

Traffic Data Analysis

Aberdeen Boulevard

Northbound and Southbound



Town of Midland
Engineering Department

August 6th, 2019

1.0 Introduction

A traffic count was conducted from July 29th, 2019 to August 6th, 2019 on Aberdeen Boulevard for both northbound and southbound directions. Vehicle speeds and traffic volume 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 Aberdeen Boulevard 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	601 Aberdeen Blvd, Midland, ON	8:00am on July 29 th , 2019 – 8:00am on Aug 02 nd , 2019
Southbound	577 Aberdeen Blvd, Midland, ON	8:00am on Aug 02 nd , 2019 – 8:00am on Aug 06 th , 2019

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 Aberdeen Boulevard is 50km/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 for northbound and southbound directions.

Table 2. Speed Summary

Direction	Average Speed (km/h)	Minimum Speed (km/h)	Maximum Speed(km/h)
Northbound	40.3	10	95
Southbound	41.0	10	88

2.1 Northbound Speed Analysis

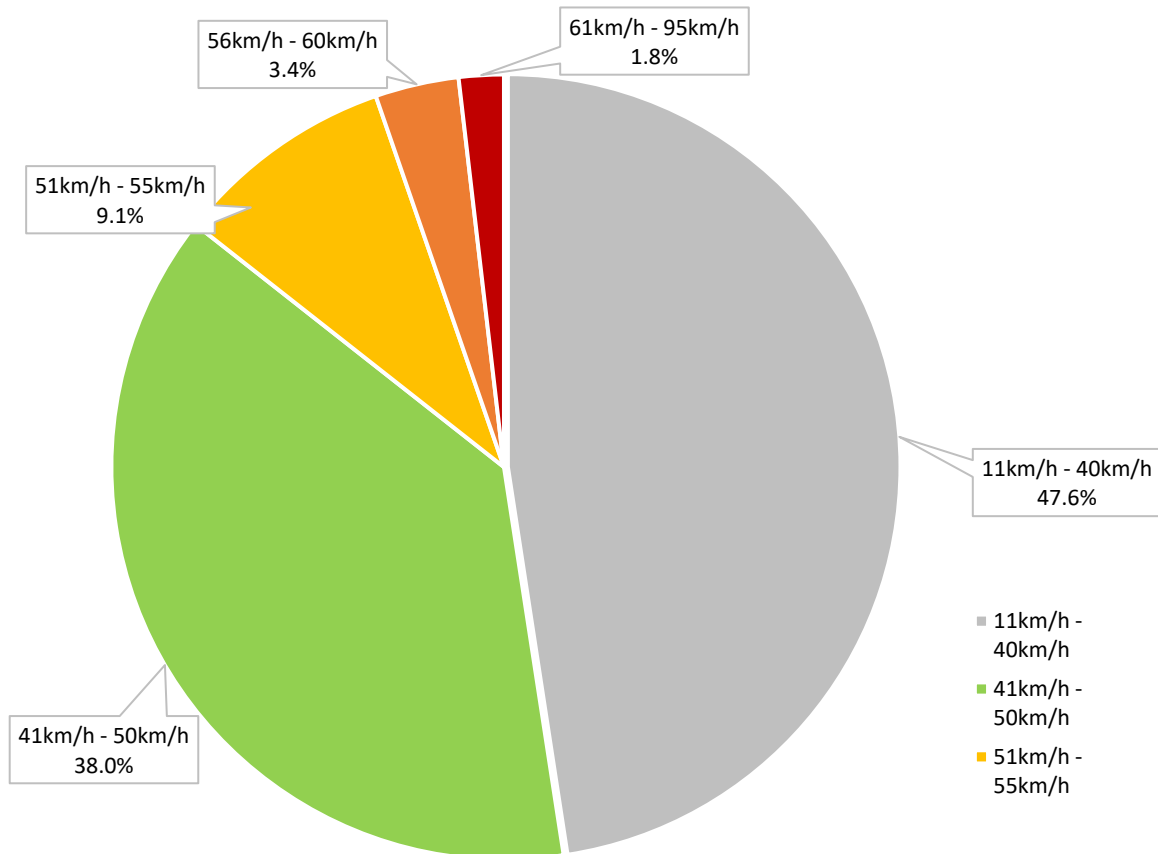


Figure 2 and 3 below show the speed summary for the northbound traffic.

