

Traffic Data Analysis

Hugel Avenue

Eastbound and Westbound



Town of Midland

Engineering Department

June 29th, 2022

Table of Contents

1.0	Introduction	3
1.1	Location.....	3
1.2	Traffic Trailer	3
2.0	Speed Summary.....	3
2.1	Eastbound Speed Analysis	4
2.2	Westbound Speed Analysis	7
3.0	Traffic Volume	10
3.1	Eastbound Volume by Hour.....	10
3.2	Westbound Volume by Hour	11
4.0	Conclusion.....	12

List of Figures

Figure 1 - Traffic Trailer	3
Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Eastbound).....	4
Figure 3 - Traffic Volume Speeds for Each Hour on Weekdays (Eastbound)	5
Figure 4 - Traffic Volume Speeds for Each Hour on Weekends (Eastbound).....	6
Figure 5 - Total Volume Breakdown Based on Speed per Hour Intervals (Westbound)	7
Figure 6 - Traffic Volume Speeds for Each Hour on Weekdays (Westbound)	8
Figure 7 - Traffic Volume Speeds for Each Hour on Weekends (Westbound)	9
Figure 8 - Total Volume per Day (Eastbound).....	10
Figure 9 - Total Volume per Hour (Eastbound).....	11
Figure 10 - Total Volume per Day (Westbound)	11
Figure 11 - Total Volume per Hour (Westbound)	12

List of Tables

Table 1- Locations of Traffic Trailer	3
Table 2- Speed Summary.....	4
Table 3 - Volume Summary	10

1.0 Introduction

A traffic count was conducted from June 15th, 2022, to June 29th, 2022, on Hugel Ave for both eastbound and westbound directions. Due to construction on Seventh St, the data collected on June 21st, 22nd, and 23rd was not used in the report. Vehicle speeds and traffic volumes 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 Hugel Ave 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	721 Hugel Ave, Midland, ON	10:00 June 15 th , 2022 – 23:00 June 20 th , 2022
Westbound	714 Hugel Ave, Midland, ON	00:00 June 24 th , 2022 – 08:00 June 29 th , 2022

1.2 Traffic Trailer

The traffic trailer used was model ATS-3 as shown in Figure 1. The traffic trailer is set to show the speed of the approaching vehicle and display short messages depending on the speed. The data is collected and grouped into one-hour intervals.



Figure 1 - Traffic Trailer

2.0 Speed Summary

The posted speed limit on Hugel Ave is 50 km/h; however, generally it is accepted that vehicles that are travelling up to 10 km/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	45.45	53.67	10.00	87.00
Westbound	46.30	53.94	10.00	97.00

2.1 Eastbound Speed Analysis

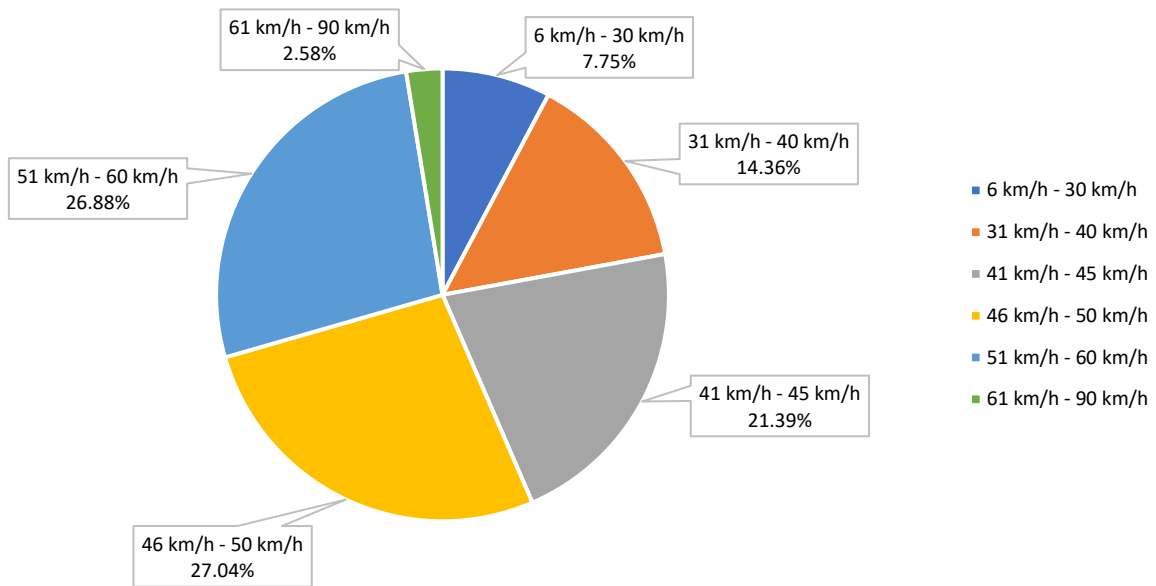


Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Eastbound)

