# Traffic Data Analysis

Gloucester St EB


Town of Midland

Engineering Department

July 20th, 2023

Table of Contents



List of Figures



List of Tables

## 1.0 Introduction

A traffic count was conducted from July 12th to July 19th, 2023 on Gloucester 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 Gloucester St 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 | Beside 190 Russell St on Gloucester, Midland, ON | 09:30 on July 12th – 09:00 on July 19th, 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 Gloucester 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 direction.

Table 2- Speed Summary

| Direction | Average Speed (km/h) | 85th Percentile Speed (km/h) | Minimum Speed (km/h) | Maximum Speed (km/h) |
|---|---|---|---|---|
| Eastbound | 42.96 | 51.12 | 10 | 83 |

## 2.1 Eastbound Speed Analysis

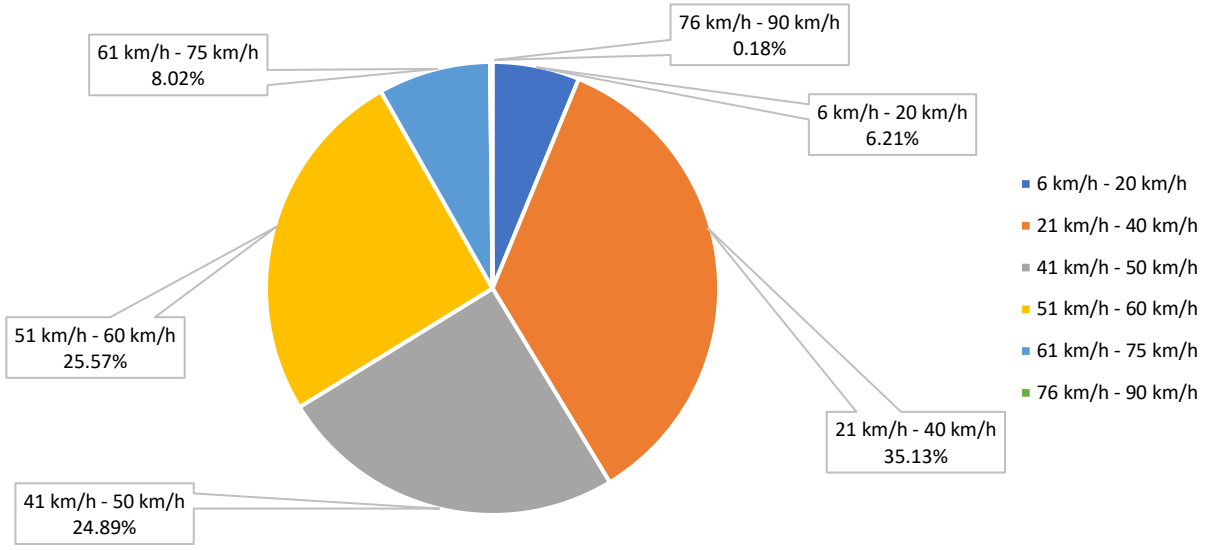
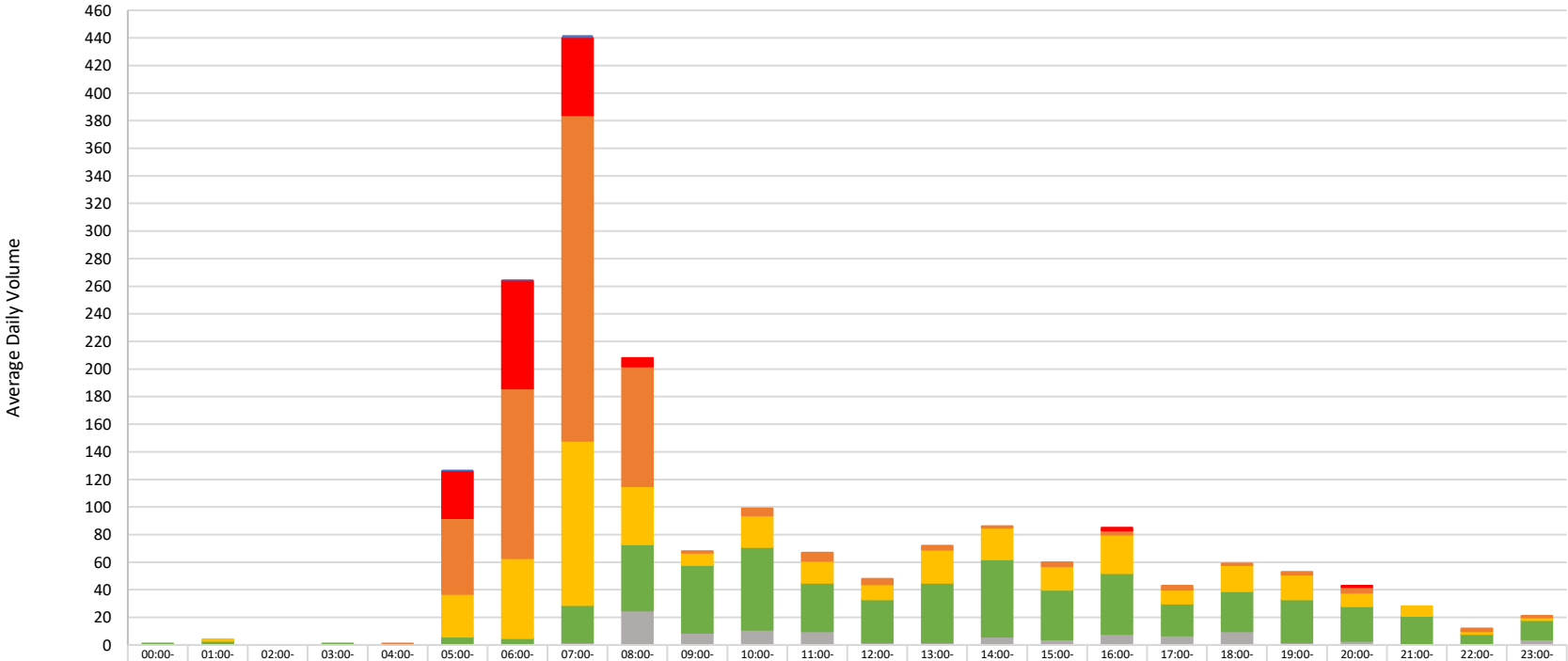



