

JULY 2018



**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 July 2018. 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>. 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: 187457 | Passenger Vehicles: 172008 | Heavy Commercial Vehicles: 15449

Monthly Average Daily Traffic (MADT): 6047 | Monthly Heavy Commercial Average Daily Traffic (MHCADT): 498

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 Sundays, 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 15449 HCVs, 1607 of them were overweight<sup>3</sup>. These overweight HCVs contributed to 0.9% of total monthly volume, and 10.5% 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 Mondays, 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 77.8% 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 October.

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 ,35 EB vehicles exceeded 88,000 pounds (23 vehicles were Class 10's; 9 vehicles were Class 13's). Of vehicles traveling WB,

137 EB vehicles exceeded 88,000 pounds (99 vehicles were Class 13's; 35 vehicles were Class 10's). Refer to Table 3 for the Top 10 highest recorded GVWs from Classes 9 and 10 from July 2018.

**Loaded vs. Unloaded HCVs.** Figure 10 shows the GVW distributions of Class 9s and 10s in July 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 empty Class 10's than fully\_loaded traveling in the EB direction. In the WB direction, there were more fully\_loaded class 10 vehicles.

**Freight Totals.** A total of 114923 tons of freight was recorded to have crossed the WIM. More freight was shipped WB (62.6%) than EB (37.4%). 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 187457 vehicles with a combined GVW of 1432208 kips (1 kip = 1,000 pounds = 0.5 tons) in July 2018. See Table 5 and Figures 12-13 for GVW information by vehicle class and lane.

**Pavement Design.** A total of 8941 equivalent single axle loads (ESALs) passed over the pavement at this site. Approximately 56.8% of all ESALs were recorded WB while 43.2% was observed EB. In particular, 44% of all ESALs were generated by the Class 9's (Class 9's were also responsible for generating 19% 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).

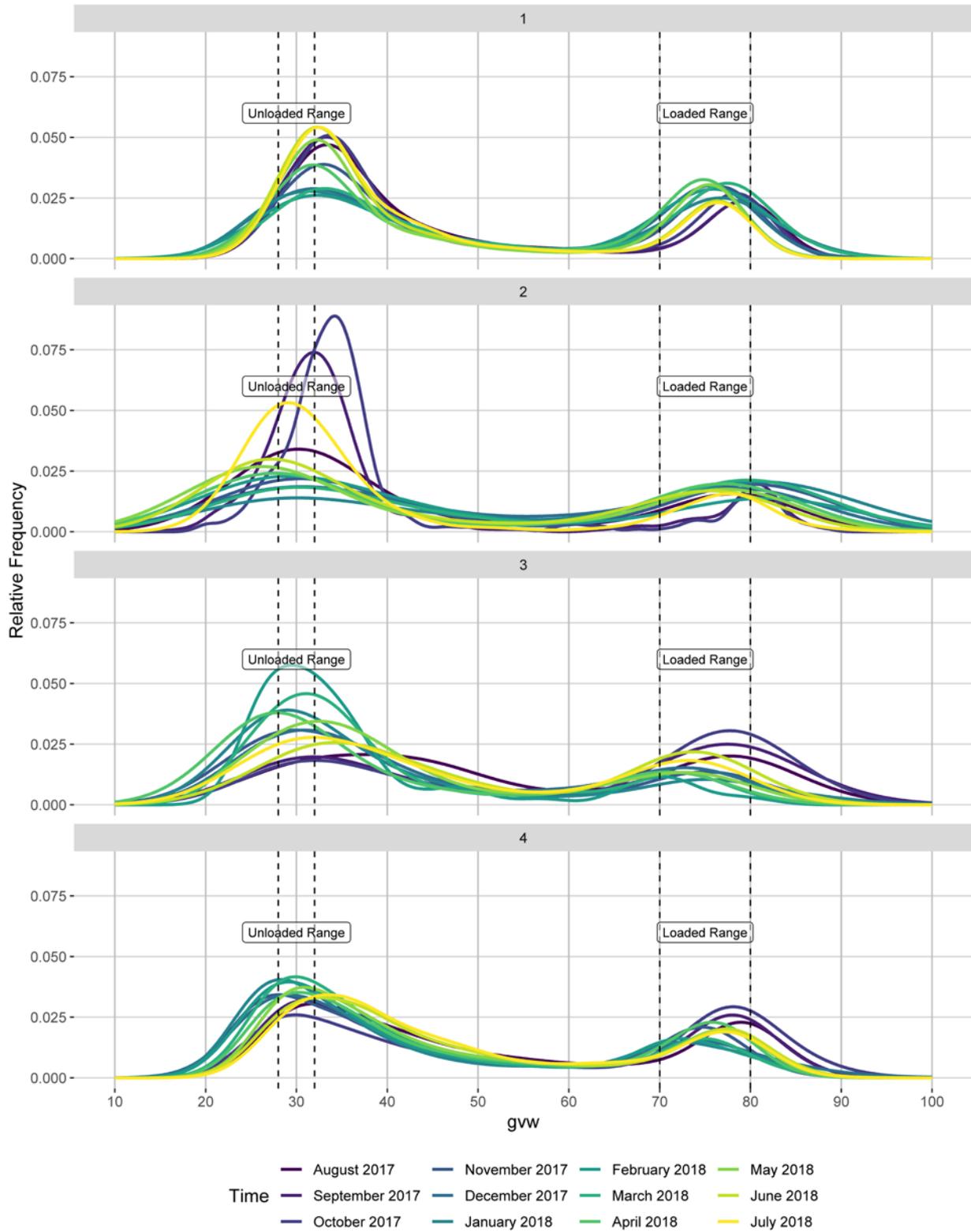
*WIM monthly reports can be found at: <http://www.dot.state.mn.us/traffic/data/reports-monthly-wim.html>*

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.

