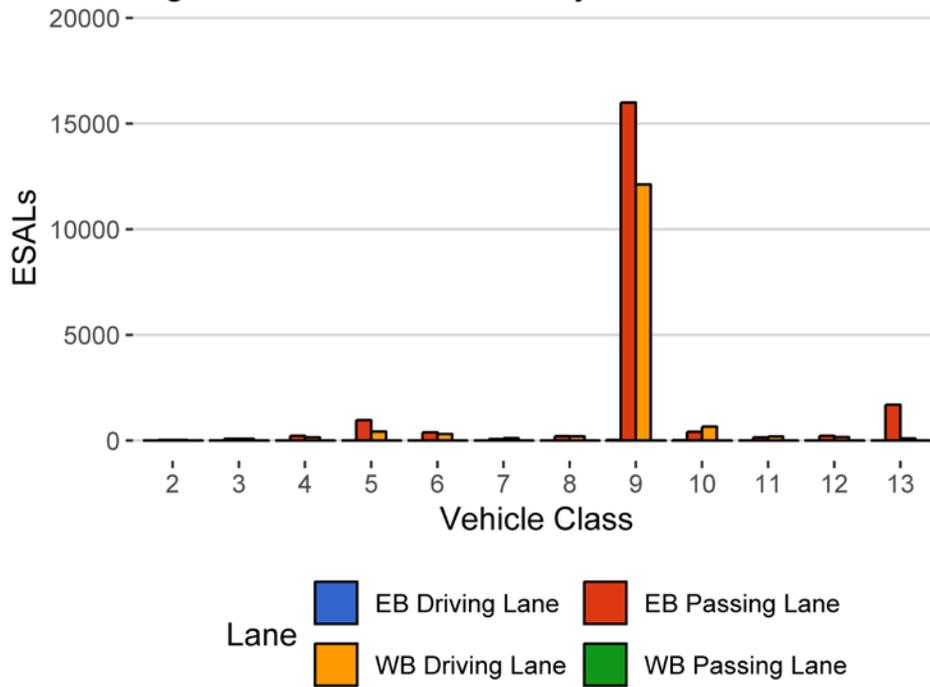
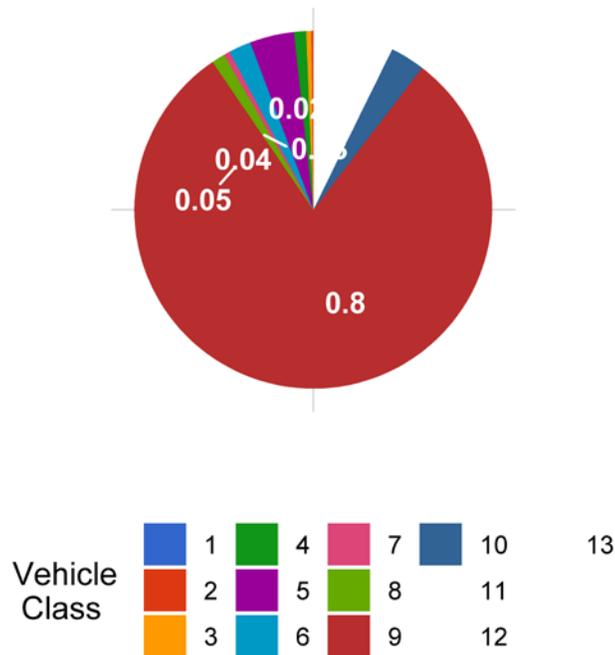