Figure 2- Total Volume Breakdown Based on Speed per Hour Intervals (Eastbound)

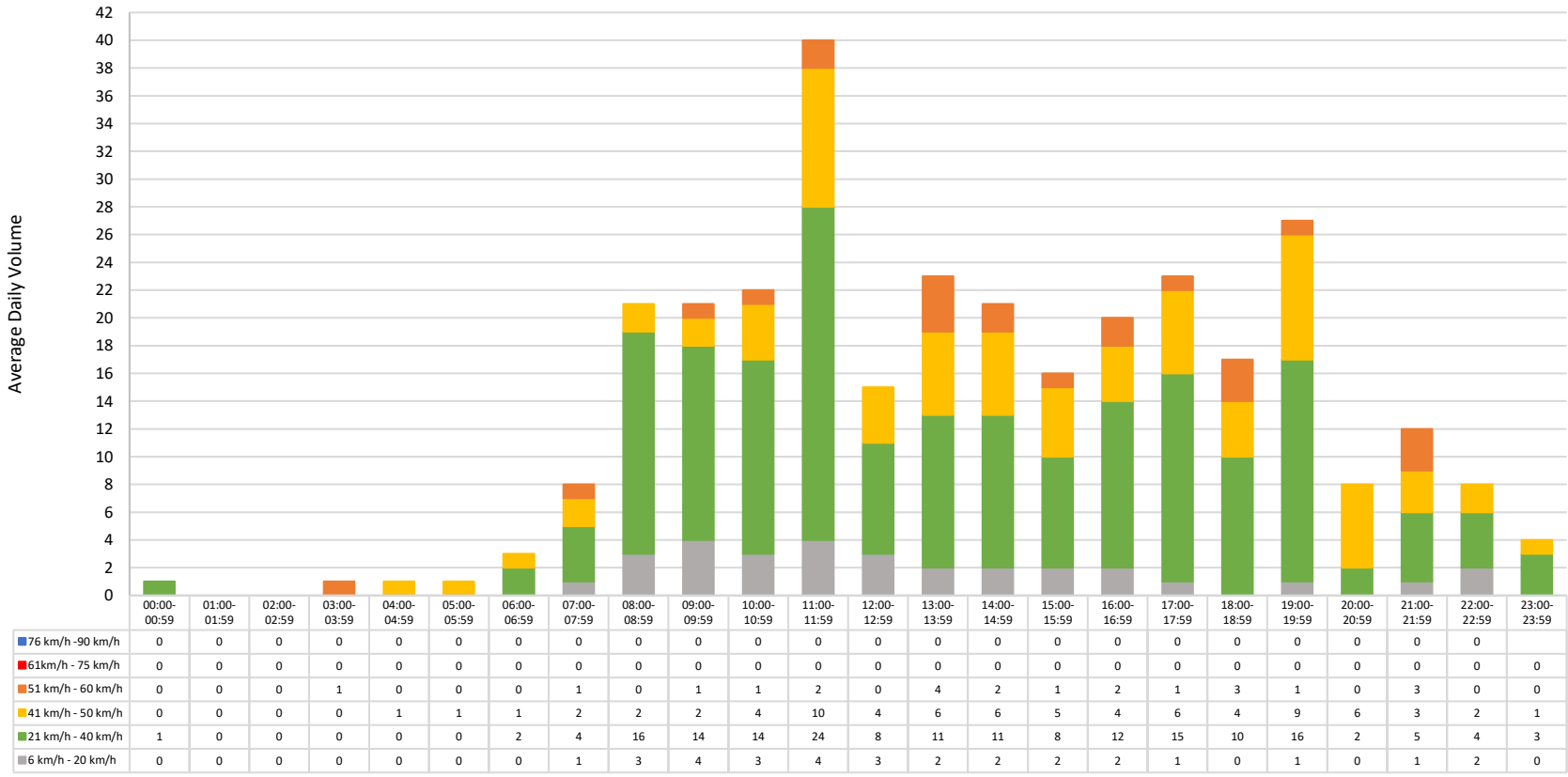
Figure 2 above shows that 66.23% of vehicles were travelling below the posted speed limit, 25.57% of vehicles were travelling between 51-60 km/h, and 8.2% of vehicles were travelling above 60 km/h. Considering the accepted speed limit is 10 km/h over the posted speed limit, a total of 91.8% of vehicles were travelling within the accepted speed limit in the Eastbound direction.




| | 00:00-00:59 | 01:00-01:59 | 02:00-02:59 | 03:00-03:59 | 04:00-04:59 | 05:00-05:59 | 06:00-06:59 | 07:00-07:59 | 08:00-08:59 | 09:00-09:59 | 10:00-10:59 | 11:00-11:59 | 12:00-12:59 | 13:00-13:59 | 14:00-14:59 | 15:00-15:59 | 16:00-16:59 | 17:00-17:59 | 18:00-18:59 | 19:00-19:59 | 20:00-20:59 | 21:00-21:59 | 22:00-22:59 | 23:00-23:59 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76 km/h -90 km/h | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 61km/h - 75 km/h | 0 | 0 | 0 | 0 | 0 | 34 | 78 | 56 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 51 km/h - 60 km/h | 0 | 0 | 0 | 0 | 1 | 55 | 123 | 236 | 87 | 1 | 5 | 6 | 4 | 3 | 1 | 3 | 3 | 3 | 1 | 2 | 4 | 0 | 2 | 1 |
| 41 km/h - 50 km/h | 0 | 1 | 0 | 0 | 0 | 31 | 58 | 119 | 42 | 9 | 23 | 16 | 11 | 24 | 23 | 17 | 28 | 10 | 19 | 18 | 10 | 7 | 2 | 2 |
| 21 km/h - 40 km/h | 1 | 3 | 0 | 1 | 0 | 6 | 5 | 27 | 48 | 49 | 60 | 35 | 31 | 43 | 56 | 36 | 44 | 23 | 29 | 31 | 25 | 20 | 8 | 14 |
| 6 km/h - 20 km/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 25 | 9 | 11 | 10 | 2 | 2 | 6 | 4 | 8 | 7 | 10 | 2 | 3 | 1 | 0 | 4 |

