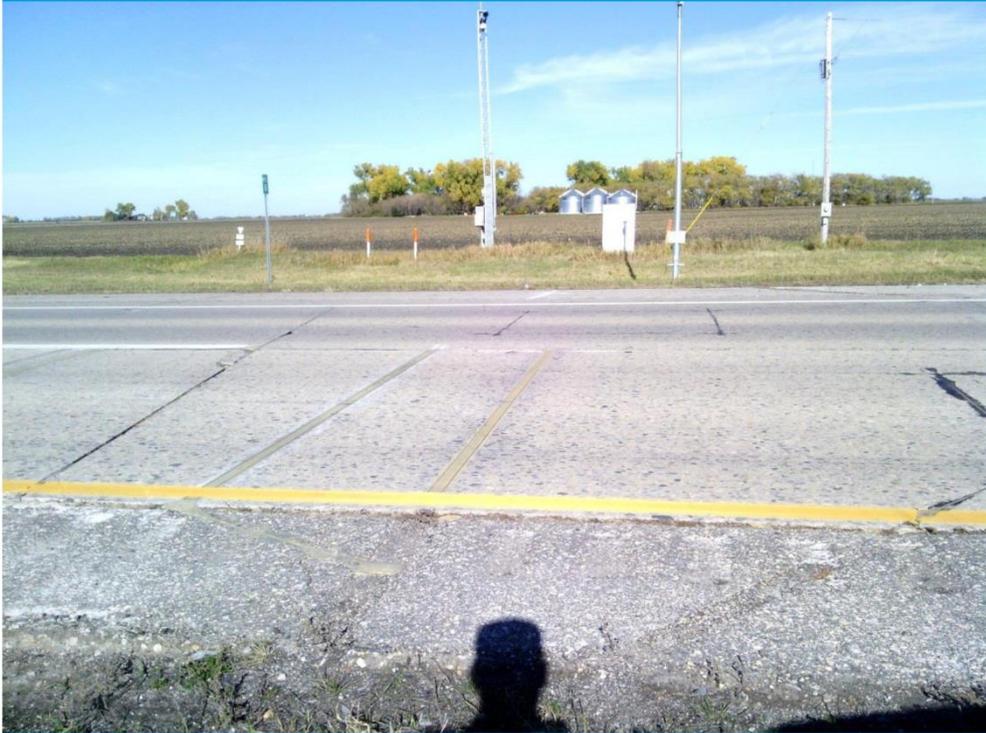


SEPTEMBER 2019



**WIM #31  
US 2, MP 8.0  
EAST GRAND  
FORKS, MN**

**MONTHLY  
REPORT**



*Your Destination...Our Priority*



## WIM Site Location

WIM #31 is located on US 2 near East Grand Forks in Polk county.

## System Operation

WIM #31 was operational for the entire month of September 2019. Volume was computed using all monthly data.

## System Calibration

WIM #31 was most recently calibrated on 2016-11-01. Table 1 summarizes the front axle weights of class 9s by lane <sup>1</sup>. 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: 169080 | Passenger Vehicles: 152508 | Heavy Commercial Vehicles: 16572

Monthly Average Daily Traffic (MADT): 5671 | Monthly Heavy Commercial Average Daily Traffic (MHCADT): 552

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 Fridays, with lowest volumes reported on Sundays. WB vehicles typically reached highest volume levels on Fridays, with lowest volumes reported on Saturdays (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 16572 HCVs, 1478 of them were overweight <sup>3</sup>. These overweight HCVs contributed to 0.9% of total monthly volume, and 9.1% of total monthly

HCV volume. EB overweight vehicles typically reached highest numbers on Thursdays, with lowest volumes reported on Saturdays. WB 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 10 and class 13 vehicles . Overall, overweight vehicles tended to reach peak volume concentrations during typical business hours, with 68.9% of all overweight vehicles traveling WB 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 ,53 EB vehicles exceeded 88,000 pounds (37 vehicles were Class 13's; 10 vehicles were Class 10's). Of vehicles traveling WB,

193 EB vehicles exceeded 88,000 pounds (155 vehicles were Class 13's; 38 vehicles were Class 10's). Refer to Table 3 for the Top 10 highest recorded GVWs from Classes 9 and 10 from September 2019.

**Loaded vs. Unloaded HCVs.** Figure 10 shows the GVW distributions of Class 9s and 10s in September 2019. 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 128022 tons of freight was recorded to have crossed the WIM. More freight was shipped WB (55.6%) than EB (44.4%). See Table 4 and Figure 11 for more freight information.

####**Infrastructure Considerations Bridge.** Bridge No. 8023 (a box culvert) is approximately 14.6 miles east of WIM #31, and Bridge No. 4700 is 6.4 miles west of WIM #31. WIM #31 recorded a total of 169080 vehicles with a combined GVW of 1377266 kips (1 kip = 1,000 pounds = 0.5 tons) in September 2019. See Table 5 and Figures 12-13 for GVW information by vehicle class and lane.

**Pavement Design.** A total of 9630 equivalent single axle loads (ESALs) passed over the pavement at this site. Approximately 50.2% of all ESALs were recorded WB while 49.8% was observed EB. In particular, 48% of all ESALs were generated by the Class 9's (Class 9's were also responsible for generating 22% 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:

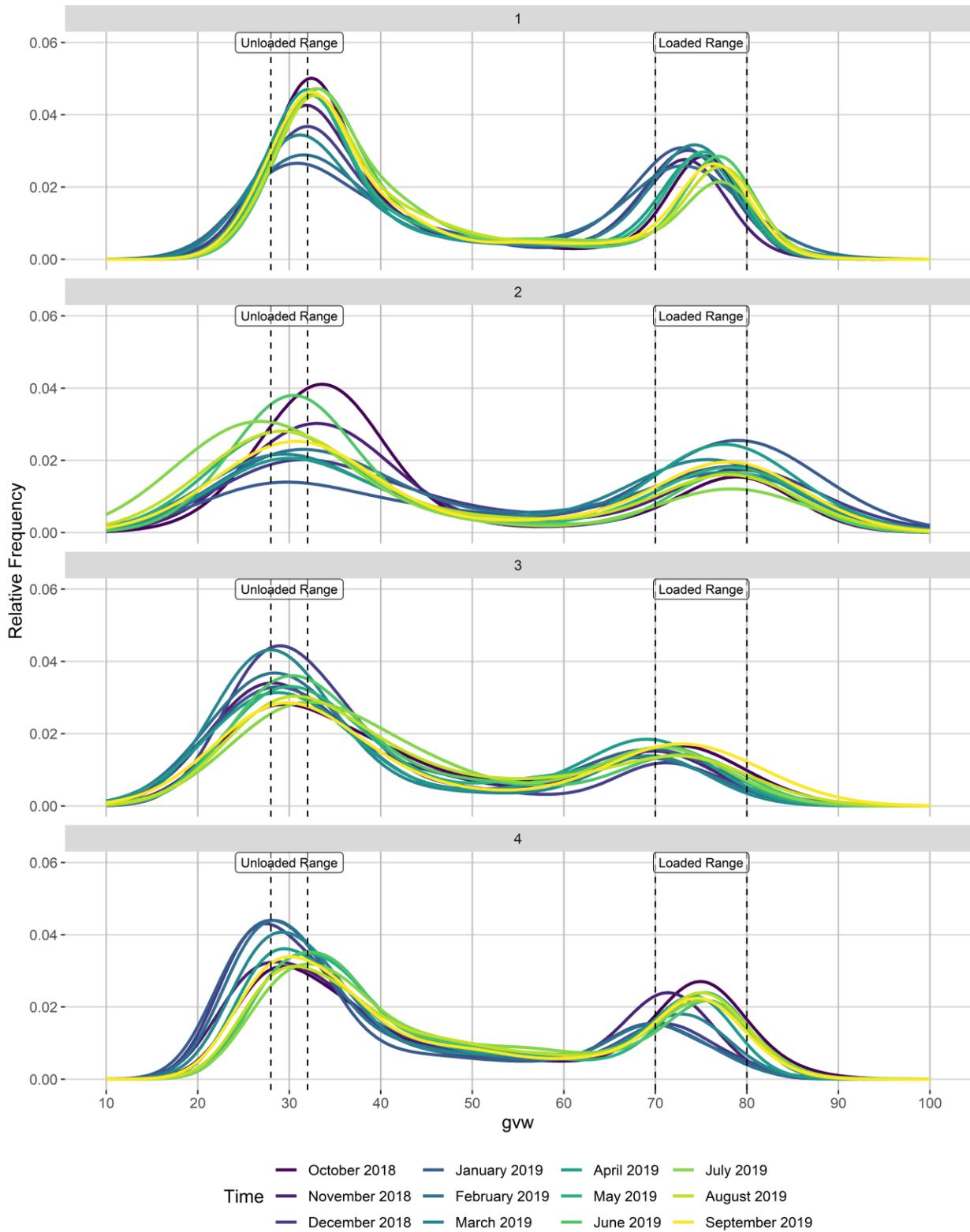
<http://www.dot.state.mn.us/traffic/data/reports-monthly-wim.html> MnDOT's vehicle

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.