Figure 2. Aberdeen Boulevard Northbound

Figure 2 above shows that 85.6% of vehicles were travelling below the posted speed limit, 12.5% of vehicles were travelling between 51-60 km/h, and 1.8% of vehicles were travelling above 60km/h. Considering the accepted speed limit is 10km/h over the posted speed limit, a total of 98.1% of vehicles were travelling within the accepted speed limit in the northbound direction.

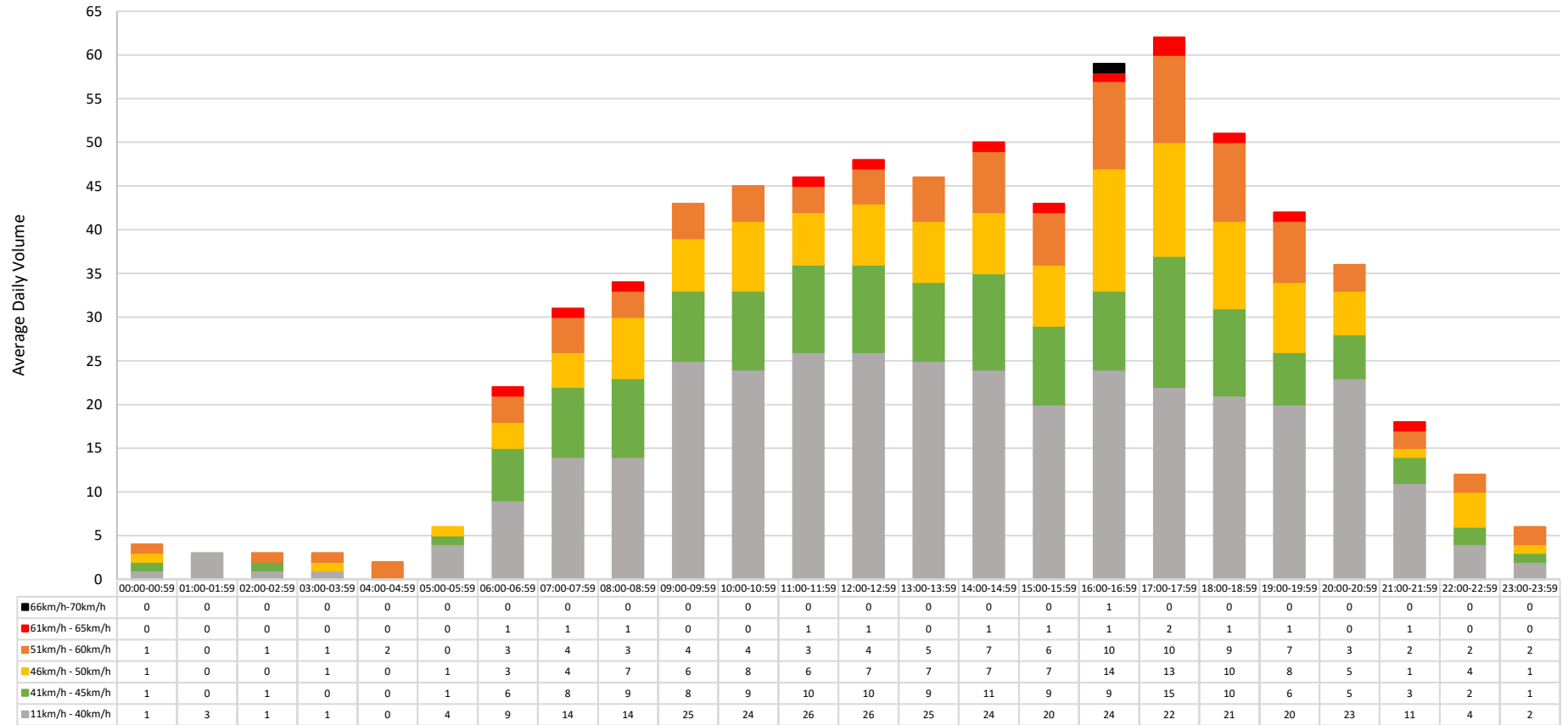


Figure 3. Speed by Hour Analysis for Northbound

Figure 3 above is the speed by hour graph used to determine the time where most speeding occurs. The data shows that speeding was consistent throughout the day and into the evening, being between 6:00am to 10:00pm. The data shows that most of the speeding occurs during typical morning and evening commute time, which are 6:00am to 9:00am and 3:00pm to 6:00pm.

