

Traffic Data Analysis

Victoria St



Town of Midland

Engineering Department

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Table of Contents

1.0	Introduction	3
1.1	Location	3
1.2	Traffic Trailer	3
2.0	Speed Summary	4
2.1	Eastbound Speed Analysis	4
2.2	Westbound Speed Analysis	7
3.0	Traffic Volume	11
3.1	Eastbound Volume by Date	11
3.2	Westbound Volume by Hour	12
4.0	Conclusion	13

List of Figures

Figure 1 - Traffic Trailer	4
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)	11
Figure 9 - Total Volume per Hour (Eastbound).....	12
Figure 10 - Total Volume per Day (Westbound).....	13
Figure 11 - Total Volume per Hour (Westbound).....	13

List of Tables

Table 1- Locations of Traffic Trailer	3
Table 2- Speed Summary.....	4
Table 3 - Volume Summary	11

1.0 Introduction

A traffic count was conducted from August 24th, 2022 to September 7th on Victoria Street for the eastbound and westbound directions. 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 Victoria Street for eastbound and westbound direction. Table 1 below shows the location of the traffic trailer and data collection period.

Table 1- Locations of Traffic Trailer

Direction	Location	Period
Eastbound	80 Woodland Cres, Midland, ON	08:30 on August 24 th , 2022 – 08:00 on August 31 st , 2022
Westbound	980 Victoria St, Midland, ON	08:00 on August 31 st , 2022 – 08:00 on September 7 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 Victoria St 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	45.66	57.21	10.00	106
Westbound	49.32	64.26	10.00	107

2.1 Eastbound Speed Analysis

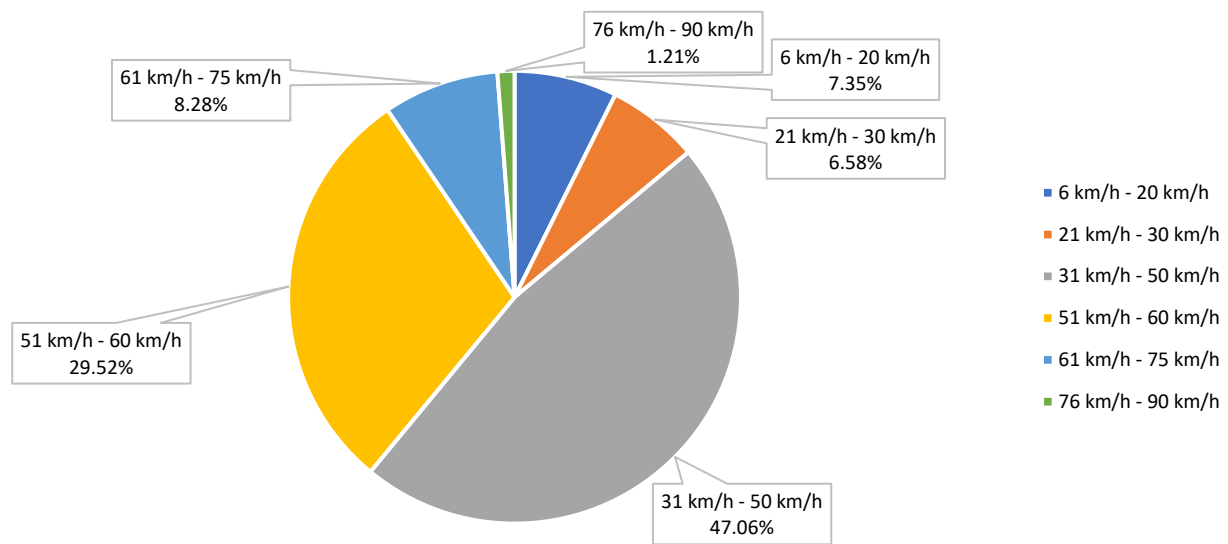


Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Eastbound)

Figure 2 above shows that 60.99% of vehicles were travelling below the posted speed limit, 29.52% of vehicles were travelling between 51-60 km/h, and 9.49% 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 90.51% of vehicles were travelling within the accepted speed limit in the eastbound direction.

