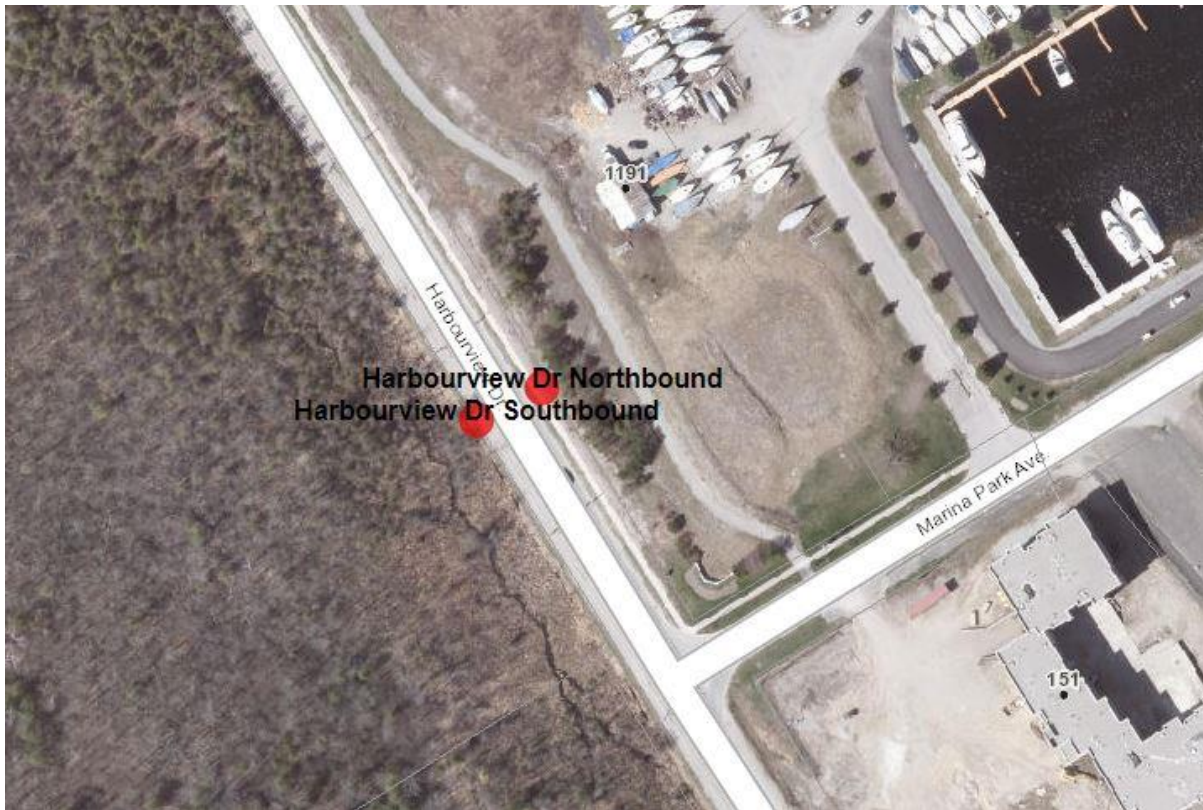


Traffic Data Analysis

Harbourview Dr



Town of Midland
Engineering Department
July 13th, 2023

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1.0 Introduction

A traffic count was conducted from June 28th to July 12th on Harbourview Drive for the Northbound and Southbound 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 Harbourview Dr for Northbound and Southbound direction. Table 1 below shows the location of the traffic trailer and data collection period.

Table 1- Locations of Traffic Trailer

| Direction | Location | Period |
|------------|--|---|
| Northbound | Approximately 40m north of Marina Park Ave on Harbourview, Midland, ON | 08:30 on June 28 th – 09:00 on July 5 th , 2023 |
| Southbound | Across the street from above location, Midland, ON | 09:00 on July 5 th – 09:00 on July 12 th , 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 Harbourview Dr 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 Northbound and Southbound directions.

Table 2- Speed Summary

| Direction | Average Speed (km/h) | 85 th Percentile Speed (km/h) | Minimum Speed (km/h) | Maximum Speed (km/h) |
|------------|----------------------|--|----------------------|----------------------|
| Northbound | 54.1 | 61.3 | 5 | 94 |
| Southbound | 53.1 | 59.4 | 10 | 95 |

