

Traffic Data Analysis

Midland Point Road
Eastbound and Westbound



Town of Midland
Engineering Department

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1.0 Introduction

A traffic count was conducted from August 25th, 2021, to September 8th, 2021, on Midland Point Road for both eastbound and westbound directions with the speed display turned off. Vehicle speeds and traffic volume were collected by a traffic trailer (model ATS-3). The purpose is to see if there are any speeding issues, raise safety awareness, and help calm traffic by displaying speeds of vehicles approaching.

1.1 Location

The traffic trailer was placed on Midland Point Road for both eastbound and westbound directions. Table 1 below shows the location of the traffic trailer and data collection period.

Table 1- Locations of Traffic Trailer

Direction	Location	Period
Eastbound	893 Midland Point Road, Midland, ON	10:00am on August 25 th – 7:30 am on September 1 st , 2021
Westbound	904 Midland Point Road, Midland, ON	11:00am September 2 nd , 2021 – 7:00am on September 8 th , 2021

1.2 Traffic Trailer

The traffic trailer used was model ATS-3 as shown in Figure 1. The traffic trailer is set to not show the speed as the display was turned off for the duration of this location. The data is collected and grouped into one-hour intervals.



Figure 1- Traffic Trailer

2.0 Speed Summary

The posted speed limit on Midland Point Road is 50km/h; however, generally it is accepted that vehicles that are travelling up to 10km/h above the posted speed limit are not considered to be speeding. Table 2 shows an overall speed summary of the data collected for eastbound and westbound directions.

Table 2- Speed Summary

Direction	Average Speed (km/h)	85 th Percentile Speed (km/h)	Minimum Speed (km/h)	Maximum Speed(km/h)
Eastbound	51.93	59.69	10	106.0
Westbound	54.68	63.24	10	95.0

2.1 Eastbound Speed Analysis

Figure 2 to 4 below show the speed summary for the eastbound traffic.

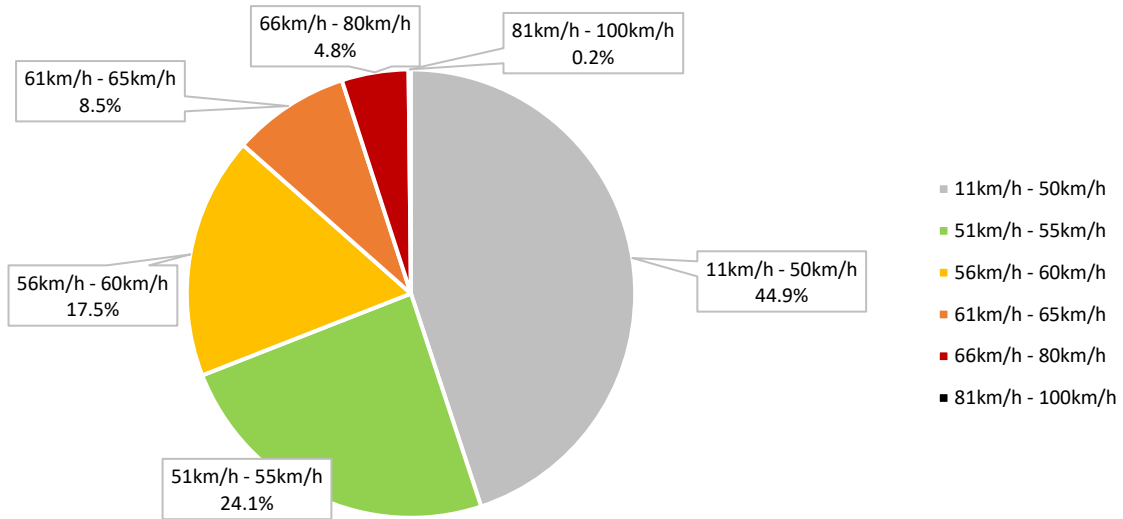


Figure 2- Midland Point Road Eastbound

Figure 2 above shows that 44.9% of vehicles were travelling below the posted speed limit, 41.6% of vehicles were travelling between 51-60 km/h, and 13.5% of vehicles were travelling above 60km/h. Considering the accepted speed limit is 10km/h over the posted speed limit, a total of 86.5% of vehicles were travelling within the accepted speed limit in the eastbound direction.

