

Traffic Data Analysis

Victoria St



Town of Midland

Engineering Department

May 31st, 2023

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1.0 Introduction

A traffic count was conducted from May 18th to May 31st 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 St 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	1038 Victoria Street, Midland, ON	08:30 on May 17, 2023 – 8:00 May 24, 2023
Westbound	1022 Victoria Street, Midland, ON	8:00 on May 24, 2023 – 08:00 on May 31, 2023

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.

The traffic trailer was not in use to collect data in the Westbound direction on Friday, May 26th to Saturday, May 27th, which is why information on those days is not included in analysis.

Table 2- Speed Summary

Direction	Average Speed (km/h)	85 th Percentile Speed (km/h)	Minimum Speed (km/h)	Maximum Speed (km/h)
Eastbound	39.27	50.5	10	105
Westbound	43.1	51.1	10	103

2.1 Eastbound Speed Analysis

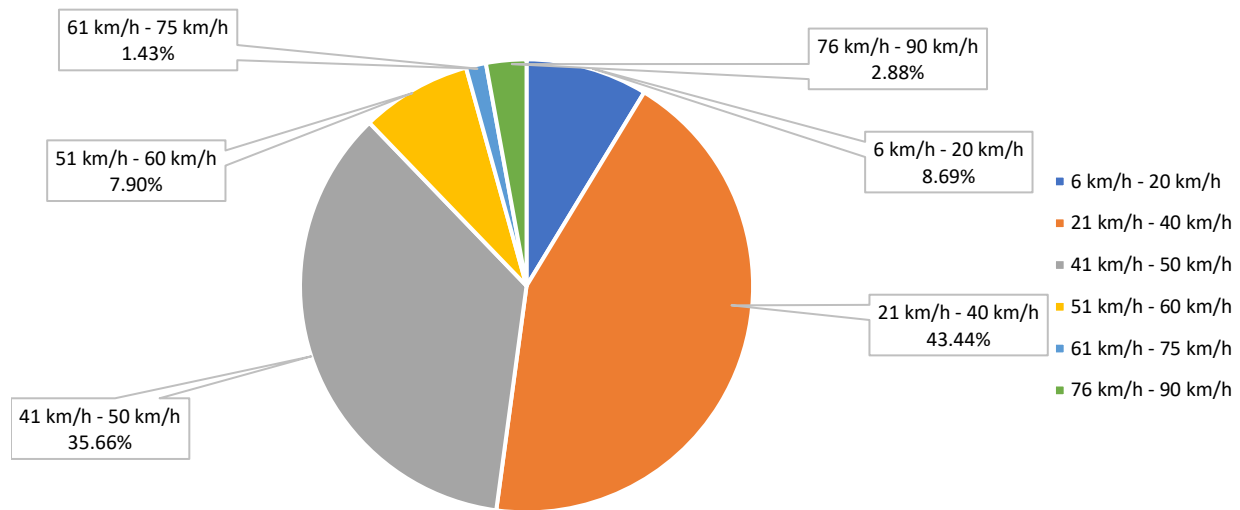


Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Eastbound)

Figure 2 above shows that 87.79% of vehicles were travelling below the posted speed limit, 7.90% of vehicles were travelling between 51-60 km/h, and 4.31% 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 95.69% of vehicles were travelling within the accepted speed limit in the Eastbound direction.