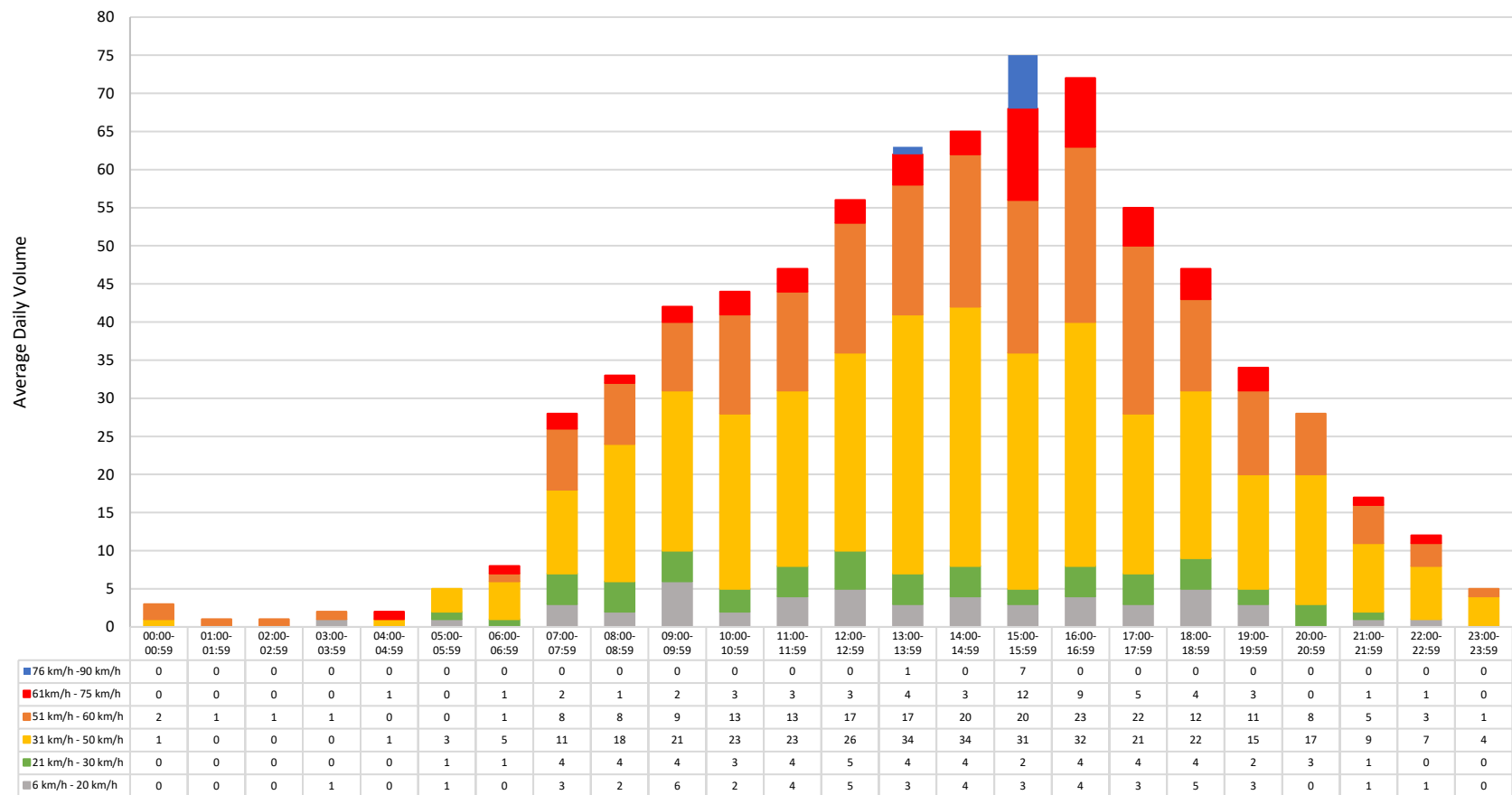


Figure 3 - Traffic Volume Speeds for Each Hour on Weekdays (eastbound)

Figure 3 above is the graph used to determine the time when most speeding occurs on weekdays. The data does not have a definite curve shape but, traffic volumes increased throughout the day with a spike from 07:00 – 07:59 until it reached its peak at 015:00 – 15:59 and begins to decline. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 15:00 - 15:59.