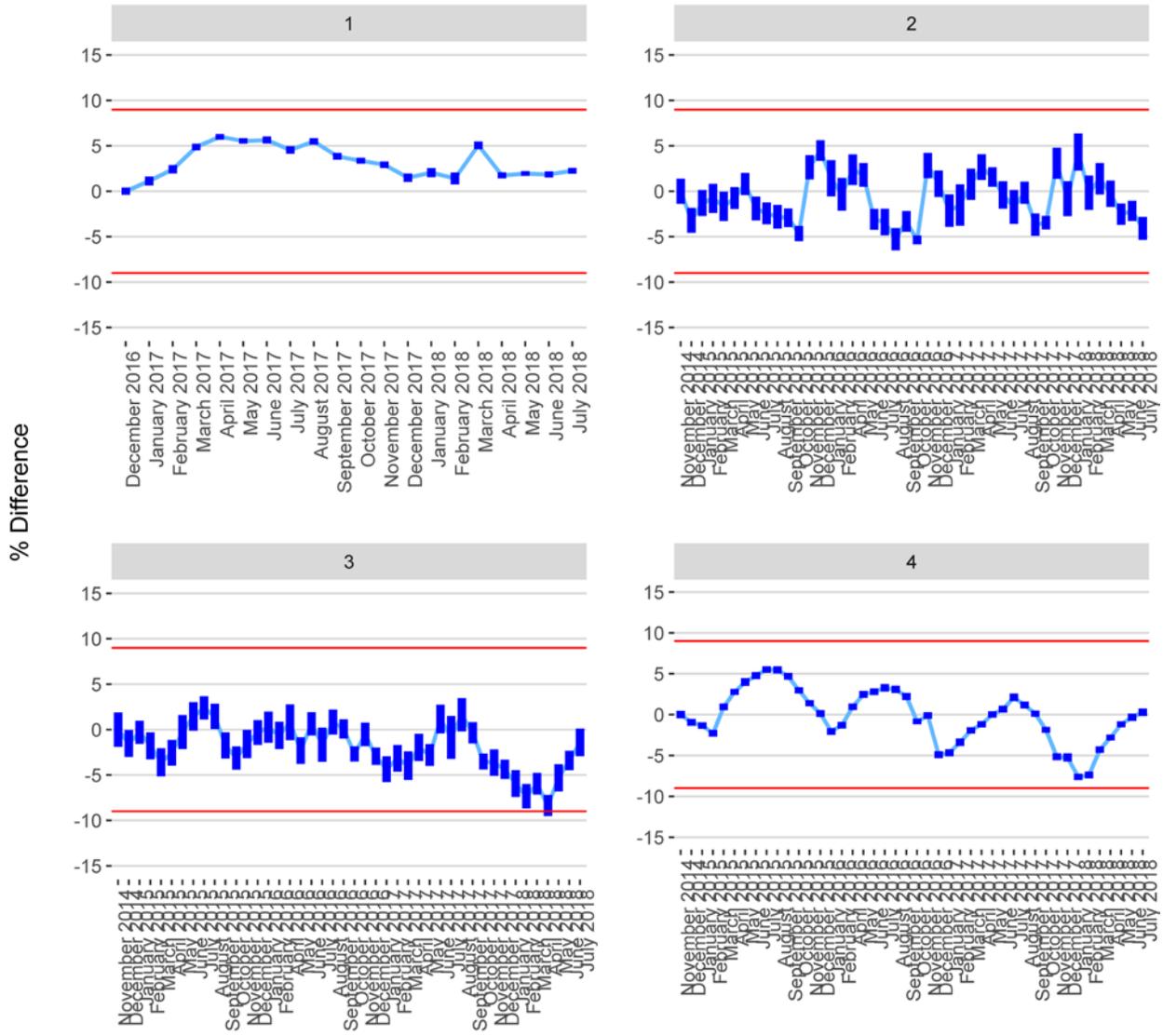
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Figure 1 - Monthly Class 9 GWW Histogram