2.1 Northbound Speed Analysis

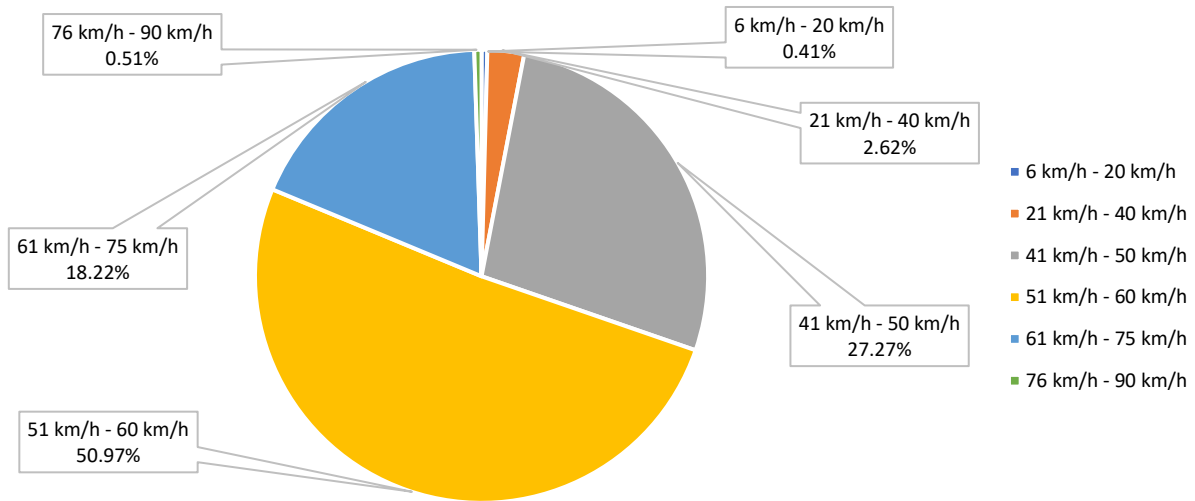


Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Northbound)

Figure 2 above shows that 30.3% of vehicles were travelling below the posted speed limit, 50.97% of vehicles were travelling between 51-60 km/h, and 18.73% 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 81.27% of vehicles were travelling within the accepted speed limit in the Northbound direction.