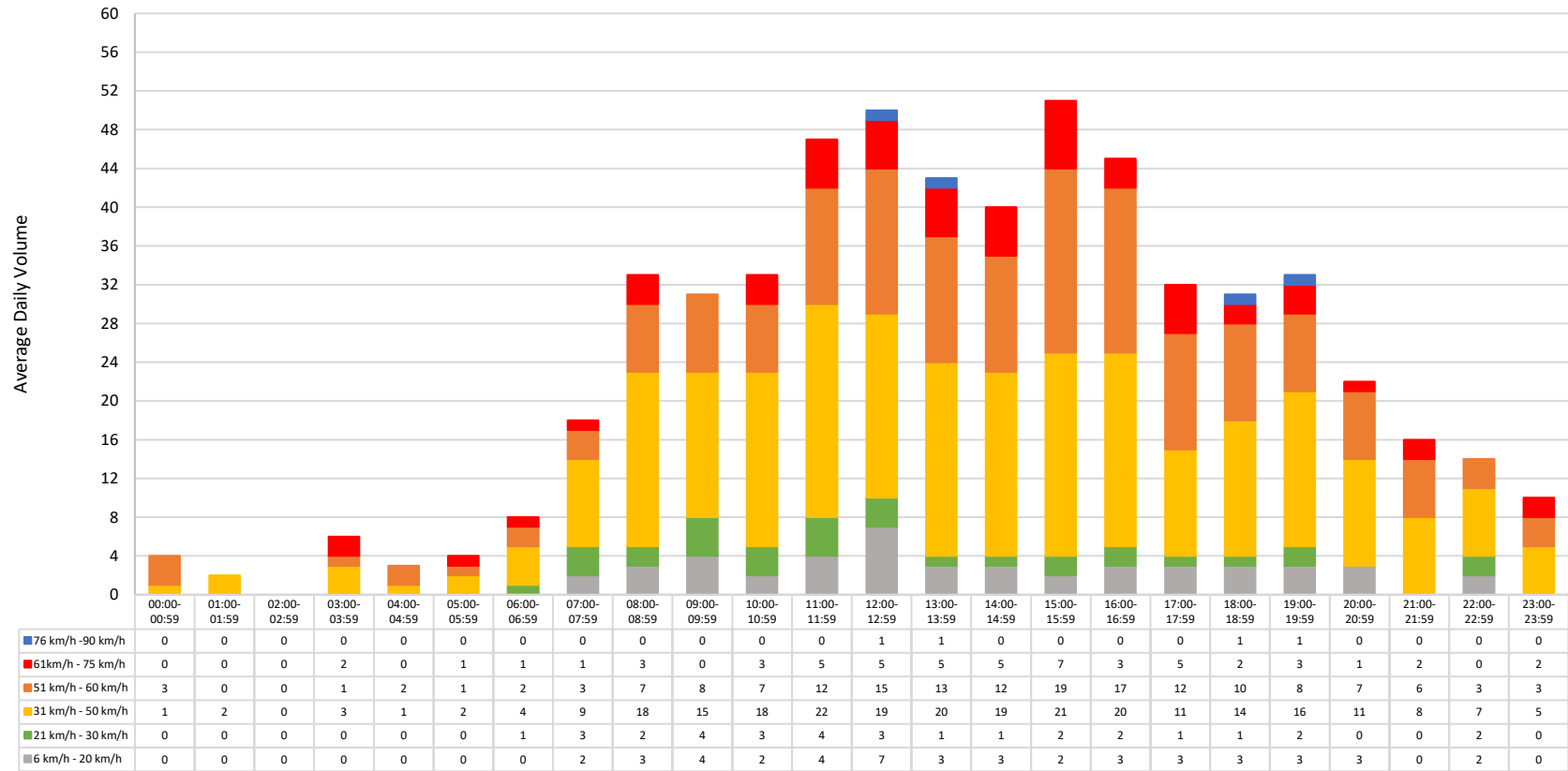


Figure 4 - Traffic Volume Speeds for Each Hour on Weekends (Eastbound)

Figure 4 above is the graph used to determine the time when most speeding occurs on weekends. Generally, traffic volumes increased throughout the day from 08:00 – 08:59 and peaks at 15:00 – 15:59.