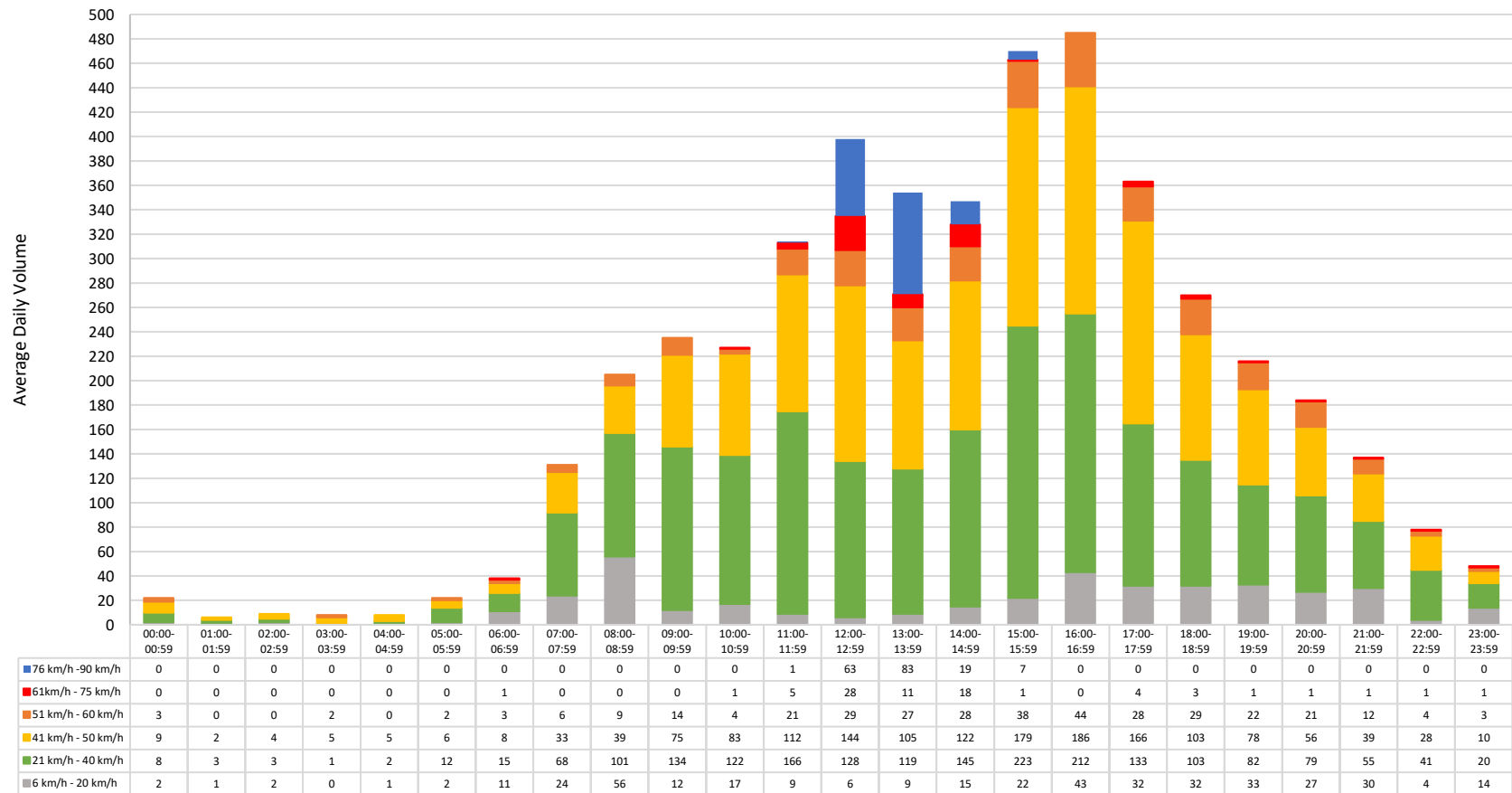


Figure 3 - Traffic Volume Speeds for Each Hour on Weekdays (Eastbound)

Figure 3 above is the graph used to determine the time when most speeding occurs on weekdays. The data has a definite curve shape, and traffic volumes increased throughout the day with a spike from 07:00 – 07:59 until it reached its peak at 16:00 – 16:59 and begins to decline. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 13:00 - 13:59.

