

# Traffic Data Analysis

King Street

Northbound



Town of Midland

Engineering Department

August 18<sup>th</sup>, 2022,

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## 1.0 Introduction

A traffic count was conducted from July 15<sup>th</sup>, 2022, to August 17<sup>th</sup>, 2022, on King Street in the northbound direction. Vehicle speeds and traffic volumes were collected by a traffic shield (model ATS 15). 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 shield was placed on King Street for northbound direction. Table 1 below shows the location of the traffic trailer and data collection period.

**Table 1- Traffic Shield Information**

Direction	Location	Period
Northbound	655 King Street, Midland, ON	00:00 on July 15 <sup>th</sup> – 08:00 on August 17 <sup>th</sup> , 2022

## 1.2 Traffic Shield

The traffic shield used was model ATS 15 as shown in Figure 1. The traffic shield can show the speed of the approaching vehicle or display short messages depending on the speed.



**Figure 1- Traffic Shield**

## 2.0 Volume by Speed

The posted speed limit on King Street is 50 km/h; however, generally it is accepted that vehicles that are travelling up to 10km/h above the posted speed limit are not considered to be speeding. Table 2 shows an overall speed summary of the data collected.

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	50.59	61.84	10.00	100.00

## 2.1 Volume by Speed Analysis

Figure 2 to 4 below show the speed summary for the traffic.

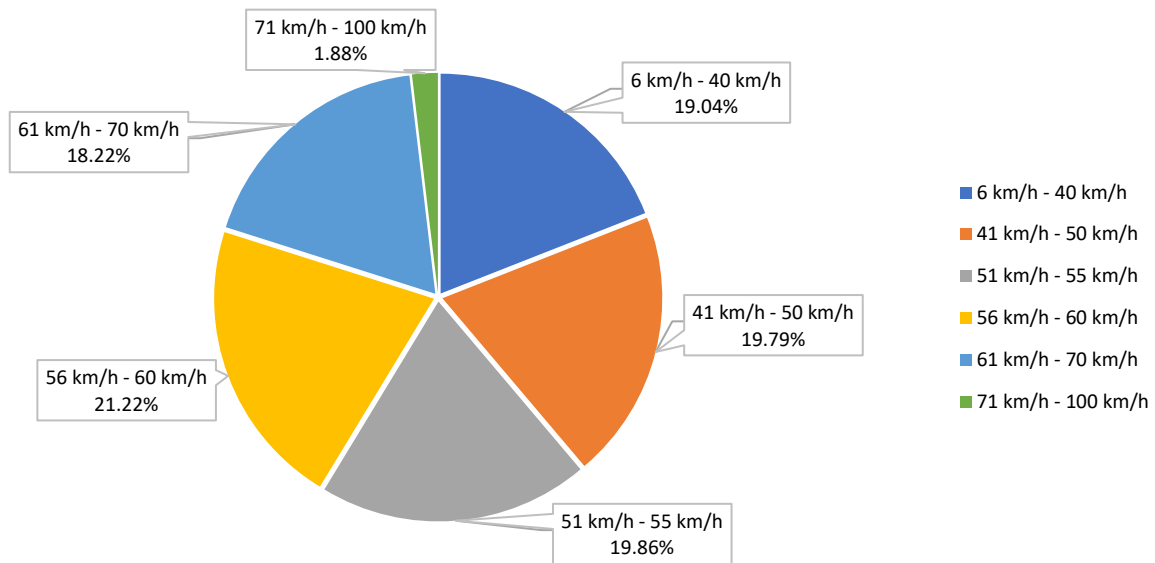


Figure 2 - Total Volume Breakdown Based on Speed per Hour Intervals

Figure 2 above shows that 38.33% of vehicles were travelling below the posted speed limit, 41.08% of vehicles were travelling between 51 km/h and 60 km/h and 20.10% were traveling above 60 km/h. Considering the accepted speed limit is 10 km/h over the posted speed limit, a total 79.91% of vehicles were travelling within the accepted speed limit.