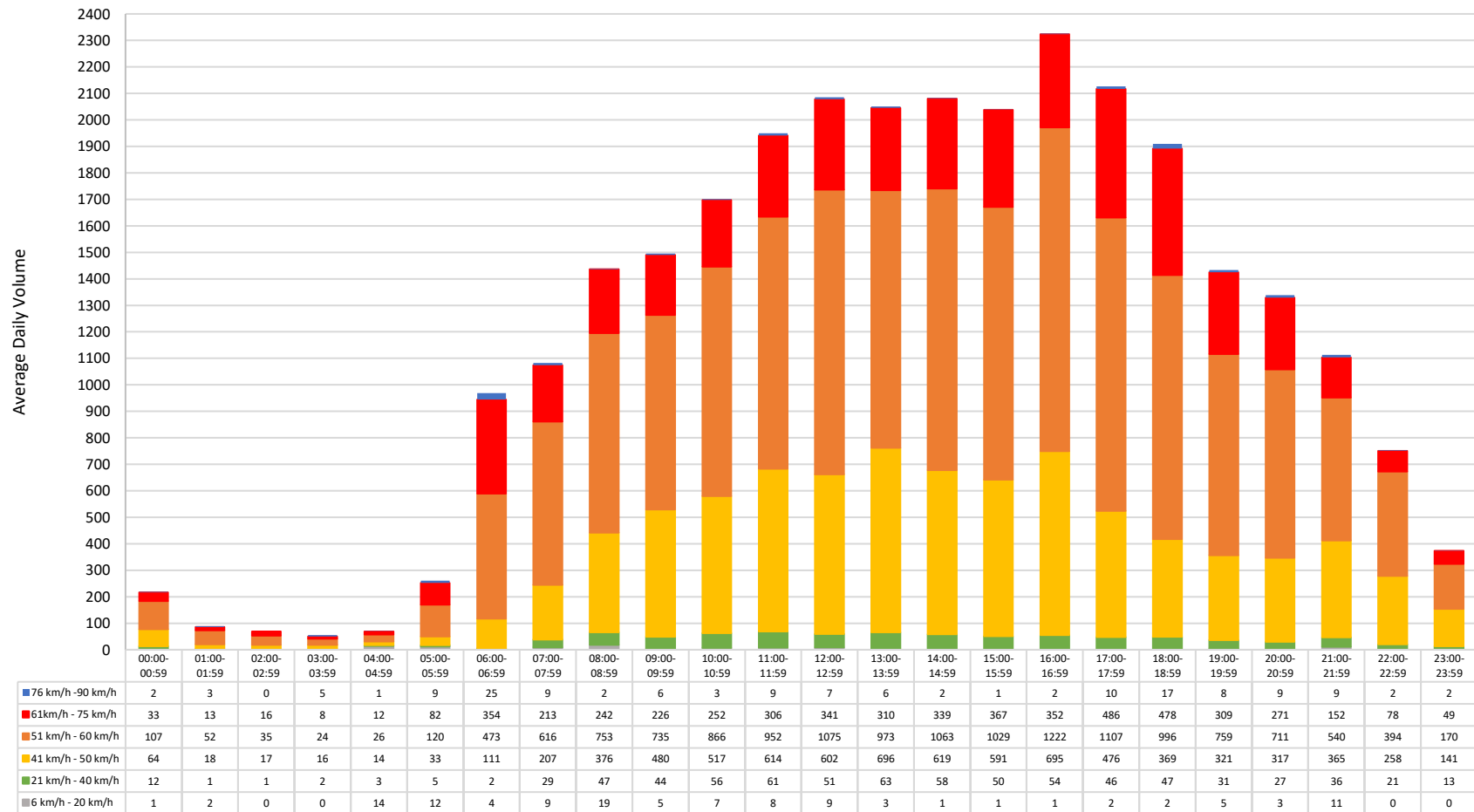


Figure 3 - Traffic Volume Speeds for Each Hour on Weekdays (Northbound)

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 experiences a spike at 06:00-06:59, reaches its peak at 16:00-16:59, then traffic begins to decline afterward. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 17:00 - 17:59.

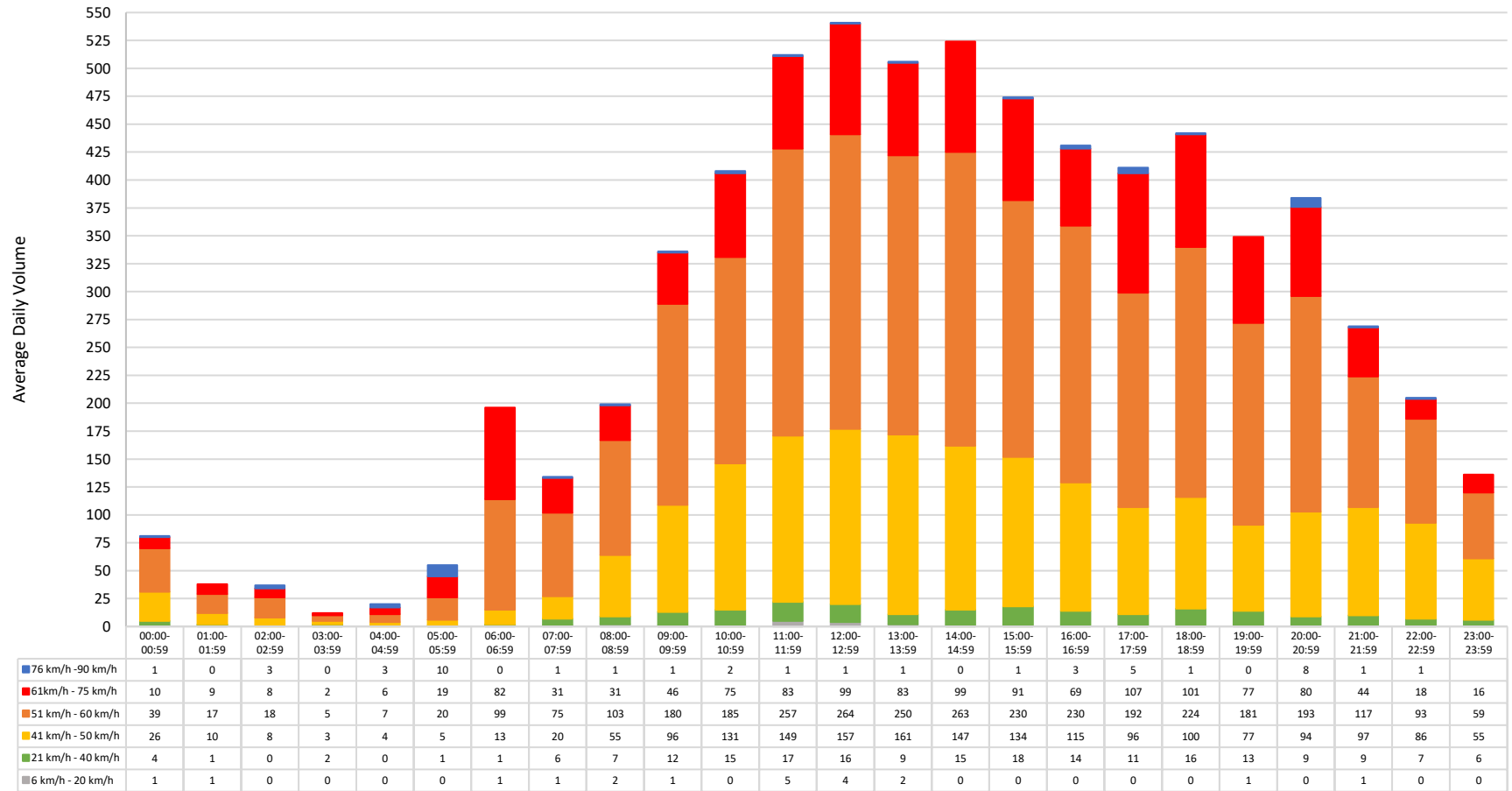


Figure 4 - Traffic Volume Speeds for Each Hour on Weekends (Northbound)

Figure 4 above is the graph used to determine the time when most speeding occurs on weekends. Generally, traffic volumes spiked at 06:00-06:59, peaks at 12:00-12:59. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 17:00 - 17:59.