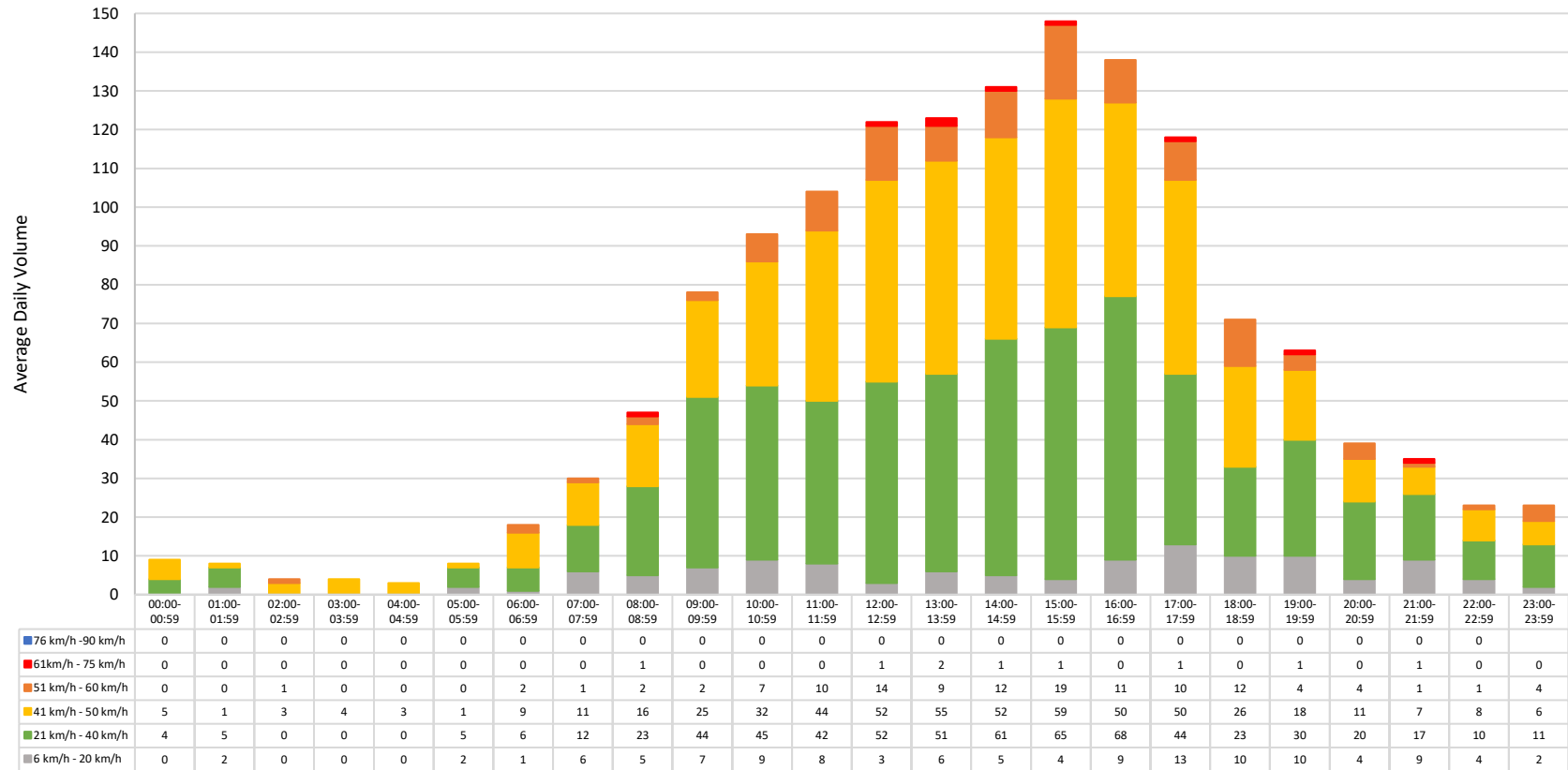


Figure 4 - Traffic Volume Speeds for Each Hour on Weekends (Eastbound)

Figure 4 above is the graph used to determine the time when most speeding occurs on weekends. Generally, traffic volumes increase throughout the day from 09:00 – 09:59 and peak at 15:00 – 15:59.