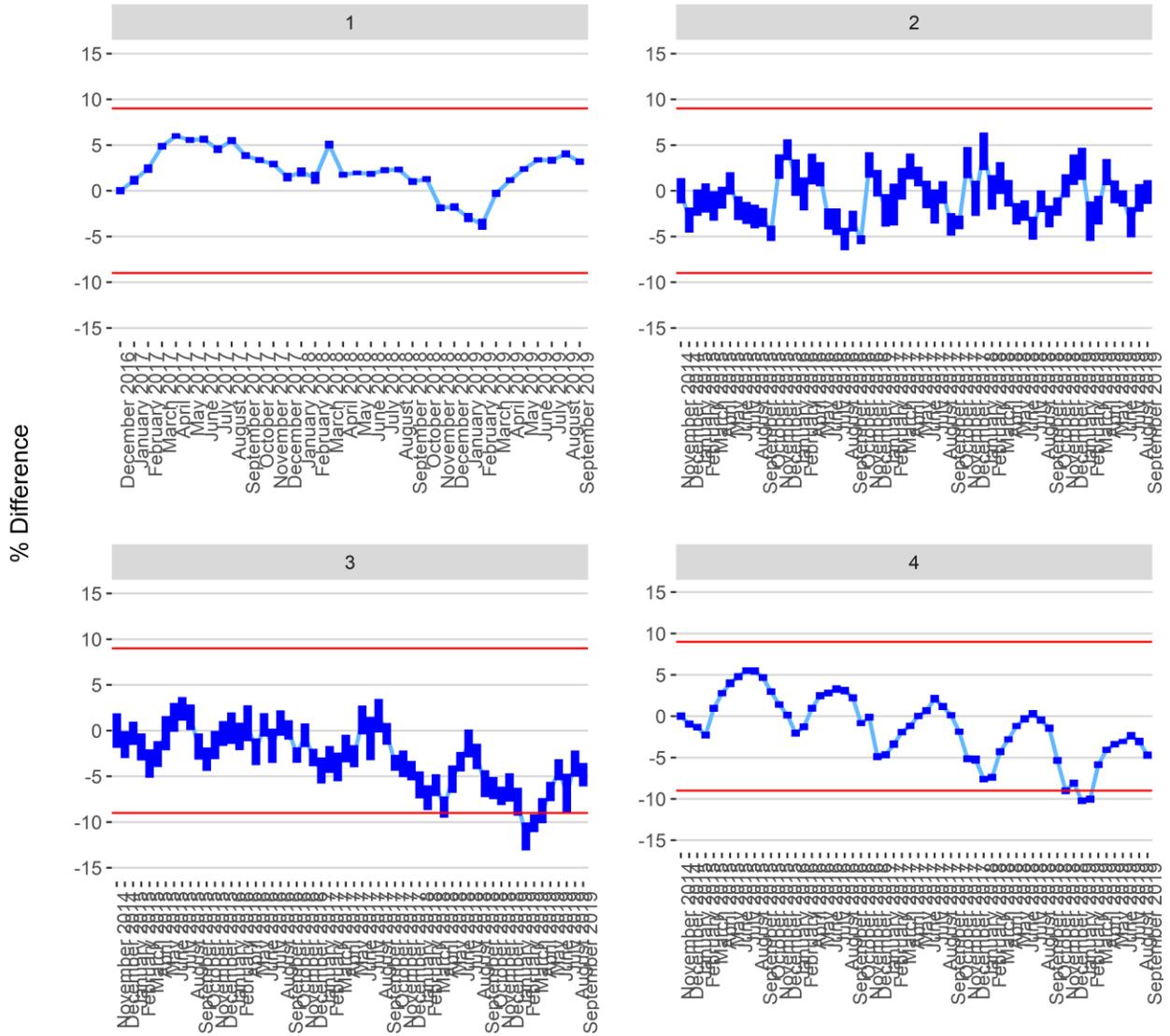
**To request this document in an alternative format, please call 651-366-4718 or 1-800-657-3774, or email your request to [ADArequest.dot@state.mn.us](mailto:ADArequest.dot@state.mn.us). Please request at least one week in advance.**