2.2 Southbound Speed Analysis

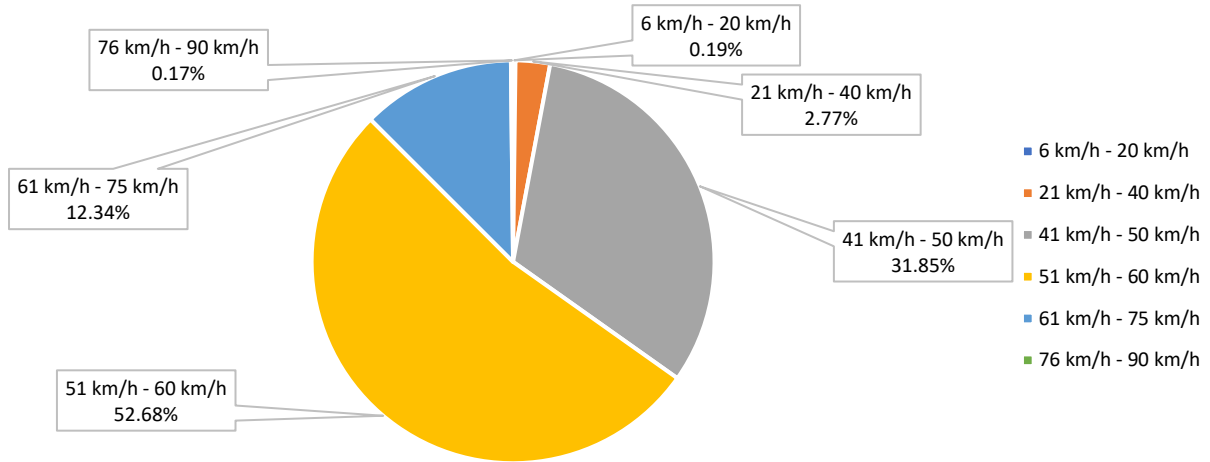


Figure 5 - Total Volume Breakdown Based on Speed per Hour Intervals (Southbound)

Figure 5 shows that 34.81% of the vehicles were travelling below the posted speed limit, 52.68% of vehicles were travelling between 51-60 km/h, and 12.51% 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 87.49% of vehicles were driving within the accepted speed limit in the Southbound direction.