2.2 Westbound Speed Analysis

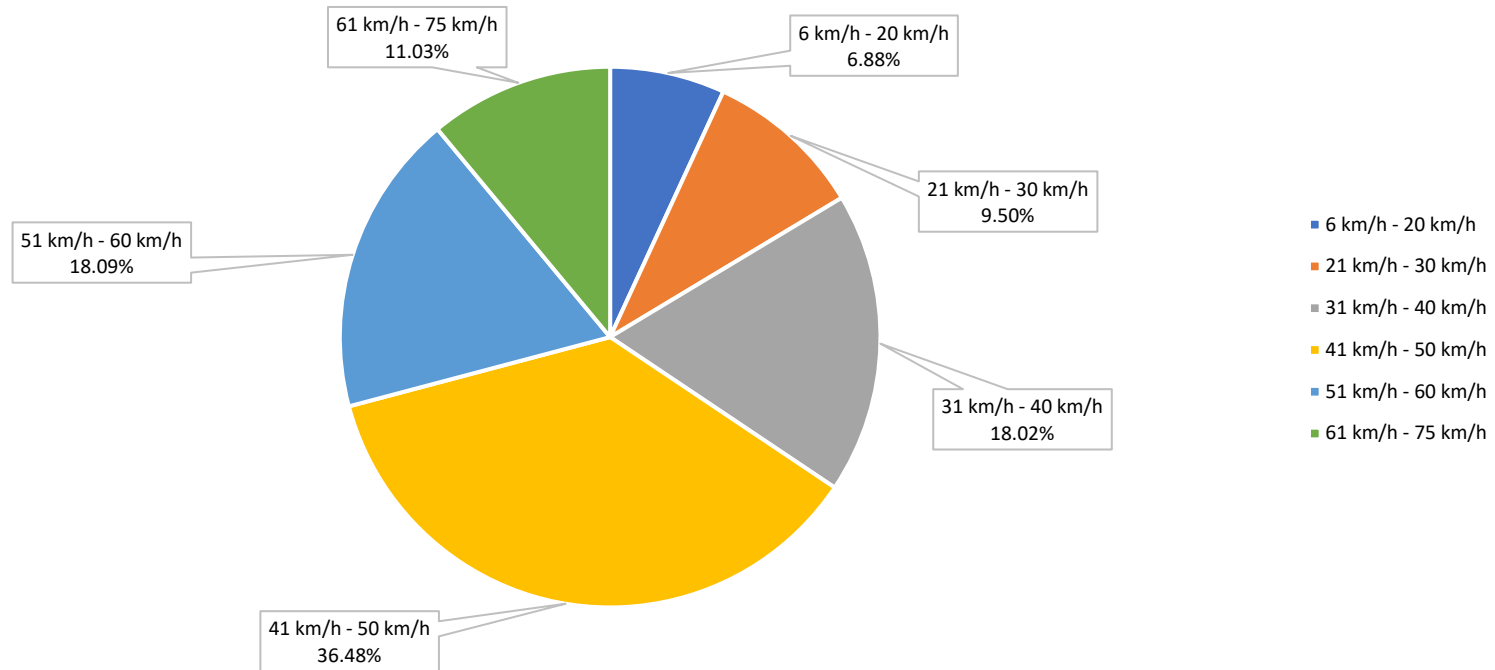


Figure 5 - Total Volume Breakdown Based on Speed per Hour Intervals (westbound)

Figure 5 shows that 70.88% of the vehicles were travelling below the posted speed limit, 18.09% of vehicles were travelling between 51-60 km/h, and 11.03% 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 88.97% of vehicles were driving within the accepted speed limit.