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

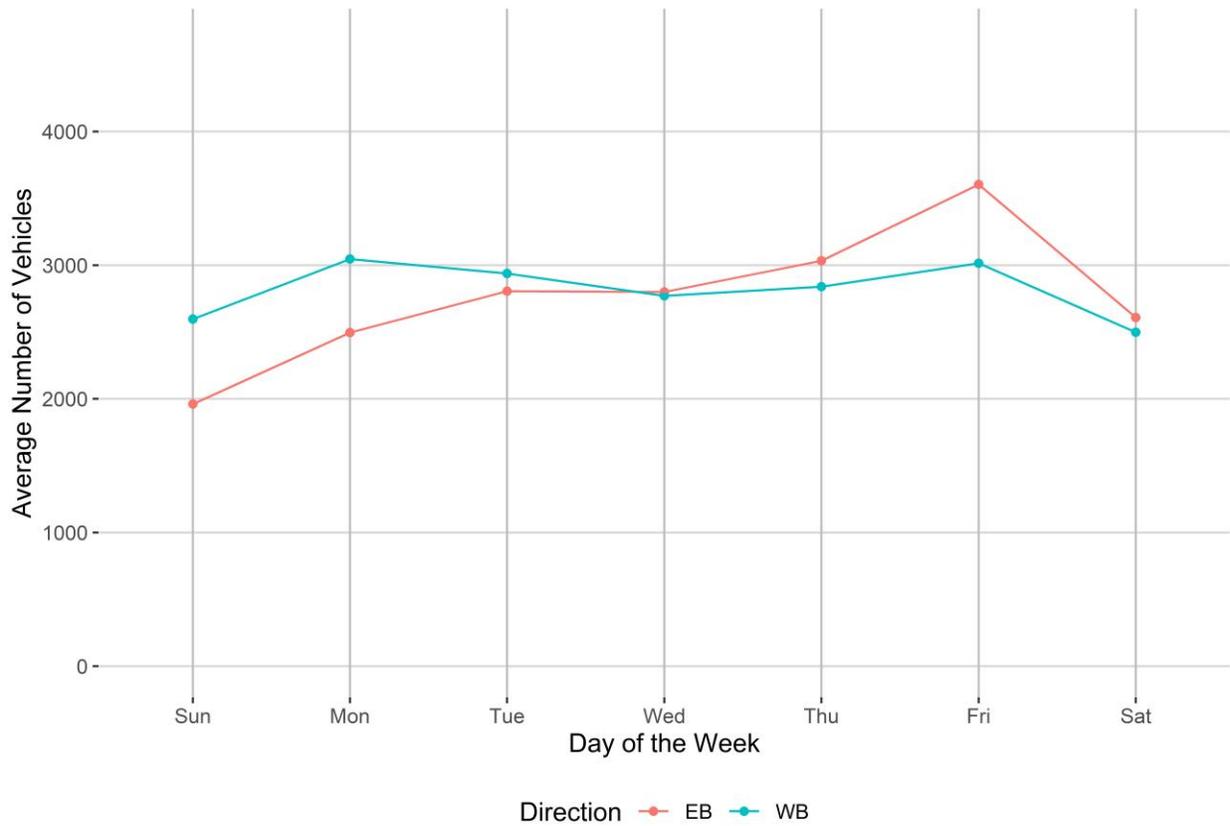


Figure 3 - Average Overweight Vehicle Volume vs. Day of the Week

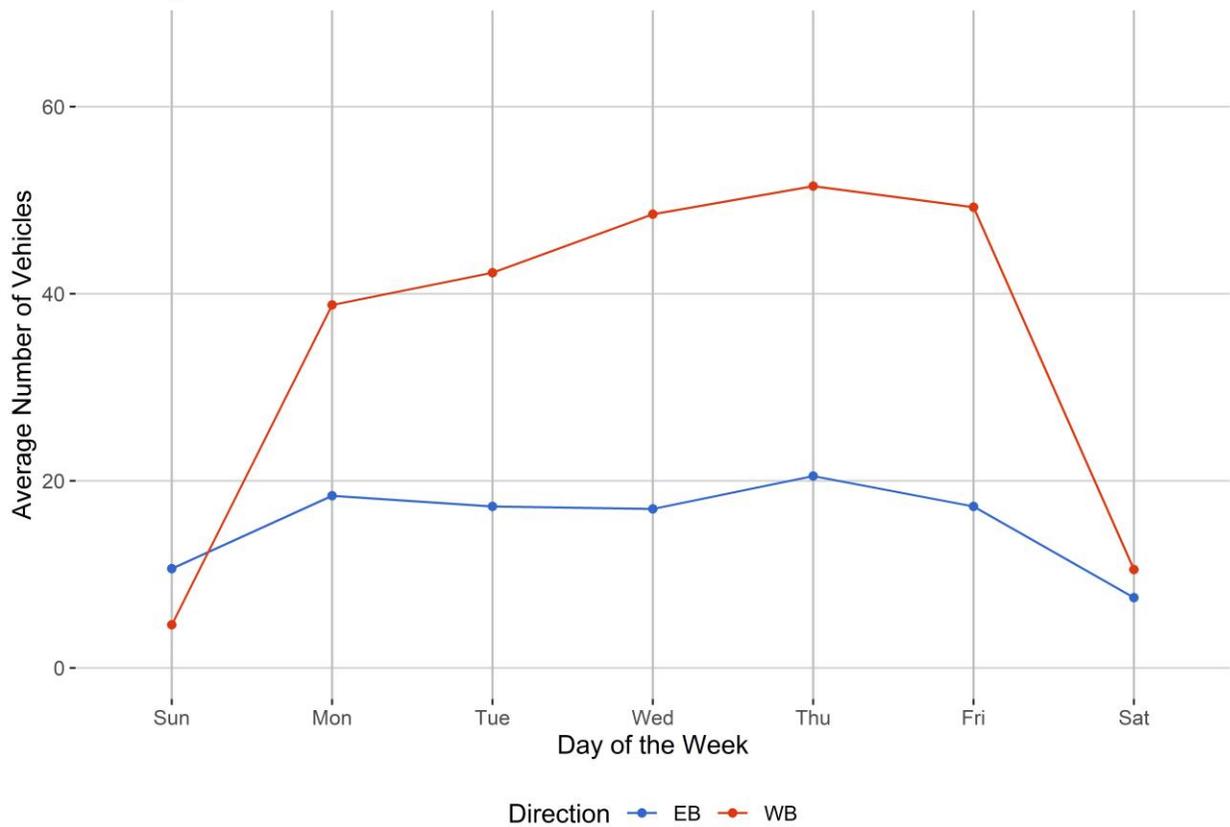


Figure 4 - Passenger Vehicles vs. Hour of the Day

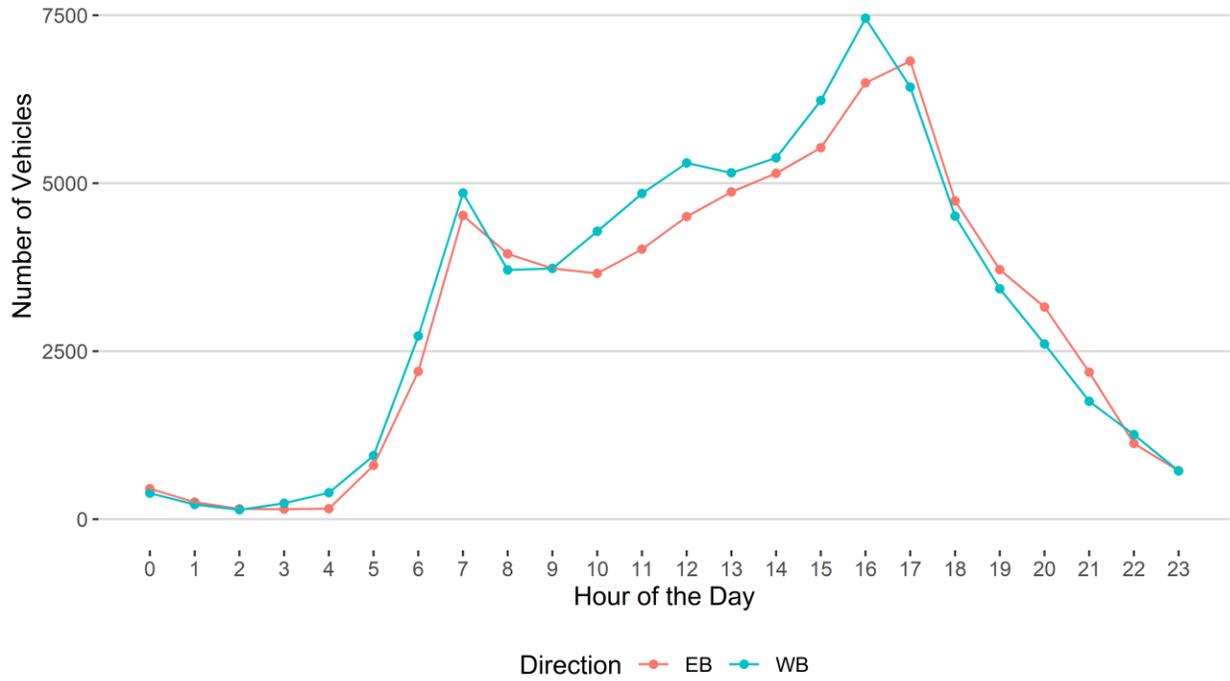


