

# Traffic Data Analysis

Bay St  
Eastbound



Town of Midland  
Engineering Department  
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## 1.0 Introduction

A traffic count was conducted from August 18<sup>th</sup>, 2022 to August 24<sup>th</sup> on Bay Street for the eastbound direction. 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 Bay Street for eastbound 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	350 Bay Street, Midland, ON	08:30 on August 18 <sup>th</sup> , 2022 – 08:00 on August 24 <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 Bay 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 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)
Eastbound	42.71	51.49	10.00	80.00

### 2.1 Eastbound Speed Analysis

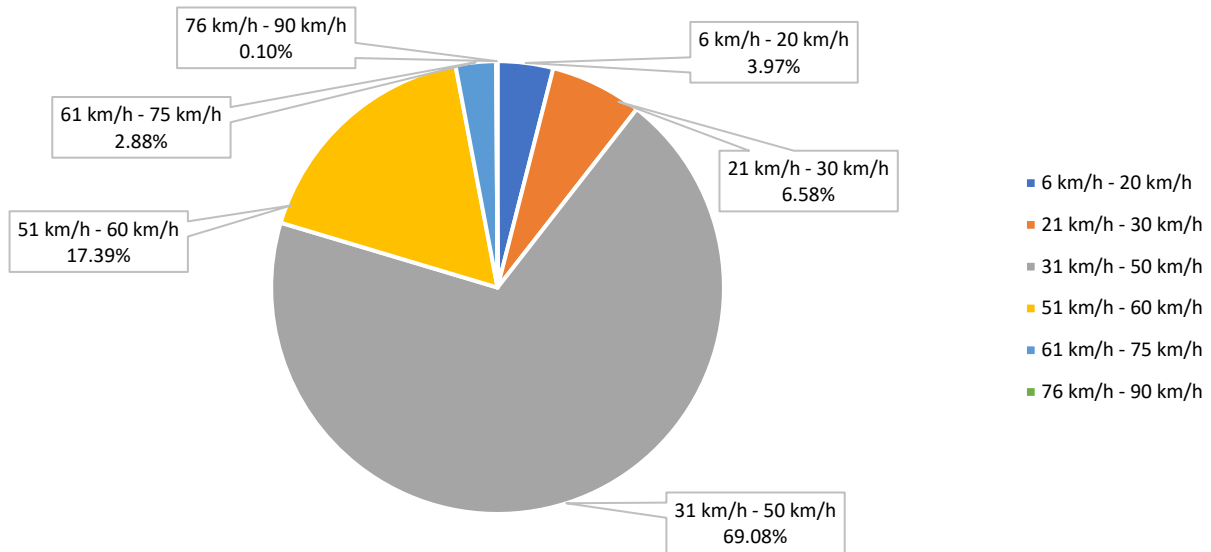
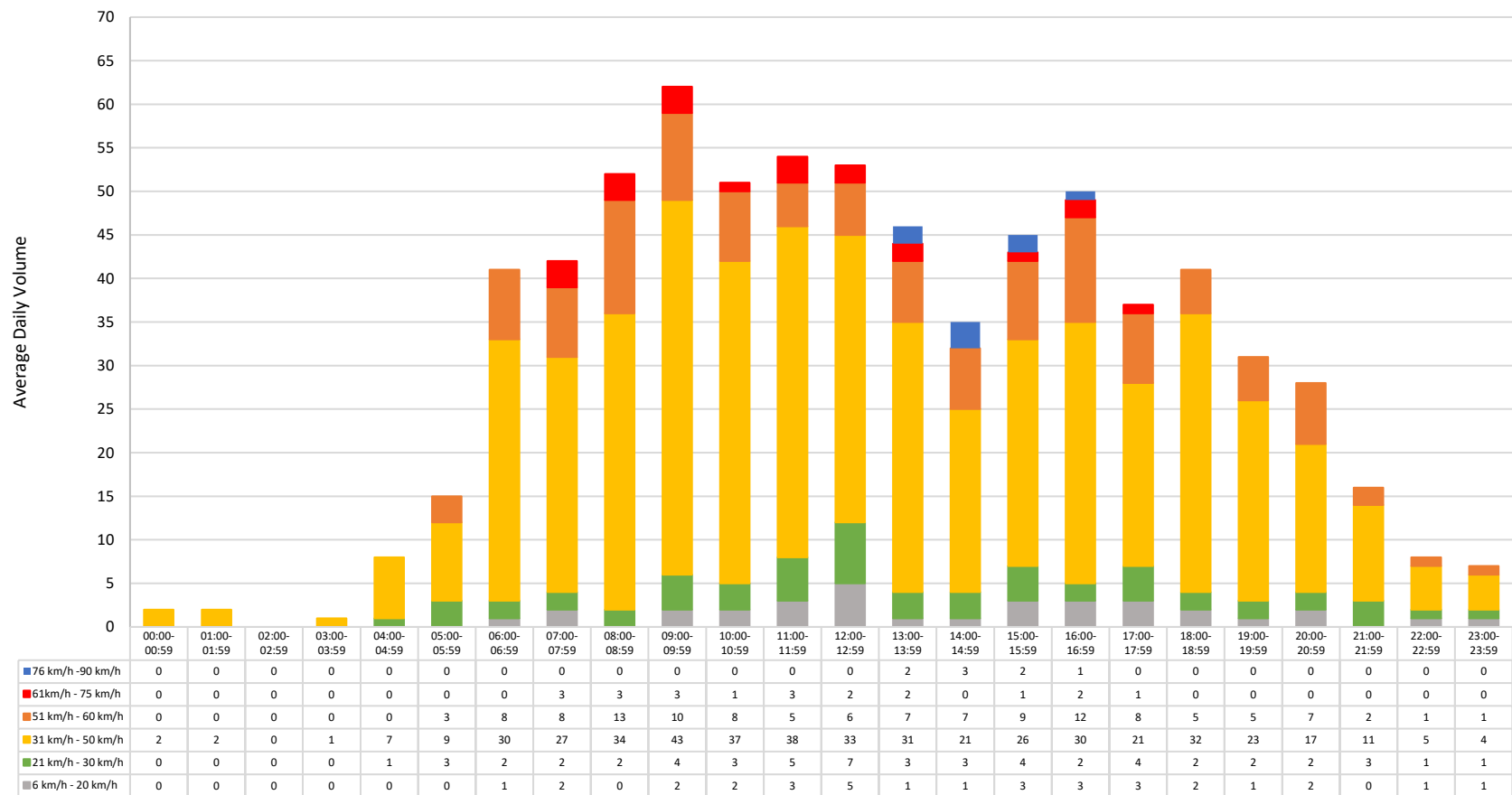