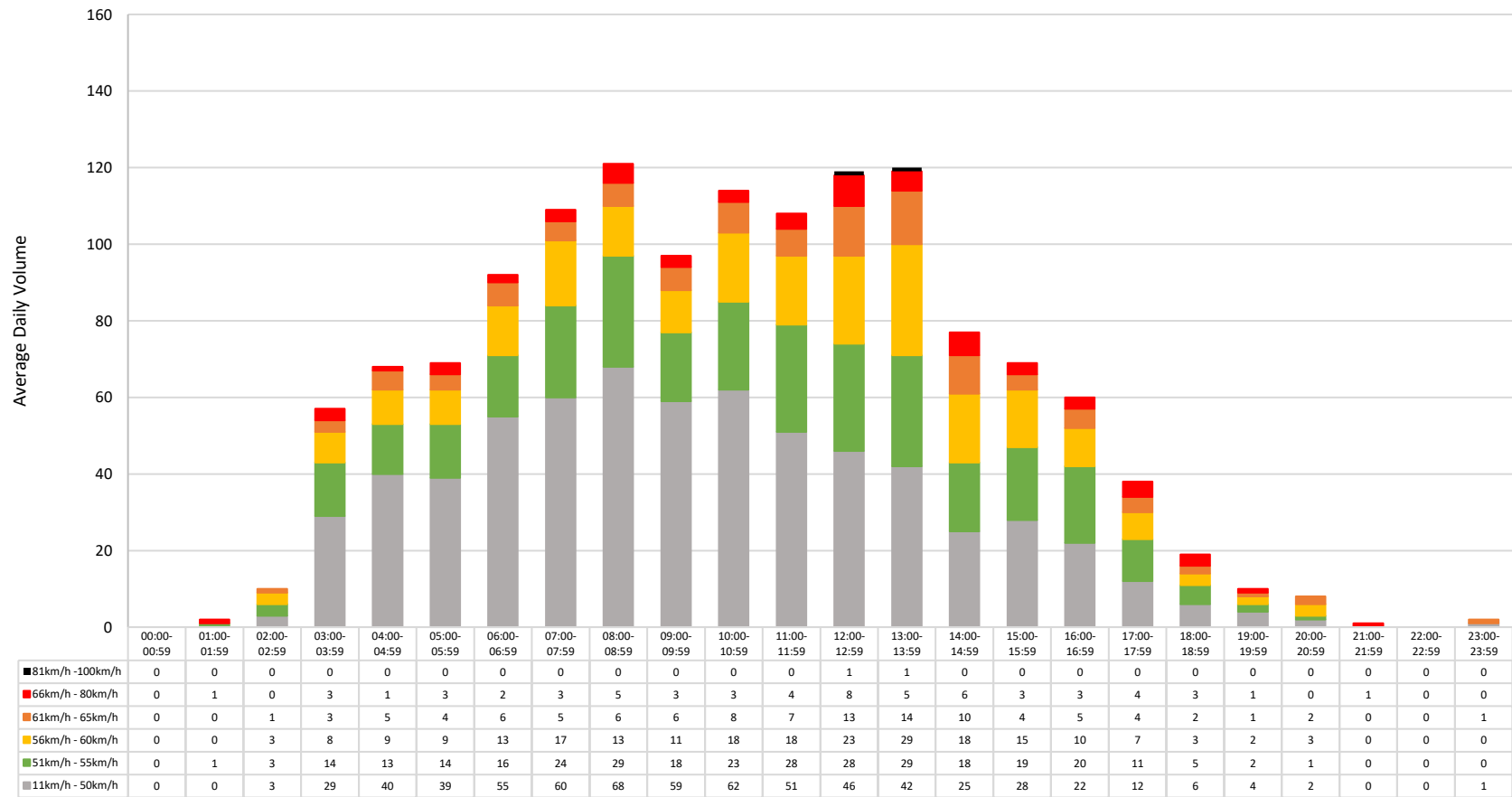


Figure 3- Speed by Hour Analysis for Eastbound Weekdays

Figure 3 above is the speed by hour graph used to determine the time where most speeding occurs on weekdays. The data shows that speeding formed a “u” shape as it increased in the morning and declined throughout the afternoon. It reached its peak from 8:00am to 1:00pm and begins to decline again.