Figure 5 - Heavy Commercial Vehicles vs. Hour of the Day

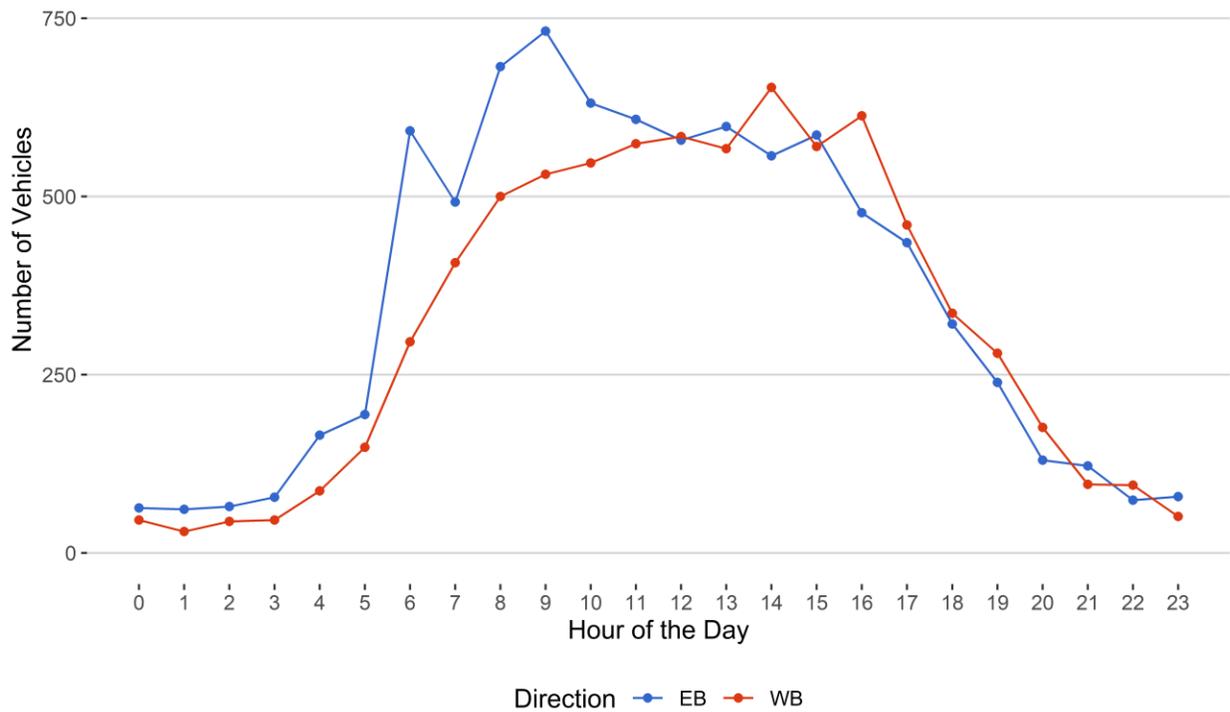




Figure 7 - Overweight Vehicles by Direction  
Hour of the Day

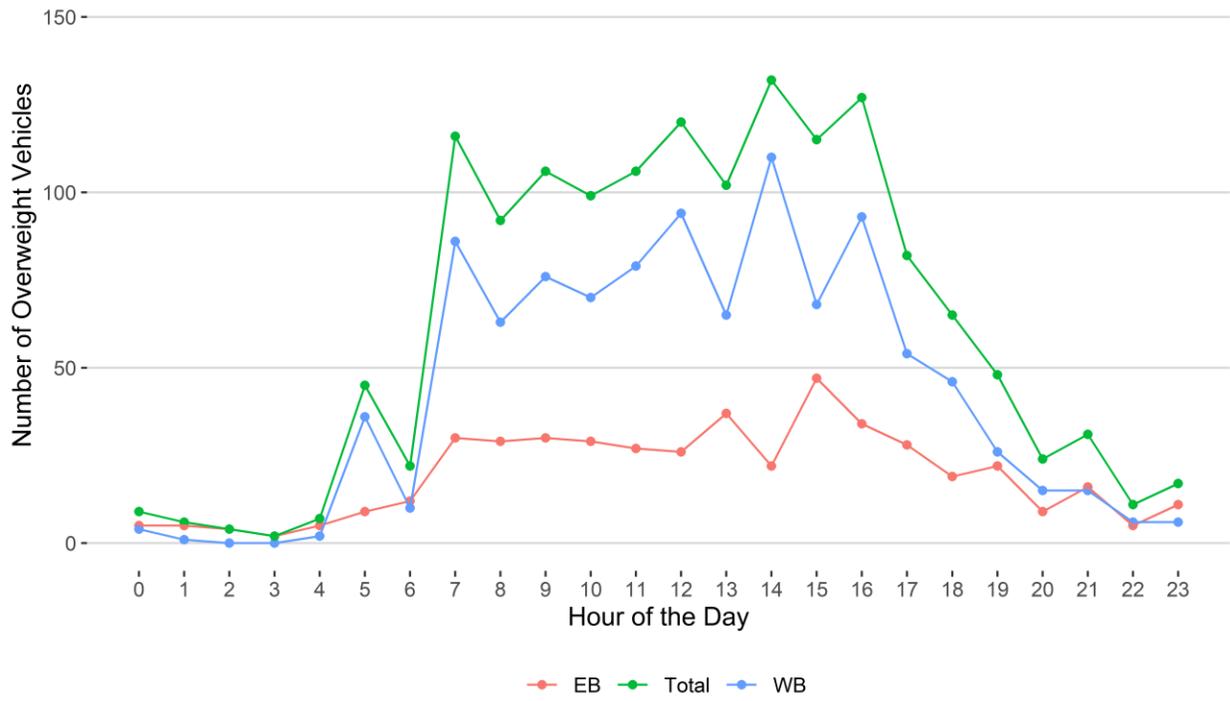
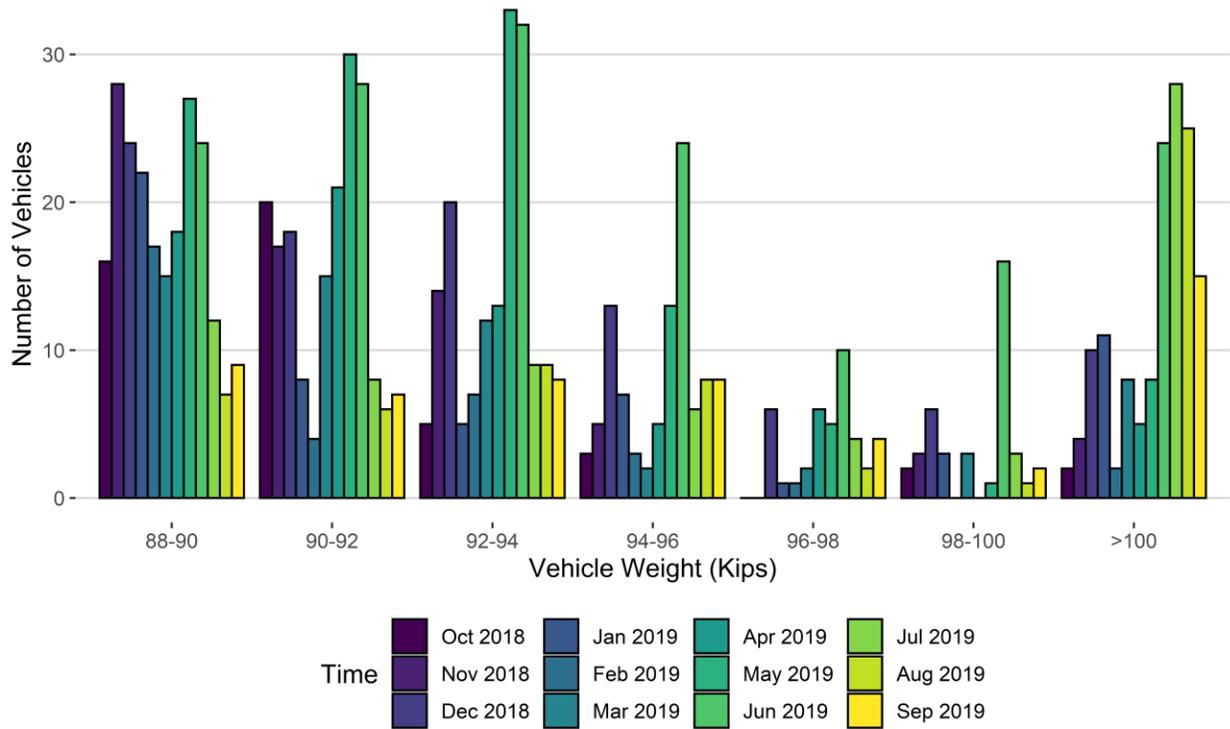
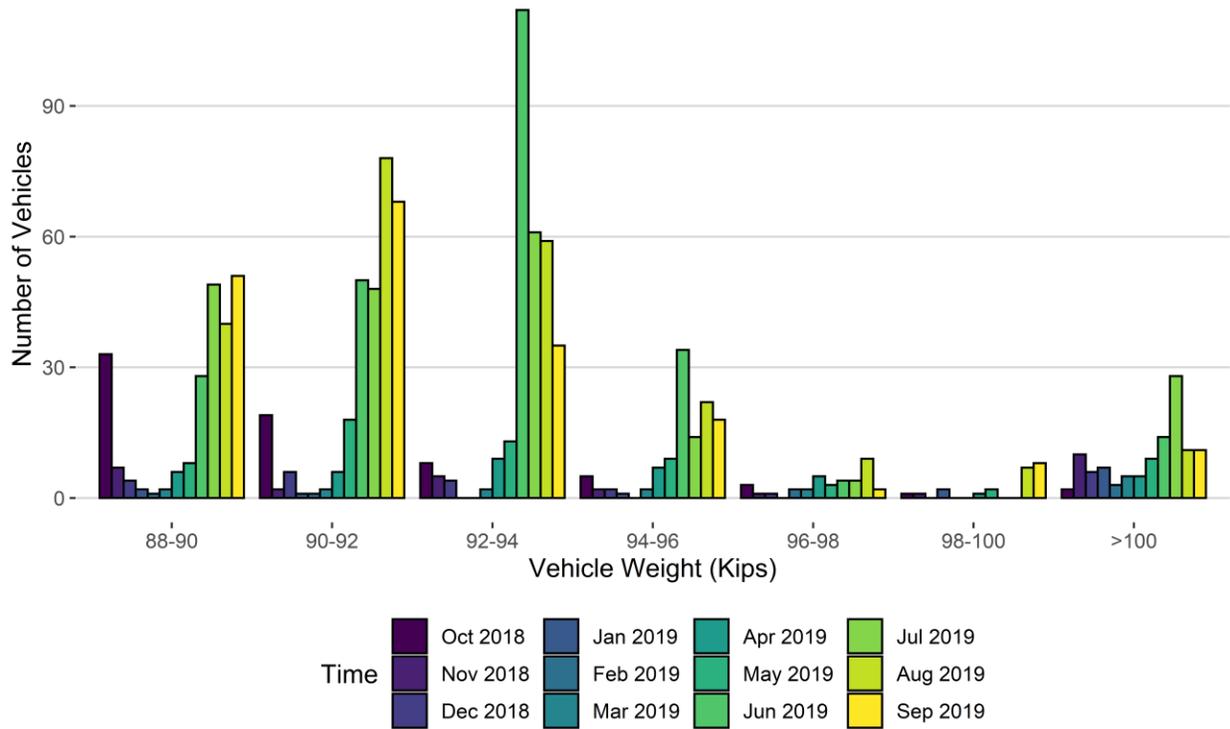


