

# Traffic Data Analysis

Harbourview Drive  
Northbound and Southbound



Town of Midland  
Engineering Department  
July 14<sup>th</sup>, 2022

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## 1.0 Introduction

A traffic count was conducted from June 29<sup>th</sup>, 2022, to July 13<sup>th</sup>, 2022, on Harbourview Drive for both 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 Drive for both northbound and southbound directions. Table 1 below shows the location of the traffic trailer and data collection period.

**Table 1- Locations of Traffic Trailer**

Direction	Location	Period
Northbound	165 Sunnyside Dr, Midland, ON	08:00 on June 29 <sup>th</sup> , 2022 – 05:00 on July 6 <sup>th</sup> , 2022
Southbound	165 Sunnyside Dr, Midland, ON	06:00 on July 6 <sup>th</sup> , 2022 – 10:00 on July 13 <sup>th</sup> , 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 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 <sup>th</sup> Percentile Speed (km/h)	Minimum Speed (km/h)	Maximum Speed (km/h)
Northbound	53.49	61.00	10.00	102.00
Southbound	52.29	58.66	10.00	105.00

2.1 Northbound Speed Analysis

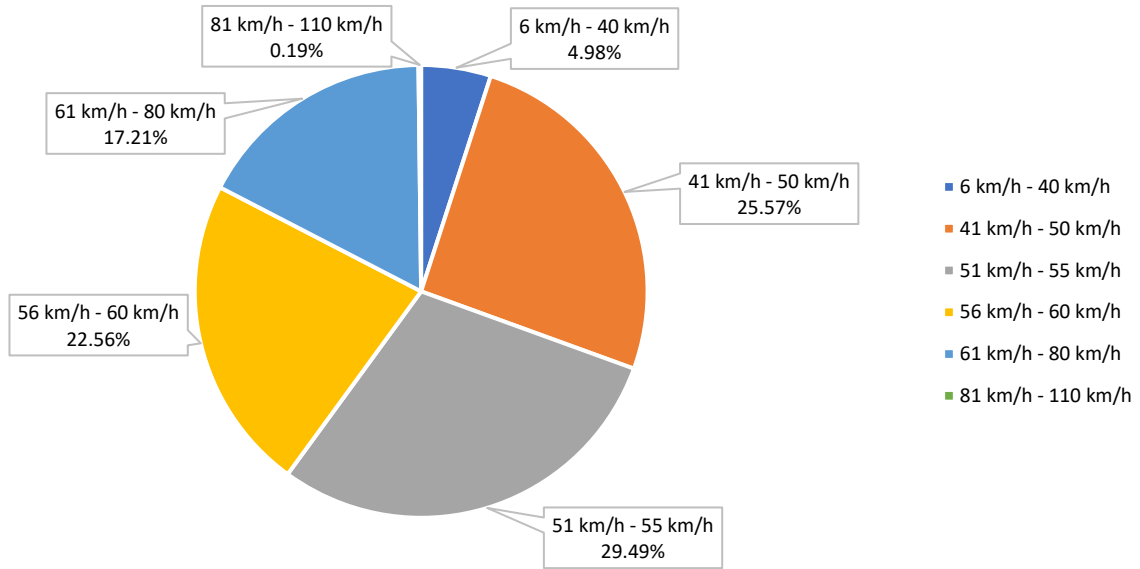
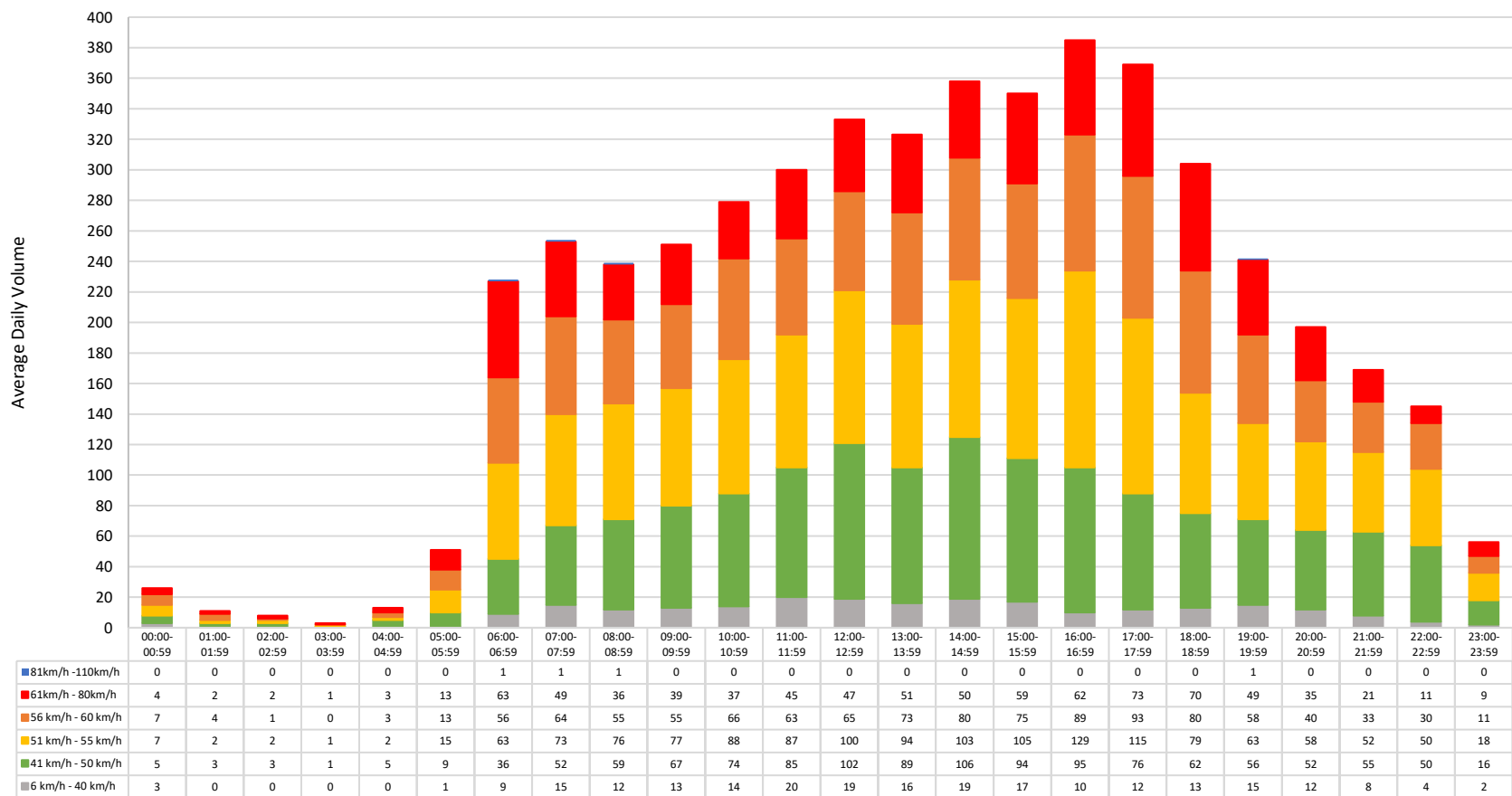


Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Northbound)

Figure 2 above shows that 30.55% of vehicles were travelling below the posted speed limit, 52.05% of vehicles were travelling between 51-60 km/h, and 17.40% 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 82.60% 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 (June 29<sup>th</sup>, June 30<sup>th</sup>, July 1<sup>st</sup>, July 4<sup>th</sup>, July 5<sup>th</sup>, July 6<sup>th</sup>). Generally, the data shows that speeds formed a curve as traffic volumes increased throughout the day with a spike from 06:00 – 06:59 until it reached its peak at 16:00 – 16:59 and begins to decline. Speeds greater than the speed limit were recorded in every hour. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded between 06:00 - 06:59 and between 15:00 – 17:59.

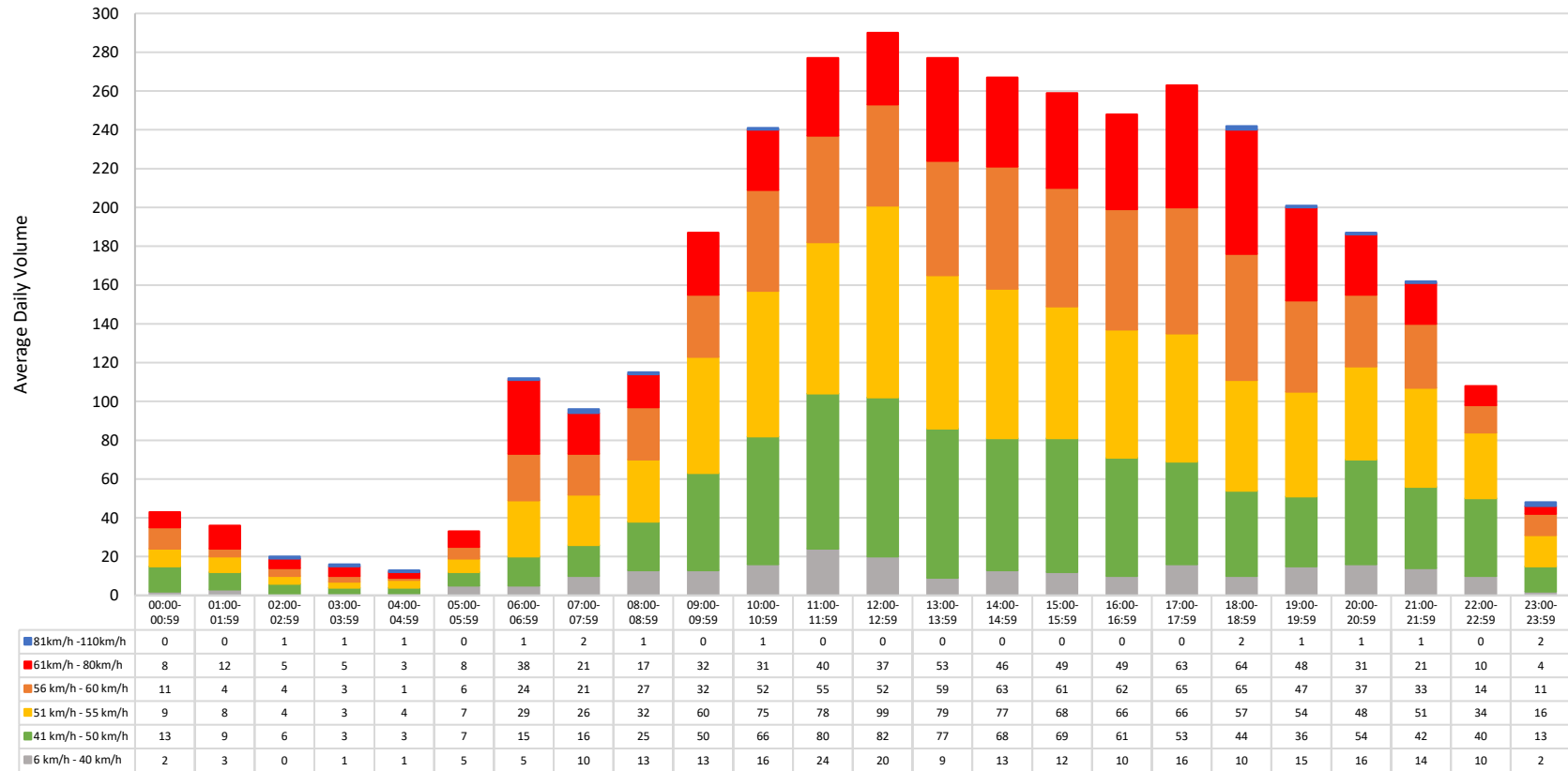
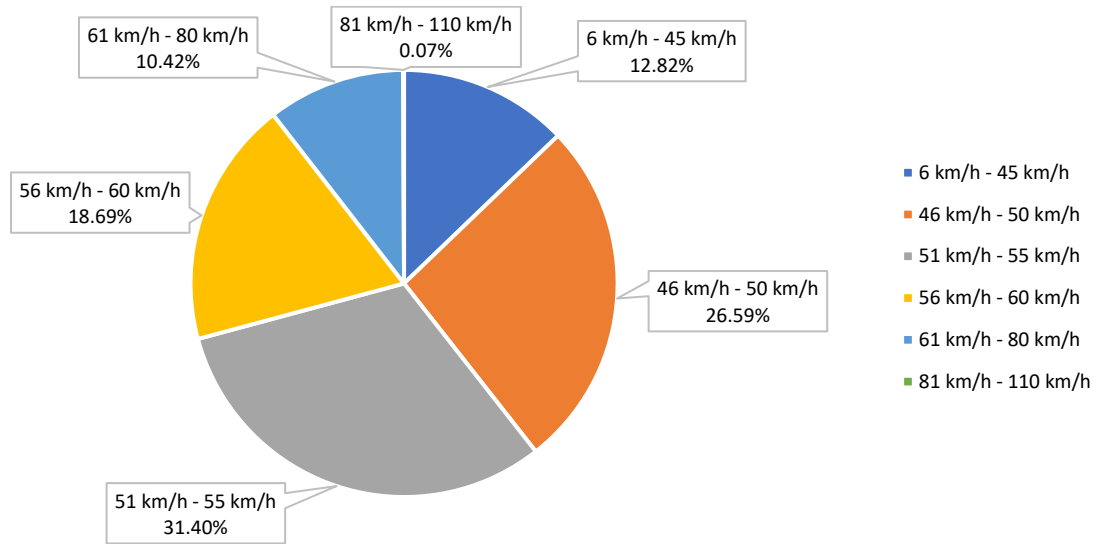