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

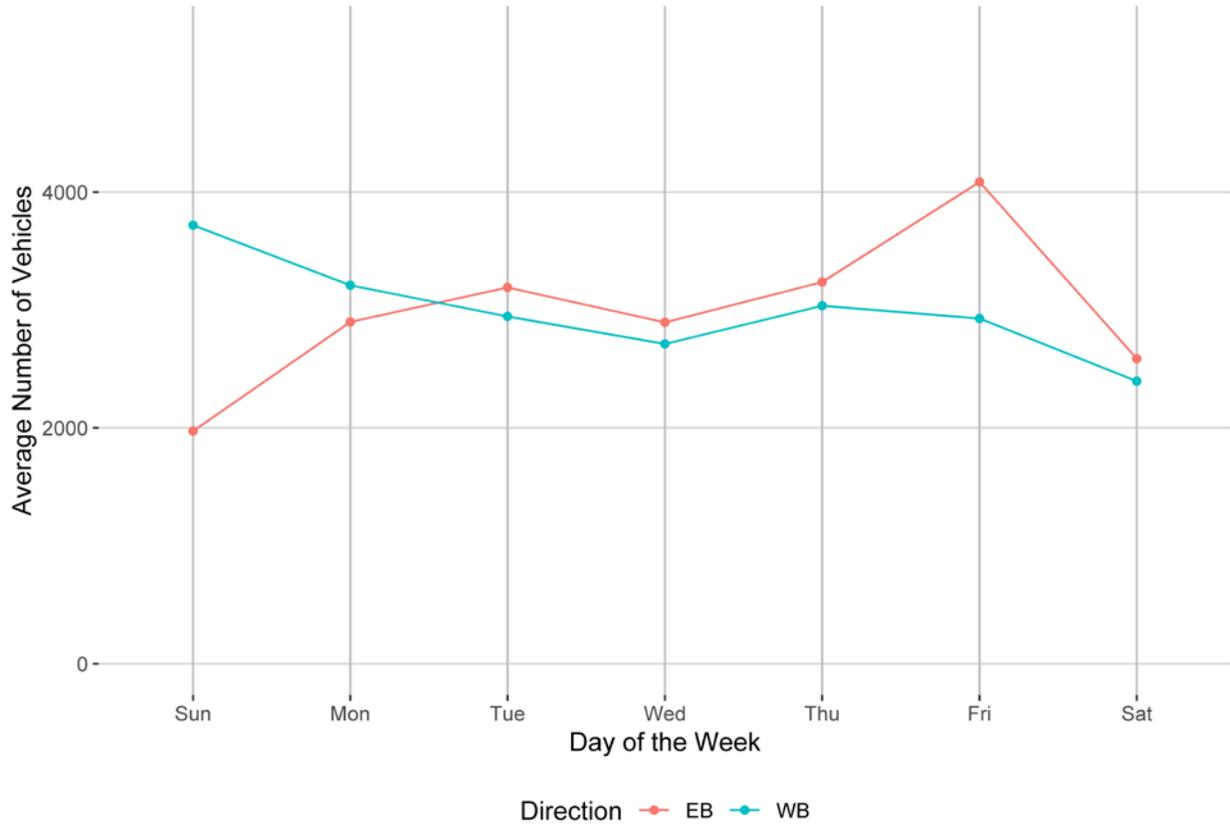


Figure 3 - Average Overweight Vehicle Volume vs. Day of the Week

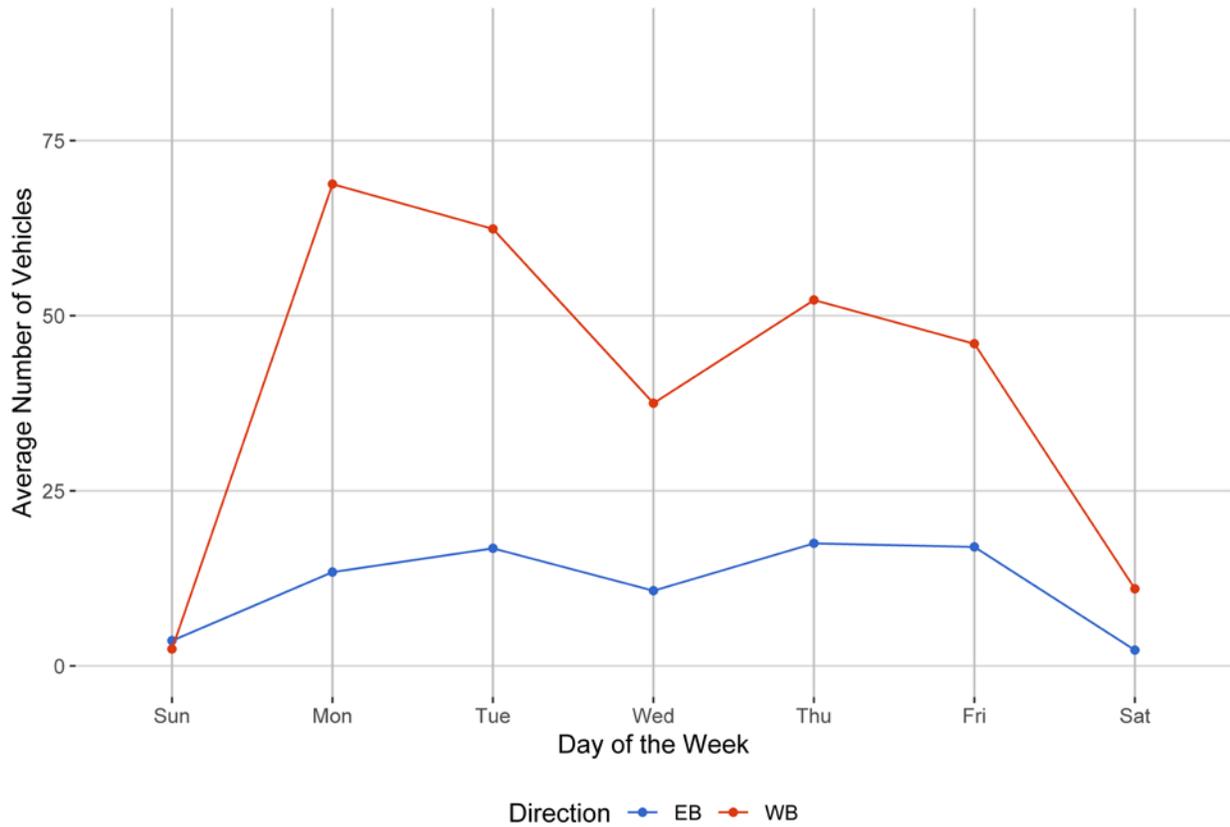


Figure 4 - Passenger Vehicles vs. Hour of the Day

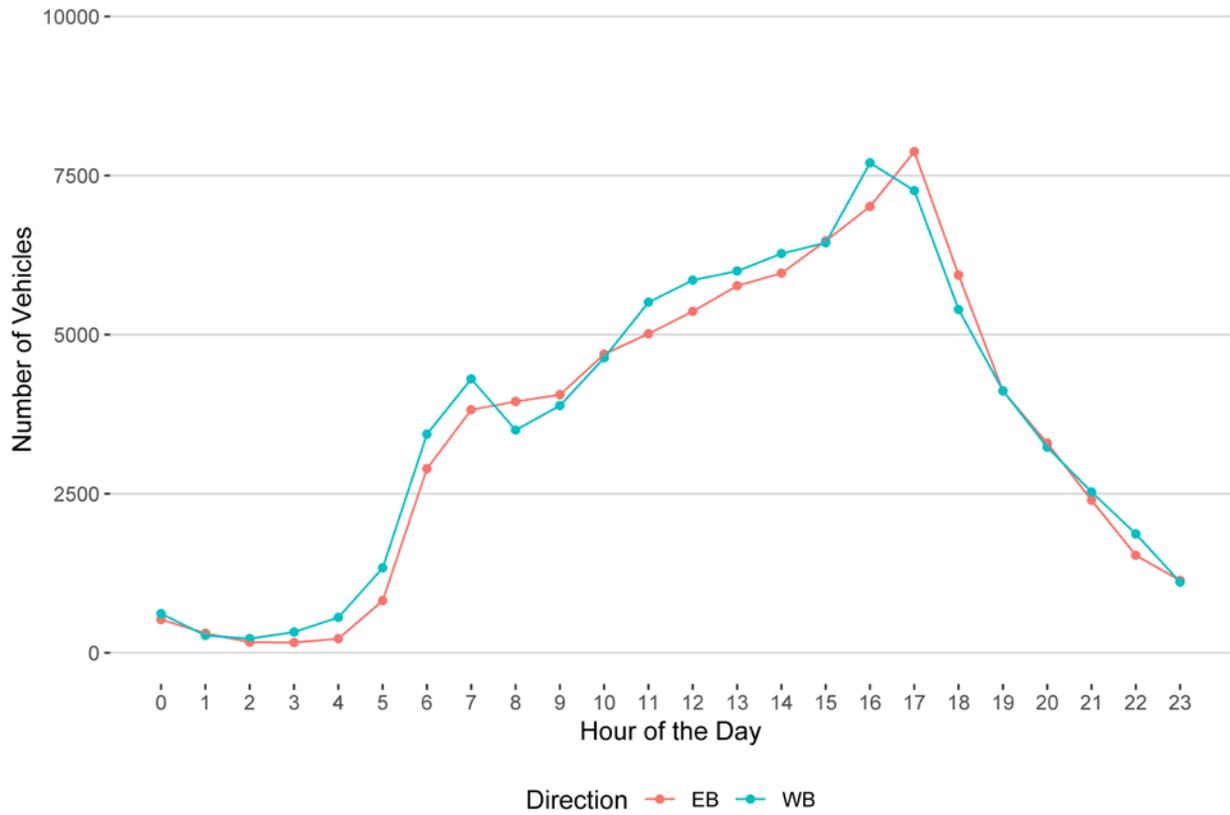


Figure 5 - Heavy Commercial Vehicles vs. Hour of the Day

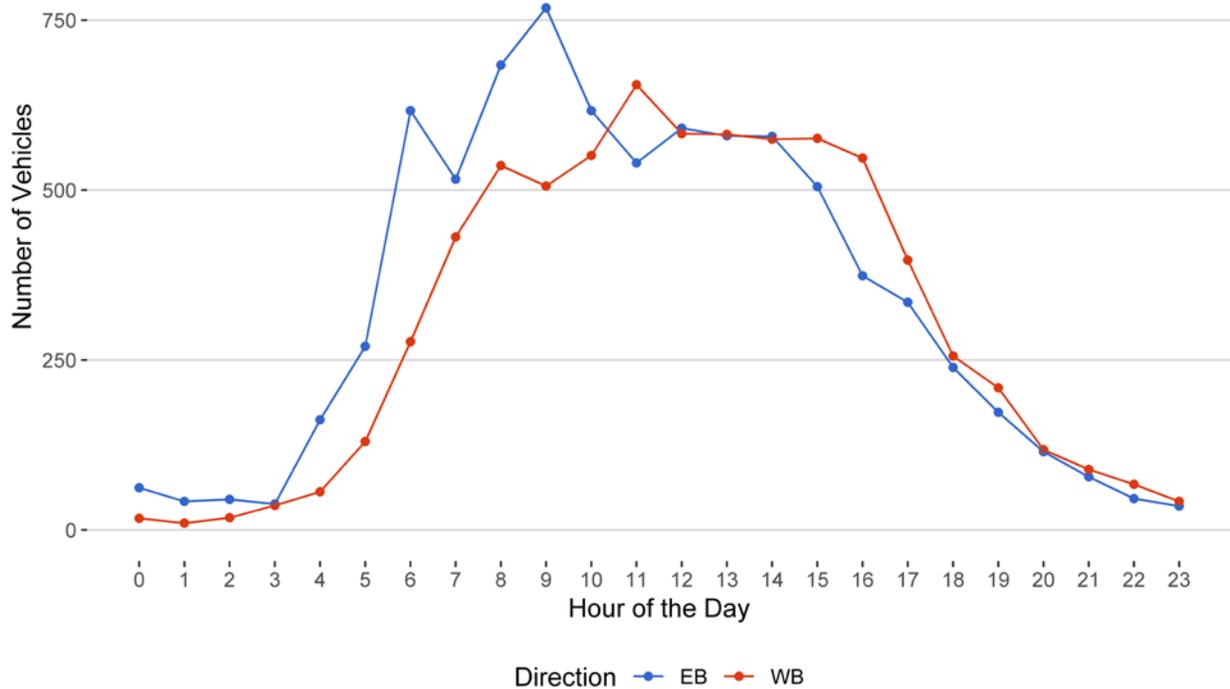


Figure 6 - Overweight Vehicles by Class vs. Hour of the Day

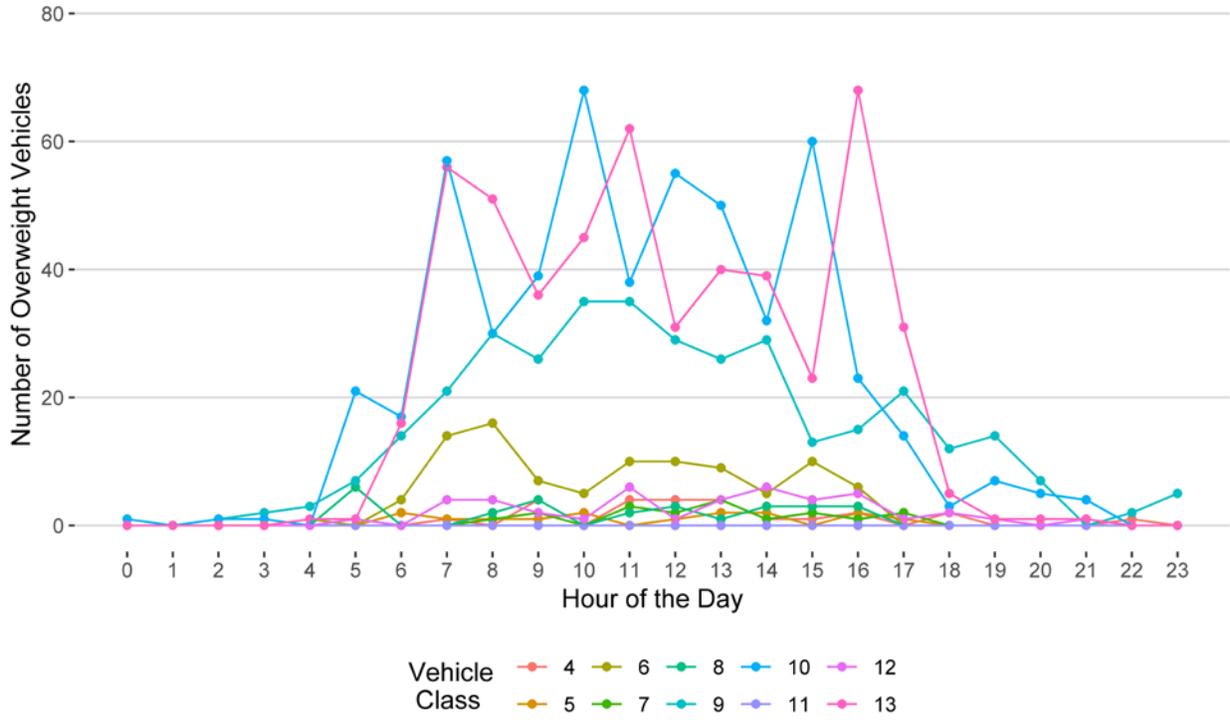