2.2 Southbound Speed Analysis

Figure 4 to 6 below is the speed summary for the southbound traffic.

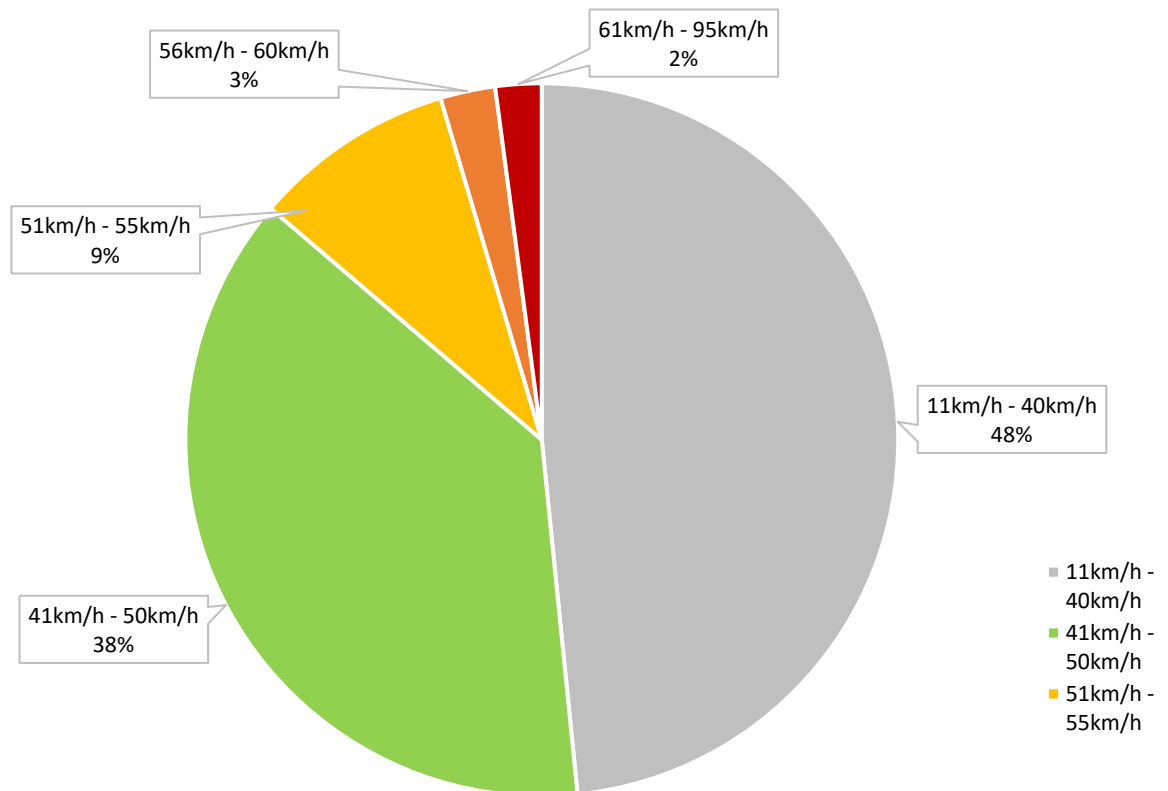


Figure 4. Aberdeen Boulevard Southbound

Figure 4 shows that 86% of the vehicles were travelling below the posted speed limit, 12% of vehicles were travelling between 51-60 km/h, and 2% of vehicles were travelling above 60km/h. Considering the accepted speed limit is 10km/h over the posted speed limit, a total of 98% of vehicles were driving within the accepted speed limit. This speeding percentage is nearly identical to the percentages in the northbound direction.