Figure 4 - Traffic Volume Speeds for Each Hour on Weekends (Northbound)

Figure 4 above is the graph used to determine the time when most speeding occurs on weekends (July 2<sup>nd</sup> and July 3<sup>rd</sup>). Generally, the data shows that speeds formed a curve as traffic volumes increased throughout the day with a spike from 06:00 – 06:59. It peaks at 12:00 – 12:59, begins to decline and peaks again at 17:00 – 17:59. Speeds greater than the speed limit were recorded in every hour. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 17:00 - 18:59.

## 2.2 Southbound Speed Analysis



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

Figure 5 shows that 34.41% of the vehicles were travelling below the posted speed limit, 50.09% of vehicles were travelling between 51-60 km/h, and 10.49% 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 89.51% of vehicles were driving within the accepted speed limit.

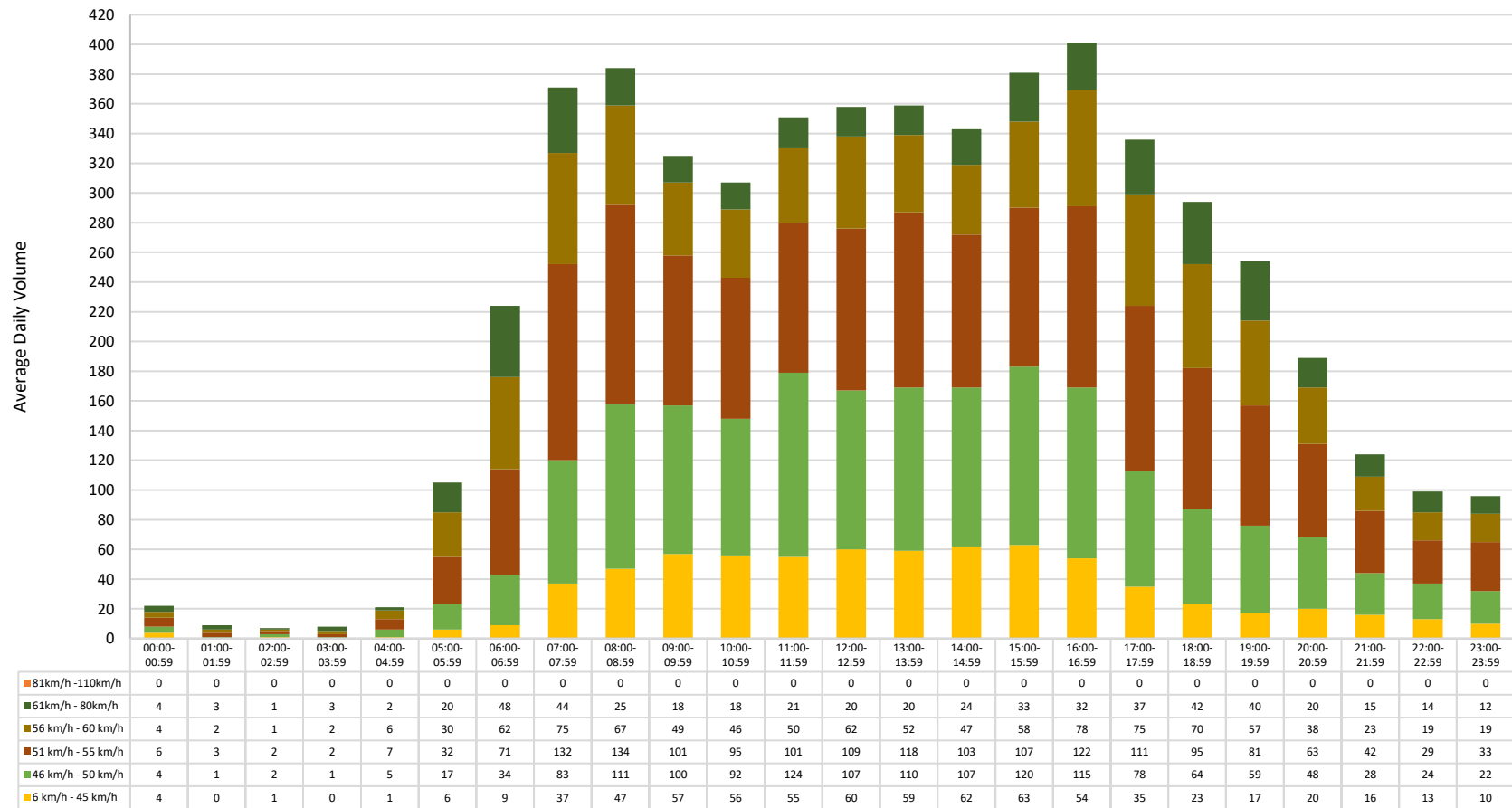


Figure 6 - Traffic Volume Speeds for Each Hour on Weekdays (Southbound)

Figure 6 above is the graph used to determine the time when most speeding occurs on weekdays (July 6<sup>th</sup>, July 7<sup>th</sup>, July 8<sup>th</sup>, July 11<sup>th</sup>, July 12<sup>th</sup>, July 13<sup>th</sup>). The data does not have a definite curve shape but, traffic volumes increased throughout the day with a spike from 05:00 – 05:59 until it reached its peak at 08:00 – 08:59, begins to decline and peaks again at 16:00 – 16:59. Speeds greater than the speed limit were recorded during every hour. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 06:00 - 07:59 and 17:00 – 19:59. On average, speeds greater than 80 km/h were not recorded during weekdays.