Figure 8 - Histogram of EB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019
88-90	16	28	24	22	17	15	18	27	24	12	7	9
90-92	20	17	18	8	4	15	21	30	28	8	6	7
92-94	5	14	20	5	7	12	13	33	32	9	9	8
94-96	3	5	13	7	3	2	5	13	24	6	8	8
96-98	0	0	6	1	1	2	6	5	10	4	2	4
98-100	2	3	6	3	0	3	0	1	16	3	1	2
>100	2	4	10	11	2	8	5	8	24	28	25	15
<b>Total</b>	<b>48</b>	<b>71</b>	<b>97</b>	<b>57</b>	<b>34</b>	<b>57</b>	<b>68</b>	<b>117</b>	<b>158</b>	<b>70</b>	<b>58</b>	<b>53</b>

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



Vehicle Weights (Kips)	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019	Aug 2019	Sep 2019
88-90	33	7	4	2	1	2	6	8	28	49	40	51
90-92	19	2	6	1	1	2	6	18	50	48	78	68
92-94	8	5	4	0	0	2	9	13	112	61	59	35
94-96	5	2	2	1	0	2	7	9	34	14	22	18
96-98	3	1	1	0	2	2	5	3	4	4	9	2
98-100	1	1	0	2	0	0	1	2	0	0	7	8
>100	2	10	6	7	3	5	5	9	14	28	11	11
<b>Total</b>	<b>71</b>	<b>28</b>	<b>23</b>	<b>13</b>	<b>7</b>	<b>15</b>	<b>39</b>	<b>62</b>	<b>242</b>	<b>204</b>	<b>226</b>	<b>193</b>