Figure 7 - Overweight Vehicles by Direction  
Hour of the Day

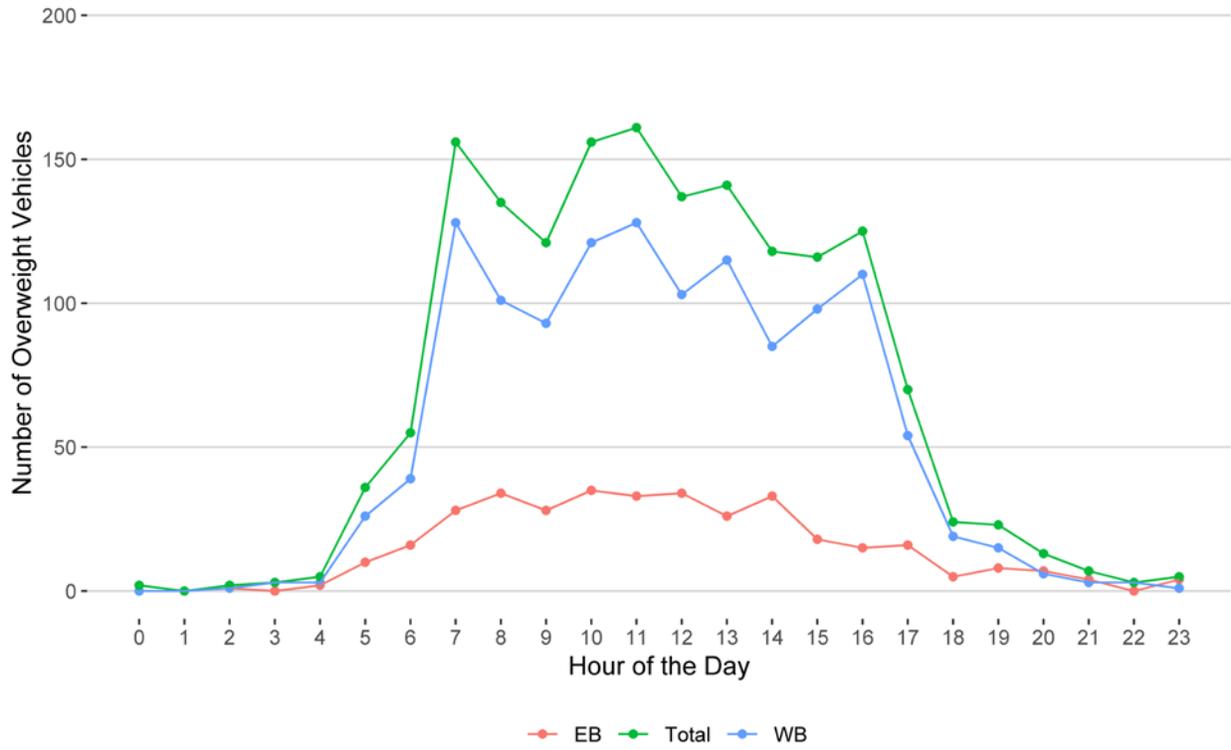
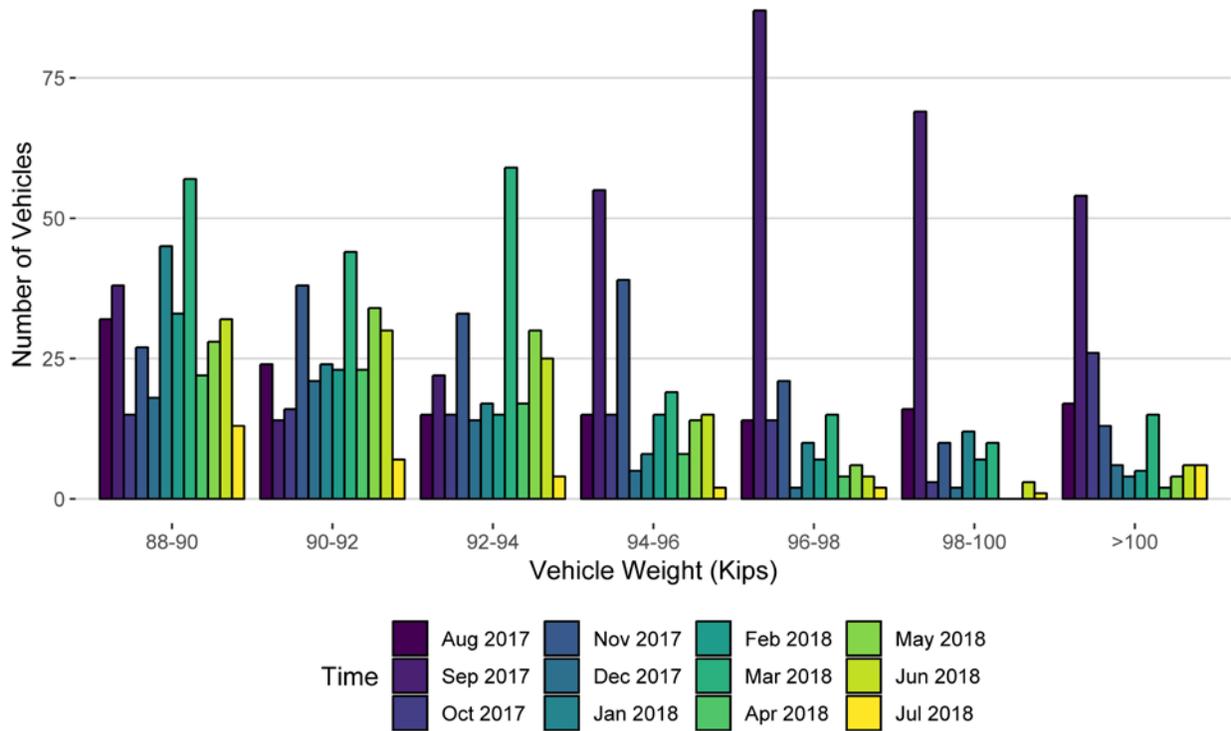
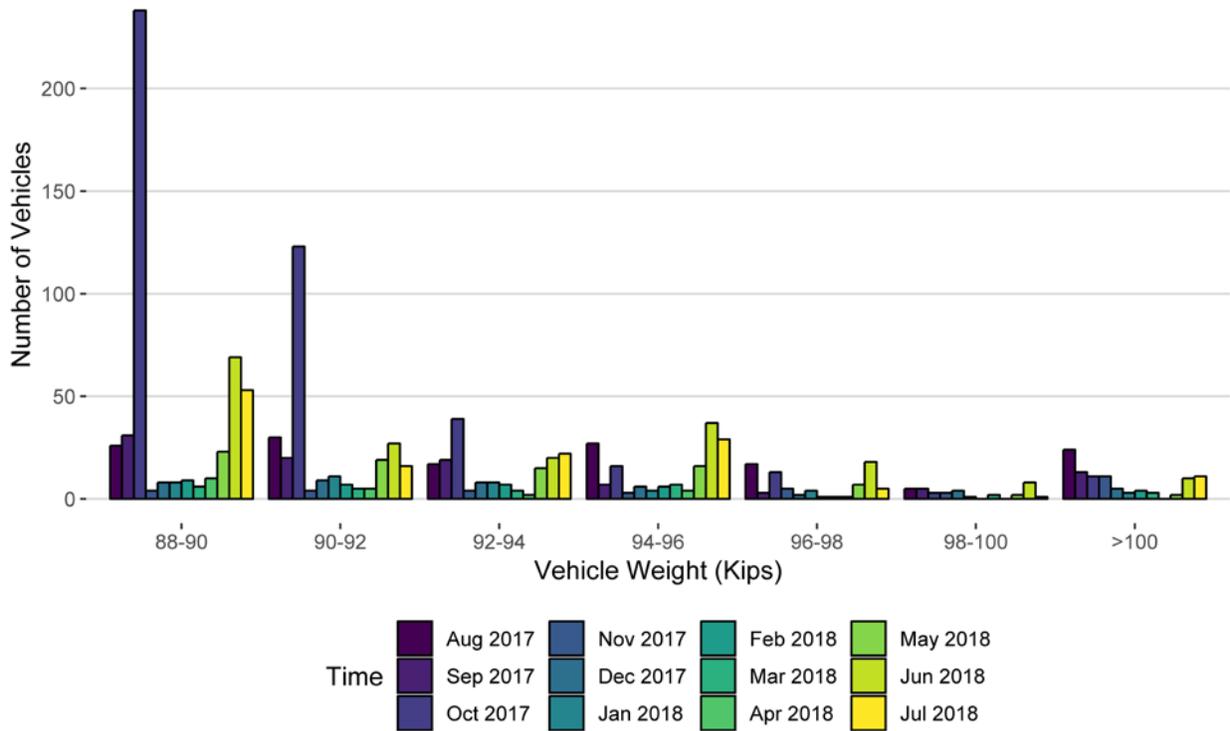


Figure 8 - Histogram of EB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018
88-90	32	38	15	27	18	45	33	57	22	28	32	13
90-92	24	14	16	38	21	24	23	44	23	34	30	7
92-94	15	22	15	33	14	17	15	59	17	30	25	4
94-96	15	55	15	39	5	8	15	19	8	14	15	2
96-98	14	87	14	21	2	10	7	15	4	6	4	2
98-100	16	69	3	10	2	12	7	10	0	0	3	1
>100	17	54	26	13	6	4	5	15	2	4	6	6
Total	133	339	104	181	68	120	105	219	76	116	115	35

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



Vehicle Weights (Kips)	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018
88-90	26	31	238	4	8	8	9	6	10	23	69	53
90-92	30	20	123	4	9	11	7	5	5	19	27	16
92-94	17	19	39	4	8	8	7	4	2	15	20	22
94-96	27	7	16	3	6	4	6	7	4	16	37	29
96-98	17	3	13	5	2	4	1	1	1	7	18	5
98-100	5	5	3	3	4	1	0	2	0	2	8	1
>100	24	13	11	11	5	3	4	3	0	2	10	11
Total	146	98	443	34	42	39	34	28	22	84	189	137