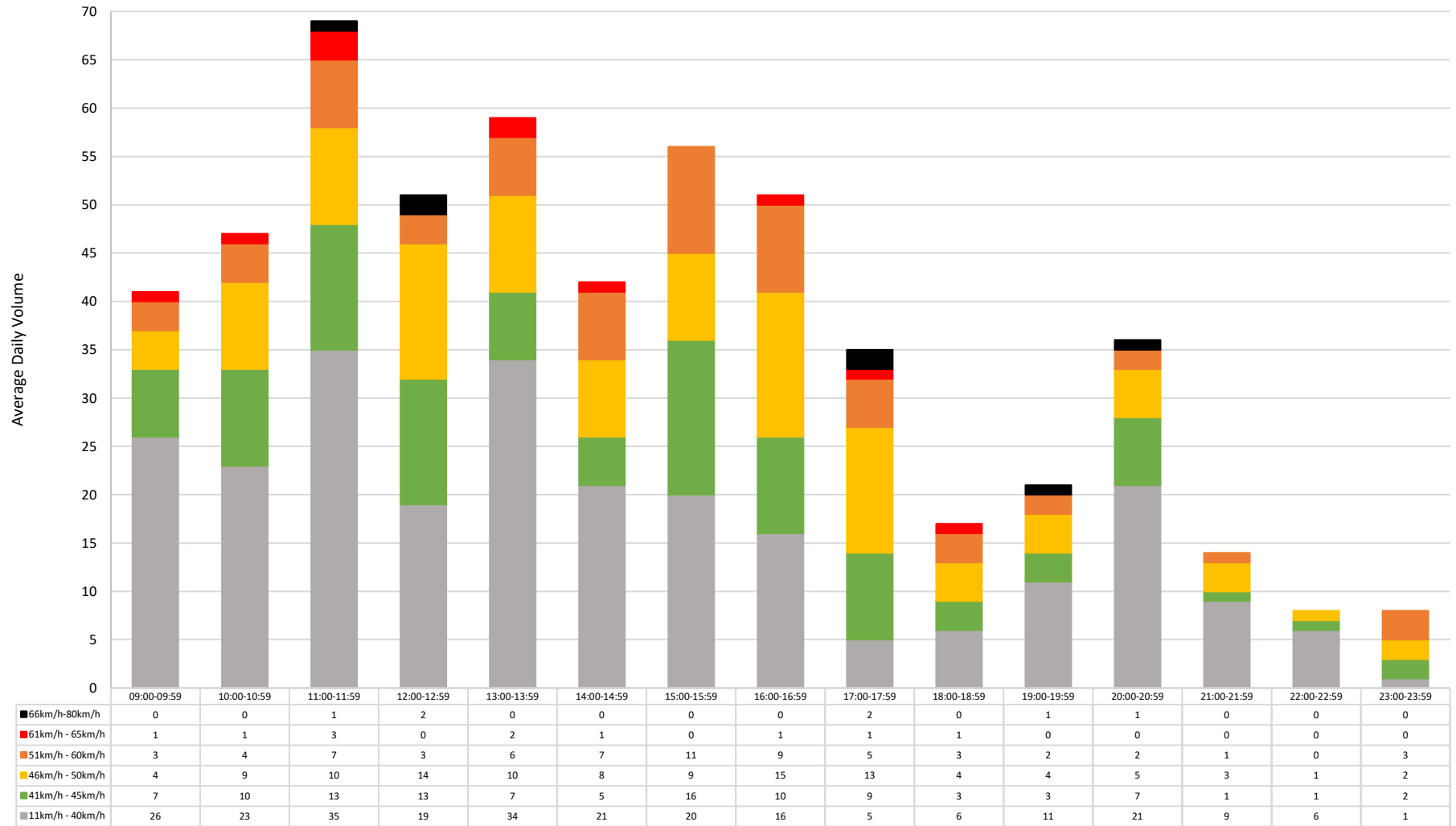


Figure 5. Speed by Hour Analysis for Southbound (August 2nd, 2019)