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

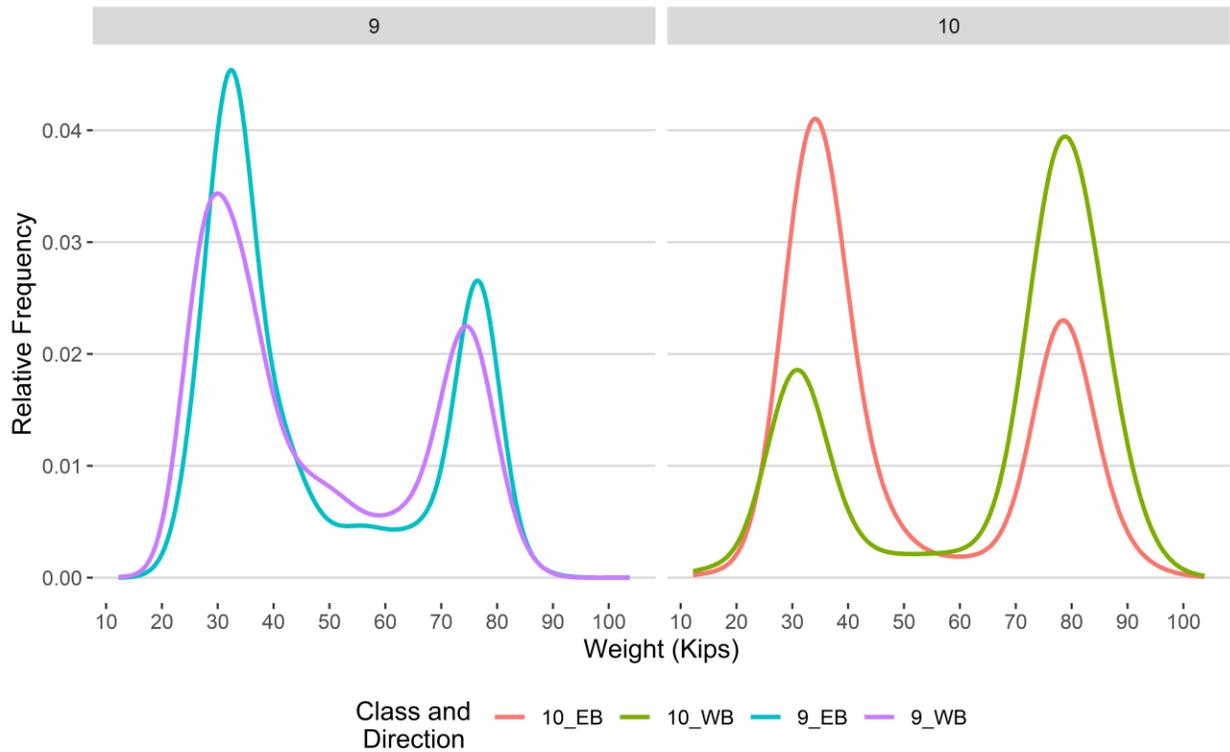


Figure 9 - Freight Percentage by Direction and Class

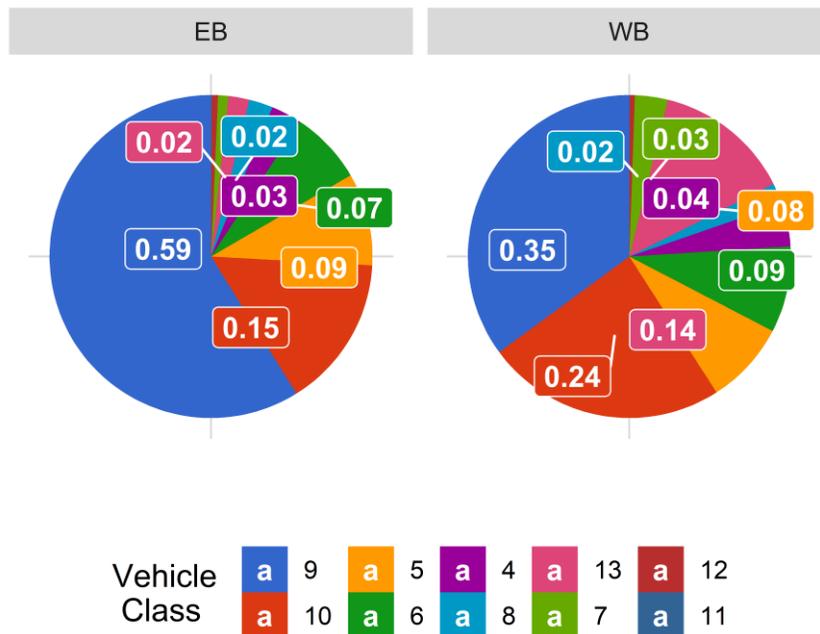


Figure 10 - Total Gross Vehicle Weight Percentage by Class and Lane

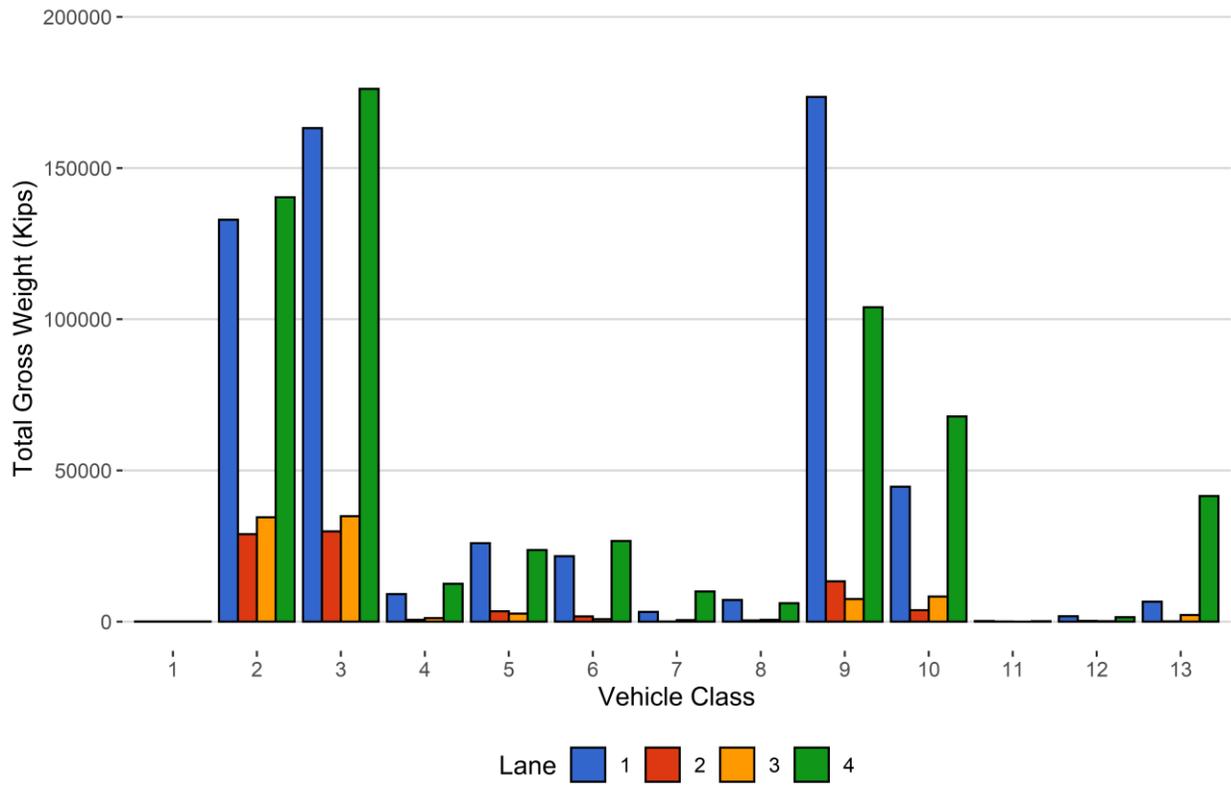


Figure 11 - Total Gross Vehicle Weight t

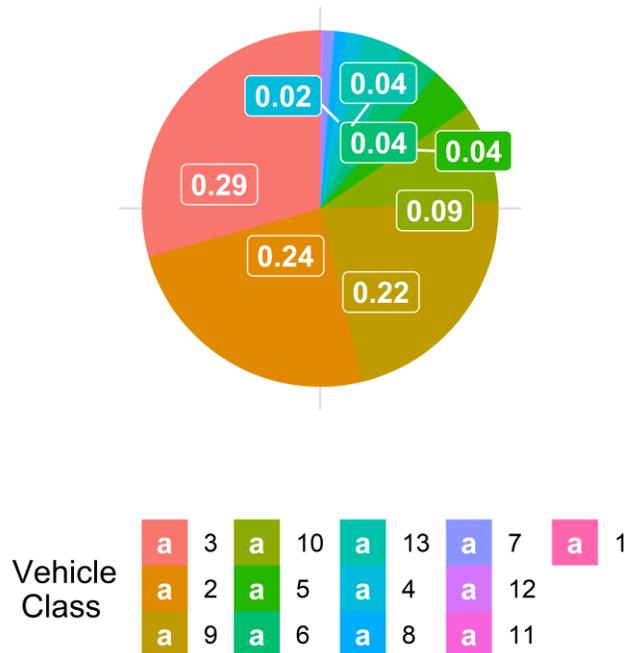


Figure 12 - Total ESALs by Class and Lane

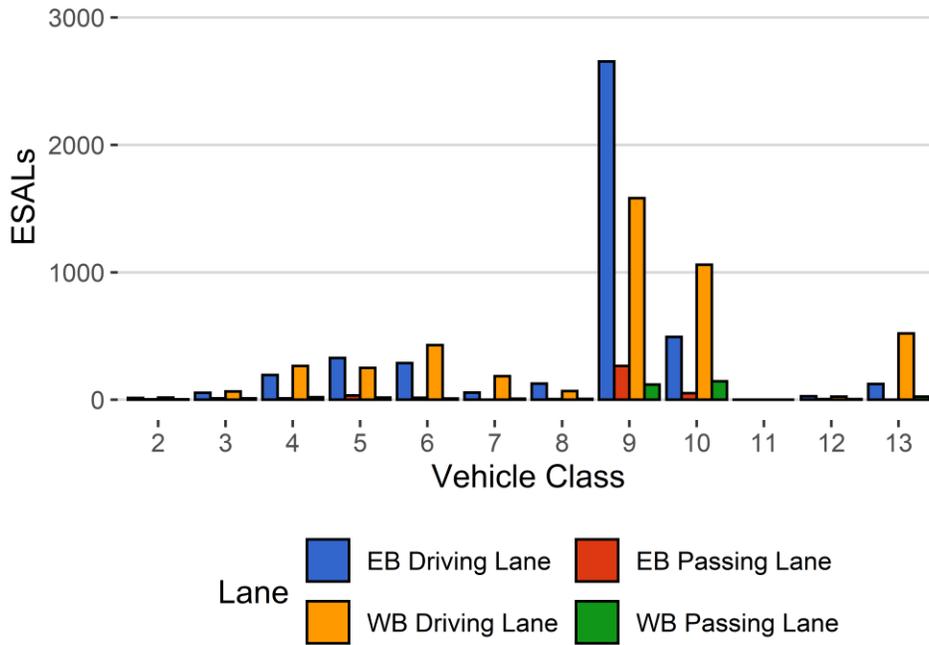
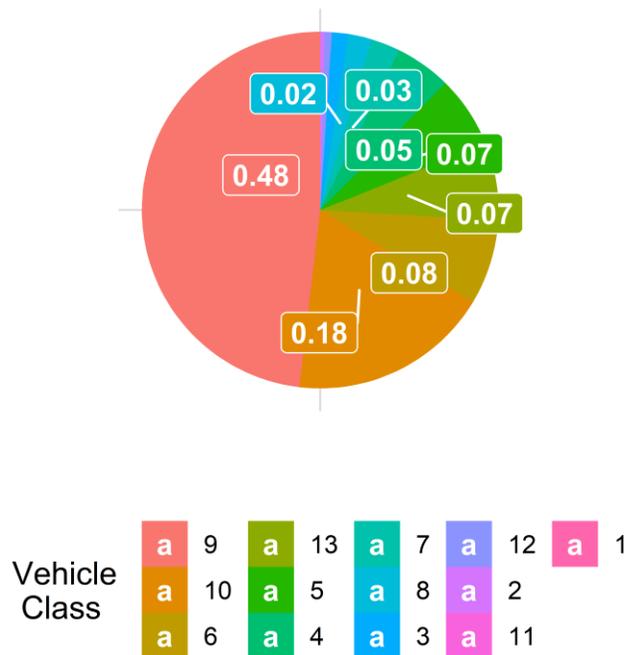