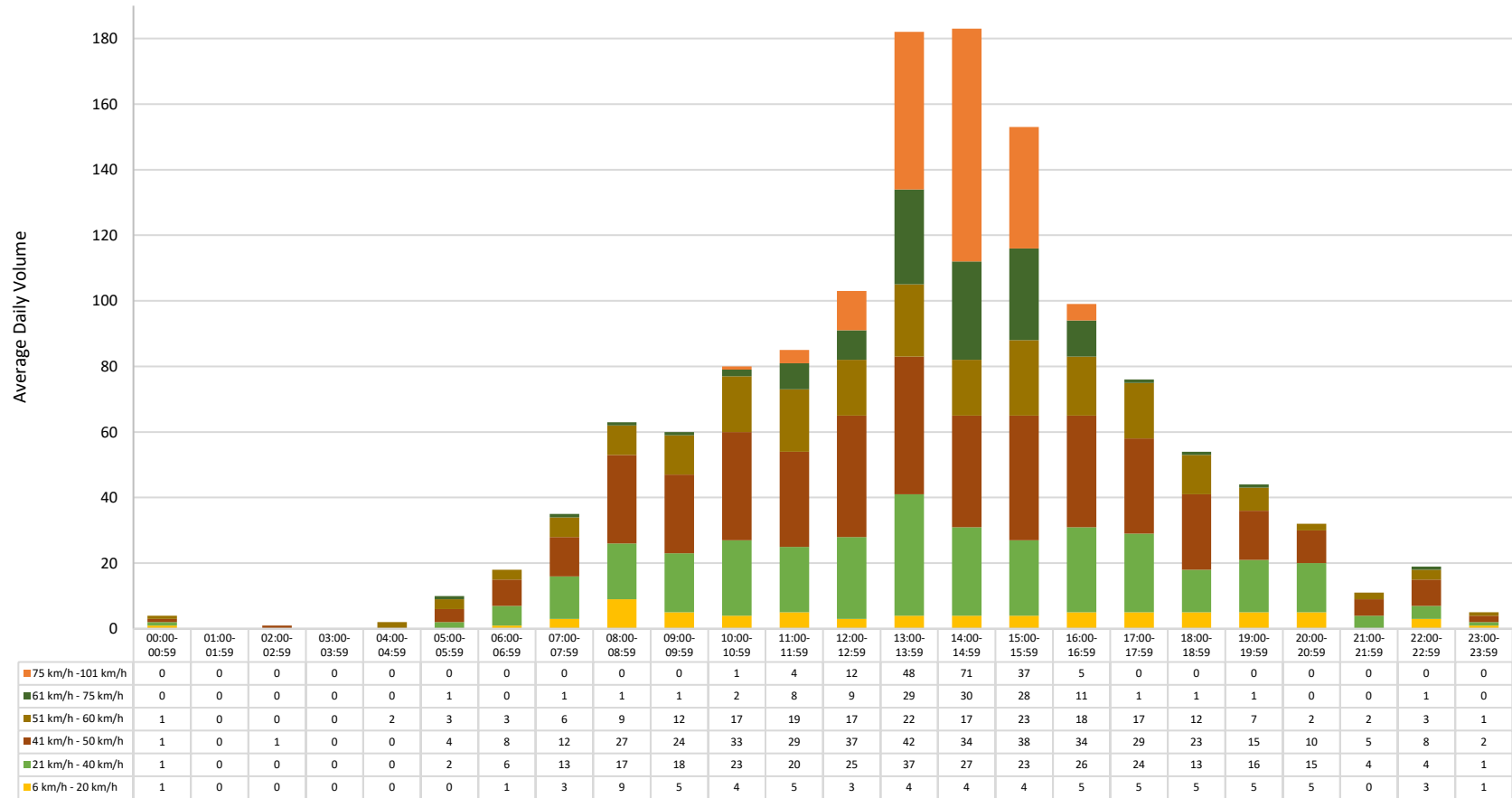


Figure 6 - Traffic Volume Speeds for Each Hour on Weekdays (westbound)

Figure 6 above is the graph used to determine the time when most speeding occurs on weekdays. The data has a definite curve shape with traffic volumes increasing throughout the day with a spike from 08:00 – 08:59 until it reached its peak at 14:00 – 14:59 and begins to decline. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 14:00 - 14:59.