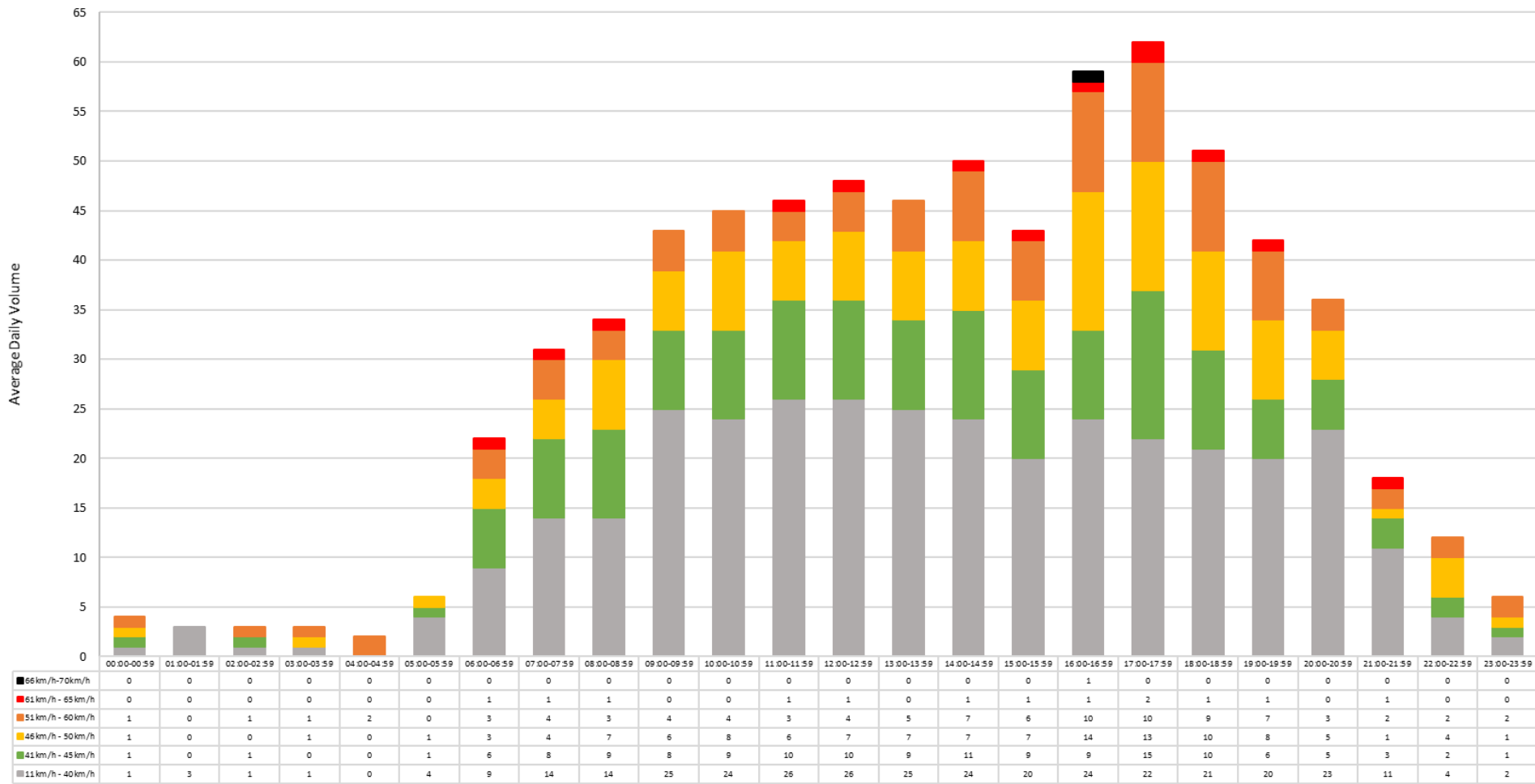


Figure 6. Speed by Hour Analysis for Southbound (August 3rd to August 5th, 2019)

Figure 5 (weekday) and Figure 6 (weekend) above are the speed by hour graphs used to determine the time where most speeding occurs. The data shows that speeding was relatively consistent between 9:00am and 9:00pm on August 2nd and peaked between 11:00am and 12:00pm. It is noted that due to the time of day the trailer was relocated to the Southbound direction it was unable to collect data for a weekday during the typical morning commute times. On the long weekend (August 3rd to August 5th), speeding remained relatively consistent throughout the collection period.