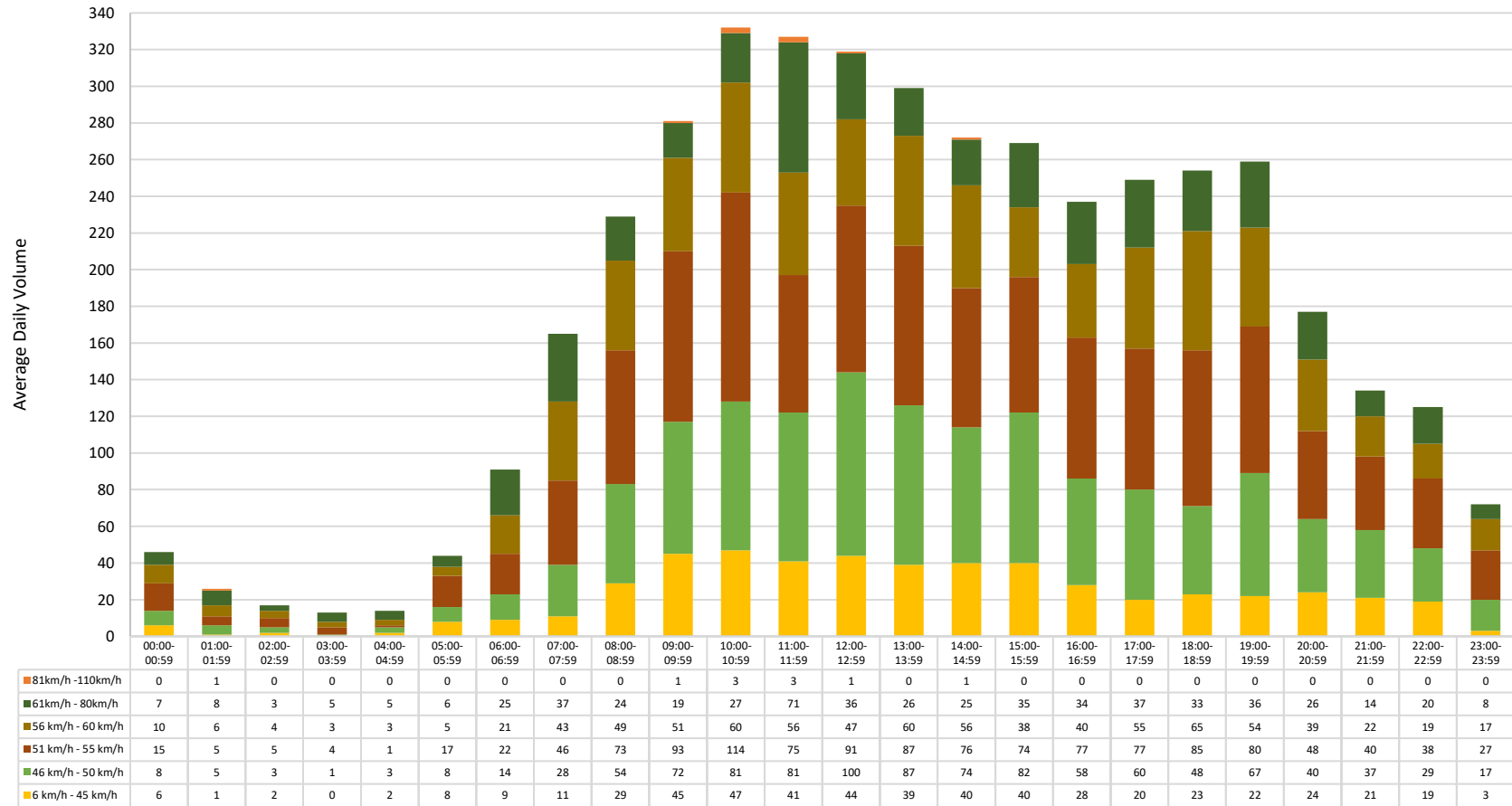


Figure 7 - Traffic Volume Speeds for Each Hour on Weekends (Southbound)

Figure 7 above is the graph used to determine the time when most speeding occurs on weekends (July 9<sup>th</sup> and July 10<sup>th</sup>). Generally, the data shows that speeds formed a curve as traffic volumes increased throughout the day from 05:00 – 05:59. It peaks at 10:00 – 10:59 and begins to decline. The largest volume of traffic traveling at speeds beyond the acceptable limit was recorded between 11:00 – 11:59. On average, speeds greater than 80 km/h were recorded during six time periods, mostly between 09:00 – 12:59.

### 3.0 Traffic Volume

Table 3 shows the average daily volume on Harbourview Drive for northbound and southbound directions.

Table 3 - Volume Summary

Direction	Period	Average Daily Traffic Volume
Northbound	Weekday	4310
Northbound	Weekend	3655
Southbound	Weekday	5067
Southbound	Weekend	4185