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, and traffic volumes experiences a spike at 05:00-05:59, reaches its peak at 07:00-07:59, decreases significantly but stays steady between 09:00-18:59 and declines afterward. The largest volumes of traffic traveling at speeds beyond the acceptable limit were recorded from 06:00-06:59.




| | 00:00-00:59 | 01:00-01:59 | 02:00-02:59 | 03:00-03:59 | 04:00-04:59 | 05:00-05:59 | 06:00-06:59 | 07:00-07:59 | 08:00-08:59 | 09:00-09:59 | 10:00-10:59 | 11:00-11:59 | 12:00-12:59 | 13:00-13:59 | 14:00-14:59 | 15:00-15:59 | 16:00-16:59 | 17:00-17:59 | 18:00-18:59 | 19:00-19:59 | 20:00-20:59 | 21:00-21:59 | 22:00-22:59 | 23:00-23:59 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76 km/h -90 km/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 61km/h - 75 km/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 51 km/h - 60 km/h | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 4 | 2 | 1 | 2 | 1 | 3 | 1 | 0 | 3 | 0 | 0 |
| 41 km/h - 50 km/h | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 4 | 10 | 4 | 6 | 6 | 5 | 4 | 6 | 4 | 9 | 6 | 3 | 2 | 1 |
| 21 km/h - 40 km/h | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 16 | 14 | 14 | 24 | 8 | 11 | 11 | 8 | 12 | 15 | 10 | 16 | 2 | 5 | 4 | 3 |
| 6 km/h - 20 km/h | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 4 | 3 | 4 | 3 | 2 | 2 | 2 | 2 | 1 | 0 | 1 | 0 | 1 | 2 | 0 |

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 spiked at 08:00-08:59, peaks at 11:00-11:59. Data shows no speeding occurs over the weekend, but the hour where there is most potential of speeding (based off number of vehicles travelling between 51-60 km/h) is at the hour 13:00-13:59.

## 3.0 Traffic Volume

Table 3 shows the average daily volume on Gloucester St for Eastbound direction.

Table 3 - Volume Summary

| Direction | Period | Average Daily Traffic Volume |
|---|---|---|
| Eastbound | Weekday | 315.5 |
| Eastbound | Weekend | 156.5 |

### 3.1 Eastbound Volume by Date

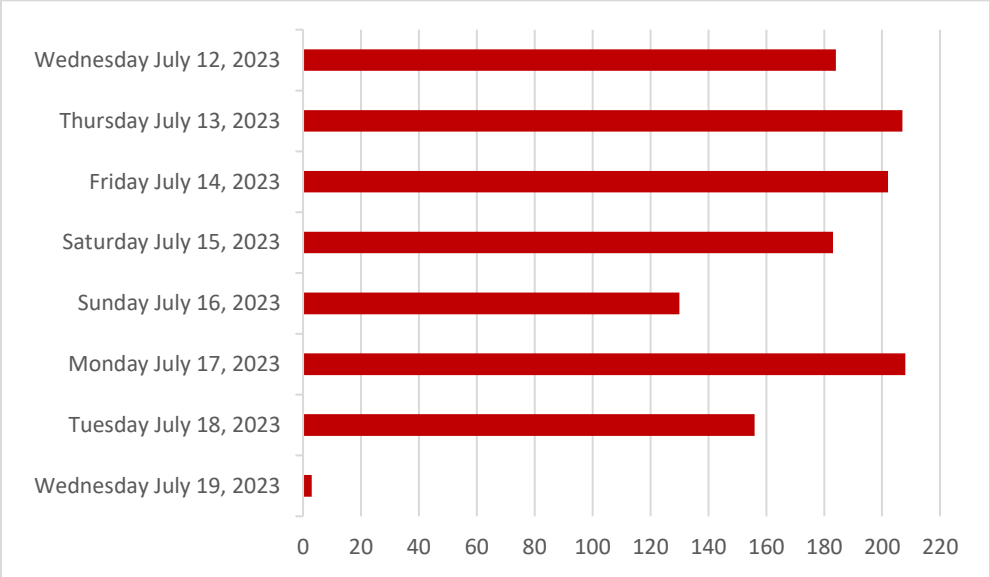



Figure 5 - Total Volume per Day (Eastbound)