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

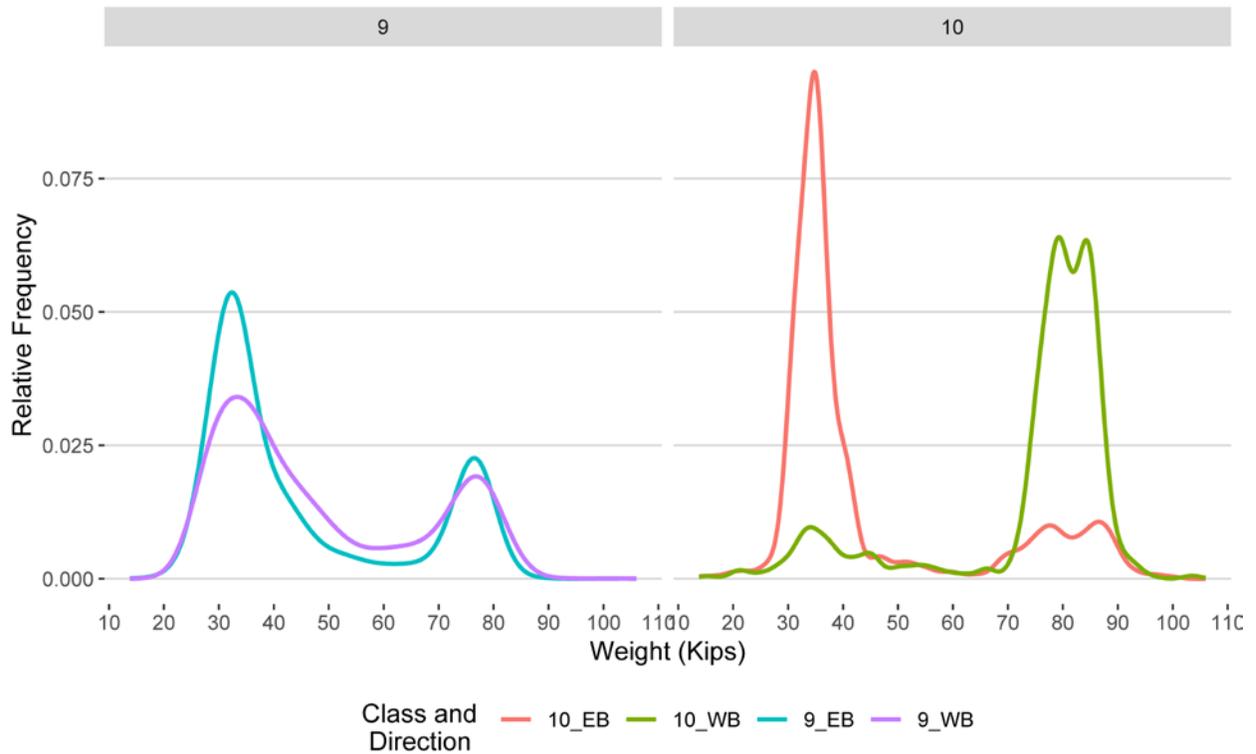


Figure 9 - Freight Percentage by Direction and Class

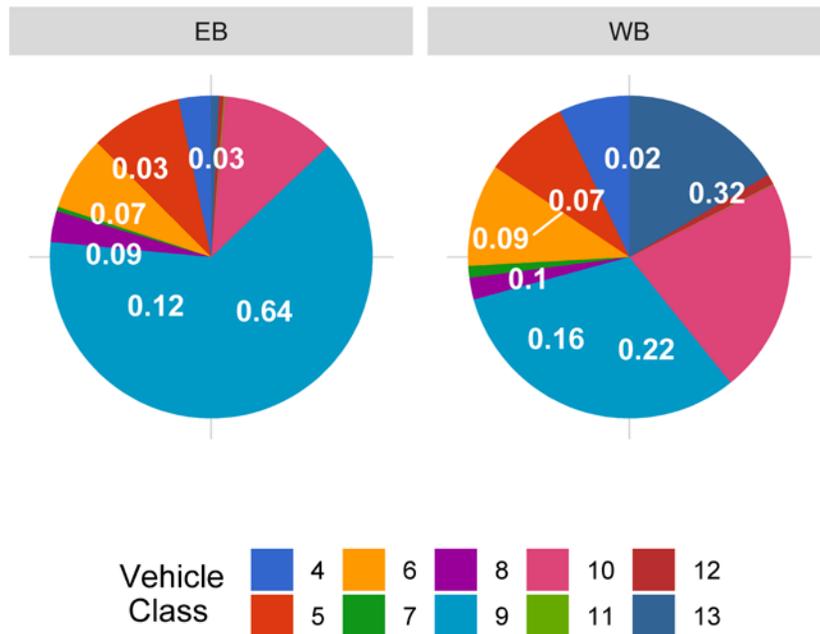


Figure 10 - Total Gross Vehicle Weight Percentage by Class and Lane

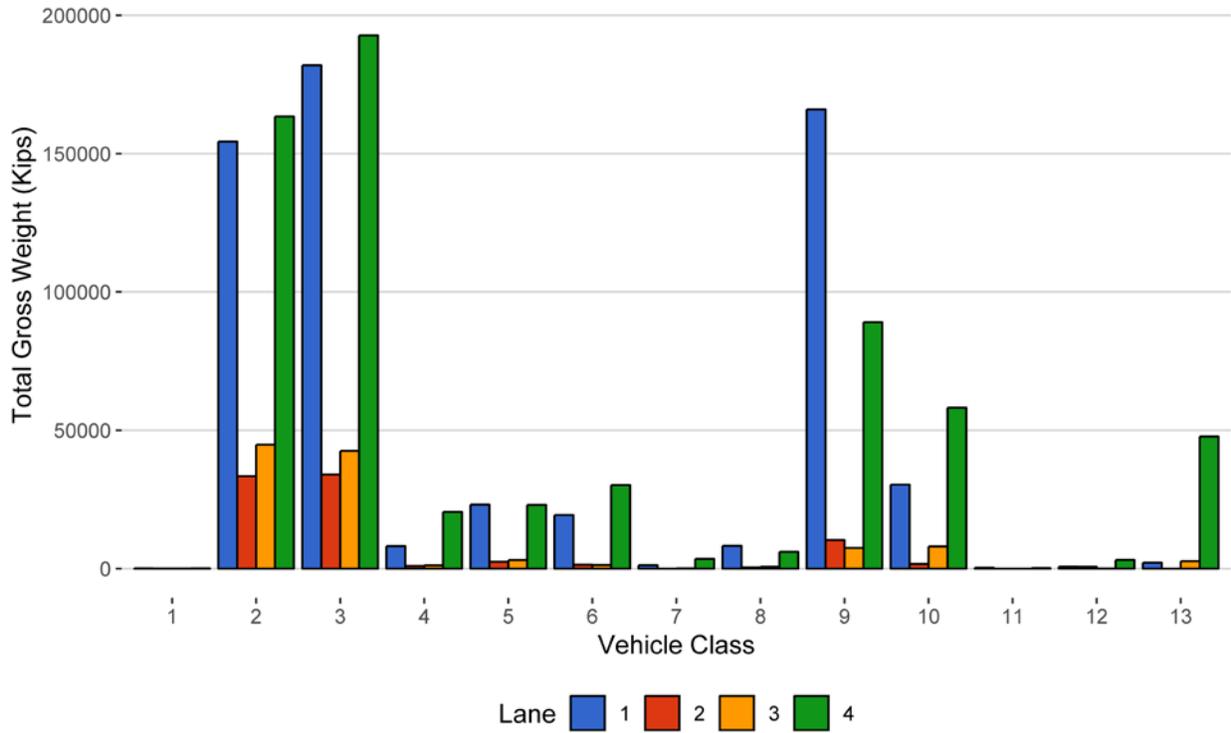


Figure 11 - Total Gross Vehicle Weight t

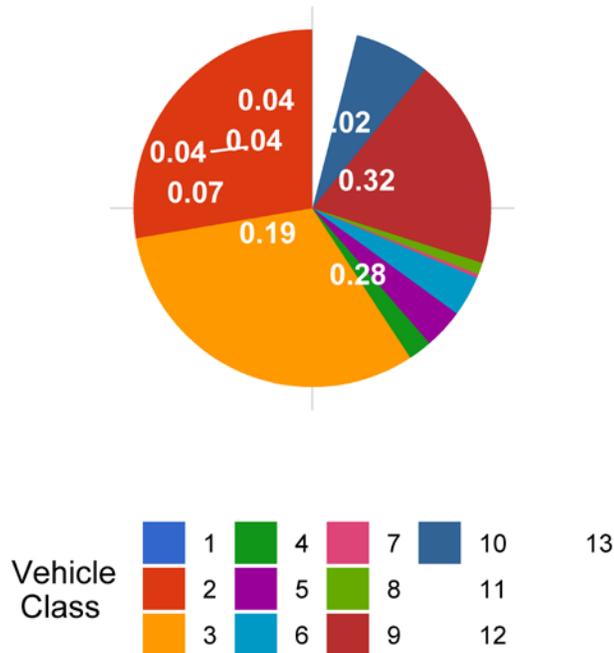


Figure 12 - Total ESALs by Class and Lane

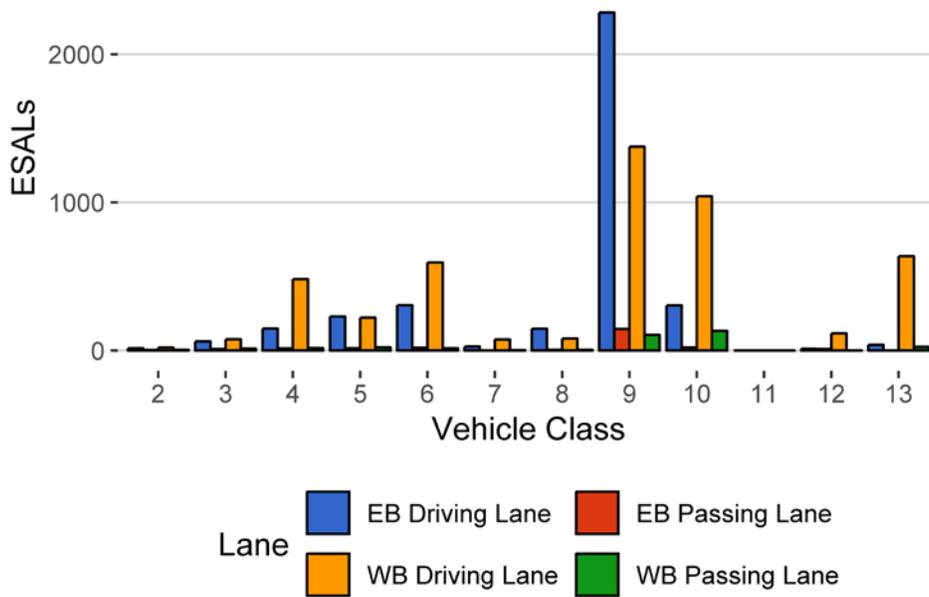
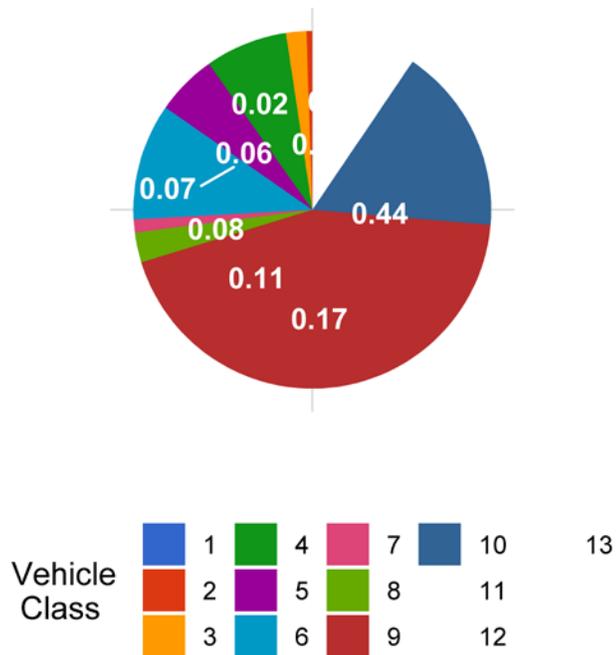


Figure 13 - ESALs by Class



**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

**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	4	129	0.1	0	0
2	3250	100736	53.7	0	0
3	2295	71142	38	0	0
4	30	915	0.5	24	1.5
5	128	3972	2.1	15	0.9
6	52	1601	0.9	97	6
7	3	94	0.1	18	1.1
8	18	554	0.3	28	1.7
9	192	5960	3.2	348	21.7
10	52	1626	0.9	526	32.7
11	1	27	0	0	0
12	2	65	0	43	2.7
13	20	634	0.3	508	31.6
<b>TOTAL</b>	<b>6047</b>	<b>187457</b>	<b>100</b>	<b>1607</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>
2018-07-02	Monday	12:08:52	9	WB	4	106.01
2018-07-25	Wednesday	05:18:13	10	WB	4	104.1
2018-07-29	Sunday	19:10:24	10	WB	4	102.94
2018-07-23	Monday	17:57:32	9	EB	1	102.04
2018-07-27	Friday	16:00:15	9	EB	1	100.74
2018-07-05	Thursday	17:56:47	10	EB	1	99.86
2018-07-14	Saturday	09:39:56	10	EB	2	96.82
2018-07-20	Friday	16:14:41	10	EB	1	96.63
2018-07-13	Friday	10:31:54	10	WB	4	96.41
2018-07-17	Tuesday	08:28:45	9	WB	4	94.3