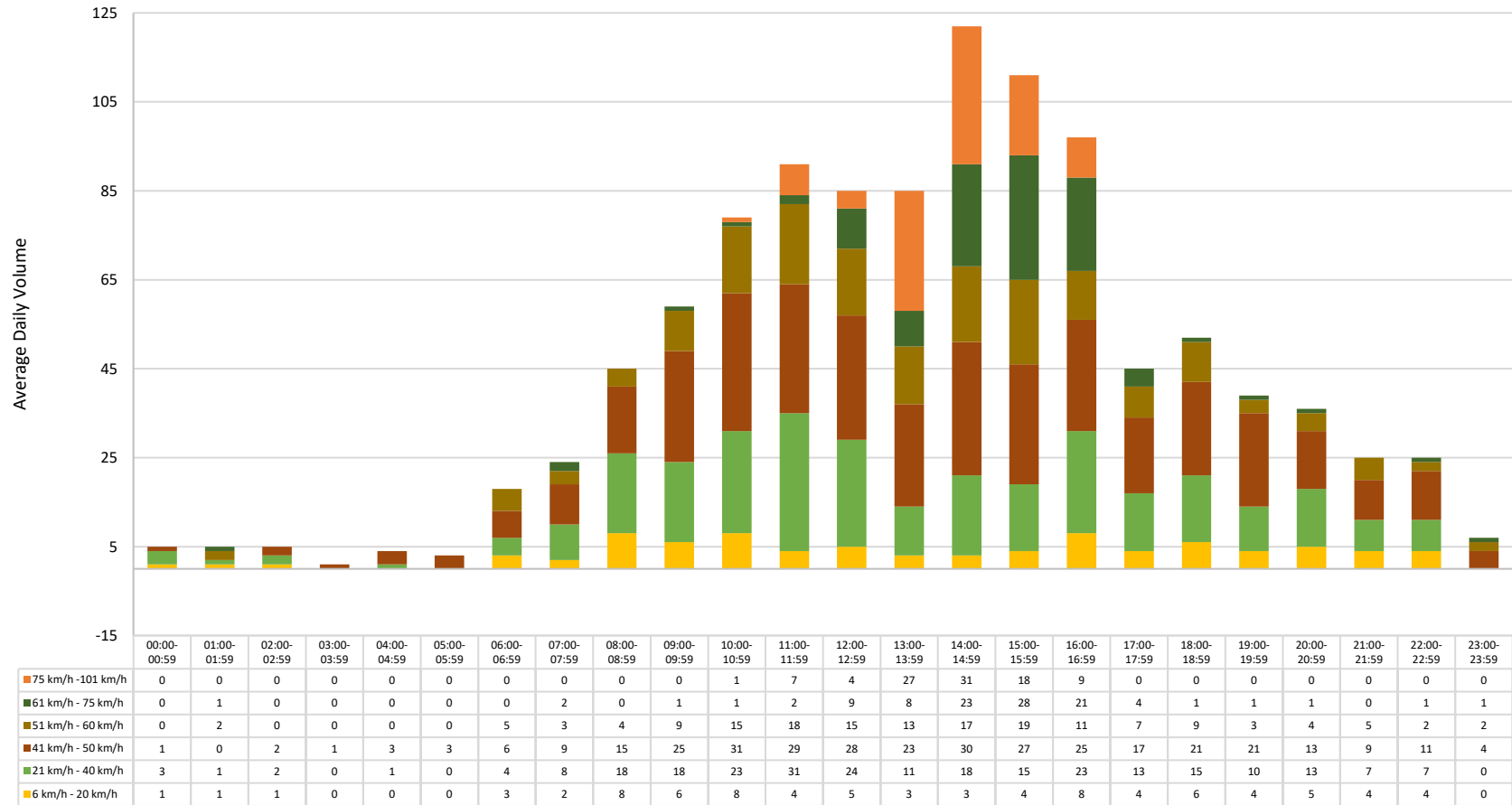


Figure 7 - Traffic Volume Speeds for Each Hour on Weekends (westbound)

Figure 7 above is the graph used to determine the time when most speeding occurs on weekends. Generally, the data shows that speeds formed a curve as traffic volumes increased throughout the day from 06:00 – 06:59. It peaks at 14:00 – 14:59 and begins to decline. There is a slight decline from 12:00 – 13:59.

3.0 Traffic Volume

Table 3 shows the average daily volume on Bay St for the eastbound.

Table 3 - Volume Summary

Direction	Period	Average Daily Traffic Volume
Eastbound	Weekday	694.5
Eastbound	Weekend	514.5
Westbound	Weekday	1110
Westbound	Weekend	1001

3.1 Eastbound Volume by Date

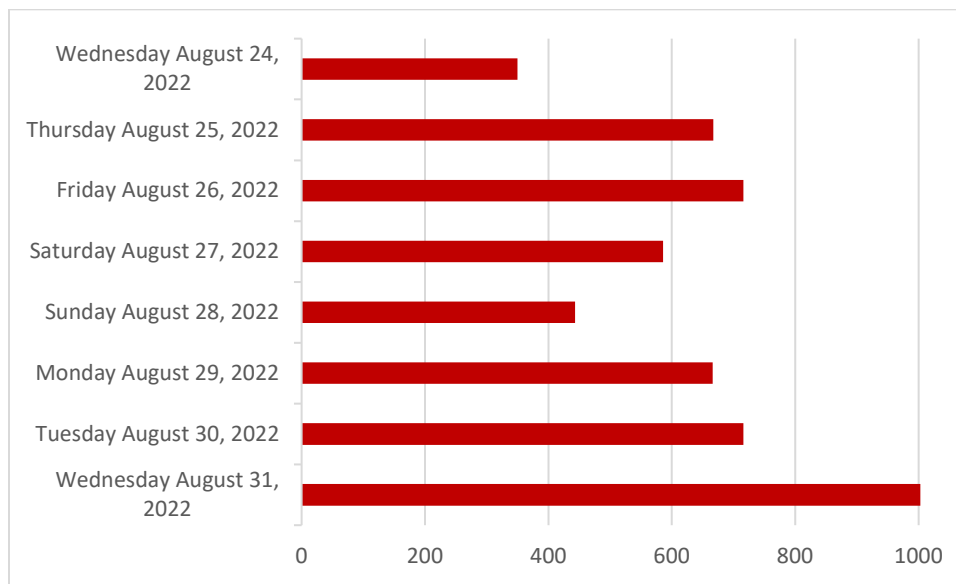


Figure 8 - Total Volume per Day (Eastbound)

Figure 8 above shows the total volumes of each day data was collected in the Eastbound direction. Wednesday August 31st had the largest traffic volume, while Sunday August 28th had the least. Generally, more traffic was recorded on weekdays than weekends.