In addition, the traffic trailer detected that 41% of vehicles slowed down when approaching the trailer in the northbound direction and only 28% slowed down in southbound direction. These percentages show that the trailer is influencing traffic calming. However, the percentages of vehicles that slowed down are relatively low when compared to the results on other streets.

3.0 Traffic Volume

Table 3 shows the average daily volume on Aberdeen Boulevard for northbound and southbound directions. The traffic trailer was not placed in the southbound direction on August 2nd for the full day, so it cannot represent the volume on a normal weekday. In addition, since August 5th is a statutory holiday, it was considered to be the weekend for this analysis.

Table 3. Volume Summary

Direction	Period	Average Daily Traffic Volume
Northbound	July 30 th to Aug 1 st (Tuesday to Thursday)	669
Southbound	Aug 2 nd (Friday)	555
Southbound	Aug 3 rd to Aug 5 th (Saturday to Monday)	556

3.1 Northbound Volume by Hour

The data collected for three full days (July 30th to August 1st) is used to analyze the average traffic volume at different times of a day (Figure 7). From the graph, Aberdeen Boulevard has peak traffic during the typical evening commute times and peaks from 5:00pm to 6:00pm.

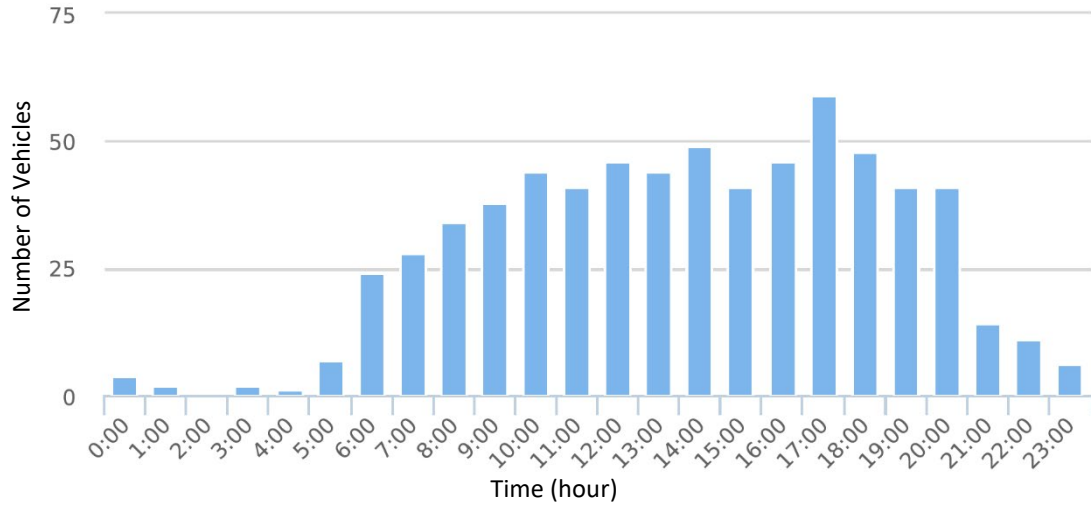
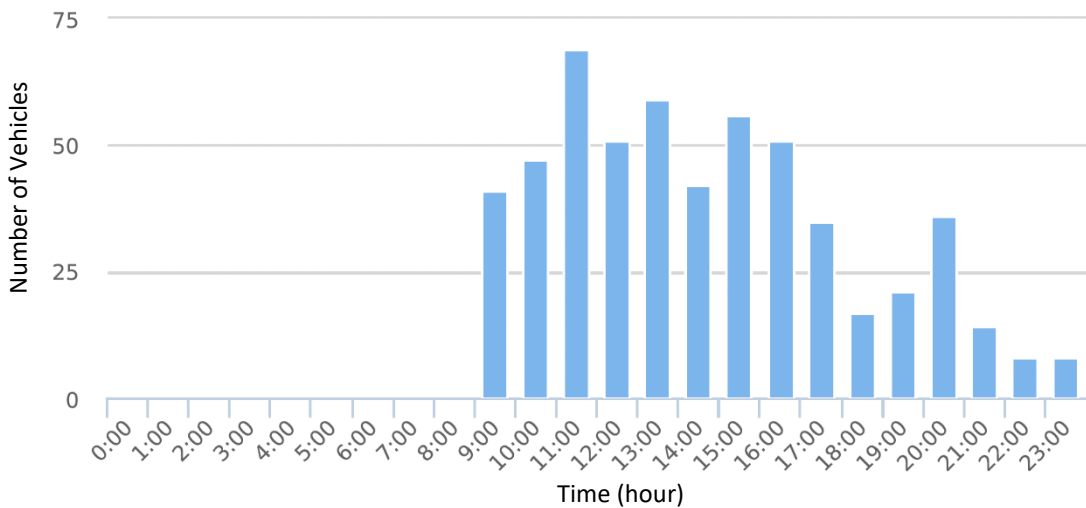


