

# Traffic Data Analysis

Hanly St



Town of Midland  
Engineering Department  
May 3<sup>rd</sup>, 2023

Table of Contents

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

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) .....	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 April 19<sup>th</sup> to May 3<sup>rd</sup> on Hanly 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 Hanly 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	317 Hanly St, Midland, ON	08:30 on April 19, 2023 – 9:00 April 26, 2023
Westbound	316 Hanly St, Midland, ON	09:00 on April 26, 2023 – 09:00 on May 3, 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 Hanly 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 <sup>th</sup> Percentile Speed (km/h)	Minimum Speed (km/h)	Maximum Speed (km/h)
Eastbound	34.54	44.32	10.00	79
Westbound	35.78	45.06	10.00	66

### 2.1 Eastbound Speed Analysis

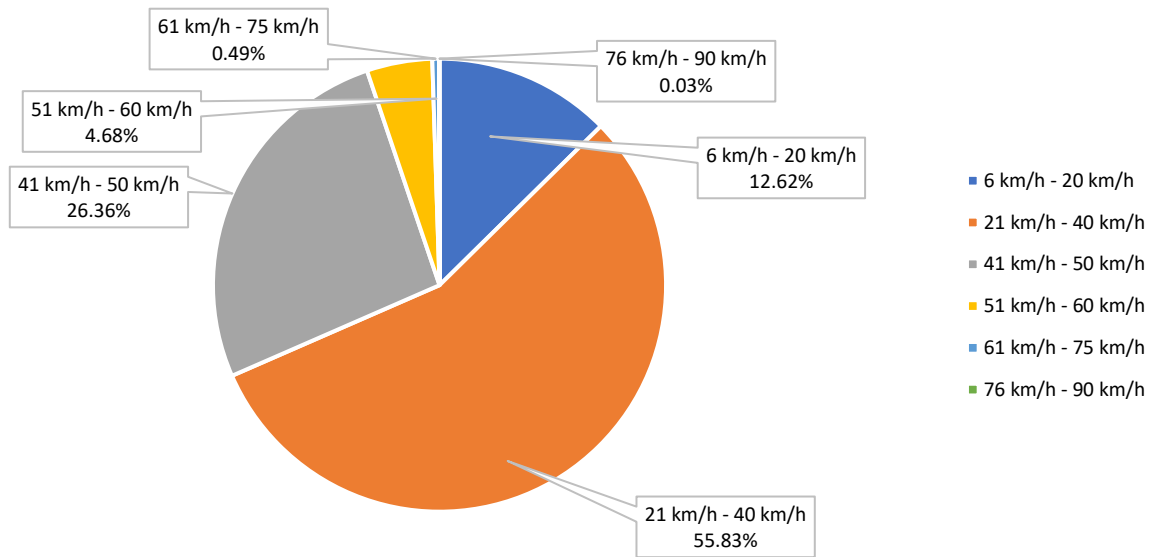
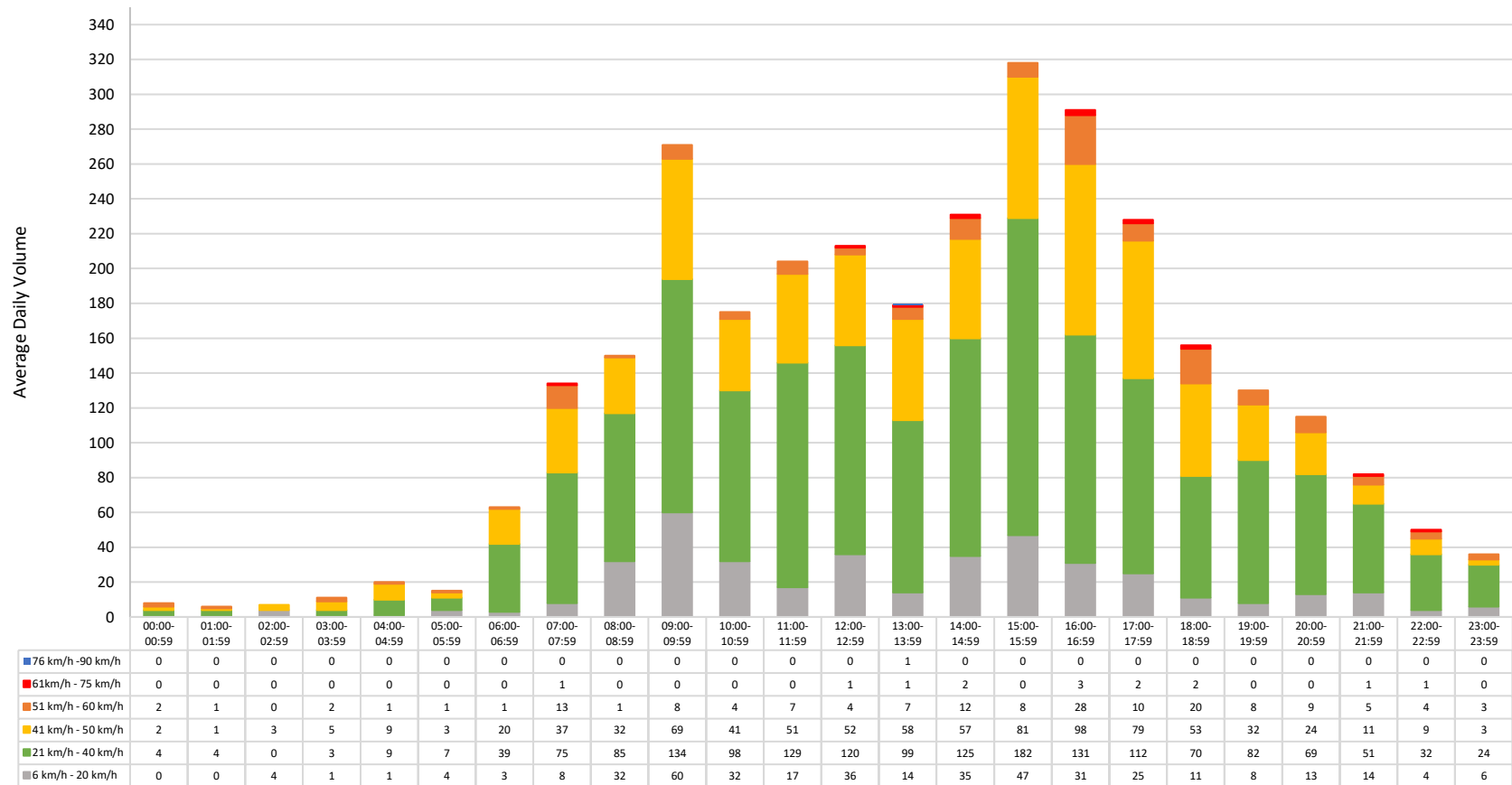


Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Eastbound)

Figure 2 above shows that 94.81% of vehicles were travelling below the posted speed limit, 4.68% of vehicles were travelling between 51-60 km/h, and 0.52% 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 99.49% 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 09:00 – 09:59 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 16:00 - 16:59.

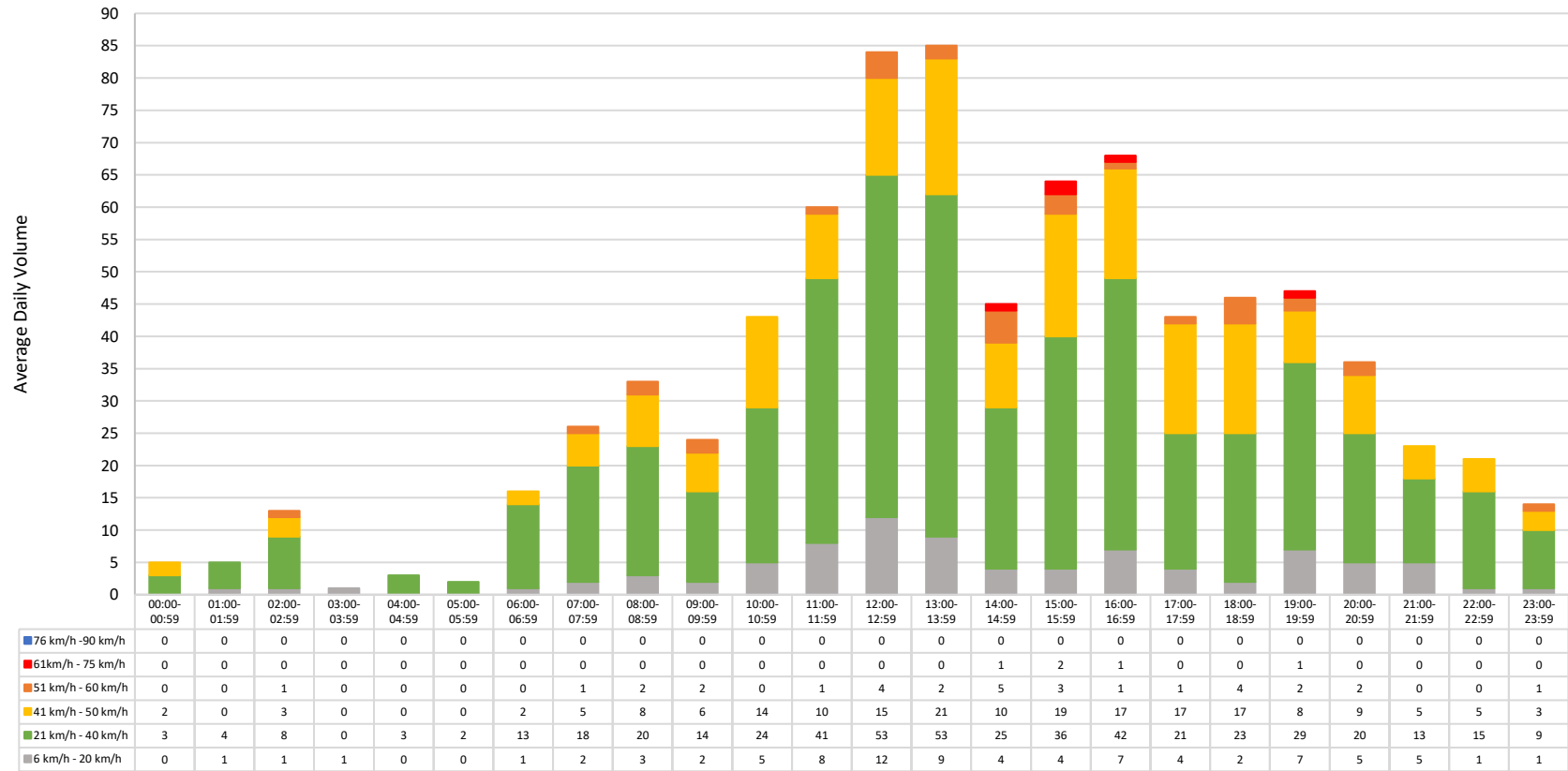
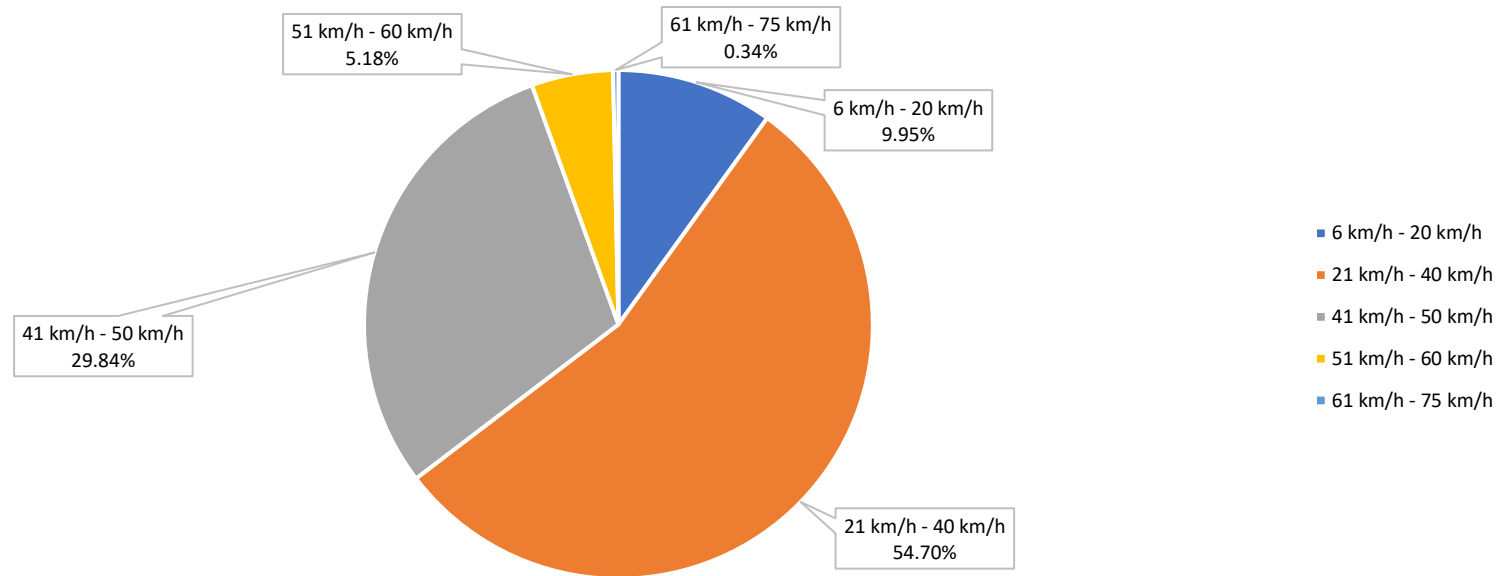