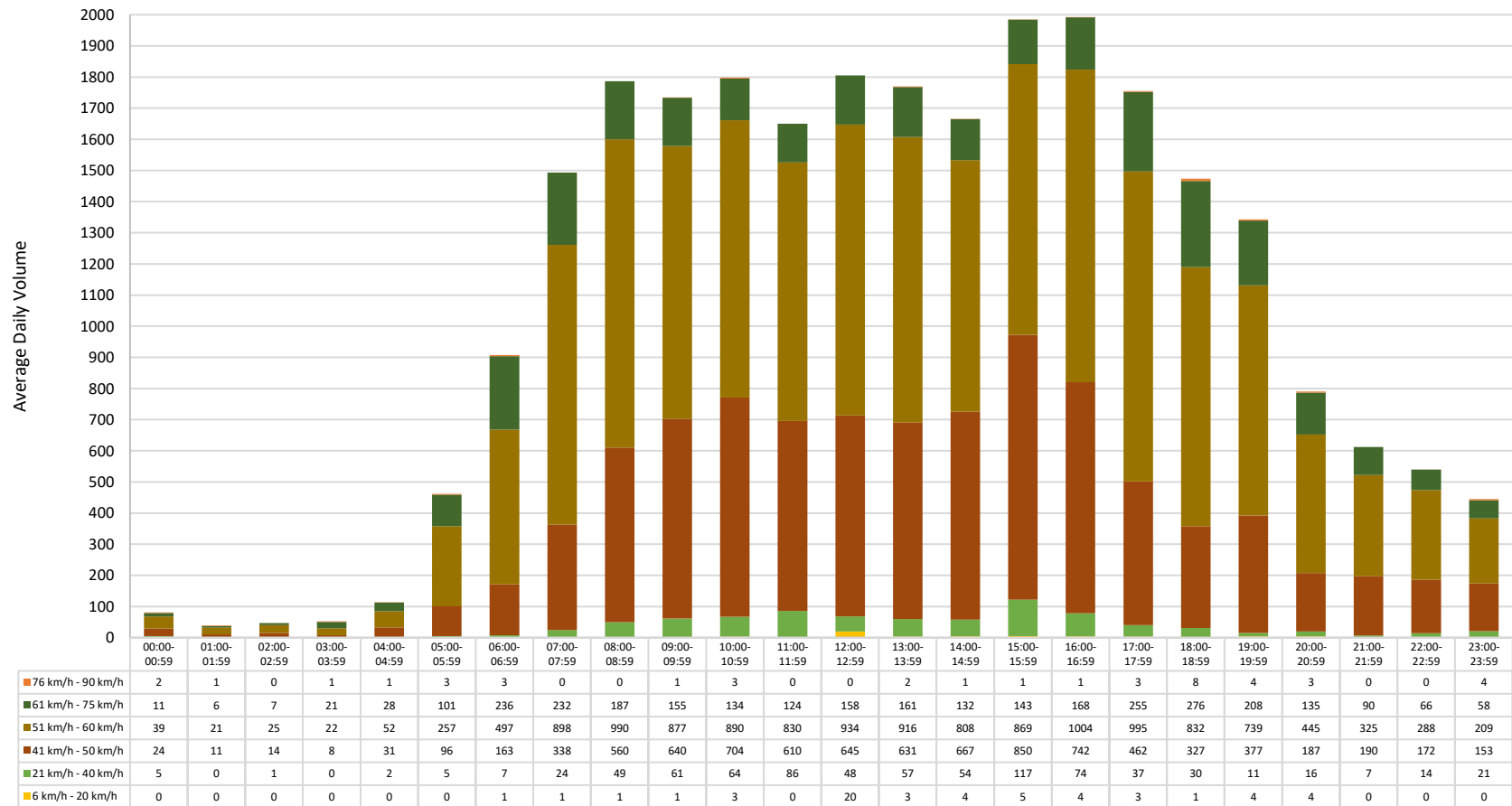


Figure 6 - Traffic Volume Speeds for Each Hour on Weekdays (Southbound)

Figure 6 above is the graph used to determine the time when most speeding occurs on weekdays. The information does not graph a definite curve shape. Traffic volumes increased in the early morning, with the spikes at 06:00-07:59, then peaks at 16:00-16:59 before traffic declines to the night. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 18:00 - 18:59.