**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	EB	15	360	69	19.2	8316	734	1976
5	EB	8	1961	302	15.4	23431	2135	5080
6	EB	19	676	48	7.1	19887	823	3977
7	EB	11.5	28	0	0	1230	0	454
8	EB	31	302	172	57	5443	3195	706
9	EB	33	3900	1374	35.2	134711	41605	25677
10	EB	33.5	719	175	24.3	26625	5393	4200
11	EB	36.5	17	17	100	0	313	0
12	EB	36.5	21	5	23.8	1215	129	315
13	EB	31.5	27	0	0	2127	0	638
<b>TOTAL</b>	****	****	<b>8011</b>	<b>2162</b>	****	<b>222985</b>	****	<b>43024</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	545	31	5.7	21225	418	6757
5	WB	8	1966	147	7.5	24952	1106	5200
6	WB	19	907	30	3.3	30934	523	7135
7	WB	11.5	65	0	0	3626	0	1439
8	WB	31	246	147	59.8	3719	2957	325
9	WB	33	1993	478	24	82390	14106	16198
10	WB	33.5	889	41	4.6	64950	1164	18271
11	WB	36.5	10	10	100	0	204	0
12	WB	36.5	43	2	4.7	3111	43	807
13	WB	31.5	600	0	0	50434	0	15767
<b>TOTAL</b>	****	****	<b>7264</b>	<b>886</b>	****	<b>285340</b>	****	<b>71900</b>
<b>GRAND TOTAL</b>	****	****	<b>15275</b>	<b>3048</b>	<b>492</b>	<b>508325</b>	<b>74848</b>	<b>114923</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	91	6	15	66	178	0
2	154397	33381	44765	163397	395940	27.7
3	181940	34007	42542	192784	451273	31.5
4	8115	935	1169	20473	30693	2.1
5	23104	2462	3046	23012	51624	3.6
6	19354	1356	1263	30194	52167	3.6
7	1230	0	111	3515	4856	0.3
8	8215	423	631	6045	15314	1.1
9	166015	10302	7429	89067	272813	19.1
10	30352	1666	7982	58132	98131	6.9
11	313	0	0	204	518	0
12	719	625	53	3101	4497	0.3
13	2127	0	2680	47754	52561	3.7
<b>TOTAL</b>	<b>595972</b>	<b>85162</b>	<b>111685</b>	<b>637745</b>	<b>1430564</b>	<b>100</b>
<b>GVW/LANE</b>	<b>41.66</b>	<b>5.95</b>	<b>7.81</b>	<b>44.58</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	0.0078
2	16	4	5	21	47	0.52	0.001
3	62	11	13	77	163	1.83	0.0047
4	150	14	17	482	663	7.45	1.47
5	230	16	22	223	491	5.51	0.25
6	307	20	16	595	938	10.53	1.19
7	28	0	2	75	106	1.19	2.19
8	148	6	6	82	242	2.72	0.89
9	2282	146	106	1376	3911	43.91	1.33
10	306	22	133	1042	1502	16.87	1.87
11	0	0	0	0	0	0	0.31
12	13	11	0	117	142	1.59	3.91
13	40	0	25	637	702	7.88	2.23
<b>TOTAL</b>	<b>3582</b>	<b>251</b>	<b>348</b>	<b>4727</b>	<b>8908</b>	<b>100</b>	<b>16</b>
<b>ESALS/LANE</b>	<b>40.2</b>	<b>2.8</b>	<b>3.9</b>	<b>53.1</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>
Aug 2017	190414	6142	549	173403	91.1	17011.3	8.9	91.6	8.4
Sep 2017	180227	6008	606	162055	89.9	18171.9	10.1	89.8	10.2
Oct 2017	184171	5941	796	159487	86.6	24684	13.4	88.2	11.8
Nov 2017	151412	5047	442	138141	91.2	13270.9	8.8	91.9	8.1
Dec 2017	139192	4490	300	129894	93.3	9298.2	6.7	86.8	13.2
Jan 2018	133966	4322	315	124200	92.7	9766.2	7.3	91	9
Feb 2018	128586	4592	296	120299	93.6	8287	6.4	90.2	9.8
Mar 2018	147026	4743	372	135498	92.2	11527.9	7.8	91.6	8.4
Apr 2018	156295	5210	441	143071	91.5	13223.9	8.5	93.1	6.9
May 2018	179157	5779	583	161070	89.9	18086.7	10.1	92.6	7.4
Jun 2018	178339	5945	528	162486	91.1	15852.8	8.9	92.1	7.9
Jul 2018	187457	6047	498	172008	91.8	15449.5	8.2	91.5	8.5
<b>TOTAL</b>	<b>1956242</b>	<b>-</b>	<b>-</b>	<b>1781612</b>	<b>-</b>	<b>174630</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>163020</b>	<b>5355</b>	<b>477</b>	<b>148468</b>	<b>91</b>	<b>14553</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>
Aug 2017	4706	374	393	5821	11295	93	7	3.9
Sep 2017	4959	323	916	6416	12613	90	10	3.7
Oct 2017	5562	553	1181	11877	19173	91	9	9.2
Nov 2017	4174	329	271	3265	8039	93	7	3.2
Dec 2017	2437	331	325	2125	5219	87	13	1.8
Jan 2018	2742	416	151	2307	5616	90	10	8
Feb 2018	2005	355	104	1975	4439	90	10	3.8
Mar 2018	4473	386	162	2259	7280	92	8	6.2
Apr 2018	4067	263	157	3281	7768	95	5	1.2
May 2018	5208	391	241	5212	11052	94	6	2.1
Jun 2018	4076	352	282	4730	9440	93	7	3.1
Jul 2018	3610	253	348	4731	8941	93	7	2.9
<b>TOTAL</b>	<b>48019</b>	<b>4328</b>	<b>4531</b>	<b>53998</b>	<b>110875</b>	-	-	-
<b>AVERAGE</b>	<b>4002</b>	<b>361</b>	<b>378</b>	<b>4500</b>	<b>9240</b>	<b>92</b>	<b>8</b>	<b>4</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>
Aug 2017	385504	62910	65368	395469	909251
Sep 2017	334284	61064	56862	368752	820963
Oct 2017	506396	69561	76066	422764	1074787
Nov 2017	534510	68082	78348	507327	1188267
Dec 2017	660275	91193	101268	669489	1522225
Jan 2018	609413	90675	98359	614691	1413138
Feb 2018	597282	85253	111704	637970	1432208
Mar 2018	641135	102892	109419	668499	1521944
Apr 2018	651148	96051	132295	661776	1541269
May 2018	722064	131001	156238	862366	1871669
Jun 2018	522471	74817	84942	486693	1168923
Jul 2018	389939	68885	89194	375618	923635
<b>TOTAL</b>	<b>6554421</b>	<b>1002383</b>	<b>1160062</b>	<b>6671413</b>	<b>15388279</b>
<b>AVERAGE</b>	<b>546202</b>	<b>83532</b>	<b>96672</b>	<b>555951</b>	<b>1282357</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>
Aug 2017	2710	1.4	16	281	64
Sep 2017	3123	1.8	17.3	437	141
Oct 2017	5291	2.9	21.7	547	43
Nov 2017	1039	0.7	7.9	216	38
Dec 2017	678	0.5	7.4	110	17
Jan 2018	1113	0.8	11.6	159	20
Feb 2018	831	0.7	10.3	139	16
Mar 2018	1338	0.9	11.7	248	31
Apr 2018	989	0.6	7.5	98	2
May 2018	2065	1.2	11.5	200	8
Jun 2018	1910	1.1	12.1	304	27
Jul 2018	1614	0.9	10.5	172	19
<b>TOTAL</b>	<b>22701</b>	<b>-</b>	<b>-</b>	<b>2911</b>	<b>426</b>
<b>AVERAGE</b>	<b>1891.8</b>	<b>1.1</b>	<b>12.1</b>	<b>242.6</b>	<b>35.5</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>
Aug 2017	57510	80312	137822	41.7	58.3
Sep 2017	63214	94251	157465	40.1	59.9
Oct 2017	72458	170001	242460	29.9	70.1
Nov 2017	53063	50595	103659	51.2	48.8
Dec 2017	33019	28429	61447	53.7	46.3
Jan 2018	36260	29867	66127	54.8	45.2
Feb 2018	28116	25775	53891	52.2	47.8
Mar 2018	56286	29140	85426	65.9	34.1
Apr 2018	53992	49179	103171	52.3	47.7
May 2018	67034	85846	152880	43.8	56.2
Jun 2018	51670	70903	122572	42.2	57.8
Jul 2018	43024	71900	114923	37.4	62.6
<b>TOTAL</b>	<b>615644</b>	<b>786199</b>	<b>1401843</b>	-	-
<b>AVERAGE</b>	<b>51303.7</b>	<b>65516.6</b>	<b>116820.3</b>	<b>47.1</b>	<b>52.9</b>