Figure 2 above shows that 70.54% of vehicles were travelling below the posted speed limit, 26.88% of vehicles were travelling between 51-60 km/h, and 2.58% of vehicles were travelling above 60 km/h. Considering the accepted speed limit is 10 km/h over the posted speed limit, a total of 97.42% of vehicles were travelling within the accepted speed limit in the eastbound direction.

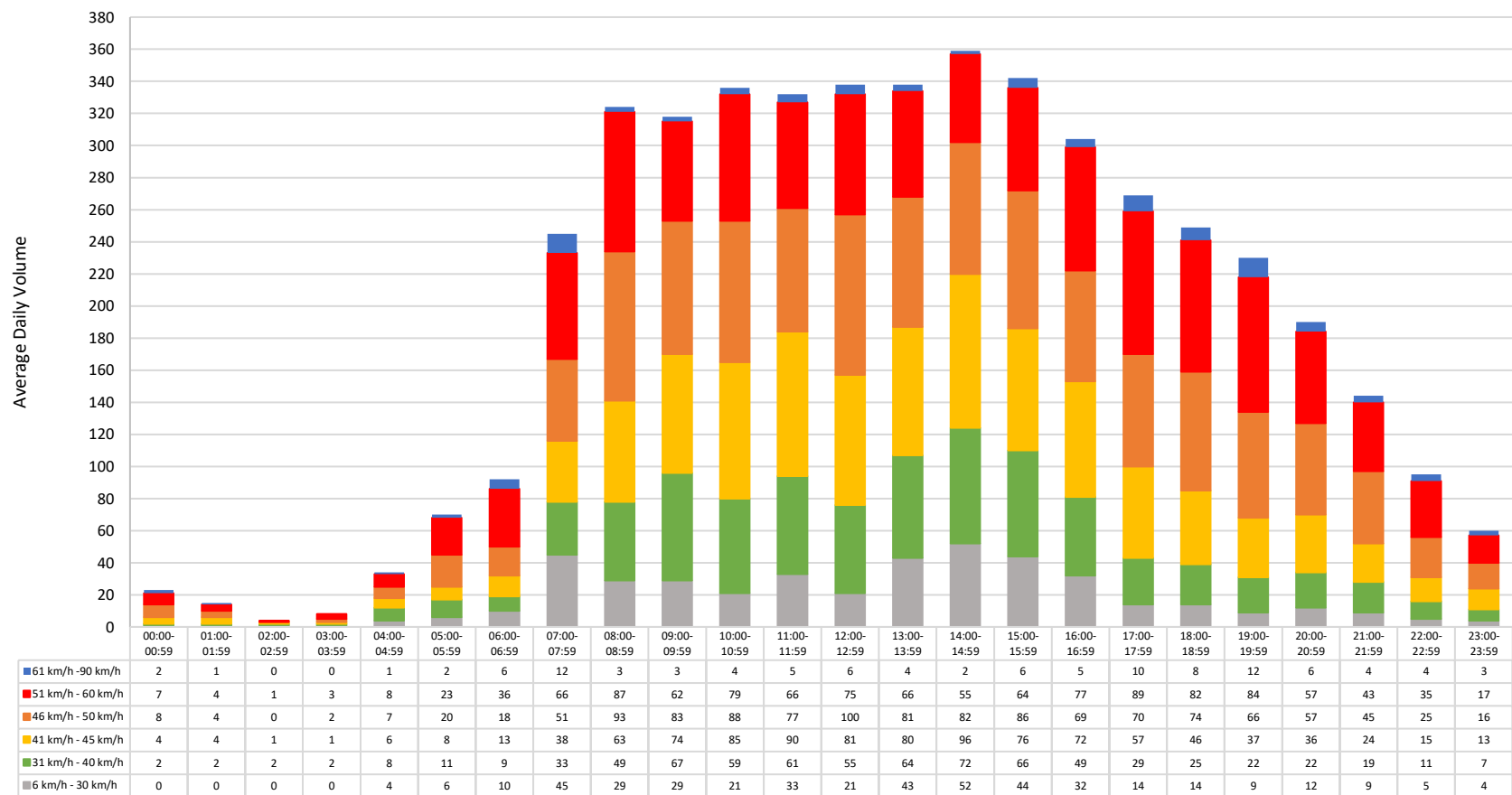


Figure 3 - Traffic Volume Speeds for Each Hour on Weekdays (Eastbound)