Figure 4 - Traffic Volume Speeds for Each Hour on Weekends (Eastbound)

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 13:00 – 13:59.

## 2.2 Westbound Speed Analysis



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

Figure 5 shows that 94.49% of the vehicles were travelling below the posted speed limit, 5.18% of vehicles were travelling between 51-60 km/h, and 0.34% 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 99.67% of vehicles were driving within the accepted speed limit.

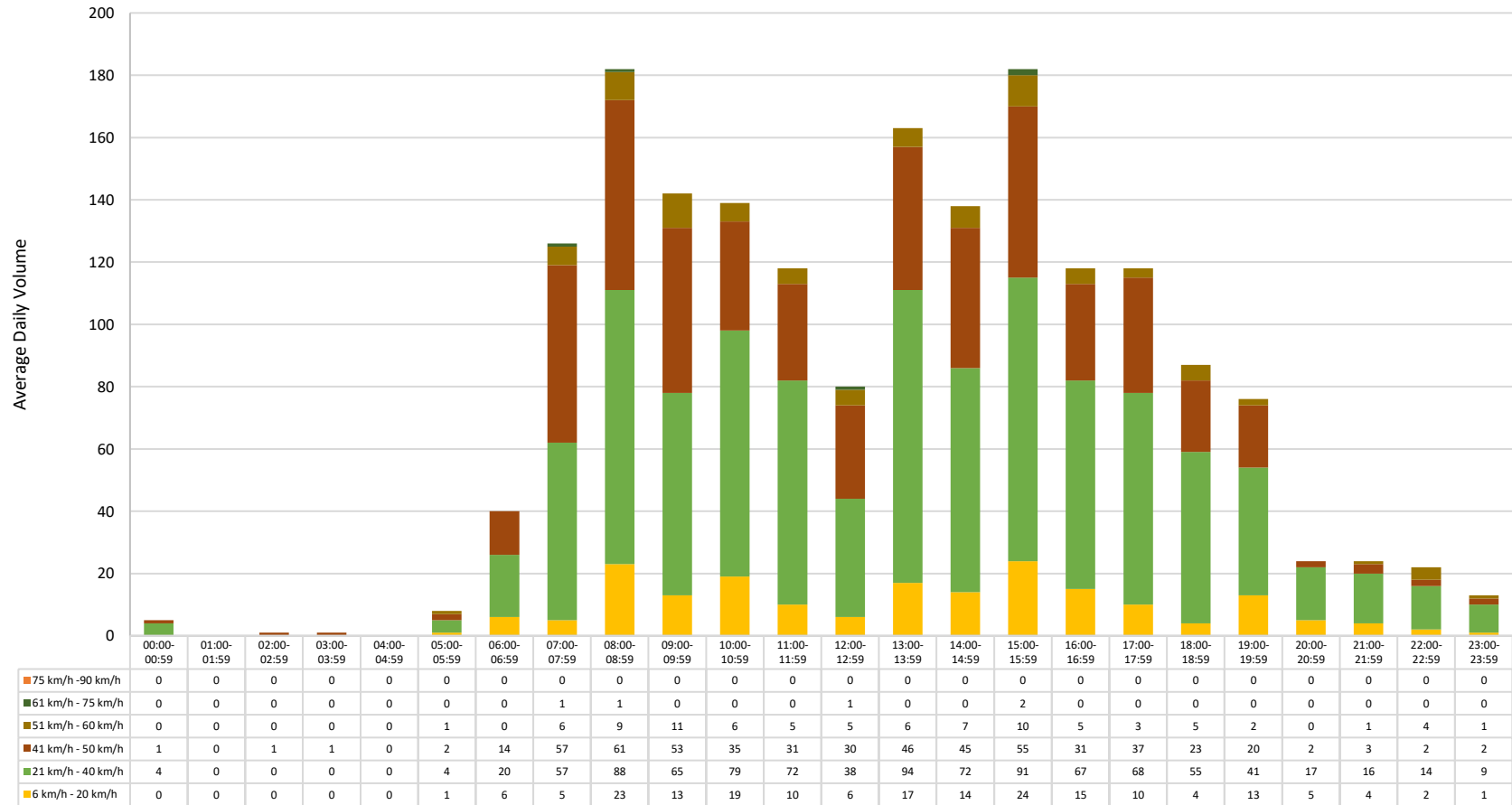


Figure 6 - Traffic Volume Speeds for Each Hour on Weekdays (westbound)

Figure 6 above is the graph used to determine the time when most speeding occurs on weekdays. The data does not have a definite curve shape. Traffic volumes increased throughout the day with a spike from 08:00 – 08:59 and reached its peak at 15:00 – 15:59 and began to decline. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 15:00 - 15:59.