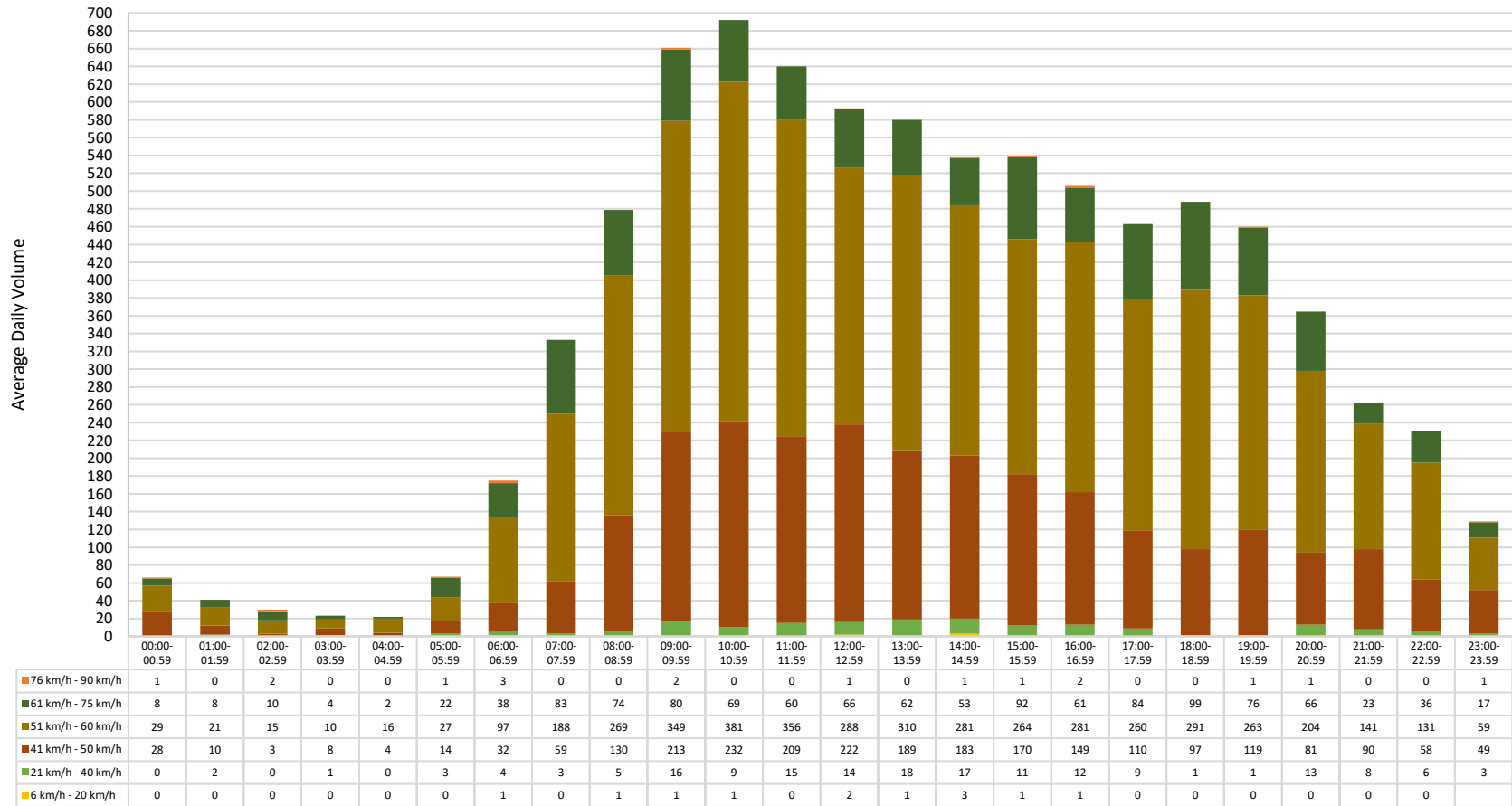


Figure 7 - Traffic Volume Speeds for Each Hour on Weekends (Southbound)

Figure 7 above is the graph used to determine the time when most speeding occurs on weekends. The information provided doesn't form a definite curve shape. Traffic volumes exponentially spikes at 07:00-09:59, reaches its peak at 10:00-10:59, then slowly decreases afterward.

3.0 Traffic Volume

Table 3 shows the average daily volume on Harbourview Dr for both Northbound and Southbound directions.

Table 3 - Volume Summary

| Direction | Period | Average Daily Traffic Volume |
|------------|---------|------------------------------|
| Northbound | Weekday | 3723.0 |
| Northbound | Weekend | 3351.0 |
| Southbound | Weekday | 4390.8 |
| Southbound | Weekend | 4192.5 |

3.1 Northbound Volume by Date

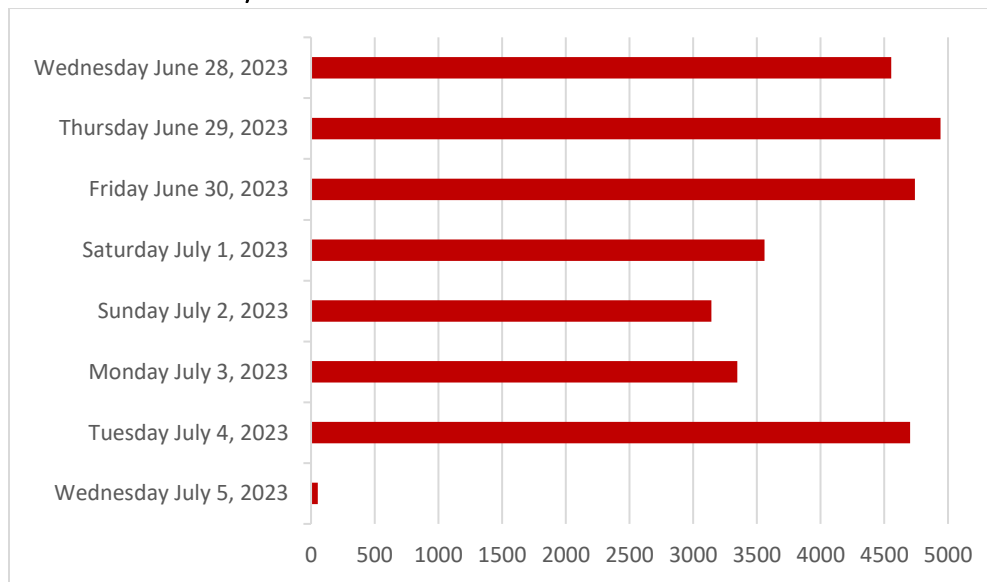


Figure 8 - Total Volume per Day (Northbound)

Figure 8 above shows the total volumes of each day data that was collected in the Northbound direction. Thursday June 29th had about the largest traffic volume, while Sunday July 2nd had the least (not including Wednesday July 5th when the Traffic Trailer was moved). Generally, more traffic was recorded on weekdays than weekends.