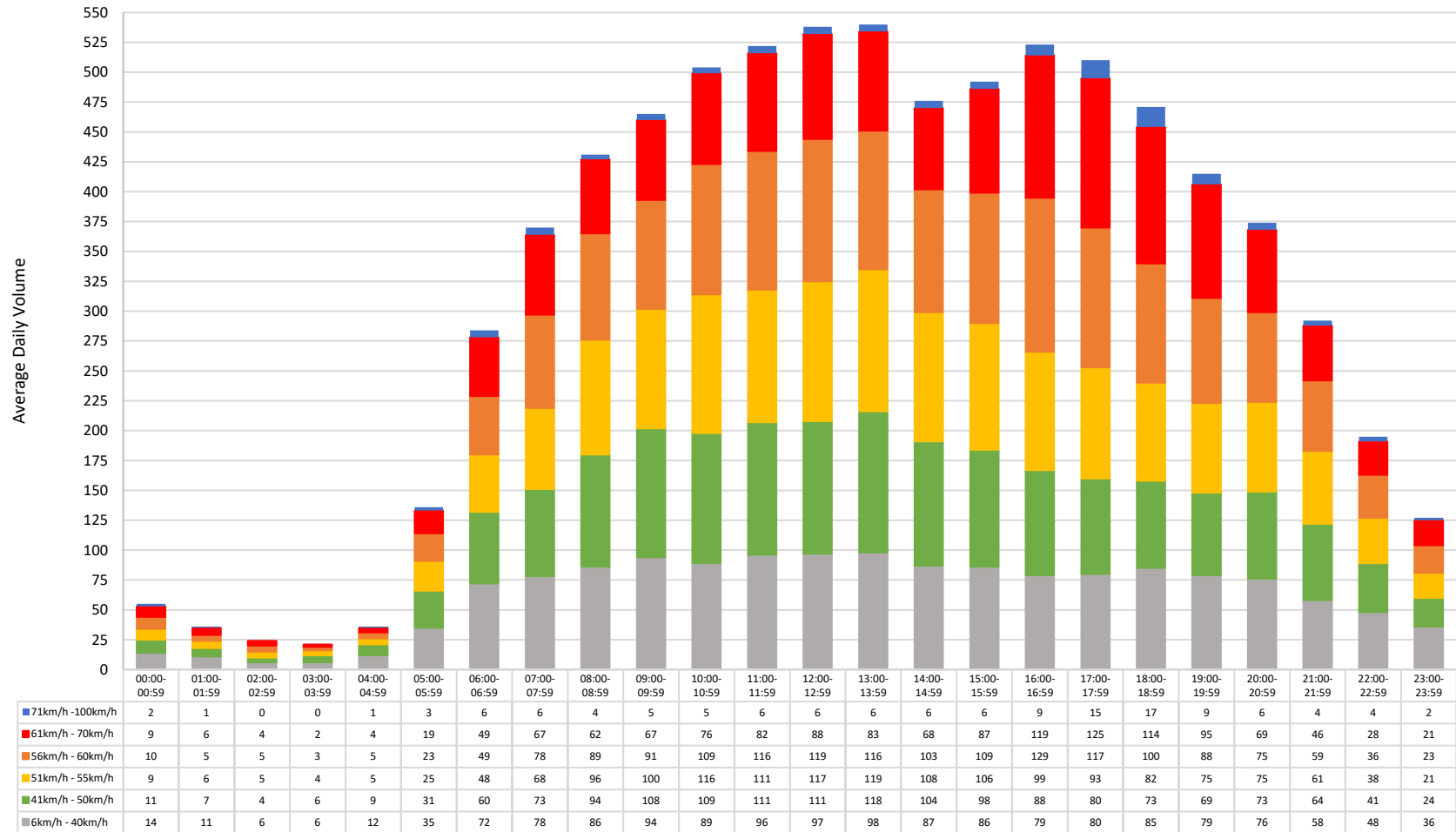


Figure 3 - Traffic Volume Speeds for Each Hour on Weekdays

Figure 3 above is the graph used to determine the time when most speeding occurs on weekdays. Generally, the data shows that speeds formed a curve as traffic volumes increased throughout the day with a spike from 05:00 – 05:59 until it reached its peak at 12:00 – 13:59 and begins to decline into the night. Speeding was recorded during every hour period. The highest speeds which are greater than the acceptable speeding of 10 km/h were recorded mostly between 16:00 – 19:59.