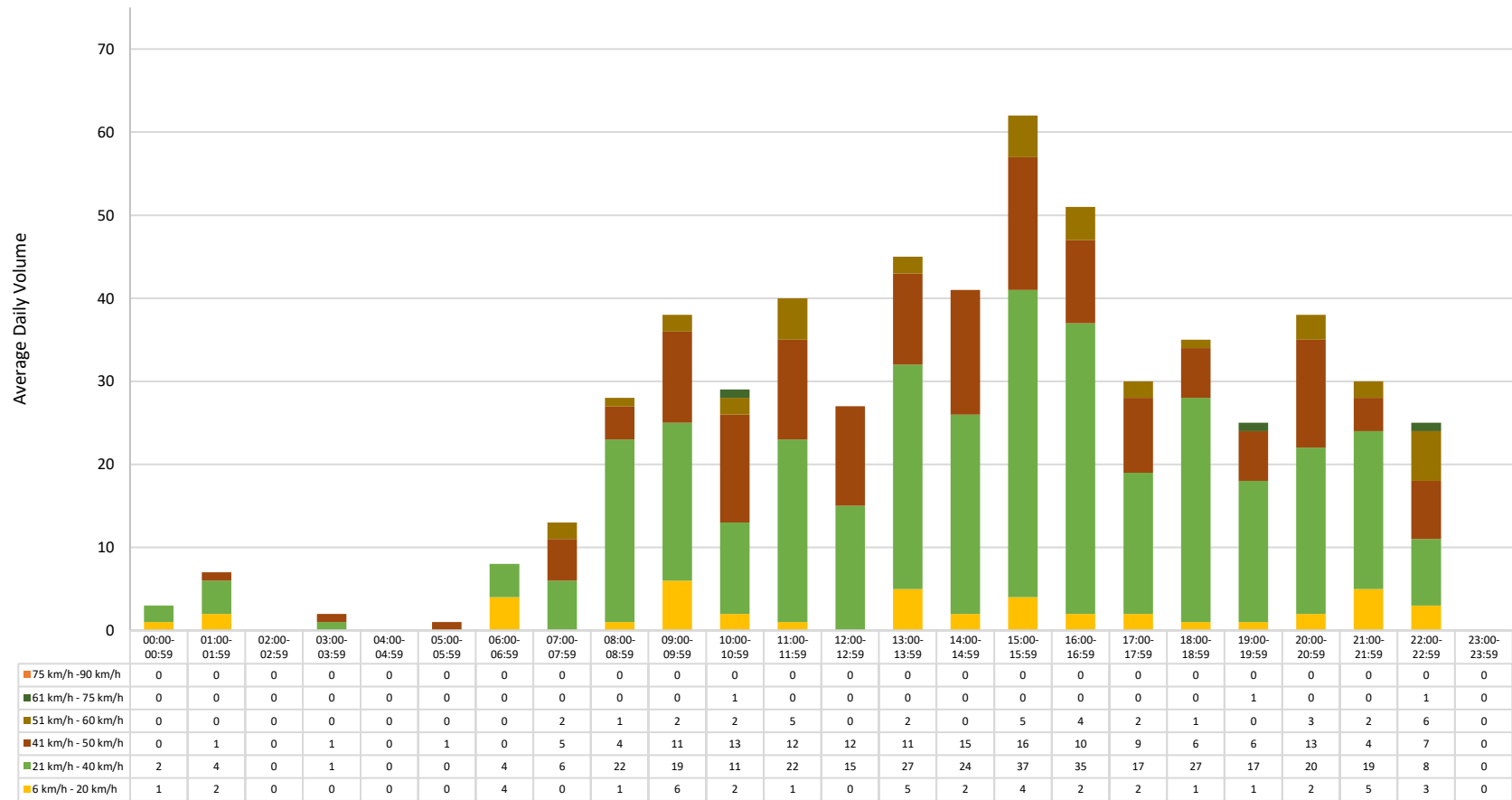


Figure 7 - Traffic Volume Speeds for Each Hour on Weekends (westbound)

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 08:00 – 08:59. It peaks at 15:00 – 15:59 and begins to decline. There is a slight decline from 12:00 – 12:59.



### 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	514.2
Eastbound	Weekend	403.5
Westbound	Weekday	301.2
Westbound	Weekend	283.0