Figure 3 above is the graph used to determine the time when most speeding occurs on weekdays (June 15th, June 16th, June 17th, June 20th). The data follows a curve shape, with a spike at 07:00 – 07:59 and peaking between 14:00 – 14:59. Speeds greater than the speed limit were recorded every hour. The largest volume of traffic traveling at speeds beyond the acceptable limit were recorded between 07:00 – 07:59 and 19:00 – 19:59.

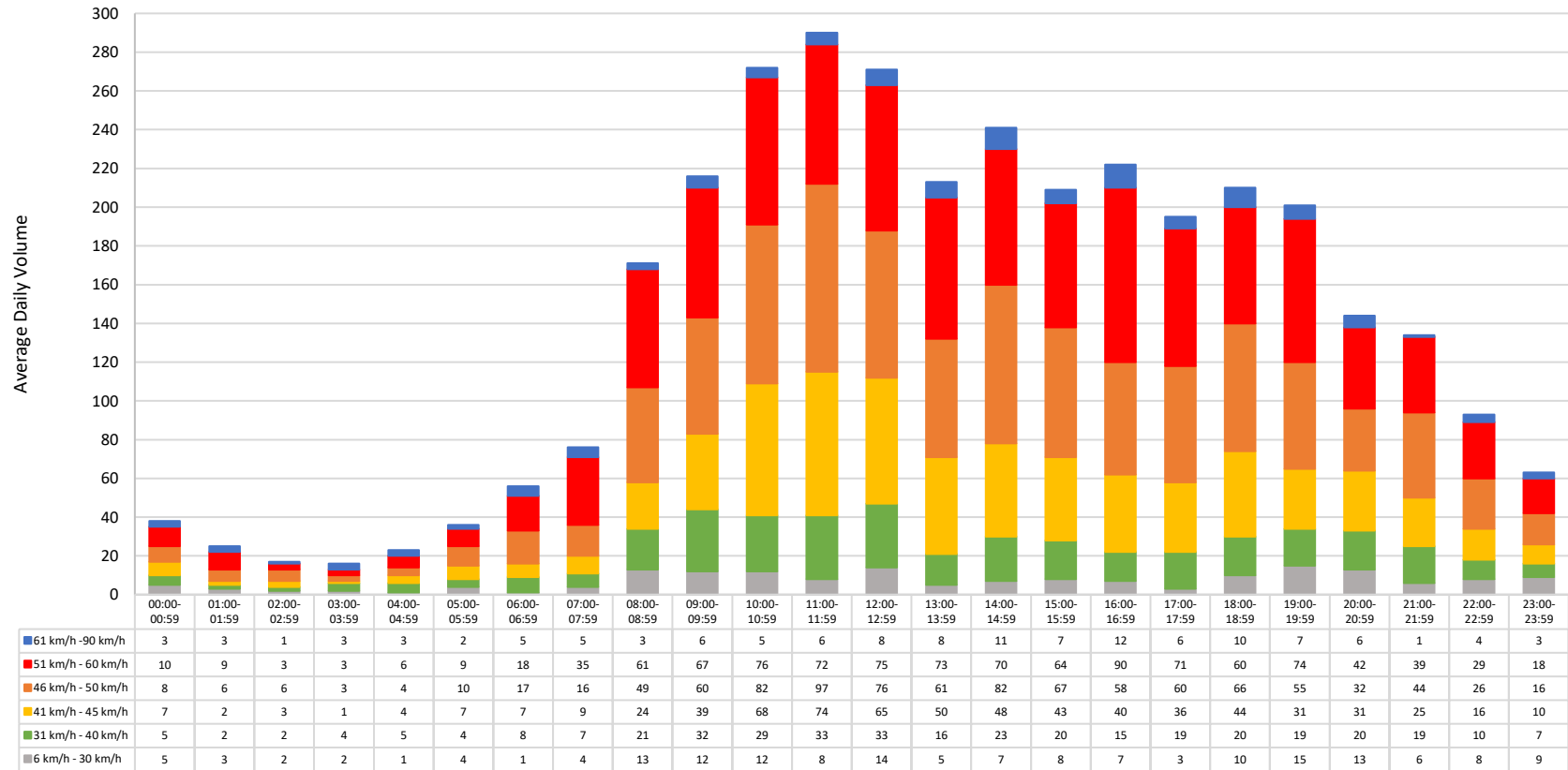


Figure 4 - Traffic Volume Speeds for Each Hour on Weekends (Eastbound)

Figure 4 above is the graph used to determine the time when most speeding occurs on weekends (June 18th and June 19th). Traffic volume spikes at 07:00 – 07:59, peaks at 11:00 – 11:59, and begins to decline. There are vehicles traveling between the acceptable speed limit at every hour of the day.