Figure 7. Average Volume by Hour on July 30th to August 1st (Northbound)

3.2 Southbound Volume by Hour

The data collected on August 2nd (weekday) and August 3rd to August 5th (long weekend) are used to analyze the average traffic volume at different times of the day as shown in Figure 8 and Figure 9 respectively. Again, it is noted that due to the time of day the trailer was relocated to the southbound direction it was unable to collect data during the typical morning weekday commute time.



Average Volume by Hour on August 2nd (Southbound)

Figure 8.

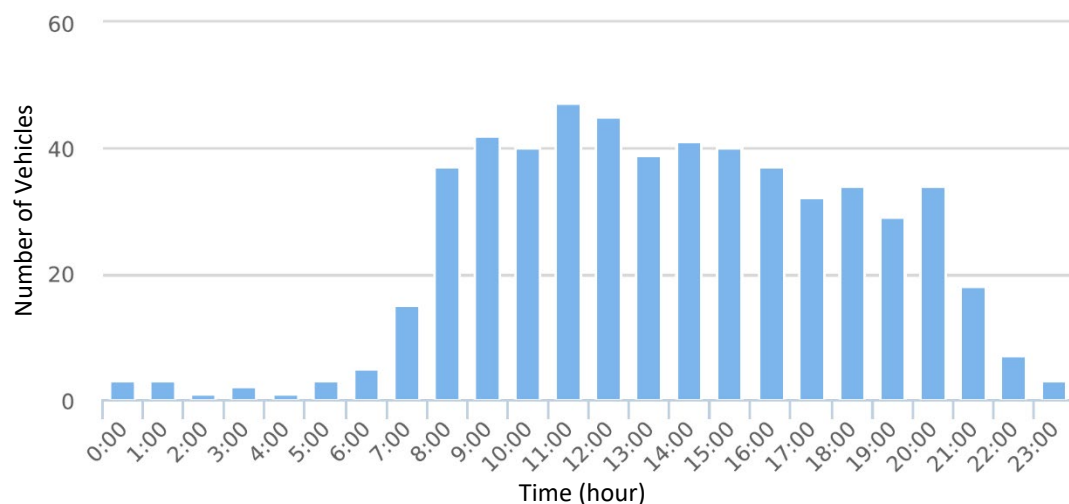


Figure 9. Average Volume by Hour on August 2nd to August 5th (Southbound)

As shown in Figure 8, peak traffic occurs at the typical evening commute times and around noon on the weekday in the southbound direction. On weekends as shown in Figure 9, the peak traffic volumes were during noon hour.

4.0 Conclusion

The traffic study conducted on Aberdeen Boulevard for both northbound and southbound directions was carried out from July 29th to August 6th, 2019. From the speed analysis, it was determined that 98.1% and 98% 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 the peak traffic hours were at the typical morning and evening commute times in the northbound direction. It was also determined that the peak traffic occurred during noon hour and typical evening commute times in the southbound direction on a weekday. The southbound traffic was monitored over the weekend as well, and it was noticed that there was more traffic during noon hour.