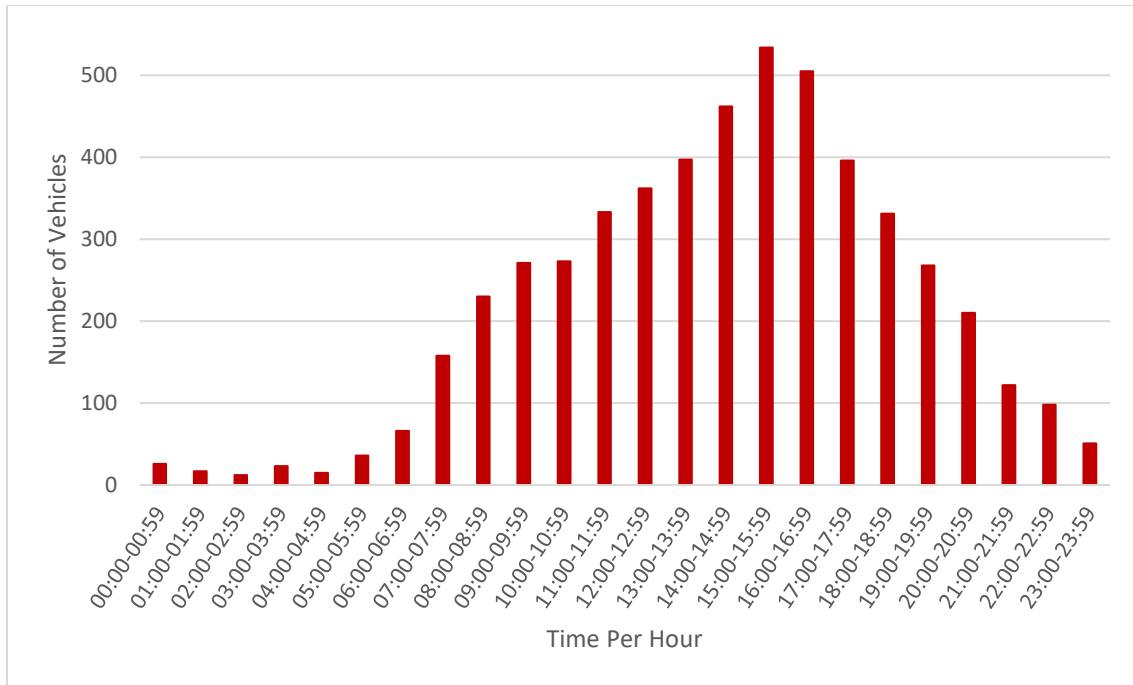


Figure 9 - Total Volume per Hour (Eastbound)

As shown in Figure 9 above, the traffic volume forms a curve in which traffic flow is low at night and begins to increase at 07:00 – 07:59. Peak traffic volume occurs at 15:00 – 15:59 and it begins to decline into the night.