2.2 Westbound Speed Analysis

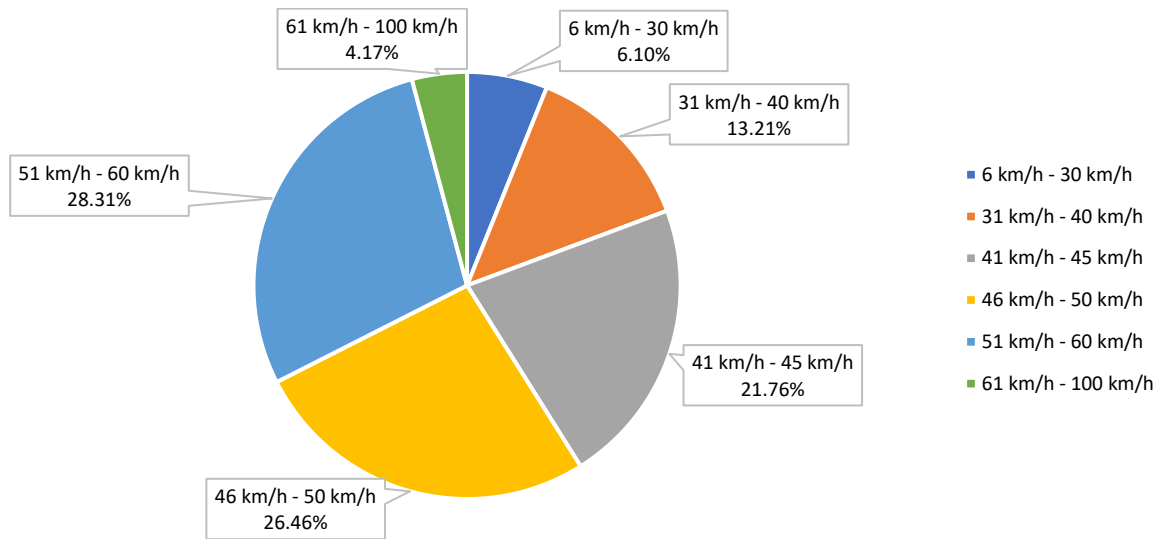


Figure 5 - Total Volume Breakdown Based on Speed per Hour Intervals (Westbound)

Figure 5 shows that 67.53% of the vehicles were travelling below the posted speed limit, 28.31% of vehicles were travelling between 51-60 km/h, and 4.17% of vehicles were travelling above 60 km/h. Considering the accepted speed limit is 10 km/h over the posted speed limit, a total of 95.83% of vehicles were driving within the accepted speed limit.