### 3.1 Eastbound Volume by Date

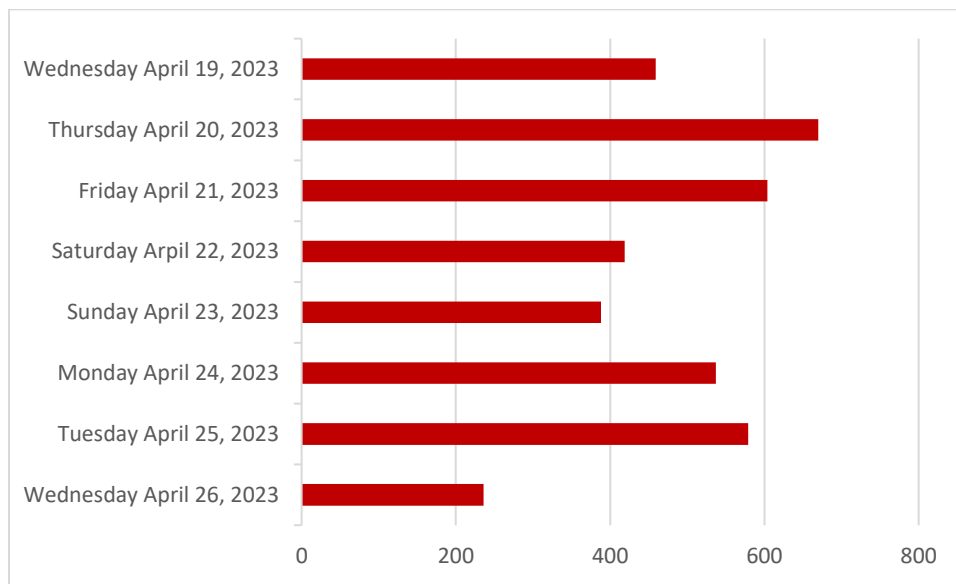
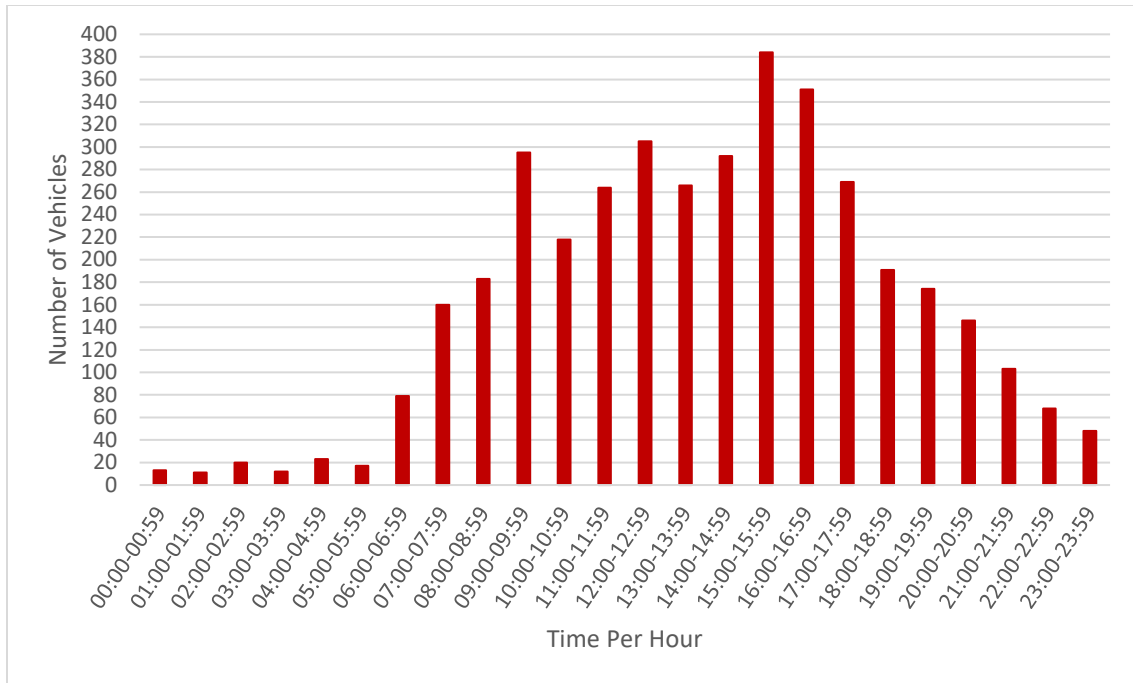


Figure 8 - Total Volume per Day (Eastbound)

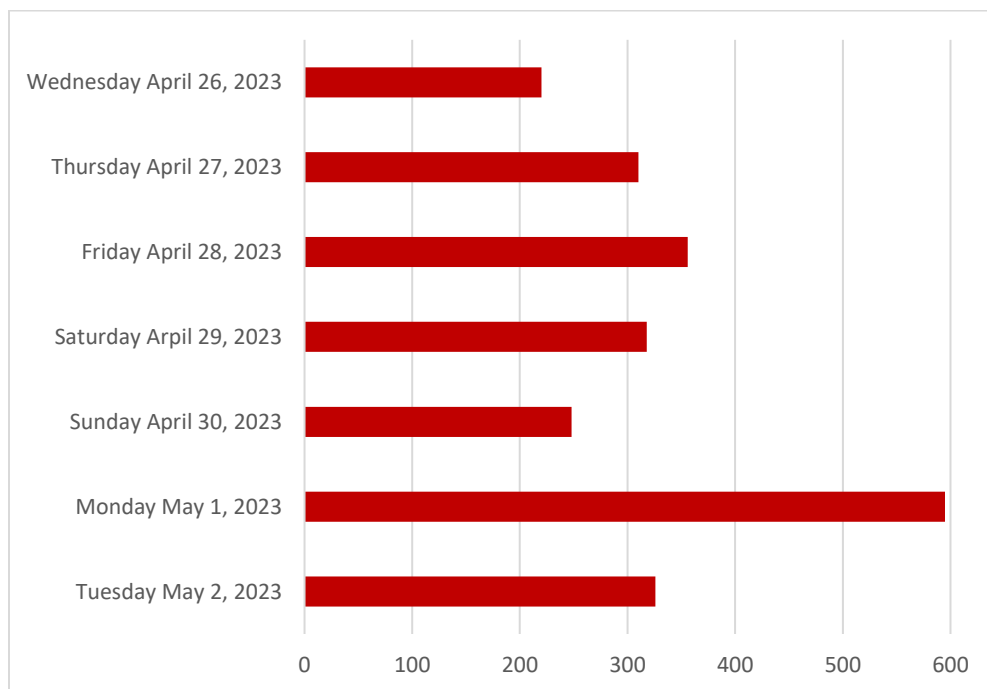
Figure 8 above shows the total volumes of each day data was collected in the Eastbound direction. Thursday April 20<sup>th</sup> had the largest traffic volume, while Sunday April 23<sup>rd</sup> had the least (not including Wednesday when the Traffic Trailer was moved). Generally, more traffic was recorded on weekdays than weekends.