Figure 13 - ESALs by Class



**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>
July 2015	11.23	0.00	NA	NA	12.02	0.00	11.77	0.00
August 2015	11.58	3.14	NA	NA	11.85	-1.42	11.83	0.45
September 2015	11.64	3.73	NA	NA	11.77	-2.12	11.74	-0.31
October 2015	11.77	4.84	NA	NA	11.26	-6.34	11.63	-1.26
March 2016	10.41	-7.28	NA	NA	10.90	-9.29	8.69	-26.23
April 2016	10.29	-8.32	NA	NA	10.95	-8.90	8.97	-23.79
May 2016	10.17	-9.43	NA	NA	11.00	-8.51	8.92	-24.24
June 2016	10.09	-10.11	NA	NA	10.91	-9.26	8.54	-27.43
July 2016	10.14	-9.64	NA	NA	10.95	-8.93	8.69	-26.23
August 2016	10.23	-8.84	NA	NA	10.81	-10.12	9.00	-23.54
September 2016	10.33	-8.02	NA	NA	10.82	-10.01	10.15	-13.83
October 2016	10.45	-6.90	NA	NA	10.72	-10.86	10.31	-12.44
November 2016	10.66	-5.04	NA	NA	10.86	-9.69	10.02	-14.93
January 2017	11.04	-1.66	NA	NA	11.01	-8.41	11.44	-2.87
February 2017	11.05	-1.55	NA	NA	10.79	-10.28	10.20	-13.33
March 2017	10.94	-2.52	NA	NA	10.63	-11.54	9.82	-16.56
April 2017	10.77	-4.06	NA	NA	10.63	-11.60	9.80	-16.77
May 2017	10.69	-4.81	NA	NA	10.62	-11.66	11.21	-4.76
June 2017	10.56	-5.91	NA	NA	10.73	-10.76	10.44	-11.33
July 2017	10.58	-5.78	NA	NA	10.69	-11.05	10.81	-8.17
August 2017	10.69	-4.74	NA	NA	10.68	-11.18	11.04	-6.24
September 2017	10.75	-4.28	NA	NA	10.64	-11.51	11.19	-4.99
October 2017	10.92	-2.73	NA	NA	10.69	-11.08	11.26	-4.39
November 2017	11.26	0.29	NA	NA	10.47	-12.89	11.18	-5.06
December 2017	11.43	1.83	NA	NA	10.49	-12.71	11.31	-3.91
January	11.48	2.24	NA	NA	10.70	-10.96	11.85	0.62

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2018								
February 2018	11.46	2.10	NA	NA	11.00	-8.49	11.21	-4.81
March 2018	11.32	0.80	NA	NA	10.87	-9.56	11.25	-4.44
April 2018	11.23	0.07	NA	NA	10.26	-14.62	10.71	-9.08
May 2018	10.97	-2.33	10.73	0.00	10.16	-15.52	8.99	-23.61
June 2018	10.94	-2.54	10.75	0.18	10.37	-13.77	9.61	-18.39
July 2018	10.95	-2.45	NA	NA	8.76	-27.15	10.21	-13.25
August 2018	11.12	-0.96	11.70	9.05	NA	NA	10.71	-9.07
October 2018	10.99	-2.14	12.27	14.38	NA	NA	11.04	-6.24

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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	11	0	0	0
2	3095	95954	51.2	0	0
3	1802	55861	29.8	0	0
4	18	568	0.3	55	0.9
5	178	5515	2.9	134	2.2
6	49	1516	0.8	89	1.4
7	5	163	0.1	56	0.9
8	37	1135	0.6	24	0.4
9	797	24699	13.2	5035	81.8
10	31	966	0.5	373	6.1
11	9	290	0.2	16	0.3
12	11	332	0.2	83	1.3
13	11	348	0.2	287	4.7
<b>TOTAL</b>	<b>6044</b>	<b>187358</b>	<b>100</b>	<b>6152</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>
2018-10-31	Wednesday	20:01:42	9	EB	2	132.82
2018-10-01	Monday	07:24:38	10	EB	2	132.58
2018-10-31	Wednesday	21:25:14	10	EB	2	119.07
2018-10-12	Friday	09:05:03	9	EB	2	114.28
2018-10-29	Monday	06:28:46	10	EB	2	112.35
2018-10-04	Thursday	06:35:29	10	EB	2	111.55
2018-10-05	Friday	15:06:34	9	EB	2	111.33
2018-10-31	Wednesday	21:21:26	9	EB	2	111.21
2018-10-31	Wednesday	21:29:58	9	EB	2	110.07
2018-10-12	Friday	09:02:06	9	EB	2	109.76

**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	EB	15	242	16	6.6	8116	213	2363
5	EB	8	3130	83	2.7	54279	614	14951
6	EB	19	698	49	7	20282	866	3975
7	EB	11.5	41	1	2.4	2099	11	820
8	EB	31	488	155	31.8	12960	3444	1319
9	EB	33	11031	741	6.7	648589	22519	154510
10	EB	33.5	387	25	6.5	22287	619	5080
11	EB	36.5	118	3	2.5	6573	80	1188
12	EB	36.5	146	2	1.4	9975	52	2360
13	EB	31.5	253	0	0	26640	0	9335
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>16534</b>	<b>1075</b>	<b>****</b>	<b>811800</b>	<b>****</b>	<b>195900</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	WB	15	275	22	8	7859	276	2032
5	WB	8	1887	110	5.8	27867	814	6826
6	WB	19	681	135	19.8	17056	2331	3341
7	WB	11.5	107	0	0	6352	0	2561
8	WB	31	545	216	39.6	12345	4966	1073
9	WB	33	11439	2167	18.9	575430	63805	134727
10	WB	33.5	492	56	11.4	32486	1641	8940
11	WB	36.5	146	2	1.4	8609	49	1676
12	WB	36.5	156	1	0.6	10652	20	2497
13	WB	31.5	64	0	0	5540	0	1762
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>15792</b>	<b>2709</b>	<b>****</b>	<b>704196</b>	<b>****</b>	<b>165435</b>
<b>GRAND TOTAL</b>	<b>****</b>	<b>****</b>	<b>32326</b>	<b>3784</b>	<b>173</b>	<b>1515996</b>	<b>102320</b>	<b>361335</b>