2.2 Westbound Speed Analysis

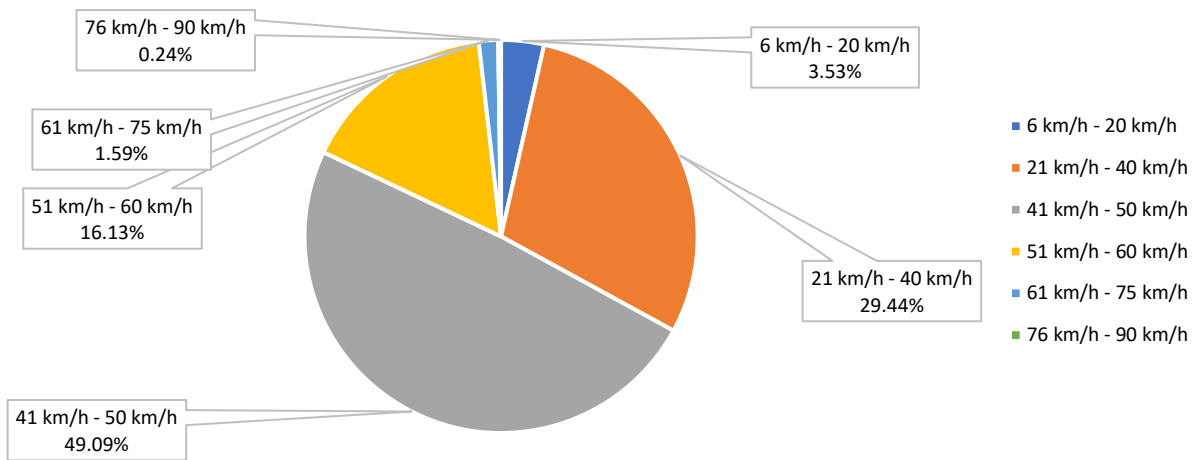


Figure 5 - Total Volume Breakdown Based on Speed per Hour Intervals (Westbound)

Figure 5 shows that 82.06% of the vehicles were travelling below the posted speed limit, 16.13% of vehicles were travelling between 51-60 km/h, and 1.83% 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 98.19% of vehicles were driving within the accepted speed limit.