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

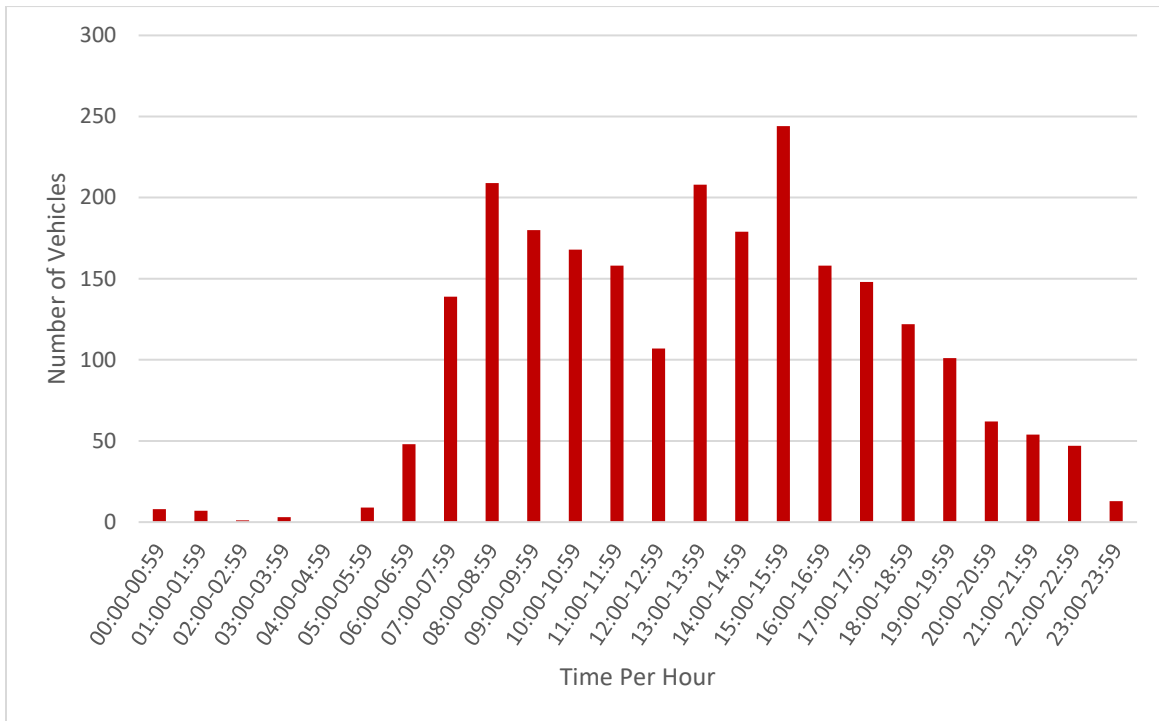
As shown in Figure 9 above, the traffic volume forms a curve in which traffic flow is low at night and begins to increase at 09:00 – 09:59. Peak traffic volume occurs at 15:00 – 15:59 and it begins to decline into the night.

### 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. Monday May 1<sup>st</sup> 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 15:00 – 15:59.

#### 4.0 Conclusion

The traffic study conducted on Hanly St for the eastbound and westbound directions were carried out from April 19<sup>th</sup> to May 3<sup>rd</sup>, 2022. From the speed analysis, it was determined that 99.49% of vehicles were travelling within the accepted speed limit for the eastbound direction and 99.67% in the westbound direction, respectively. Traffic generally was higher on weekdays than on weekends and the most volume was around 15:00 to 15:59 times.