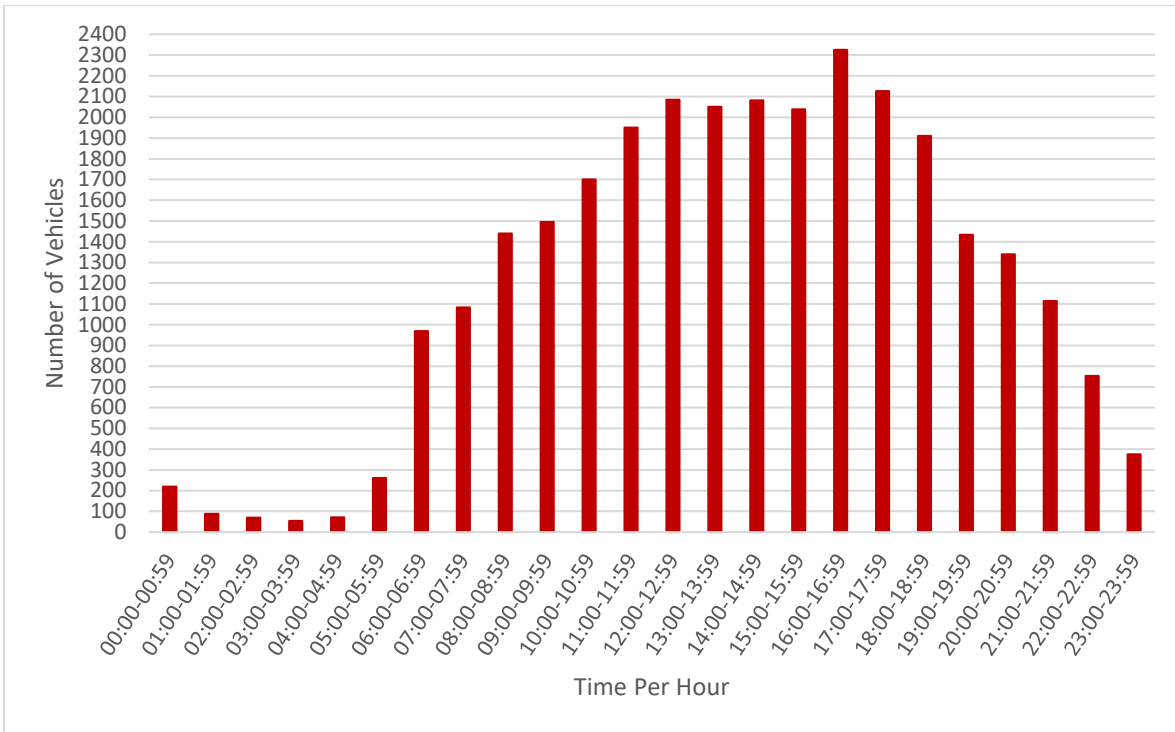


Figure 9 - Total Volume per Hour (Northbound)

As shown in Figure 9 above, the traffic volume carries a definite curve shape, in which traffic flow is low at night, spikes at 06:00-06:59, reaches its peak at 16:00-16:59 and begins to decline afterward.