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

<i>Vehicle Class</i>	<i>EB Driving Lane</i>	<i>EB Passing Lane</i>	<i>WB Passing Lane</i>	<i>WB Driving Lane</i>	<i>Total</i>	<i>Percentage</i>
1	0	5	0	9	14	0
2	951	189242	17	196211	386420	16.4
3	993	164860	7	180788	346648	14.7
4	0	8329	0	8135	16464	0.7
5	219	54673	8	28673	83574	3.6
6	239	20908	0	19387	40535	1.7
7	0	2110	0	6352	8462	0.4
8	74	16331	0	17311	33716	1.4
9	1759	669349	0	639235	1310343	55.7
10	1615	21290	0	34126	57032	2.4
11	78	6576	0	8658	15311	0.7
12	0	10028	0	10672	20700	0.9
13	0	26640	0	5540	32180	1.4
<b>TOTAL</b>	<b>5928</b>	<b>1190341</b>	<b>33</b>	<b>1155098</b>	<b>2351400</b>	<b>100</b>
<b>GVW/LANE</b>	<b>0.25</b>	<b>50.62</b>	<b>0</b>	<b>49.12</b>	<b>100</b>	<b>0</b>

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

<i>Vehicle Class</i>	<i>EB Driving Lane</i>	<i>EB Passing Lane</i>	<i>WB Passing Lane</i>	<i>WB Driving Lane</i>	<i>Total</i>	<i>Percentage</i>	<i>Flexible ESAL Factor</i>
1	0	0	0	0	0	0	0.0909
2	0	32	0	27	60	0.17	0.0014
3	0	82	0	82	165	0.47	0.0065
4	0	228	0	158	386	1.1	1.49
5	2	977	0	429	1408	4	0.56
6	5	390	0	315	711	2.02	1.03
7	0	75	0	123	198	0.56	2.6
8	0	215	0	207	423	1.2	0.82
9	30	15994	0	12121	28144	80.06	2.51
10	25	418	0	661	1104	3.14	2.5
11	1	162	0	193	356	1.01	2.63
12	0	230	0	171	402	1.14	2.6
13	0	1694	0	104	1799	5.12	10.96
<b>TOTAL</b>	<b>64</b>	<b>20497</b>	<b>0</b>	<b>14591</b>	<b>35152</b>	<b>100</b>	<b>28</b>
<b>ESALS/LANE</b>	<b>0.2</b>	<b>58.3</b>	<b>0</b>	<b>41.5</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	185838	6195	1101	152807	82.2	33031.5	17.8	91.4	8.6
Dec 2017	177308	5720	956	147682	83.3	29625.9	16.7	91.7	8.3
Jan 2018	150101	4842	998	119156	79.4	30945.3	20.6	91.5	8.5
Feb 2018	140038	5001	998	112090	80	27948.4	20	91.7	8.3
Mar 2018	178661	5763	1052	146045	81.7	32616.1	18.3	91	9
Apr 2018	165715	5524	1050	134201	81	31514.1	19	91.5	8.5
May 2018	207718	6701	1087	174027	83.8	33690.6	16.2	91.7	8.3
Jun 2018	213966	7132	1169	178902	83.6	35064.1	16.4	93.5	6.5
Jul 2018	224589	7245	1193	187591	83.5	36998	16.5	99.8	0.2
Aug 2018	220967	7128	1271	181570	82.2	39396.8	17.8	50.3	49.7
Sep 2018	182915	6097	1161	148079	81	34835.9	19	45.5	54.5
Oct 2018	187358	6044	1146	151826	81	35532	19	49.1	50.9
<b>TOTAL</b>	<b>2235174</b>	<b>-</b>	<b>-</b>	<b>1833976</b>	<b>-</b>	<b>401199</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>186264</b>	<b>6116</b>	<b>1098</b>	<b>152831</b>	<b>82</b>	<b>33433</b>	<b>18</b>	<b>82</b>	<b>18</b>