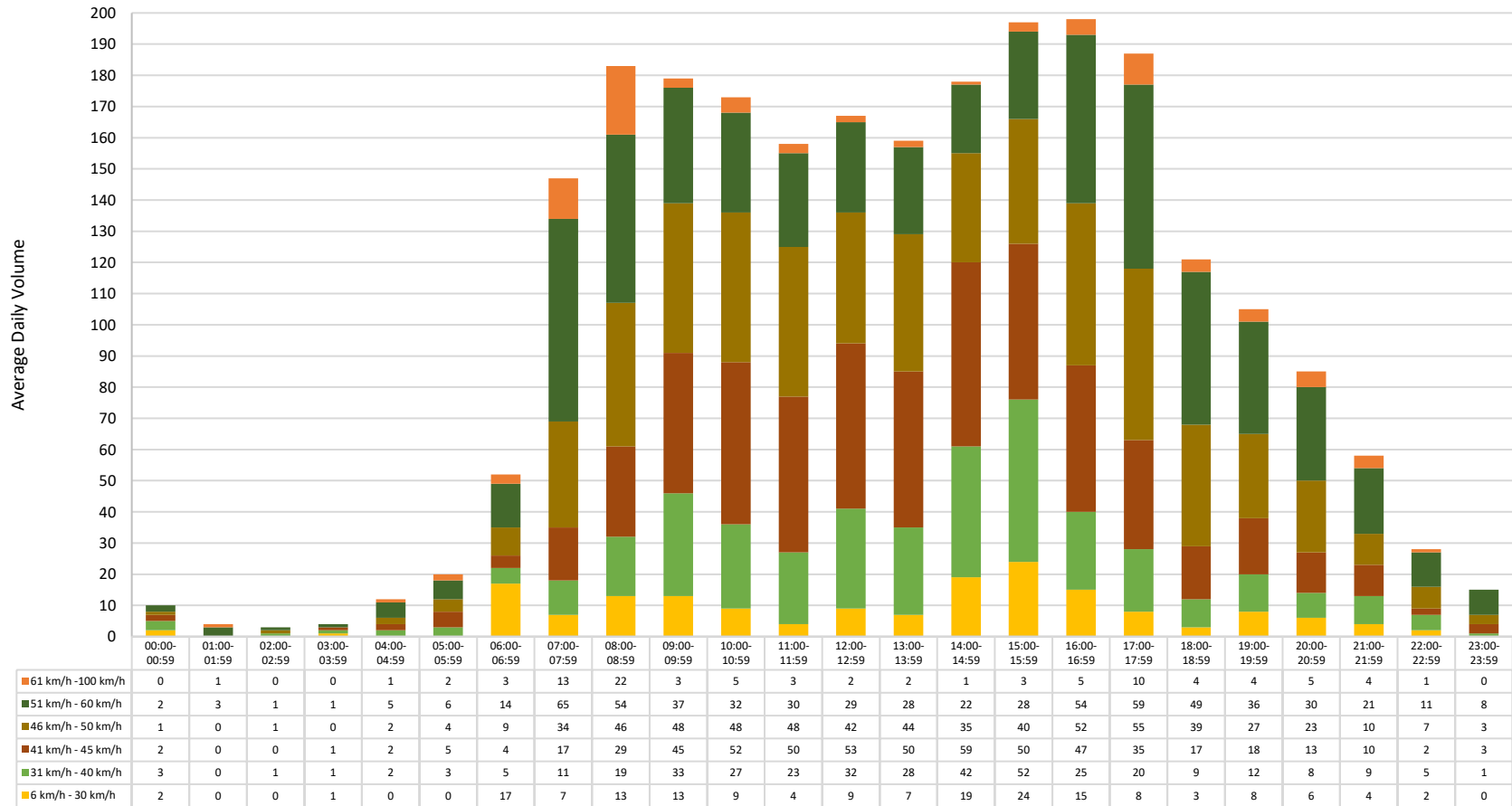


Figure 6 - Traffic Volume Speeds for Each Hour on Weekdays (Westbound)

Figure 6 above is the graph used to determine the time when most speeding occurs on weekdays (June 24th, June 25th, June 26th, June 27th, June 28th, June 29th). The data does not have a definite curve shape but, the volume spikes at 07:00 – 07:59, again between 11:00 – 11:59, and peaking at 08:00 – 08:59 and 16:00 – 16:59. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 07:00 to 08:59.