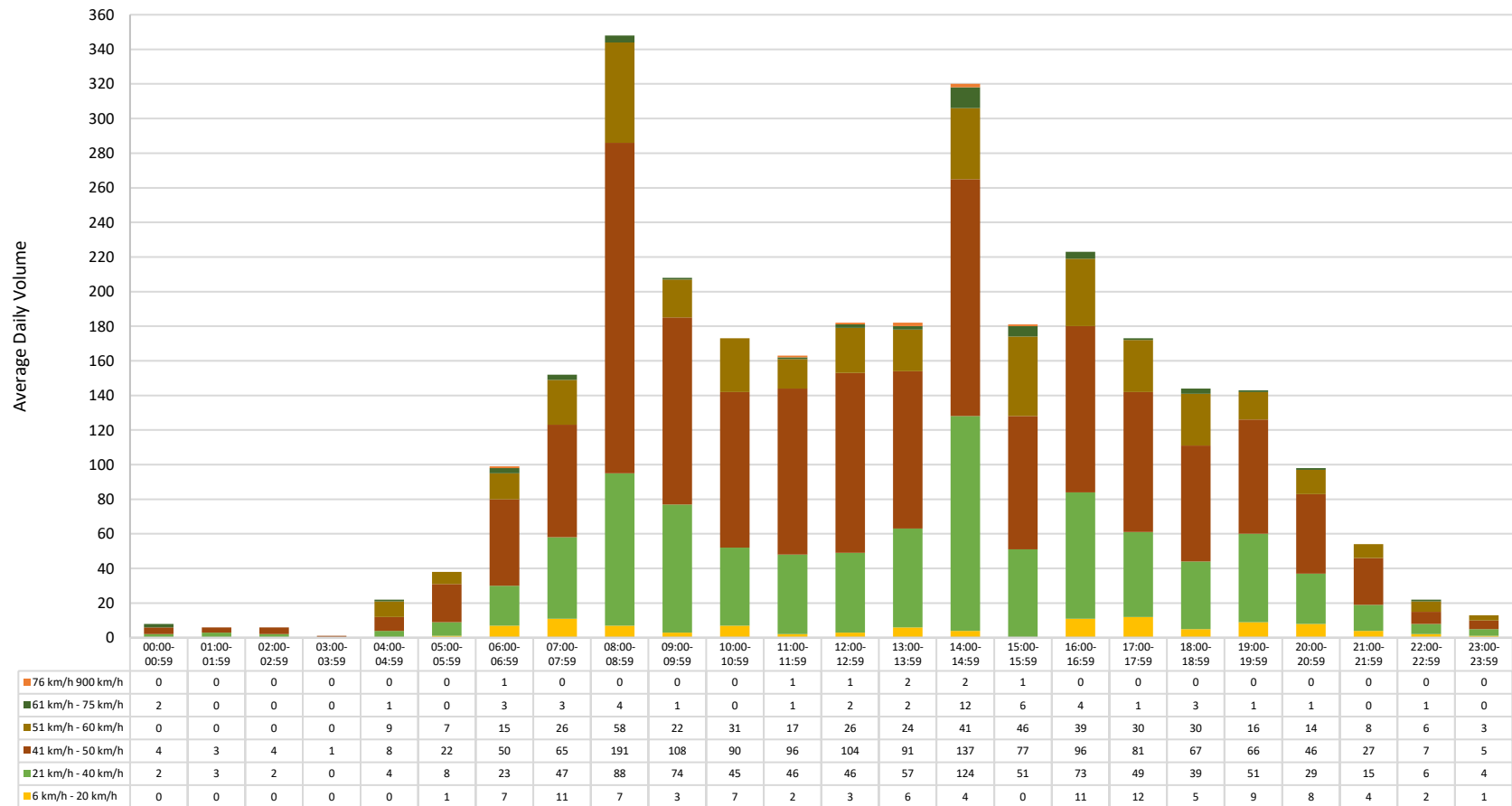


Figure 6 - Traffic Volume Speeds for Each Hour on Weekdays (Westbound)

Figure 6 above is the graph used to determine the time when most speeding occurs on weekdays. The information graphs a definite curve shape, where it has two significant peaks in volume of traffic. Traffic volumes increased throughout the day with a spike from 06:00 – 06:59, reached its peak at 08:00 – 08:59, and started to decline at 16:00-16:59. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 14:00 - 14:59.