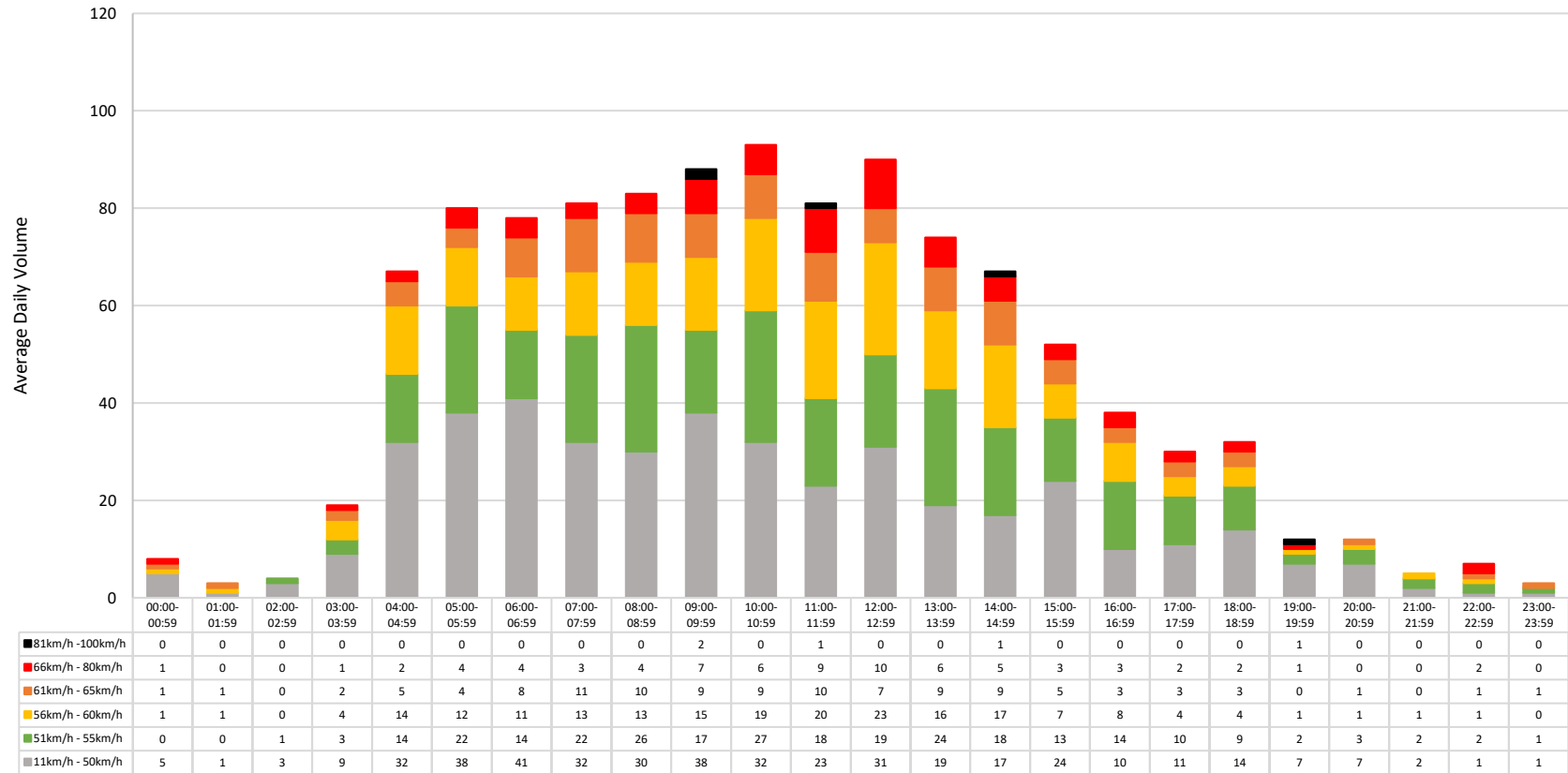


Figure 4 Speed by Hour Analysis for Eastbound Weekends

Figure 4 above is the speed by hour graph used to determine the time where most speeding occurs on the weekend. The data shows that speeding was low at night and began to increase around 4:00 am before beginning to decline again at 1:00pm. The speeding reached a peak from 10:00am until 12:00pm.

2.2 Westbound Speed Analysis

Figure 5 to 7 below is the speed summary for the westbound traffic.

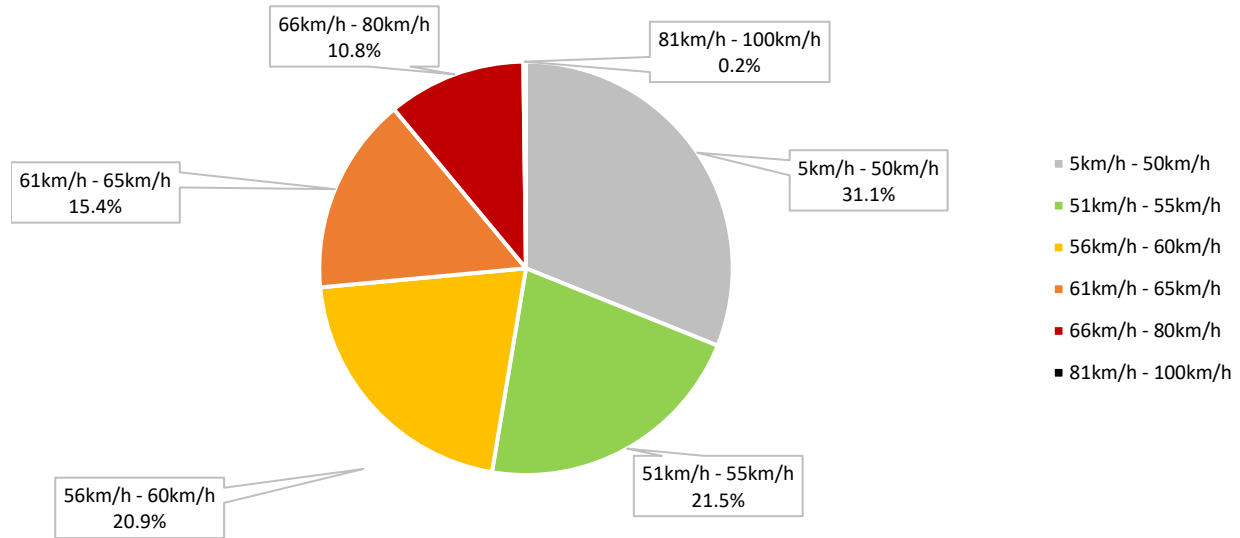


Figure 5- Midland Point Road Westbound

Figure 5 above shows that 31.1% of vehicles were travelling below the posted speed limit, 42.4% of vehicles were travelling between 51-60 km/h, and 26.2% of vehicles were travelling above 60km/h. Considering the accepted speed limit is 10km/h over the posted speed limit, a total of 73.5% of vehicles were travelling within the accepted speed limit in the westbound direction.