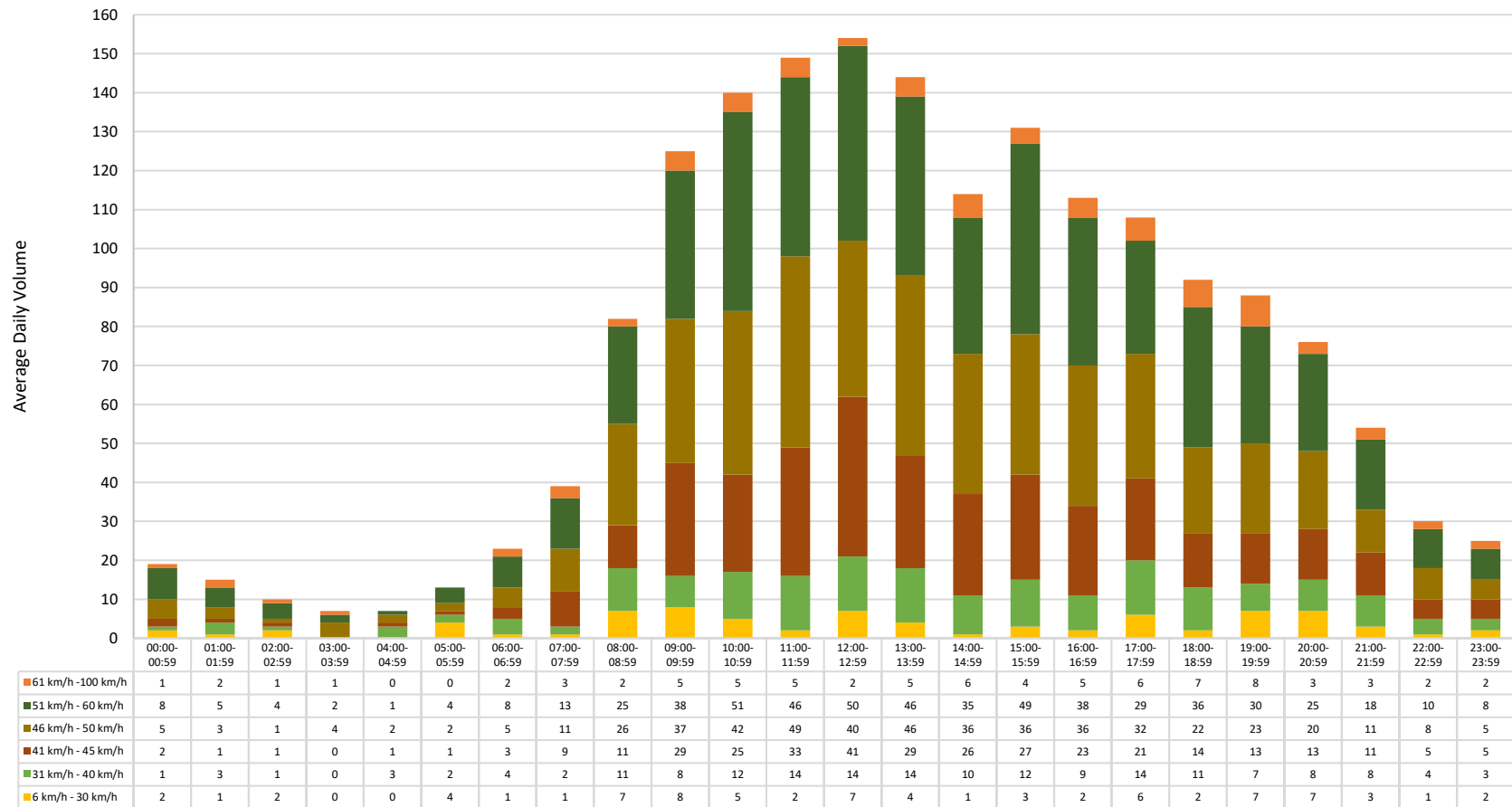


Figure 7 - Traffic Volume Speeds for Each Hour on Weekends (Westbound)

Figure 7 above is the graph used to determine the time when most speeding occurs on weekends (June 25th and June 26th). Generally, the data shows that speeds formed a curve as traffic volumes increased throughout the day peaking at 12:00 – 12:59 and begins to decline. Speeds greater than the speed limit were not recorded during every time period.

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	Weekday	4420
Eastbound	Weekend	3353
Westbound	Weekday	1942
Westbound	Weekend	1686

3.1 Eastbound Volume by Hour

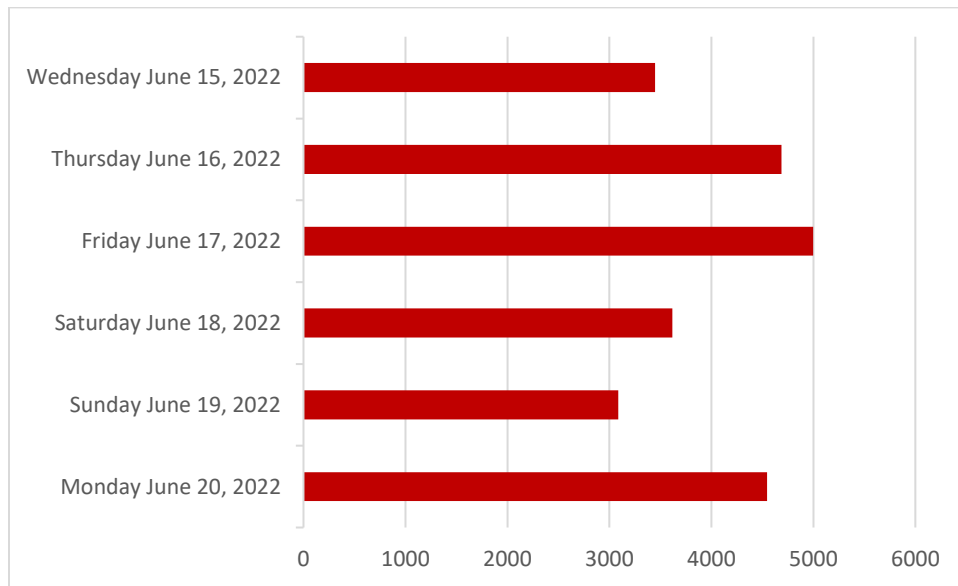


Figure 8 - Total Volume per Day (Eastbound)

Figure 8 above shows the total volumes of each day data was collected in the eastbound direction. Friday June 17th had the largest traffic volume, while Sunday June 19th had the lowest. Generally, more traffic was recorded on weekends than weekdays.