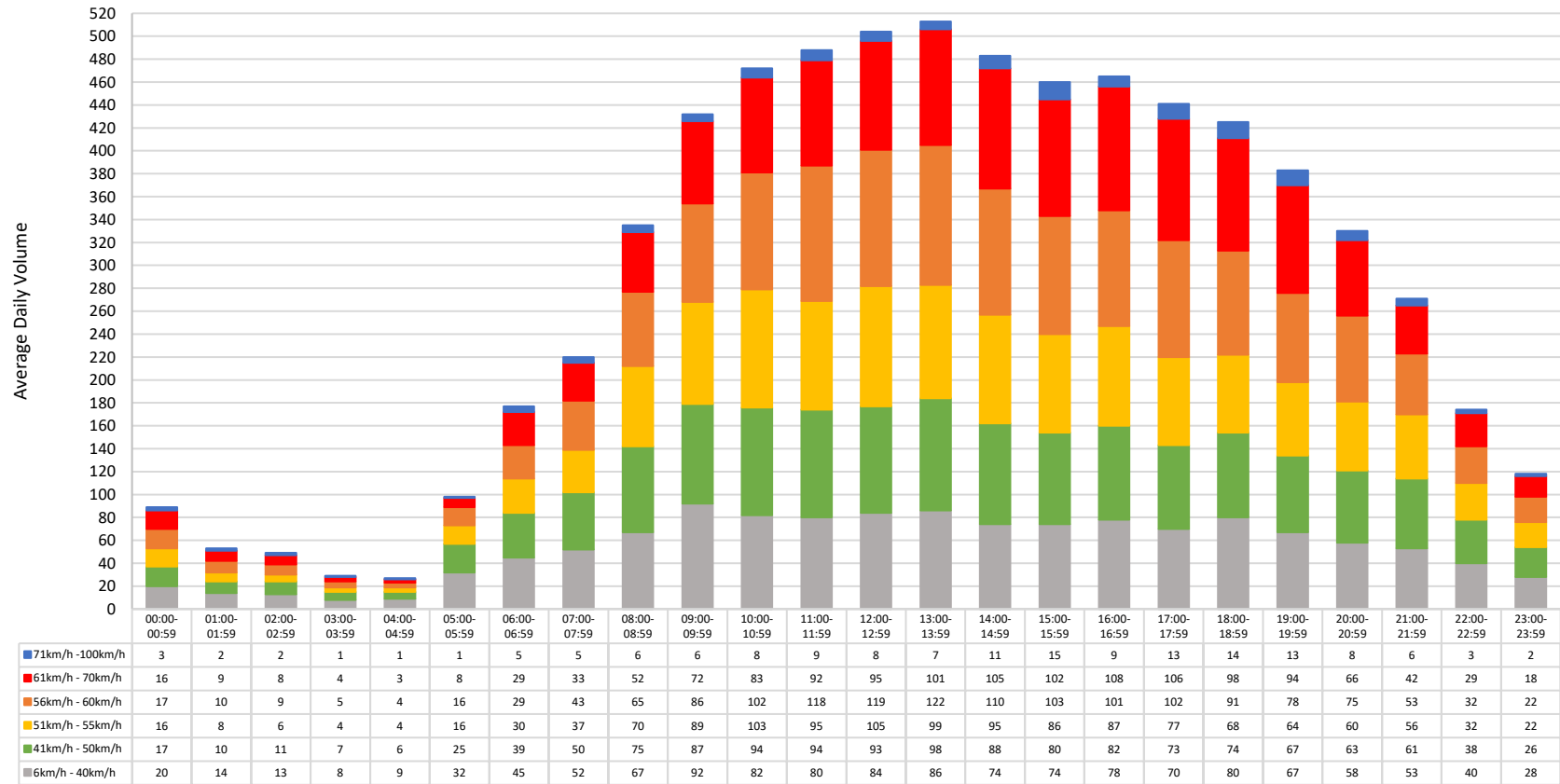


Figure 4 - Traffic Volume Speeds for Each Hour on Weekends

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 with a spike from 05:00 – 05:59 until it reached its peak at 13:00 – 13:59 and begins to decline again. Speeds greater than the acceptable speeding of 10 km/h above the speed limit were recorded in all hour periods.

### 3.0 Volume by Time

Table 3 shows the average daily volume on King Street in the northbound direction.

Table 3 - Volume Summary

Direction	Period	Average Daily Traffic Volume
Northbound	Weekdays	7596
Northbound	Weekends	7016

### 3.1 Volume by Time Analysis

Figure 5 shows the total volumes of traffic for each day data was collected.