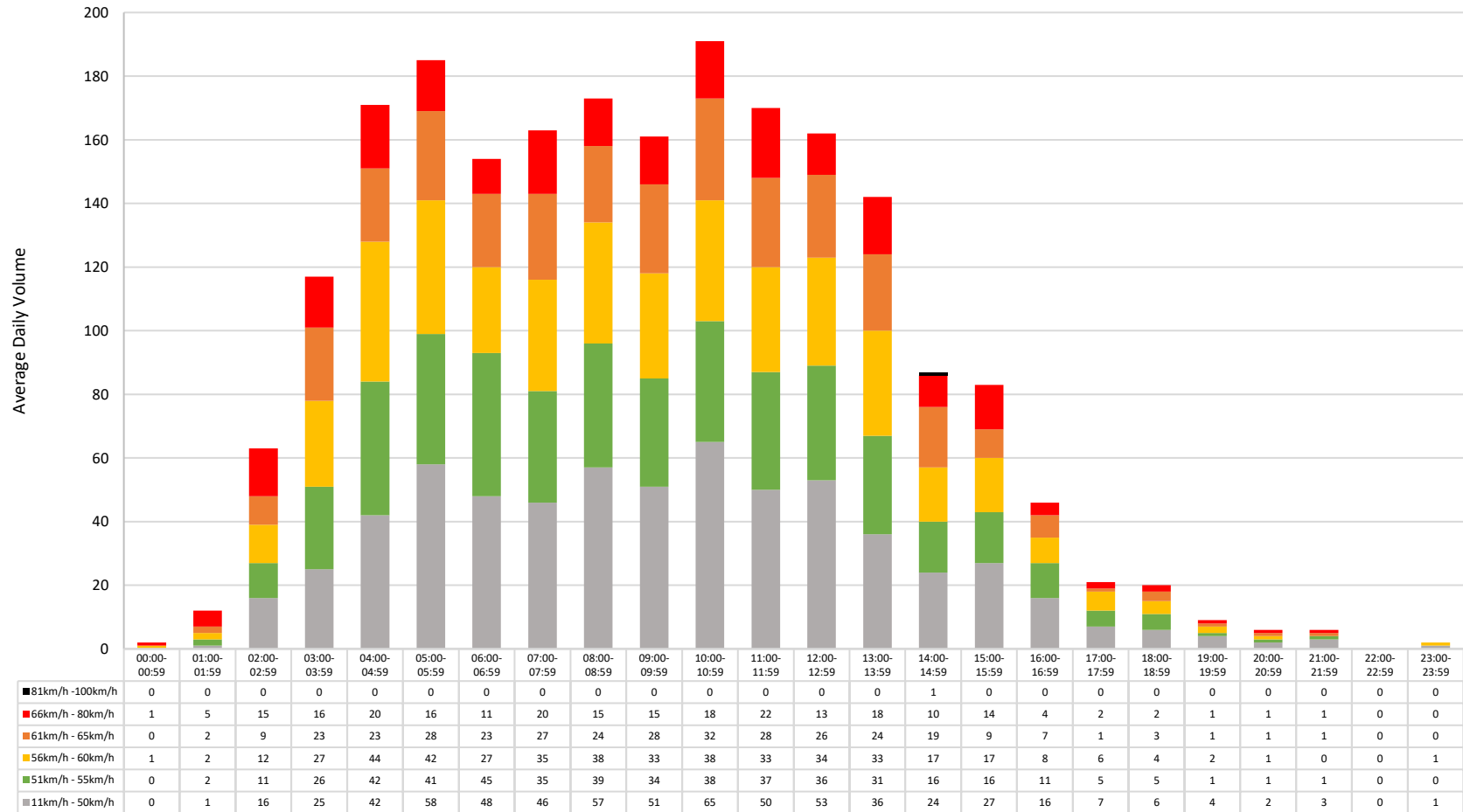


Figure 6- Speed by Hour Analysis for Westbound Weekdays

Figure 6 above is the speed by hour graph used to determine the time where most speeding occurs on weekdays. The data shows that speeding formed a “u” shape as it increased throughout the day until it reached its peak from 10:00am to 12:00am and begins to decline again. There is an additional spike in speeding from 4:00am until 6:00am.