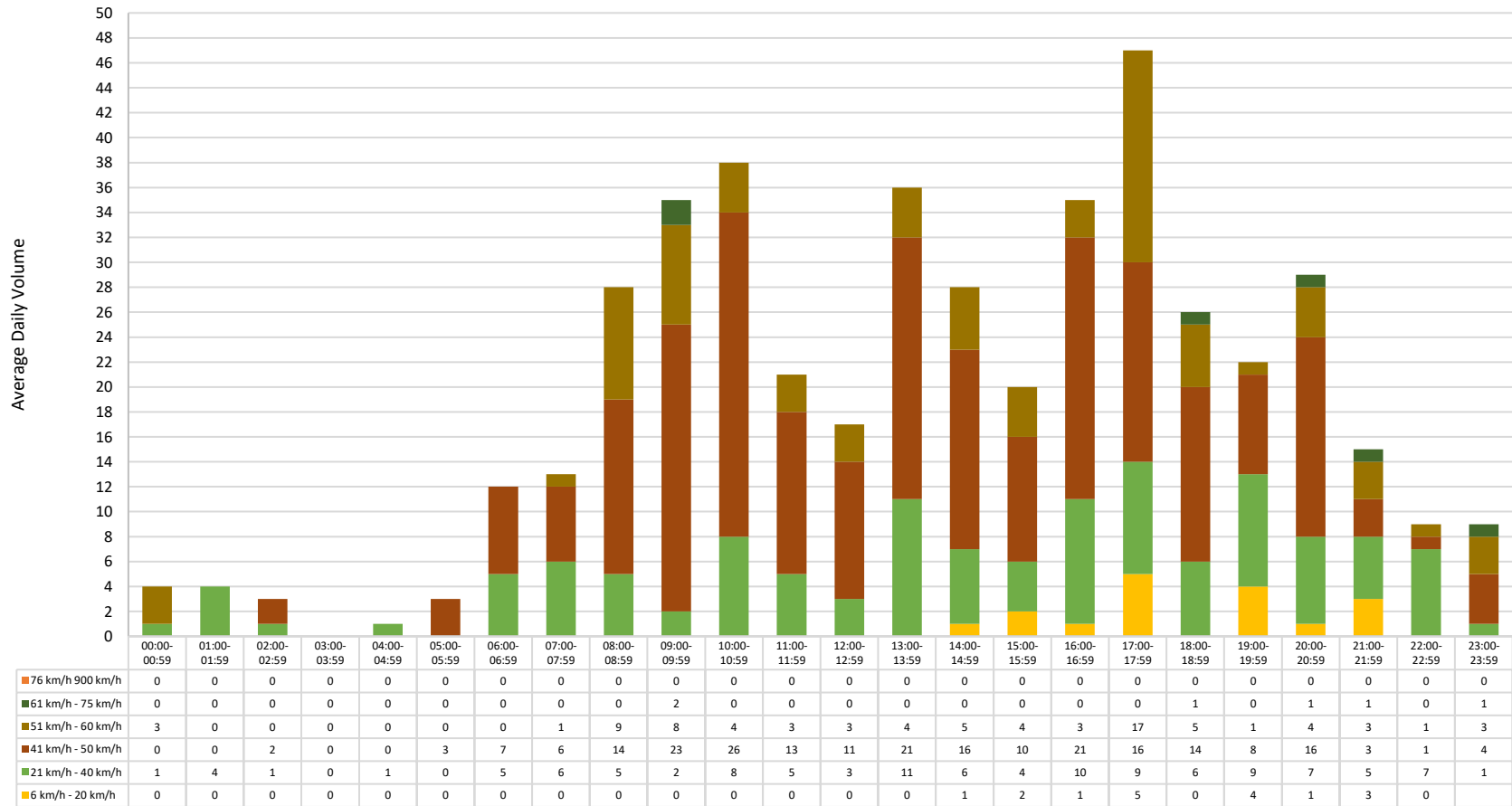


Figure 7 - Traffic Volume Speeds for Each Hour on Weekends (Westbound)

Figure 7 above is the graph used to determine the time when most speeding occurs on weekends. It is important to consider that this is data is solely from Sunday, May 28, 2023. The information provided doesn't form a definite curve shape. Traffic volumes spike at 8:00-8:59, but there is some inconsistency in terms of increase/decrease throughout the day. Traffic volume reaches its peak at 17:00-17:59, then dips at 21:00-21:59.

3.0 Traffic Volume

Table 3 shows the average daily volume on Victoria St for both Eastbound and Westbound directions.

Table 3 - Volume Summary

Direction	Period	Average Daily Traffic Volume
Eastbound	Weekday	765.5
Eastbound	Weekend	720.0
Westbound	Weekday	593.0
Westbound	Weekend	445.0

3.1 Eastbound Volume by Date

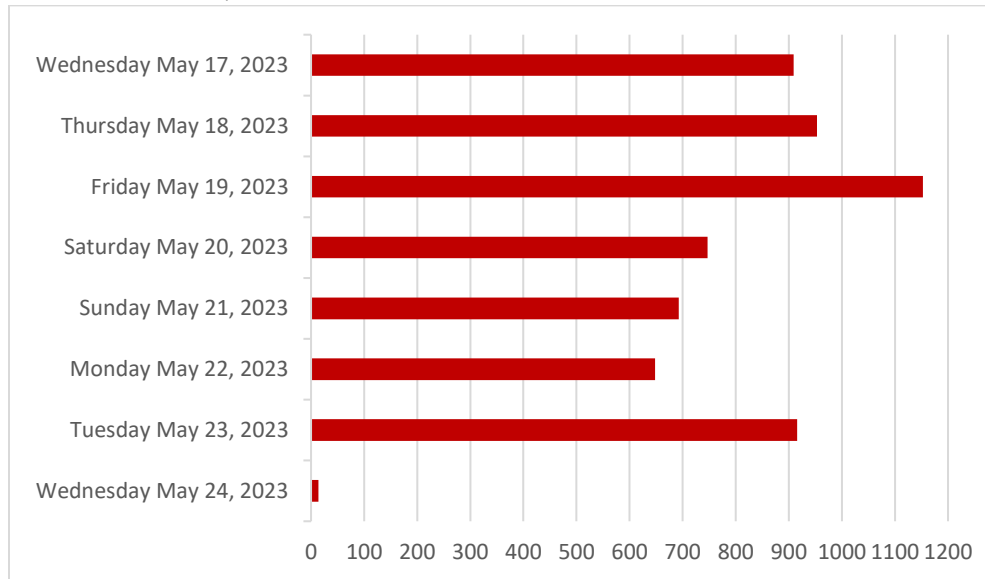


Figure 8 - Total Volume per Day (Eastbound)

Figure 8 above shows the total volumes of each day data that was collected in the Eastbound direction. Friday May 19th had about the largest traffic volume, while Monday May 22nd had the least (not including Wednesday May 24th when the Traffic Trailer was moved). Generally, more traffic was recorded on weekdays than weekends.