Figure 13 - ESALs by Class



**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>
November 2014	NA	NA	11.17	0.00	10.87	0.00	11.45	0.00
December 2014	NA	NA	10.82	-3.20	10.70	-1.53	11.34	-0.95
January 2015	NA	NA	11.03	-1.29	10.84	-0.29	11.30	-1.33
February 2015	NA	NA	11.09	-0.79	10.68	-1.79	11.19	-2.29
March 2015	NA	NA	10.99	-1.66	10.48	-3.60	11.56	0.95
April 2015	NA	NA	11.09	-0.76	10.59	-2.56	11.77	2.78
May 2015	NA	NA	11.26	0.80	10.84	-0.28	11.91	3.99
June 2015	NA	NA	10.96	-1.90	11.03	1.45	12.00	4.78
July 2015	NA	NA	10.90	-2.43	11.13	2.38	12.08	5.52
August 2015	NA	NA	10.86	-2.82	11.03	1.47	12.08	5.47
September 2015	NA	NA	10.85	-2.92	10.68	-1.74	11.99	4.67
October 2015	NA	NA	10.65	-4.66	10.53	-3.13	11.79	2.97
November 2015	NA	NA	11.47	2.64	10.70	-1.58	11.61	1.41
December 2015	NA	NA	11.68	4.48	10.84	-0.32	11.47	0.13
January 2016	NA	NA	11.33	1.43	10.90	0.27	11.22	-2.05
February 2016	NA	NA	11.14	-0.34	10.80	-0.64	11.30	-1.29
April 2016	NA	NA	11.44	2.37	10.96	0.81	11.56	0.96
May 2016	NA	NA	11.38	1.80	10.62	-2.31	11.74	2.47
June 2016	NA	NA	10.83	-3.09	10.94	0.63	11.77	2.80
July 2016	NA	NA	10.80	-3.39	10.69	-1.66	11.83	3.28
August 2016	NA	NA	10.58	-5.29	10.96	0.83	11.81	3.09
September 2016	NA	NA	10.80	-3.32	10.88	0.07	11.71	2.22
October 2016	NA	NA	10.58	-5.35	10.58	-2.68	11.35	-0.85
November 2016	NA	NA	11.49	2.83	10.82	-0.52	11.44	-0.11
December 2016	10.79	0.00	11.27	0.83	10.55	-2.94	10.89	-4.89

January 2017	10.91	1.14	10.94	-2.14	10.40	-4.36	10.92	-4.67
February 2017	11.05	2.42	11.01	-1.51	10.53	-3.16	11.07	-3.37
March 2017	11.32	4.87	11.26	0.76	10.44	-3.97	11.23	-1.92
April 2017	11.44	5.99	11.47	2.65	10.66	-1.96	11.32	-1.17
May 2017	11.39	5.55	11.35	1.56	10.57	-2.80	11.45	0.02
June 2017	11.40	5.64	11.13	-0.40	11.00	1.16	11.53	0.67
July 2017	11.28	4.55	10.98	-1.72	10.78	-0.86	11.69	2.12
August 2017	11.38	5.49	11.16	-0.18	11.05	1.63	11.59	1.17
September 2017	11.21	3.85	10.76	-3.67	10.83	-0.35	11.47	0.12
October 2017	11.15	3.35	10.79	-3.47	10.49	-3.52	11.24	-1.87
November 2017	11.11	2.93	11.52	3.08	10.48	-3.64	10.86	-5.15
December 2017	10.95	1.49	11.08	-0.83	10.39	-4.38	10.85	-5.24
January 2018	11.01	2.05	11.66	4.31	10.23	-5.93	10.58	-7.61
February 2018	10.94	1.41	11.16	-0.18	10.07	-7.34	10.61	-7.39
March 2018	11.34	5.06	11.33	1.38	10.22	-5.97	10.96	-4.29
April 2018	10.98	1.76	11.14	-0.27	9.96	-8.36	11.13	-2.80
May 2018	11.00	1.95	10.89	-2.53	10.29	-5.31	11.32	-1.18
June 2018	10.99	1.85	10.93	-2.16	10.50	-3.40	11.42	-0.32
July 2018	11.03	2.26	10.72	-4.09	10.72	-1.41	11.49	0.29
August 2018	11.04	2.33	11.05	-1.15	10.56	-2.82	11.40	-0.47
September 2018	10.90	1.00	10.86	-2.81	10.24	-5.80	11.29	-1.44
October 2018	10.93	1.28	10.98	-1.73	10.19	-6.29	10.84	-5.34
November 2018	10.59	-1.87	11.24	0.54	10.10	-7.14	10.42	-9.02
December 2018	10.60	-1.78	11.43	2.31	10.20	-6.22	10.53	-8.09
January 2019	10.48	-2.92	11.50	2.95	10.03	-7.77	10.28	-10.23
February 2019	10.40	-3.67	10.80	-3.34	9.61	-11.58	10.30	-10.03
March 2019	10.76	-0.28	10.94	-2.13	9.77	-10.14	10.78	-5.86

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April 2019	10.92	1.15	11.40	2.03	9.92	-8.75	10.99	-4.07
May 2019	11.05	2.38	11.16	-0.12	10.15	-6.66	11.06	-3.38
June 2019	11.16	3.38	11.08	-0.84	10.41	-4.27	11.10	-3.07
July 2019	11.15	3.33	10.79	-3.45	10.12	-6.89	11.18	-2.37
August 2019	11.23	4.03	11.09	-0.78	10.48	-3.60	11.10	-3.06
September 2019	11.13	3.18	11.16	-0.14	10.35	-4.82	10.91	-4.71

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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	2	57	0	0	0
2	2899	86964	51.4	0	0
3	2183	65487	38.7	0	0
4	24	711	0.4	44	3
5	140	4211	2.5	54	3.7
6	57	1702	1	70	4.7
7	9	255	0.2	42	2.8
8	17	510	0.3	20	1.4
9	211	6336	3.7	395	26.7
10	72	2165	1.3	432	29.2
11	1	17	0	0	0
12	2	55	0	14	0.9
13	20	609	0.4	407	27.5
<b>TOTAL</b>	<b>5636</b>	<b>169080</b>	<b>100</b>	<b>1478</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>
2019-09-04	Wednesday	14:39:08	9	EB	1	103.78
2019-09-19	Thursday	17:34:50	10	WB	4	98.76
2019-09-20	Friday	20:39:23	10	WB	4	96.71
2019-09-03	Tuesday	12:42:38	10	EB	1	96.67
2019-09-16	Monday	13:54:28	10	EB	1	94.89
2019-09-25	Wednesday	19:26:42	10	WB	4	94.84
2019-09-04	Wednesday	15:38:09	10	WB	4	94.81
2019-09-19	Thursday	16:50:21	10	WB	4	94.32
2019-09-10	Tuesday	16:58:19	10	EB	1	94.14
2019-09-19	Thursday	15:53:26	10	EB	1	93.63