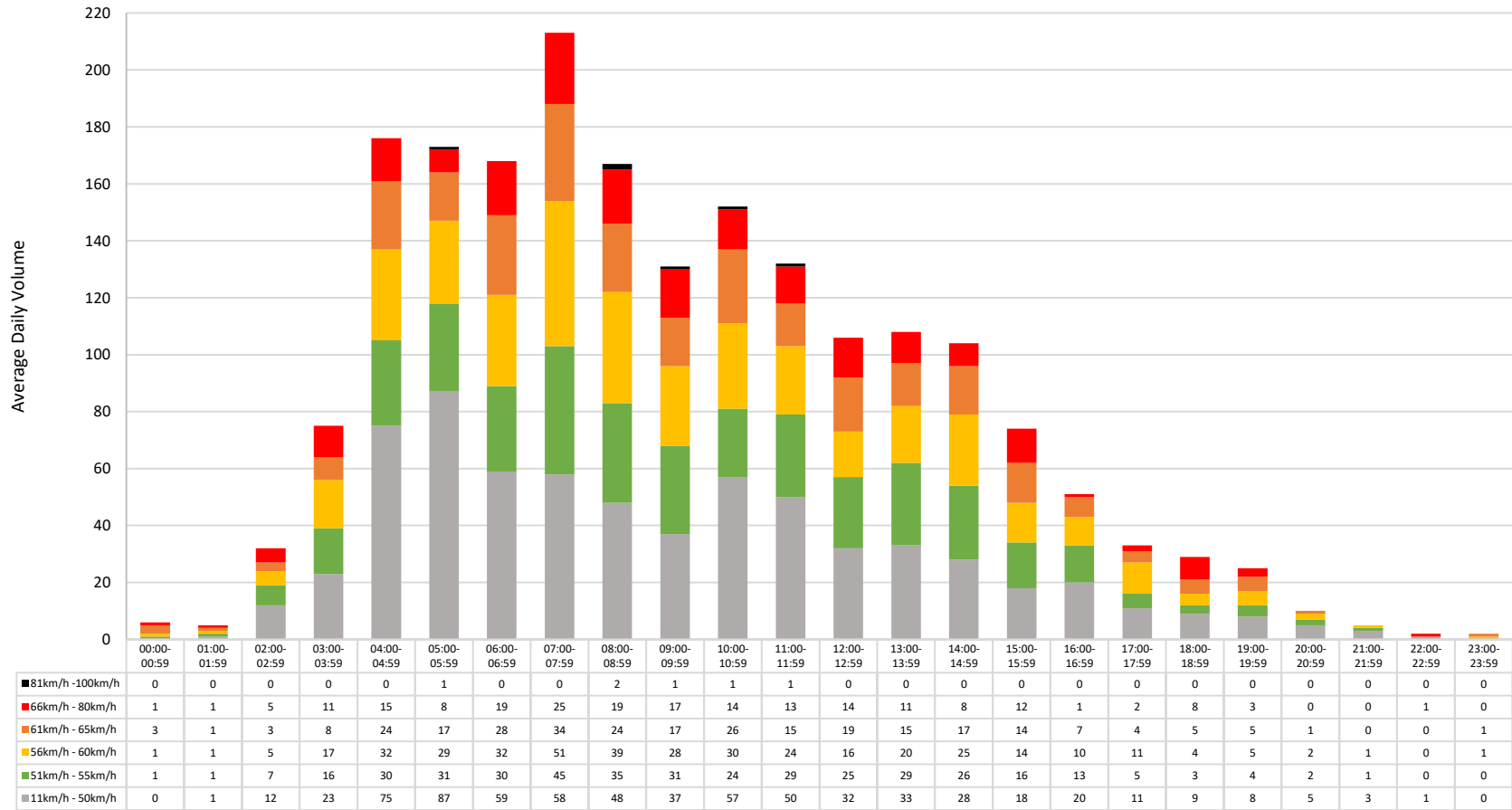


Figure 6- Speed by Hour Analysis for Westbound Weekends

Figure 7 above is the speed by hour graph used to determine the time where most speeding occurs on the weekend. The data shows that speeding was low at night and began to increase around 4:00 am before beginning to decline again at 11:00am. The speeding reached a peak from 7:00am until 8:00am.

Figure 6 (weekday) and Figure 7 (weekend) above are the speed by hour graphs used to determine the time where most speeding occurs. The data shows that speeding was relatively consistent in the westbound and eastbound direction on weekdays and weekends having spikes from 6:00am to 10:00am.

In addition, the traffic trailer detected that 54.2% of vehicles slowed down when approaching the trailer in the eastbound direction and 50.0% slowed down in westbound direction. Since the trailer display was turned off the percentages still showed that the presence of the trailer influenced traffic calming.

3.0 Traffic Volume

Table 3 shows the average daily volume on Hugel Ave for eastbound and westbound directions.

Table 3- Volume Summary

Direction	Period	Average Daily Traffic Volume
Eastbound	August 26 th to August 27 th and August 30 th to August 31 st (Monday, Tuesday, Thursday, Friday)	1086.0
Eastbound	August 28 th to August 29 th (Saturday, Sunday)	1053.0
Westbound	August 19 th -20 th and September 2 nd -3 rd and September 6 th – 7 th (Thursday, Friday, Monday, Tuesday)	3208.6
Westbound	September 4 th - 5 th (Saturday, Sunday)	2968.5