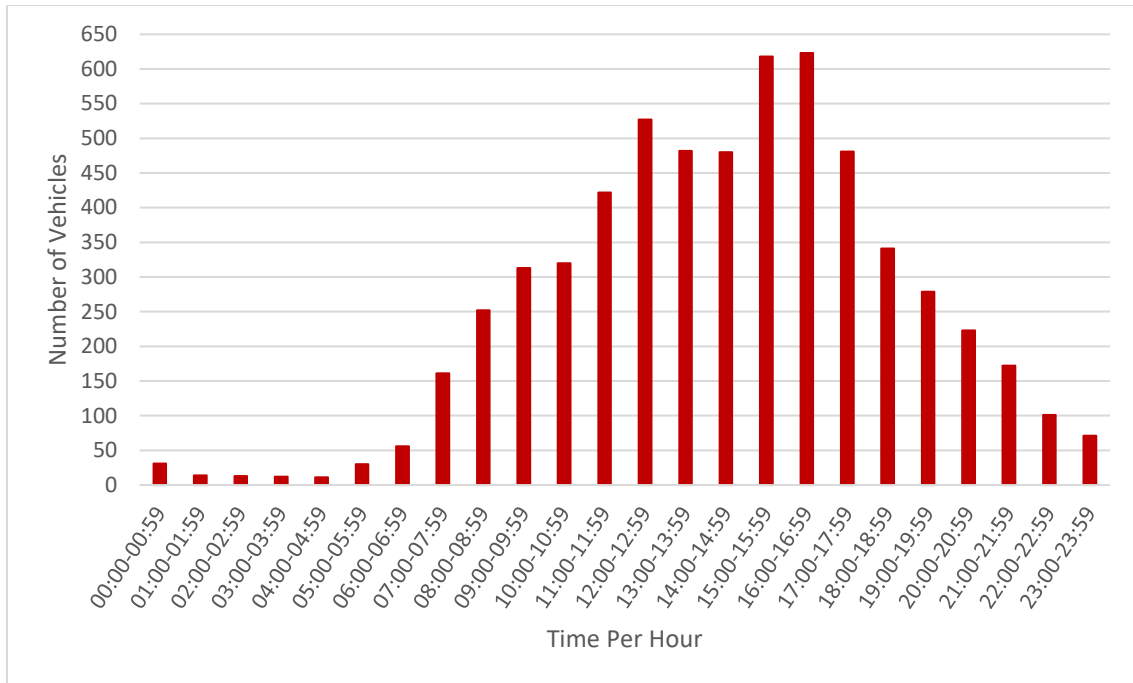


Figure 9 - Total Volume per Hour (Eastbound)

As shown in Figure 9 above, the traffic volume carries a definite curve shape, in which traffic flow is low at night and begins to increase at 07:00 – 07:59. Peak traffic volume occurs at 16:00 – 16:59 and it begins to decline into the night.