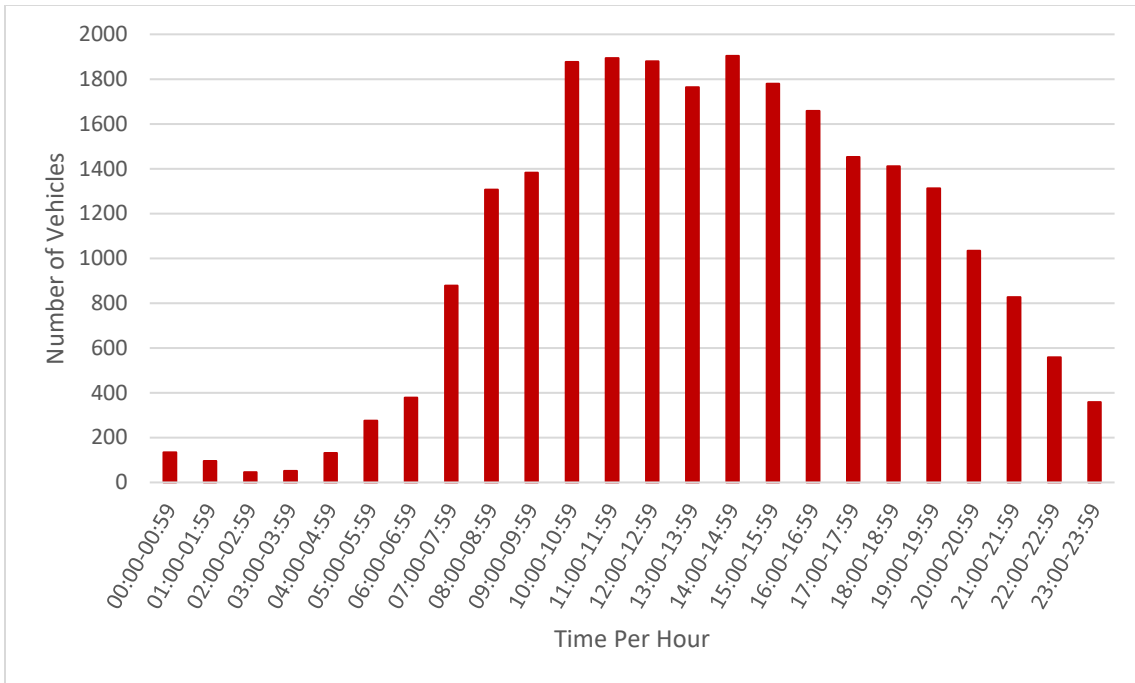


Figure 9 - Total Volume per Hour (Eastbound)

As shown in Figure 9 above, the traffic volume forms a curve in which traffic flow is low at night and begins to increase. It spikes at 07:00 – 07:59 and peak traffic volume occurs at 14:00 – 14:59 and it begins to decline.