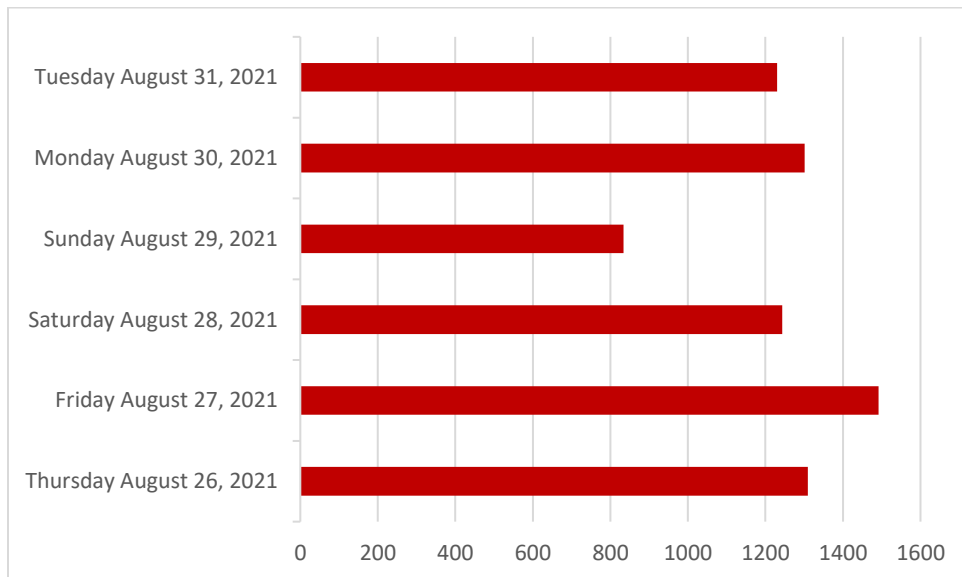


Figure 7- Total Volume per Day (Eastbound)

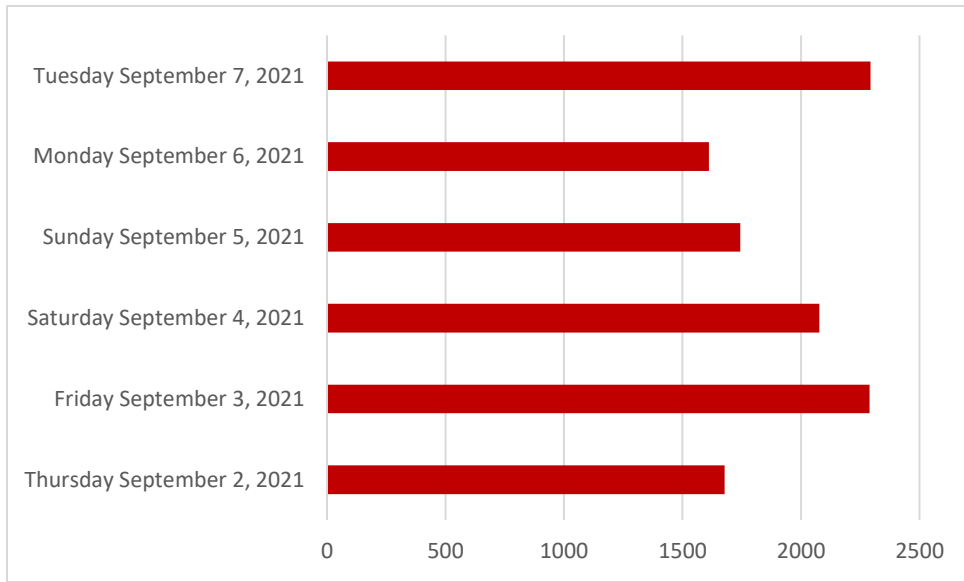


Figure 8- Total Volume per Day (Westbound)

3.1 Eastbound Volume by Hour

The data collected from August 26th to August 27th and August 30th to August 31st (weekdays) and August 28th to August 29th (weekend) are used to analyze the average traffic volume at different times of the day as shown in Figure 10 and Figure 11, respectively.