## ESALS

<i>Month</i>	<i>ESALS EB Passing Lane</i>	<i>ESALS EB Driving Lane</i>	<i>ESALS WB Driving Lane</i>	<i>ESALS WB 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	17031	2164	1100	12578	32873	90	10	4.1
Dec 2017	16997	2090	1002	12066	32154	90	10	5.4
Jan 2018	19812	2473	1222	14703	38210	90	10	15.5
Feb 2018	18052	2347	1003	11230	32632	90	10	20.1
Mar 2018	18827	2876	1191	13157	36051	89	11	6.4
Apr 2018	16746	1881	1202	11196	31025	90	10	4.2
May 2018	16376	979	1737	4705	23796	89	11	2.1
Jun 2018	14800	727	1342	6525	23394	91	9	1.9
Jul 2018	16921	0	9	10572	27502	100	0	1.7
Aug 2018	251	26582	0	14273	41106	35	65	11
Sep 2018	0	211935	0	12648	224583	6	94	15.3
Oct 2018	64	63810	1	14608	78483	19	81	9.9
<b>TOTAL</b>	<b>155877</b>	<b>317864</b>	<b>9809</b>	<b>138258</b>	<b>621809</b>	-	-	-
<b>AVERAGE</b>	<b>12990</b>	<b>26489</b>	<b>817</b>	<b>11522</b>	<b>51817</b>	<b>73</b>	<b>27</b>	<b>8</b>

## Gross Vehicle Weight

<i>Month</i>	<i>GVW EB Passing Lane</i>	<i>GVW EB Driving Lane</i>	<i>GVW WB Passing Lane</i>	<i>GVW WB Driving Lane</i>	<i>Total GVW Kips</i>
Nov 2017	1078220	101733	118530	938490	2236973
Dec 2017	979933	97771	97329	789455	1964488
Jan 2018	1143670	138193	134200	979557	2395620
Feb 2018	1063047	114734	126699	906030	2210510
Mar 2018	1202778	121874	163857	794674	2283183
Apr 2018	1116868	95255	124481	879493	2216097
May 2018	1338183	368	2272	1217015	2557839
Jun 2018	16791	1381273	24	1330177	2728265
Jul 2018	44	1368941	18	1126942	2495945
Aug 2018	5928	1219407	64	1155637	2381036
Sep 2018	1103714	127455	138168	976942	2346279
Oct 2018	1080273	116954	121419	937730	2256376
<b>TOTAL</b>	<b>10129450</b>	<b>4883956</b>	<b>1027063</b>	<b>12032142</b>	<b>28072612</b>
<b>AVERAGE</b>	<b>844121</b>	<b>406996</b>	<b>85589</b>	<b>1002678</b>	<b>2339384</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	6117	3.5	19.7	949	384
Dec 2017	6391	3.7	22.2	957	412
Jan 2018	8282	5.7	27.8	1737	532
Feb 2018	6759	5.2	26	1616	509
Mar 2018	7052	4.1	22.5	1108	426
Apr 2018	5347	3.4	17.5	724	285
May 2018	3103	1.6	9.4	424	177
Jun 2018	2700	1.4	8.6	357	132
Jul 2018	3120	1.5	8.8	367	132
Aug 2018	4961	2.4	13.2	830	388
Sep 2018	6349	3.6	17.7	1374	825
Oct 2018	6442	3.8	19.6	918	383
<b>TOTAL</b>	<b>66623</b>	<b>-</b>	<b>-</b>	<b>11361</b>	<b>4585</b>
<b>AVERAGE</b>	<b>5551.9</b>	<b>3.3</b>	<b>17.8</b>	<b>946.8</b>	<b>382.1</b>

## Freight

<i>Month</i>	<i>EB Freight Tons</i>	<i>WB Freight Tons</i>	<i>Total Freight</i>	<i>EB Freight %</i>	<i>WB Freight %</i>
Nov 2017	197631	156250	353880	55.8	44.2
Dec 2017	190642	145269	335911	56.8	43.2
Jan 2018	211839	163825	375664	56.4	43.6
Feb 2018	191924	133687	325611	58.9	41.1
Mar 2018	212669	160954	373623	56.9	43.1
Apr 2018	192828	145227	338055	57	43
May 2018	196583	85794	282376	69.6	30.4
Jun 2018	177370	102298	279667	63.4	36.6
Jul 2018	193176	140629	333805	57.9	42.1
Aug 2018	207876	169241	377118	55.1	44.9
Sep 2018	207918	146232	354150	58.7	41.3
Oct 2018	195900	165435	361335	54.2	45.8
<b>TOTAL</b>	<b>2376356</b>	<b>1714839</b>	<b>4091196</b>	-	-
<b>AVERAGE</b>	<b>198029.7</b>	<b>142903.3</b>	<b>340933</b>	<b>58.4</b>	<b>41.6</b>