3.2 Westbound Volume by Date

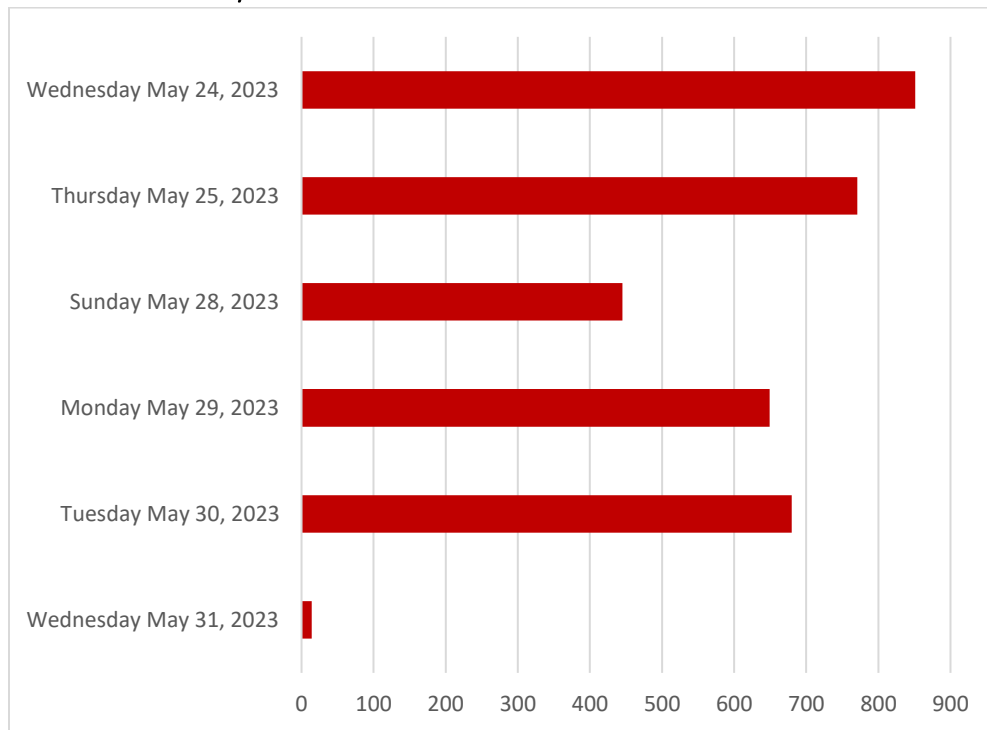


Figure 10 - Total Volume per Day (Westbound)

Figure 10 above shows the daily total traffic volumes in the Westbound direction. Wednesday, May 24th had the largest traffic volume. Generally, more traffic was recorded on weekdays than weekends.

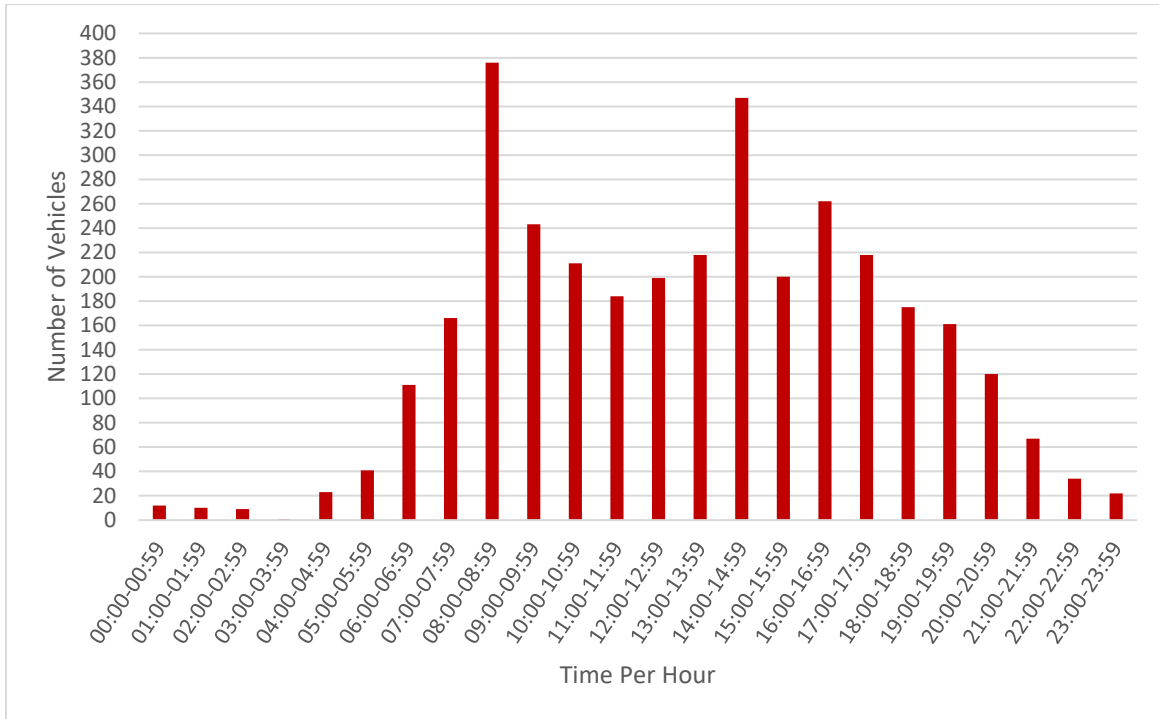


Figure 11 - Total Volume per Hour (Westbound)

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 06:00 – 06:59, reached its peak at 08:00 – 08:59, then begins its decline at 16:00-16:59.

4.0 Conclusion

The traffic study conducted on Victoria St for the Eastbound and Westbound directions were carried out from May 17th to May 31st, 2023. From the speed analysis, it was determined that 95.69% of vehicles were travelling within the accepted speed limit for the Eastbound direction and 98.19% in the Westbound direction, respectively. Traffic generally was higher on weekdays than on weekends and the most volume was around 15:00 to 17:59 times, while it was 08:00-08:59 in the Westbound direction on weekdays.