3.2 Westbound Volume by Hour

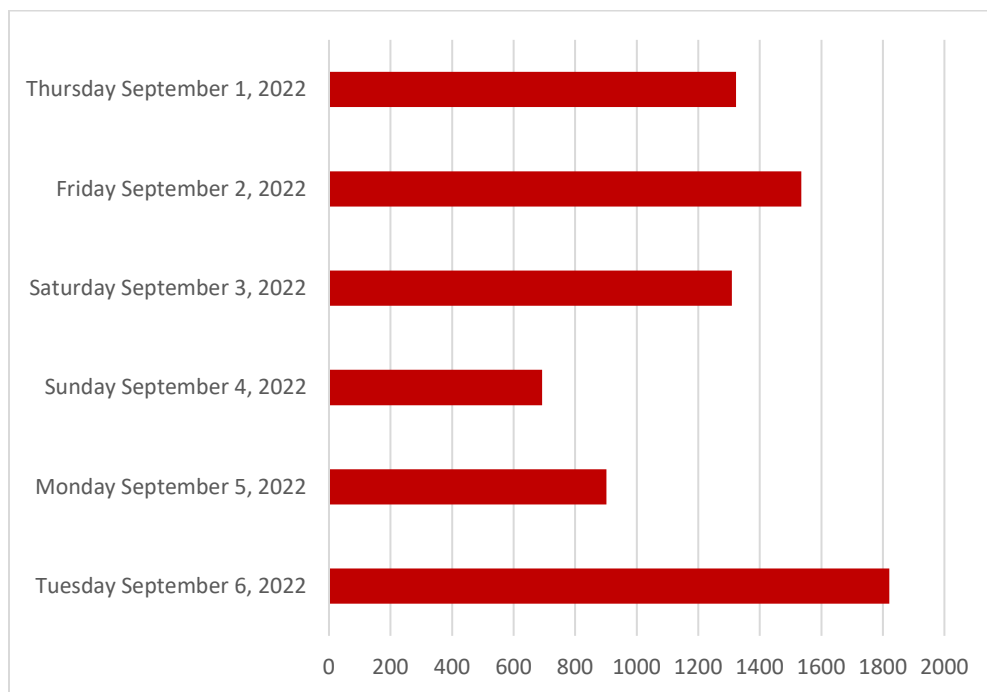


Figure 10 - Total Volume per Day (Westbound)

Figure 10 above shows the daily total traffic volumes in the westbound direction. Tuesday September 6th had the largest traffic volume. Generally, more traffic was recorded on weekdays than weekends.

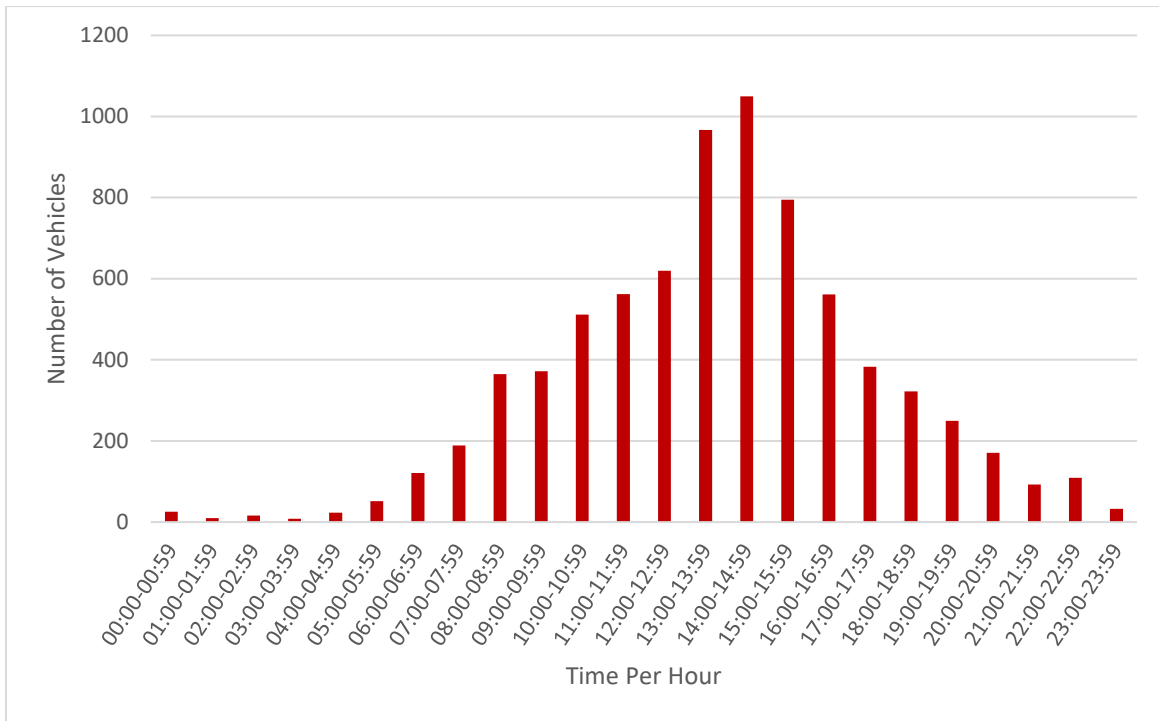


Figure 11 - Total Volume per Hour (Westbound)

The total volumes of traffic at different hours of the day in the westbound direction are shown in Figure 11 above. Traffic volumes increased throughout the day from 07:00 – 07:59 until it reached its peak at 14:00 – 14:59.

4.0 Conclusion

The traffic study conducted on Victoria St for the eastbound and westbound directions were carried out from August 24th to September 7th, 2022. From the speed analysis, it was determined that 90.51% of vehicles were travelling within the accepted speed limit for the eastbound direction and 88.97% in the westbound direction, respectively.