### 3.1 Northbound Volume by Hour

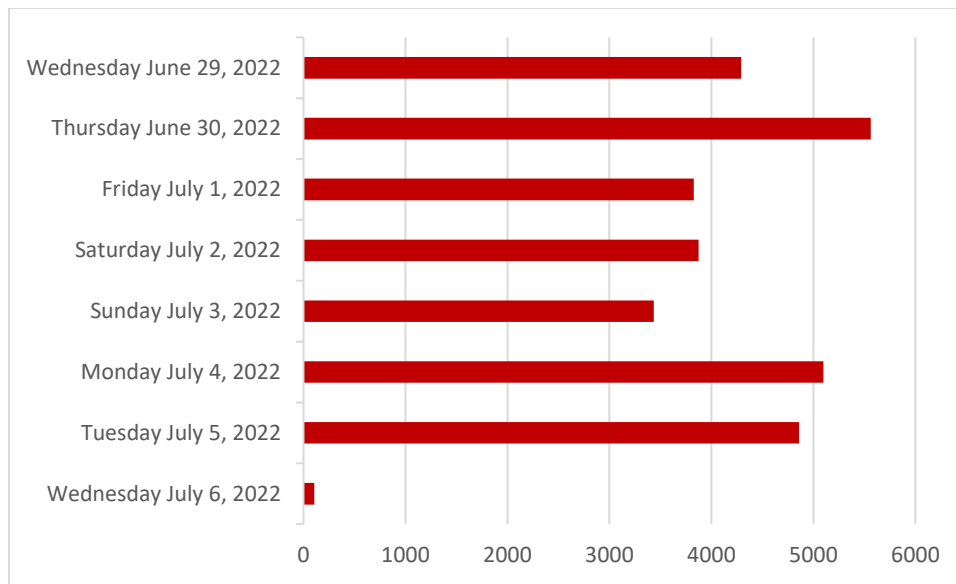
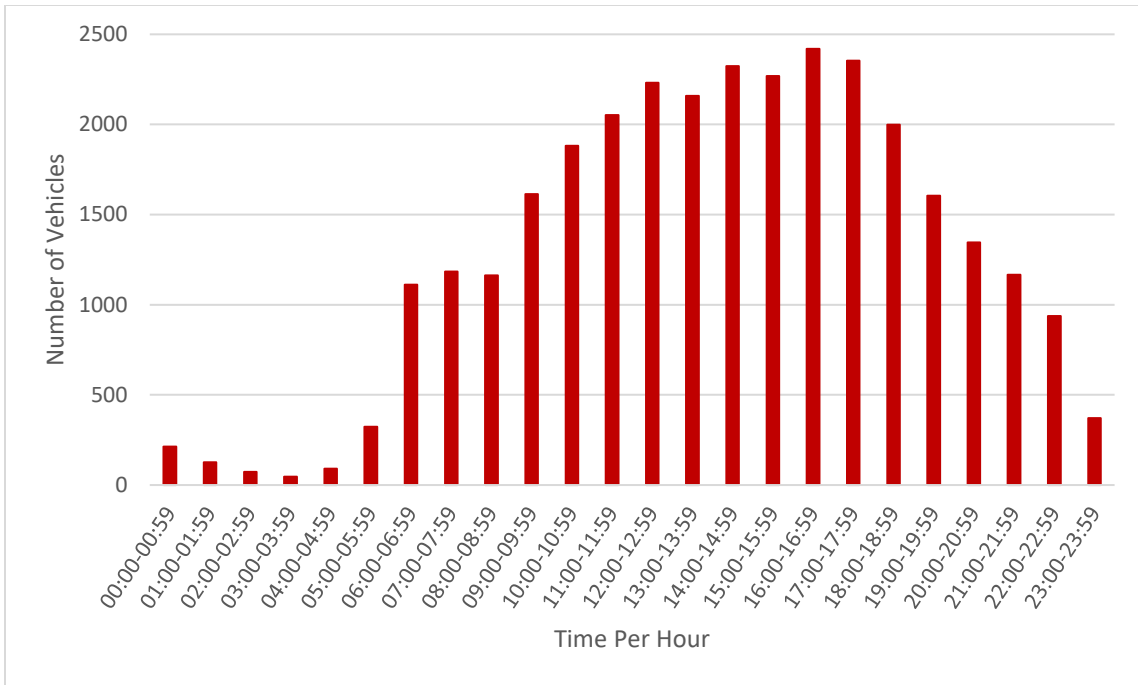


Figure 8 - Total Volume per Day (Northbound)

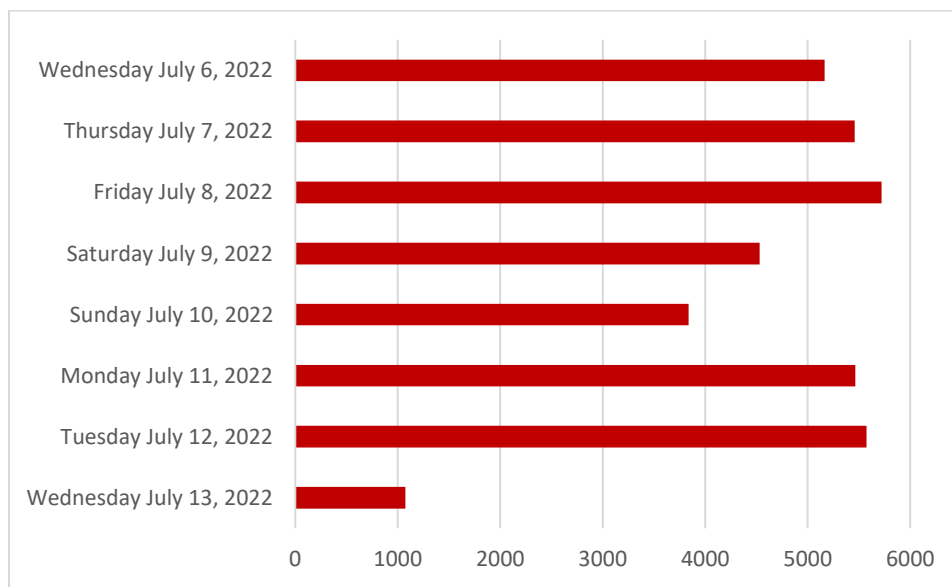
Figure 8 above shows the total volumes of each day data was collected in the northbound direction. Thursday June 30<sup>th</sup> had the largest traffic volume, while Sunday July 3<sup>rd</sup> had the least discounting Wednesday July 6<sup>th</sup>, whereby data was not collected for the full day. Generally, more traffic was recorded on weekdays than weekends.