3.2 Southbound Volume by Date

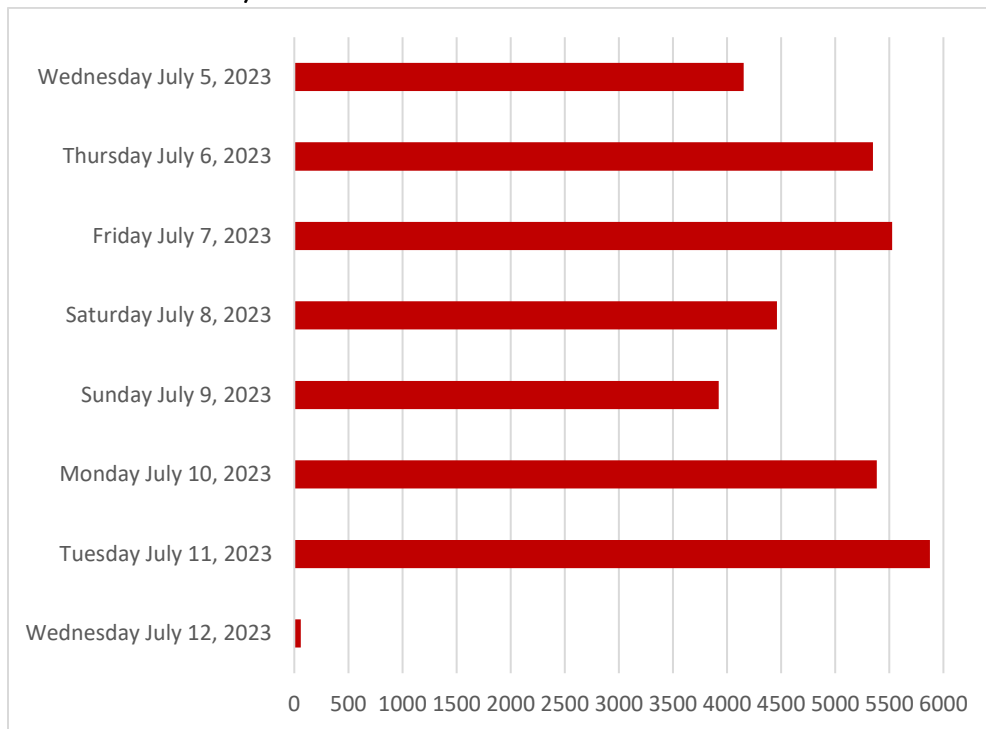


Figure 10 - Total Volume per Day (Southbound)

Figure 10 above shows the daily total traffic volumes in the Southbound direction. Tuesday, July 11th had the largest traffic volume, while Sunday, July 9th had the least (not including Wednesday, July 12th when the Traffic Trailer was moved). Generally, more traffic was recorded on weekends than weekdays.

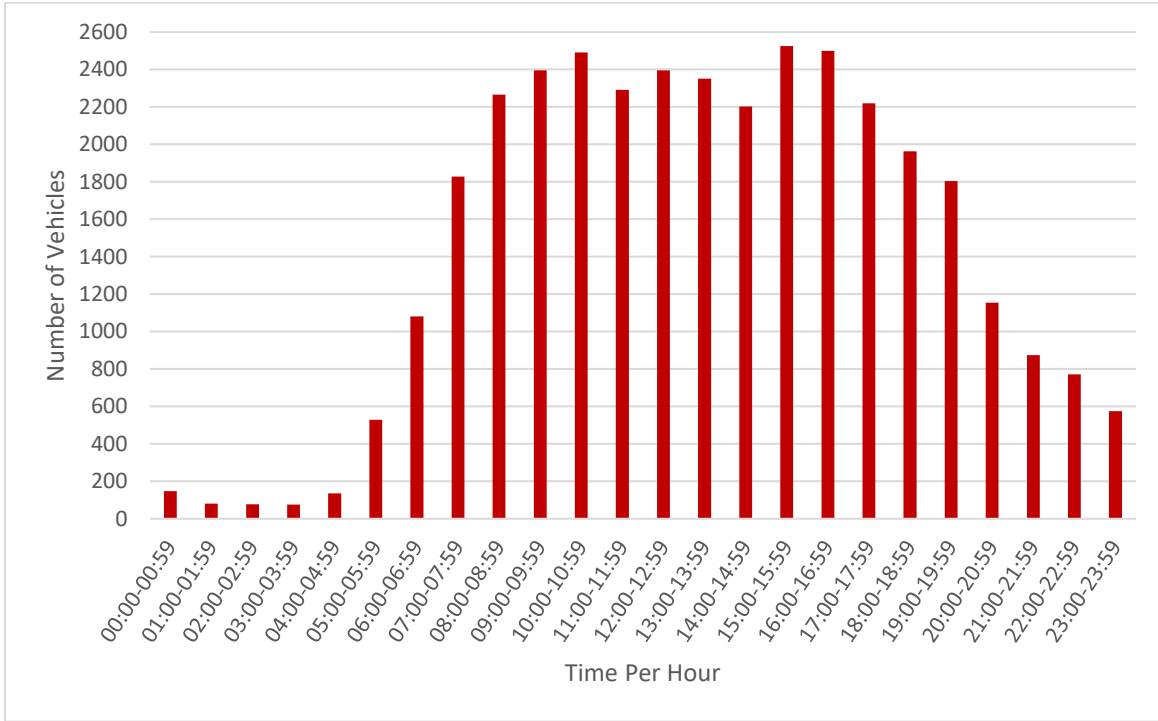


Figure 11 - Total Volume per Hour (Southbound)

The total volumes of traffic at different hours of the day in the Southbound direction are shown in Figure 11 above. Traffic volumes increased throughout the day with spikes from 06:00-07:59, reached its peak at 15:00 – 15:59, then begins its decline afterward.

4.0 Conclusion

The traffic study conducted on Harbourview Dr for the Northbound and Southbound directions was carried out from June 28th to July 12th, 2023. From the speed analysis, it was determined that 81.27% of vehicles were travelling within the accepted speed limit for the Northbound direction and 87.49% in the Southbound direction, respectively. Traffic generally was higher on weekdays than on weekends and the most volume was at 16:00-16:59 in the Northbound direction, while it was 15:00-15:59 in the Southbound direction.