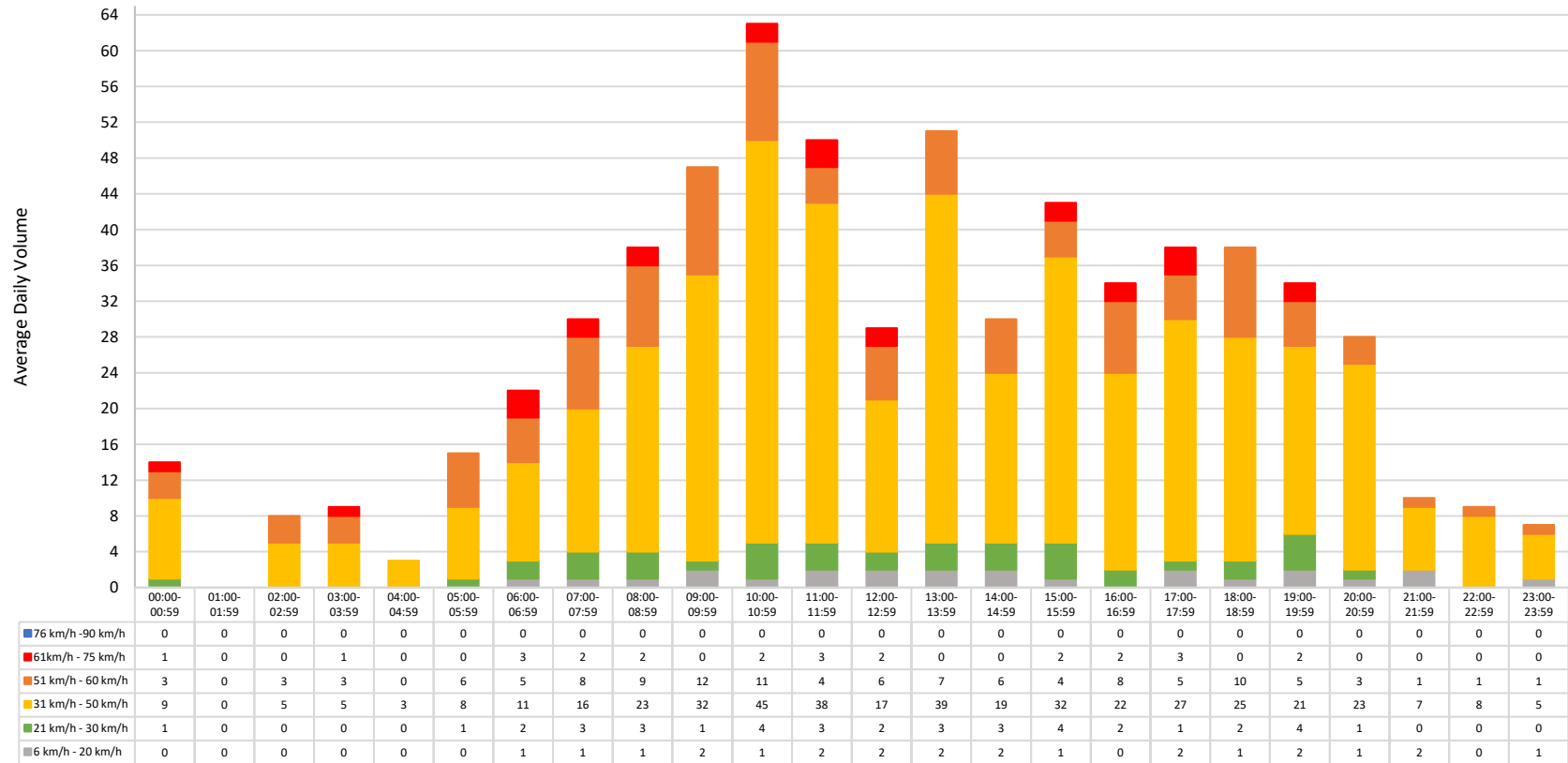
Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Eastbound)