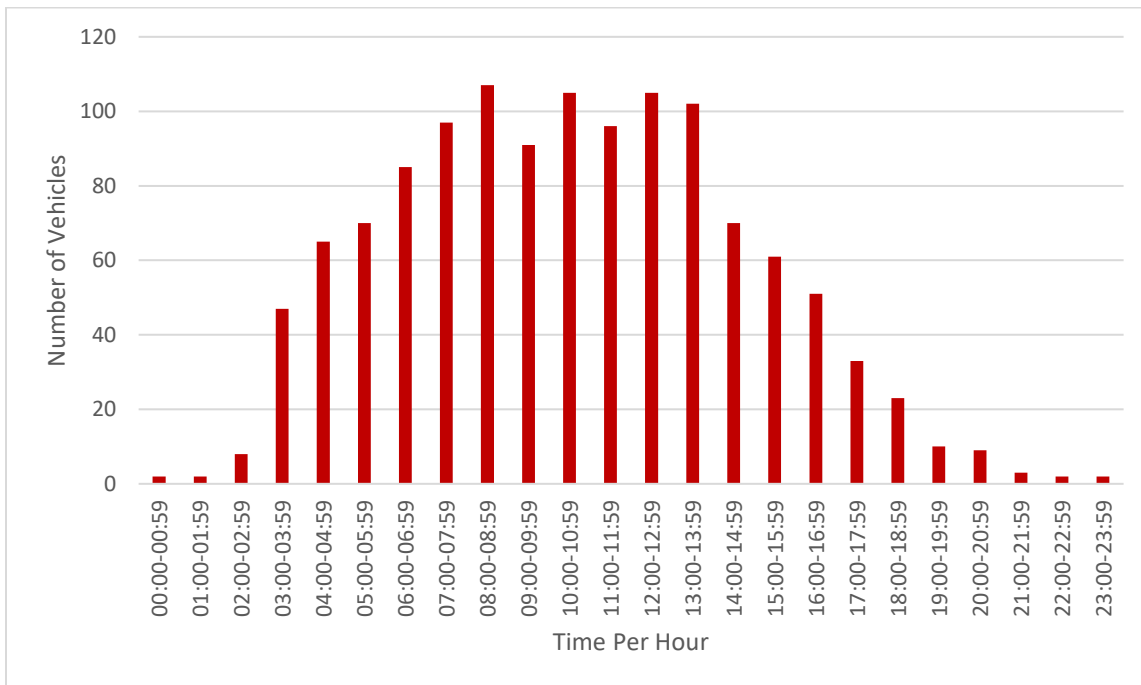


Figure 9 Average Volume per Hour from August 26th to August 27th and August 30th to August 31st (Eastbound)

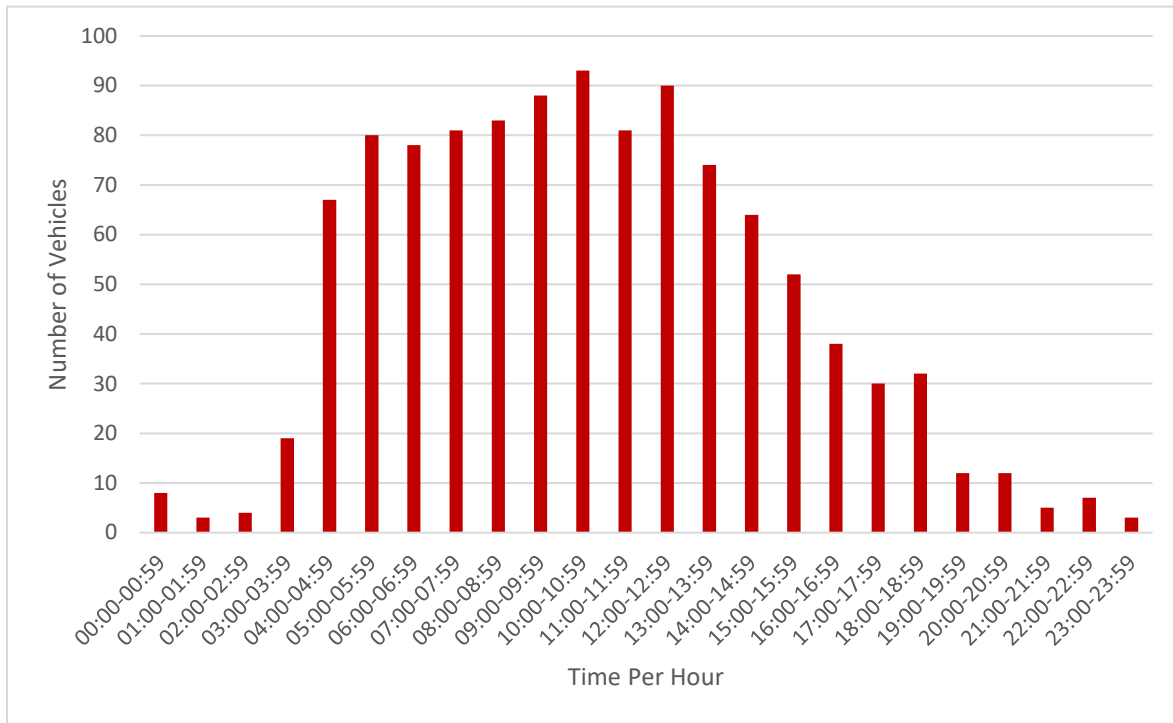


Figure 10- Average Volume by Hour from August 30th to August 31st (Eastbound)

As shown in Figure 10, on weekdays, peak traffic occurs from 8:00am to 1:00pm in the eastbound direction. Figure 11 shows that on weekends, the peak occurs between 10:00am and 12:00pm in the eastbound direction.

3.2 Westbound Volume by Hour

The data collected from September 2nd, 3rd, 6th and 7th (weekdays) and September 4th and 5th (weekend) are used to analyze the average traffic volume at different times of the day as shown in Figure 12 and Figure 13, respectively.