Figure 8 above shows the total volumes of each day data that was collected in the Eastbound direction. Monday July 17th had the largest traffic volume, while Sunday July 17th had the least (not including Wednesday July 19th when the Traffic Trailer was moved). Generally, more traffic was recorded on weekdays than weekends.

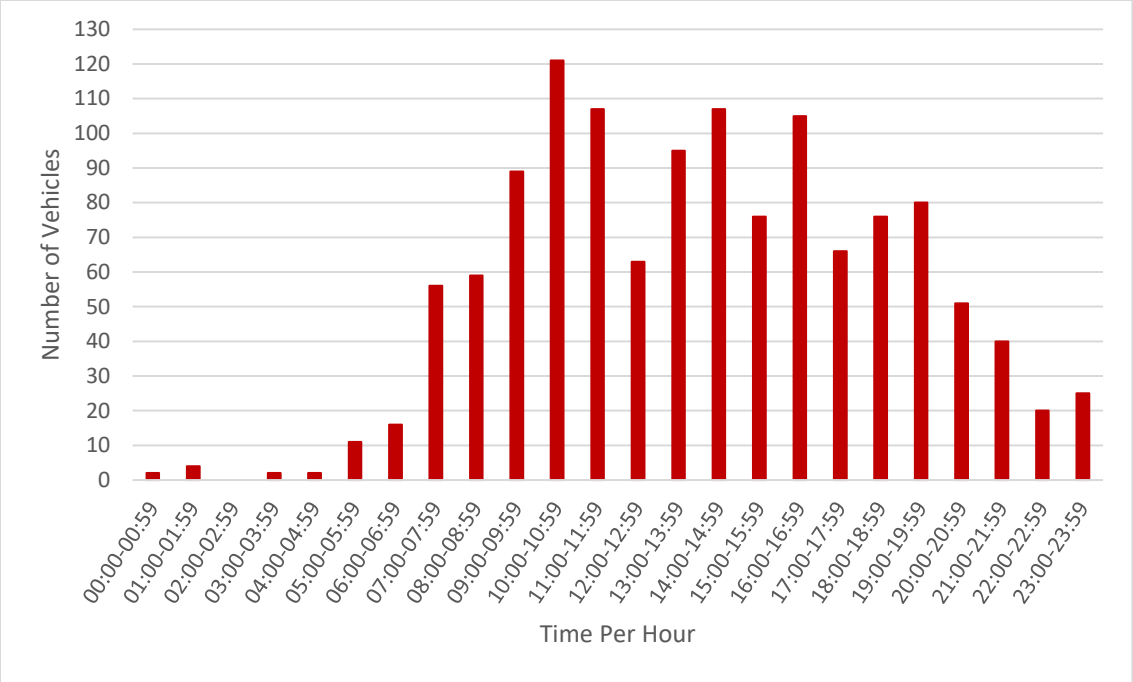



Figure 6 - Total Volume per Hour (Eastbound)

As shown in Figure 9 above, the traffic volume carries a definite curve shape, in which traffic flow is low at night, spikes at 07:00-07:59, reaches its peak at 10:00-10:59 and begins to decline afterward.

## 4.0 Conclusion

The traffic study conducted on Gloucester St for the Eastbound direction was carried out from July 12th to July 19th, 2023. From the speed analysis, it was determined that 91.8% of vehicles were travelling within the accepted speed limit for the Eastbound direction. Traffic generally was higher on weekdays than on weekends and the most volume was at 10:00-10:59 in the Eastbound direction.