**Figure 9 - Total Volume per Hour (Northbound)**

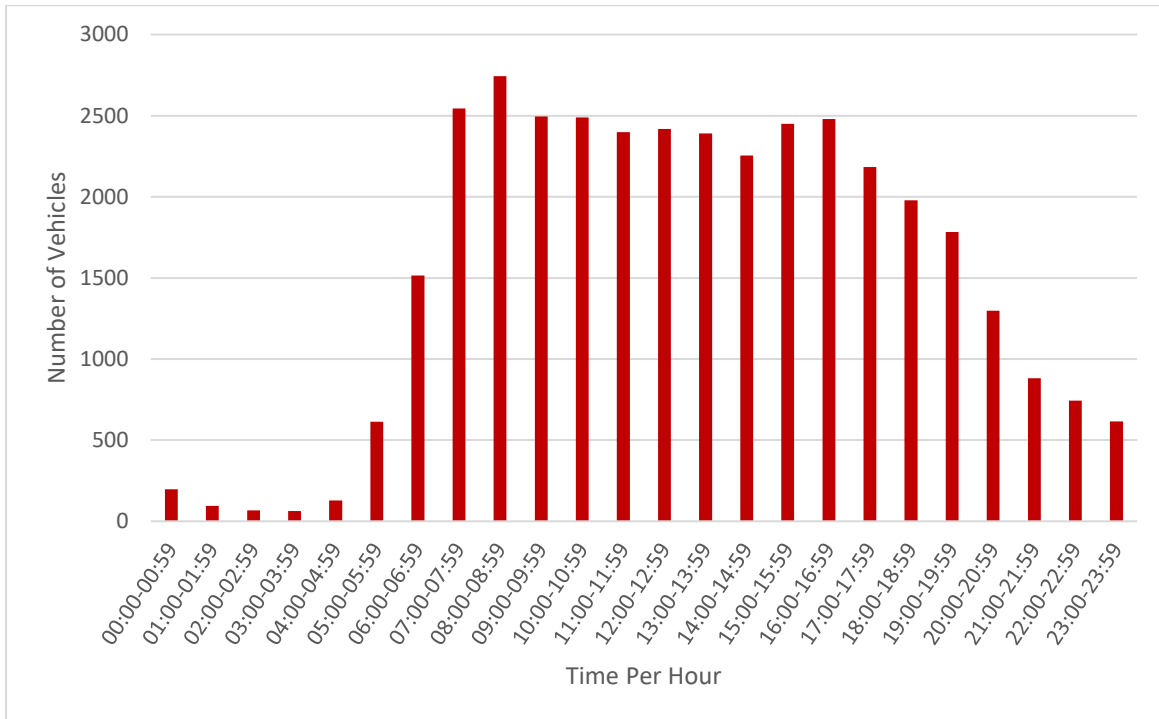
As shown in Figure 9 above, the traffic volume forms a curve in which traffic flow is low at night and begins to increase at 05:00 – 05:59. Peak traffic volume occurs at 16:00 – 16:59 and it begins to decline into the night.

### 3.2 Southbound Volume by Hour



**Figure 10 - Total Volume per Day (Southbound)**

Figure 10 above shows the daily total traffic volumes in the southbound direction. Friday July 8<sup>th</sup> had the largest traffic volume, while Sunday July 10<sup>th</sup> had the least discounting Wednesday July 13<sup>th</sup>, whereby data was not collected for the full day. Generally, more traffic was recorded on weekdays than weekends.



**Figure 11 - Total Volume per Hour (Southbound)**

The total volumes of traffic at different hours of the day in the northbound direction are shown in Figure 11 above. The data does not have a definite curve shape but, traffic volumes increased throughout the day with a spike at 06:00 – 06:59 until it reached its peak at 08:00 – 08:59, begins to decline and peaks again at 16:00 – 16:59.

#### 4.0 Conclusion

The traffic study conducted on Harbourview Drive for both northbound and southbound directions was carried out from June 29<sup>th</sup> to July 13<sup>th</sup>, 2022. From the speed analysis, it was determined that 82.20% and 89.51% of vehicles were travelling within the accepted speed limit for the northbound and southbound directions, respectively. In addition, from the volume analysis, it was determined that traffic spikes were at 06:00 – 06:59 and peak traffic was around 16:00 – 16:59 in both directions and other morning time periods. The highest speeds were recorded during weekends while high volumes were recorded on weekdays.