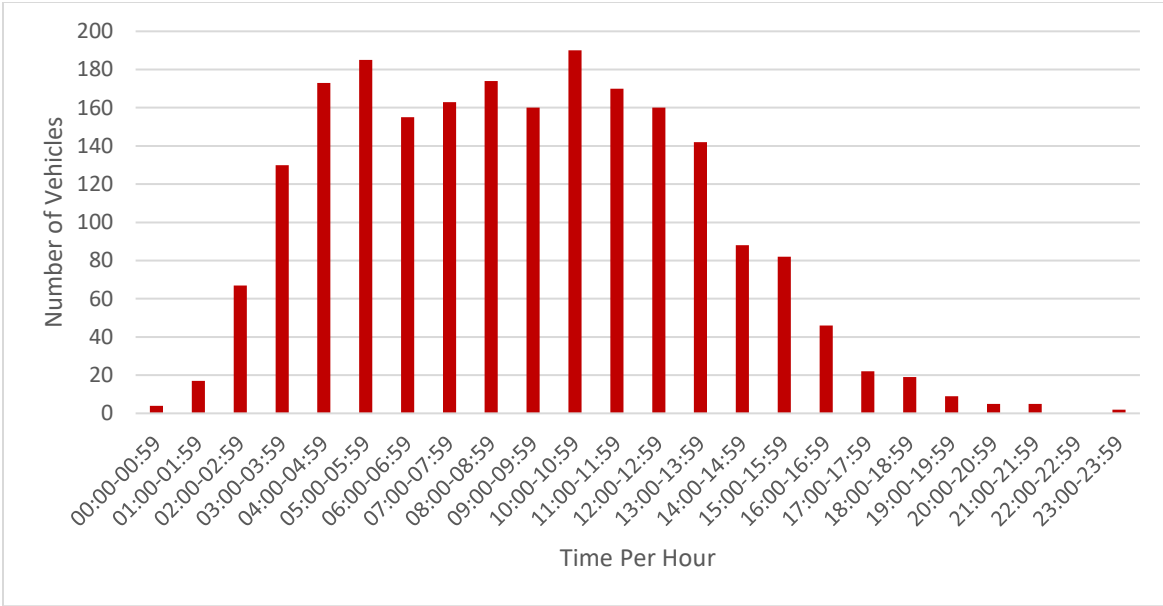


Figure 11- Average Volume by Hour from September 2nd, 3rd, 6th and 7th (Westbound)

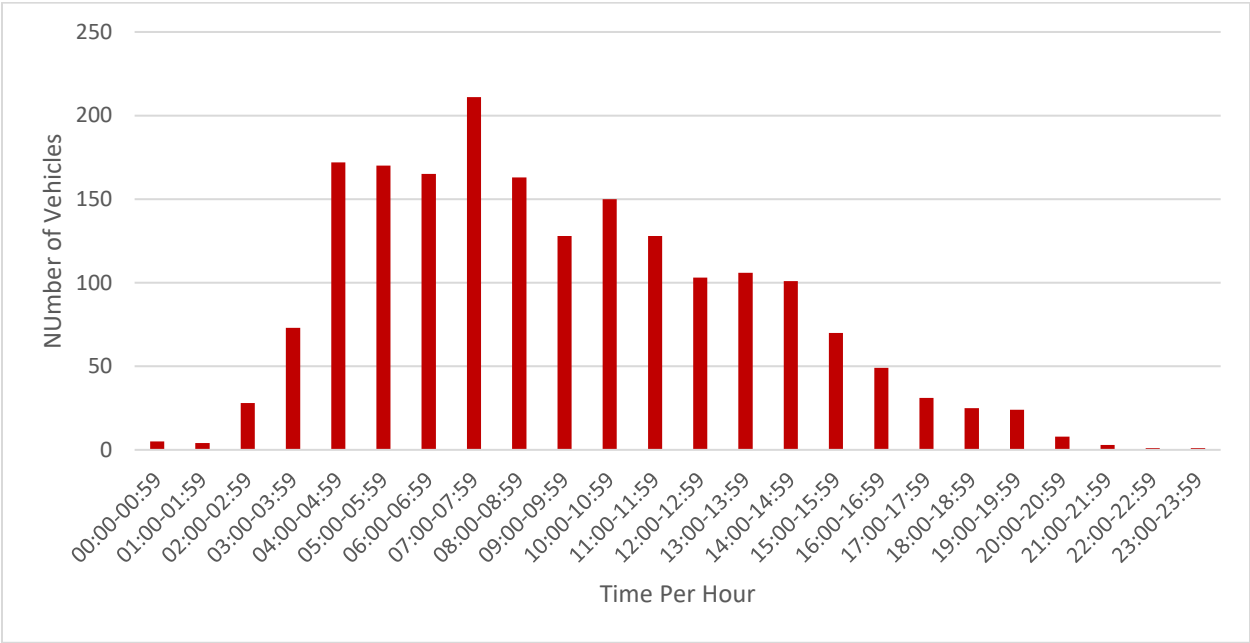


Figure 12- Average Volume by Hour from September 4th to 5th (Westbound)

As shown in Figure 12, peak traffic occurs in the morning from 5:00am to 10:00am on the weekday in the westbound direction. On the weekend shown in Figure 13 a similar pattern was shown, there was a spike from 7:00am.

4.0 Conclusion

The traffic study conducted on Midland Point Road for both eastbound and westbound directions was carried out from August 26th to September 8th, 2021. From the speed analysis, it was determined that 86.5% and 73.5% of vehicles were travelling within the accepted speed limit for the eastbound and westbound directions, respectively. In addition, from the volume analysis, it was determined that the peak traffic hours were around the morning in the eastbound and westbound direction.