**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	325	55	16.9	9168	525	2559
5	EB	8	2151	321	14.9	27113	2270	6237
6	EB	19	795	40	5	22653	672	4154
7	EB	11.5	71	1	1.4	3245	10	1220
8	EB	31	249	108	43.4	5662	1930	646
9	EB	33	3893	1257	32.3	149151	37706	31081
10	EB	33.5	958	247	25.8	40699	7702	8440
11	EB	36.5	11	11	100	0	229	0
12	EB	36.5	30	2	6.7	1911	65	444
13	EB	31.5	77	1	1.3	6636	30	2121
<b>TOTAL</b>	****	****	<b>8560</b>	<b>2043</b>	****	<b>266239</b>	****	<b>56903</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	374	29	7.8	13258	372	4041
5	WB	8	1990	244	12.3	24555	1781	5294
6	WB	19	879	70	8	26198	1232	5413
7	WB	11.5	180	0	0	10478	0	4204
8	WB	31	253	172	68	2995	3663	242
9	WB	33	2338	783	33.5	89216	22226	18950
10	WB	33.5	1171	264	22.5	68336	7817	18976
11	WB	36.5	6	6	100	0	128	0
12	WB	36.5	24	2	8.3	1542	52	370
13	WB	31.5	522	1	0.2	43671	31	13630
<b>TOTAL</b>	****	****	<b>7737</b>	<b>1571</b>	****	<b>280249</b>	****	<b>71120</b>
<b>GRAND TOTAL</b>	****	****	<b>16297</b>	<b>3614</b>	<b>508</b>	<b>546487</b>	<b>88443</b>	<b>128022</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	38	4	14	23	79	0
2	132891	28916	34501	140360	336668	24.5
3	163254	29821	34840	176206	404121	29.4
4	9089	604	1134	12496	23324	1.7
5	25947	3436	2649	23687	55719	4
6	21622	1704	791	26639	50756	3.7
7	3204	51	474	10004	13733	1
8	7184	409	590	6067	14249	1
9	173561	13296	7452	103990	298299	21.7
10	44622	3780	8283	67870	124555	9.1
11	204	25	0	128	357	0
12	1766	210	136	1458	3570	0.3
13	6596	71	2182	41520	50368	3.7
<b>TOTAL</b>	<b>589977</b>	<b>82326</b>	<b>93046</b>	<b>610448</b>	<b>1375798</b>	<b>100</b>
<b>GVW/LANE</b>	<b>42.88</b>	<b>5.98</b>	<b>6.76</b>	<b>44.37</b>	<b>100</b>	<b>0.01</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	0.0176
2	14	4	4	17	38	0.4	9e-04
3	55	11	11	66	143	1.49	0.0045
4	194	11	20	264	490	5.1	1.41
5	328	34	17	249	628	6.54	0.31
6	288	15	9	429	741	7.72	0.89
7	57	1	8	185	251	2.61	1.98
8	126	4	6	69	206	2.14	0.83
9	2654	265	119	1581	4619	48.14	1.49
10	493	51	145	1059	1748	18.22	1.65
11	0	0	0	0	0	0	0.42
12	28	5	5	24	62	0.64	2.07
13	124	1	25	520	670	6.98	2.22
<b>TOTAL</b>	<b>4361</b>	<b>402</b>	<b>369</b>	<b>4464</b>	<b>9596</b>	<b>100</b>	<b>13</b>
<b>ESALS/LANE</b>	<b>45.4</b>	<b>4.2</b>	<b>3.8</b>	<b>46.5</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>
Oct 2018	175064	5647	711	153012	87.4	22051.6	12.6	89.2	10.8
Nov 2018	146400	5048	462	132552	90.5	13847.6	9.5	91.4	8.6
Dec 2018	125409	4645	311	115779	92.3	9630.4	7.7	92.7	7.3
Jan 2019	133289	4300	300	123974	93	9315.4	7	91	9
Feb 2019	119410	4265	291	111272	93.2	8137.7	6.8	90.3	9.7
Mar 2019	141065	4550	354	130102	92.2	10963.3	7.8	91.3	8.7
Apr 2019	153490	5116	486	138917	90.5	14572.9	9.5	91.5	8.5
May 2019	173668	5521	509	157896	90.9	15771.7	9.1	92.1	7.9
Jun 2019	174449	5815	447	161042	92.3	13407.1	7.7	91.4	8.6
Jul 2019	183848	5953	487	168763	91.8	15085	8.2	92	8
Aug 2019	185484	5952	540	168743	91	16740.7	9	91.7	8.3
Sep 2019	169080	5671	552	152508	90.2	16572.1	9.8	91.8	8.2
<b>TOTAL</b>	<b>1880656</b>	<b>-</b>	<b>-</b>	<b>1714560</b>	<b>-</b>	<b>166096</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>156721</b>	<b>5207</b>	<b>454</b>	<b>142880</b>	<b>91</b>	<b>13841</b>	<b>9</b>	<b>91</b>	<b>9</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>
Oct 2018	4662	506	752	8373	14293	91	9	2
Nov 2018	3290	378	262	3812	7741	92	8	1.3
Dec 2018	3015	294	125	1999	5432	92	8	6.9
Jan 2019	2027	357	125	1772	4281	89	11	6.7
Feb 2019	1543	263	101	1555	3462	89	11	0

Mar 2019	3281	317	107	2161	5866	93	7	1.7
Apr 2019	3972	446	157	3323	7898	92	8	1.3
May 2019	4537	378	225	3688	8828	93	7	1.9
Jun 2019	5735	566	376	7731	14407	93	7	1
Jul 2019	3580	242	207	4289	8318	95	5	4.4
Aug 2019	4521	373	293	4711	9898	93	7	3.6
Sep 2019	4390	405	369	4467	9630	92	8	2.8
<b>TOTAL</b>	<b>44554</b>	<b>4524</b>	<b>3098</b>	<b>47879</b>	<b>100054</b>	-	-	-
<b>AVERAGE</b>	<b>3713</b>	<b>377</b>	<b>258</b>	<b>3990</b>	<b>8338</b>	<b>92</b>	<b>8</b>	<b>3</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>
Oct 18	660765	114150	125855	750518	1651289
Nov 18	502997	76986	76124	519011	1175118
Dec 18	431771	60619	59298	411800	963489
Jan 19	348573	60504	57163	381731	847971
Feb 19	298570	50034	51160	343533	743297
Mar 19	442275	70004	63946	420794	997018
Apr 19	538073	81895	76332	524296	1220597
May 19	604480	89811	94234	571951	1360476
Jun 19	848215	167986	182059	1169704	2367964
Jul 19	586947	86142	94663	612493	1380246
Aug 19	629231	95506	92730	633825	1451293
Sep 19	591194	82403	93054	610616	1377266
<b>TOTAL</b>	<b>6483091</b>	<b>1036040</b>	<b>1066618</b>	<b>6950274</b>	<b>15536024</b>
<b>AVERAGE</b>	<b>540258</b>	<b>86337</b>	<b>88885</b>	<b>579190</b>	<b>1294669</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>
Oct 2018	2676	1.6	12.3	120	8
Nov 2018	872	0.6	6.2	99	18
Dec 2018	697	0.5	6.6	121	23
Jan 2019	502	0.4	5.5	70	23
Feb 2019	363	0.3	4.7	41	5
Mar 2019	598	0.4	5.5	72	16
Apr 2019	691	0.5	4.8	107	11
May 2019	1078	0.6	6.9	179	20
Jun 2019	2600	0.8	8.4	404	56

Jul 2019	1396	0.8	9.3	274	59
Aug 2019	1550	0.9	9.4	285	45
Sep 2019	1488	0.9	9.1	246	36
<b>TOTAL</b>	<b>14511</b>	<b>-</b>	<b>-</b>	<b>2018</b>	<b>320</b>
<b>AVERAGE</b>	<b>1209.2</b>	<b>0.7</b>	<b>7.4</b>	<b>168.2</b>	<b>26.7</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>
Oct 2018	66772	132772	199544	33.5	66.5
Nov 2018	48667	64472	113139	43	57
Dec 2018	42425	31221	73646	57.6	42.4
Jan 2019	30643	25215	55858	54.9	45.1
Feb 2019	22499	22257	44756	50.3	49.7
Mar 2019	44588	31107	75695	58.9	41.1
Apr 2019	56072	57075	113146	49.6	50.4
May 2019	60197	60434	120631	49.9	50.1
Jun 2019	71572	121297	192869	37.1	62.9
Jul 2019	43458	65276	108734	40	60
Aug 2019	54759	69960	124719	43.9	56.1
Sep 2019	56903	71120	128022	44.4	55.6
<b>TOTAL</b>	<b>598554</b>	<b>752204</b>	<b>1350758</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>49879.5</b>	<b>62683.7</b>	<b>112563.2</b>	<b>46.9</b>	<b>53.1</b>