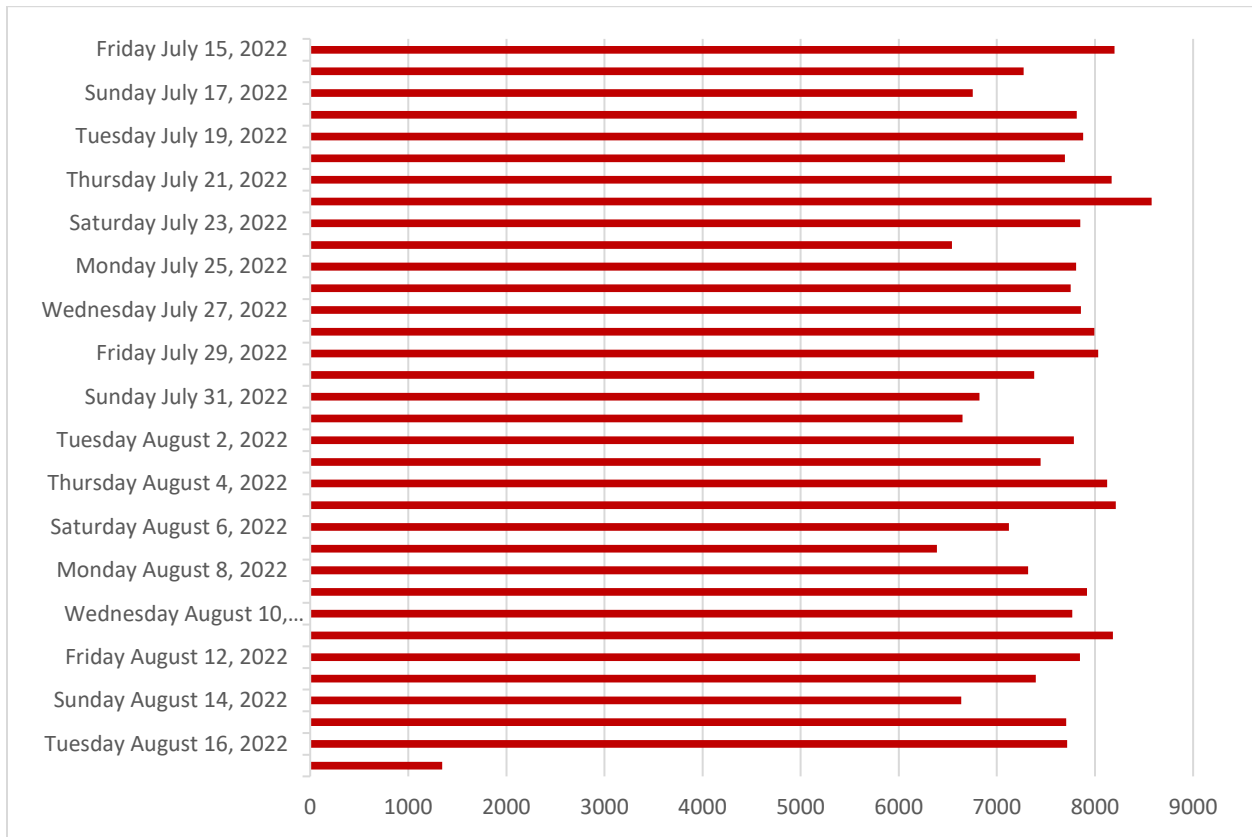
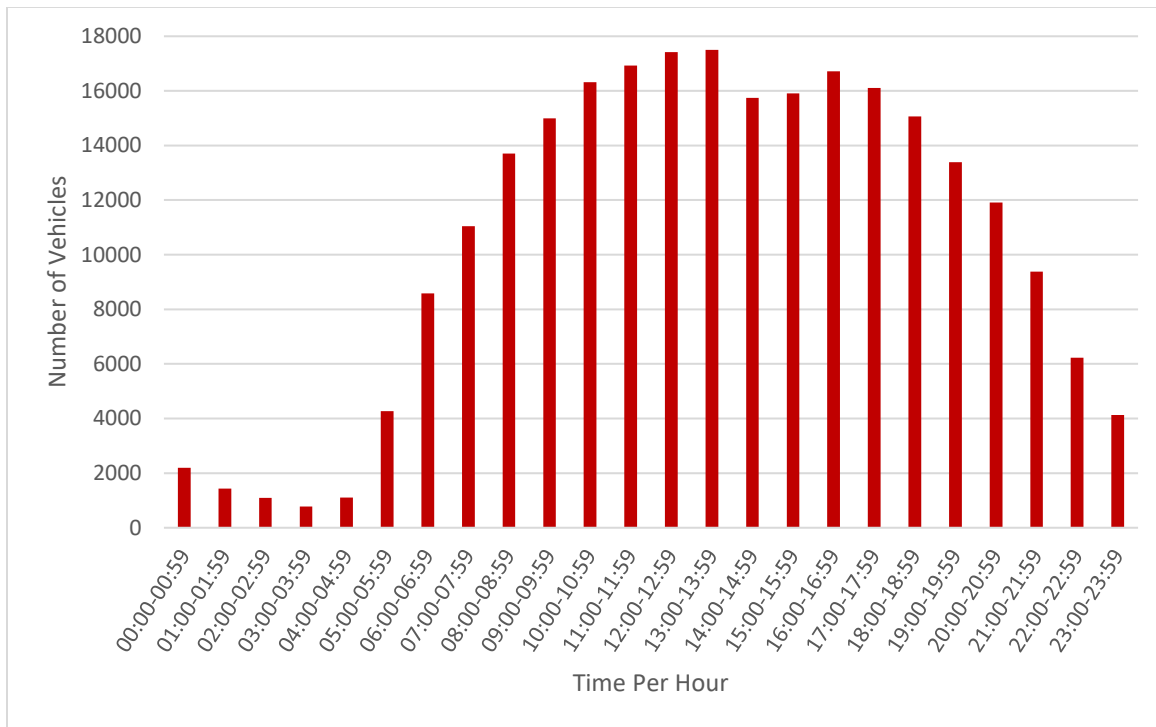


Figure 5 Total Volume per Day

The most traffic was recorded on Friday July 22, 2022. Largest traffic volumes were on all weekdays especially on Fridays. Lowest volumes were recorded on Sundays, discounting Wednesday August 17, 2022, whereby data was not collected for the whole day.

The total volumes of traffic at different hours of the day are shown in Figure 6 below.



**Figure 6 Total Volume per Hour**

As shown in Figure 6, 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 from 13:00 – 13:59 and it begins to decrease after. The least number of vehicles is recorded between 03:00 to 03:59.

#### 4.0 Conclusion

The traffic study was conducted on King Street in the northbound direction from July 15<sup>th</sup> to August 17<sup>th</sup>, 2022. From the speed analysis, it was determined that 79.91% of vehicles were travelling within the accepted speed limit.