3.2 Westbound Volume by Hour

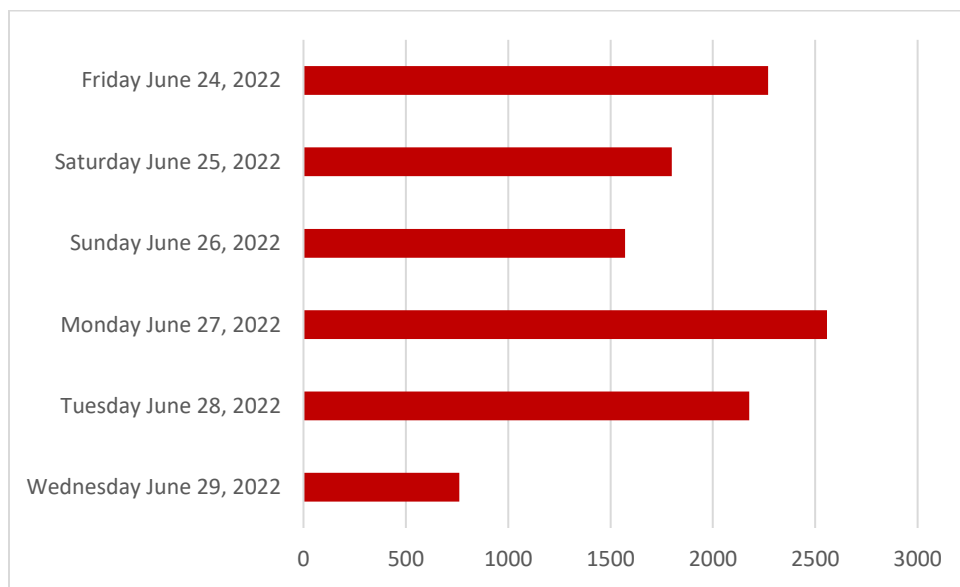


Figure 10 - Total Volume per Day (Westbound)

Figure 10 above shows the daily total traffic volumes in the westbound direction. Monday June 27th had the largest traffic volume, while Sunday June 26th had the lowest discounting Wednesday June 29th, whereby data was not collected for the full day.

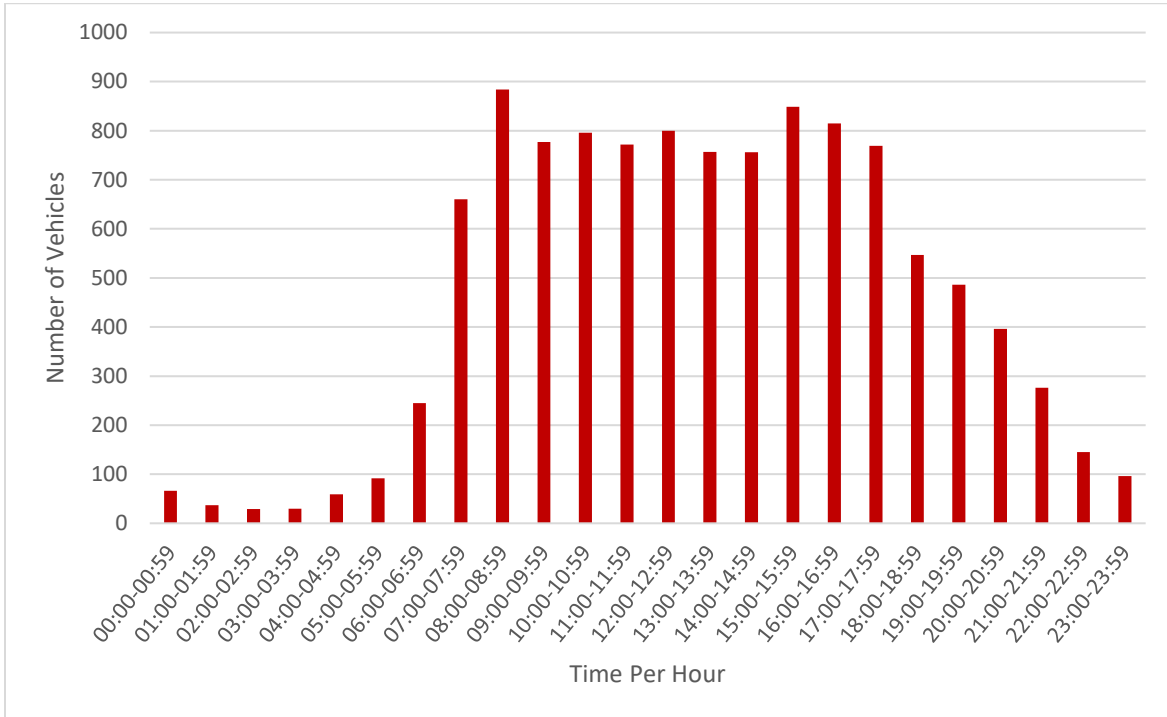


Figure 11 - Total Volume per Hour (Westbound)

The total volumes of traffic at different hours of the day in the westbound direction are shown in Figure 11 above. The volume of traffic over time forms a curve rising from 06:00 – 06:59 and reaches a peak at 08:00 – 08:59.

4.0 Conclusion

The traffic study conducted on Hugel Ave for both eastbound and westbound directions was carried out from June 15th to June 29th, 2022. From the speed analysis, it was determined that 97.42% and 95.83% of vehicles were travelling within the accepted speed limit for the eastbound and westbound directions, respectively. Sundays had the least traffic, and the highest speeds were recorded during weekends.