Figure 2 above shows that 79.6% of vehicles were travelling below the posted speed limit, 17.39% of vehicles were travelling between 51-60 km/h, and 2.98% 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 96.99% 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 06:00 – 06:59 until it reached its peak at 09:00 – 09:59 and begins to decline. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 13:00 - 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, the data shows that speeds formed a curve as traffic volumes increased throughout the day from 07:00 – 07:59 and peaks at 10:00 – 10:59.



### 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	685
Eastbound	Weekend	601.5

### 3.1 Eastbound Volume by Date

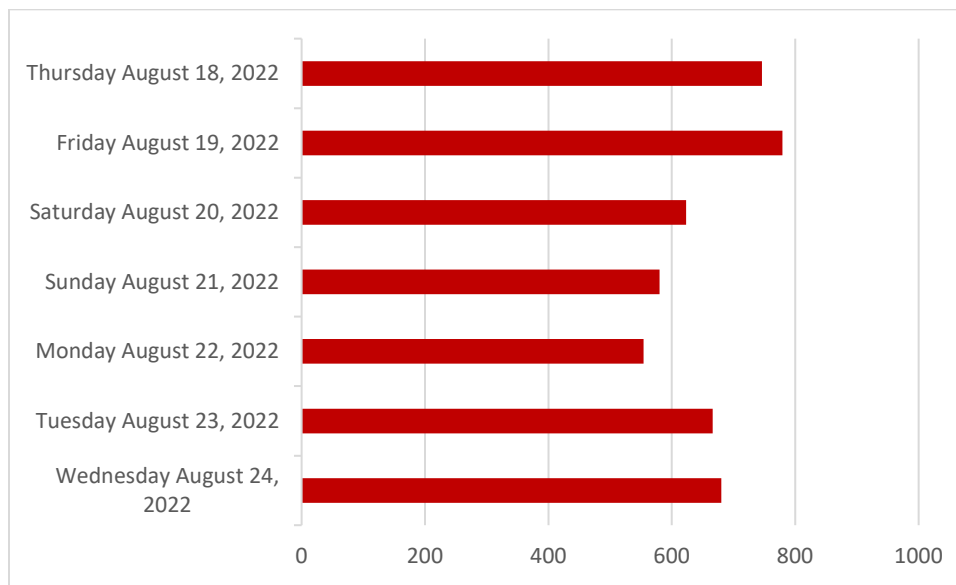
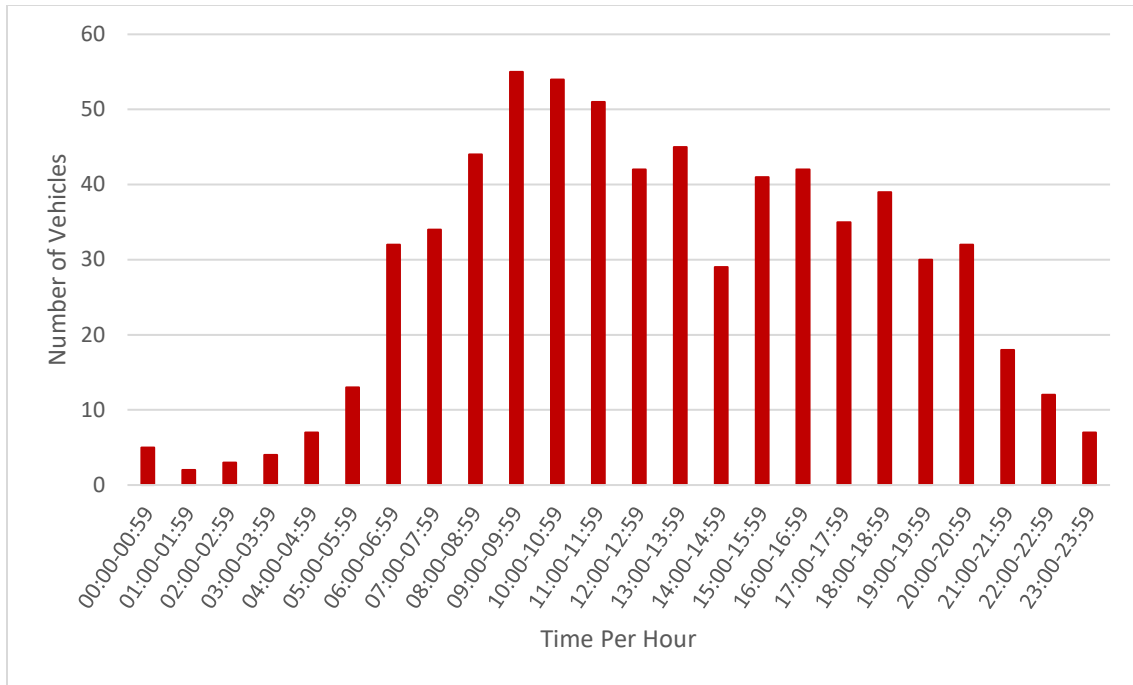


Figure 5 - Total Volume per Day (Eastbound)

Figure 8 above shows the total volumes of each day data was collected in the Eastbound direction. Friday August 19<sup>th</sup> had the largest traffic volume, while Monday August 22<sup>nd</sup> had the least. Generally, more traffic was recorded on weekdays than weekends.





**Figure 6 - 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 06:00 – 06:59. Peak traffic volume occurs at 09:00 – 09:59 and it begins to decline into the night.

#### **4.0 Conclusion**

The traffic study conducted on Queen St for the eastbound direction was carried out from August 18<sup>th</sup> to August 24<sup>th</sup>, 2022. From the speed analysis, it was determined that 96.99% of vehicles were travelling within the accepted speed limit for the eastbound directions, respectively.