

Traffic Data Analysis

Dominion Ave.

Eastbound and Westbound



Town of Midland

Engineering Department

October 30th, 2019

1.0 Introduction

A traffic count was conducted from October 7th, 2019 to October 18th, 2019 on Dominion Ave. for both 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 issue, raise safety awareness and help calm traffic by displaying speeds of approaching vehicles.

1.1 Location

The traffic trailer was placed on Dominion Ave. for both eastbound and westbound directions. The trailer was placed at the side of the road to record the speed and volume of vehicles passing by. Table 1 below shows the location of the traffic trailer and data collection period.

Table 1. Locations of Traffic Trailer

Direction	Location	Period
Eastbound	1023 Dominion Ave., Midland, ON	12:00 pm on October 7 th , 2019 – 10:00 am on October 15 th , 2019
Westbound	1024 Dominion Ave., Midland, ON	11:00 am on October 15 th , 2019 – 8:00 am on October 18 th , 2019

1.2 Traffic Trailer

The traffic trailer used was a model ATS-3 as shown in Figure 1. The traffic trailer is set to show the speed of approaching vehicles and display short messages depending on the speed. The traffic trailer uses radar to detect vehicles and collect data and grouped data into one-hour intervals.



Figure 1. Traffic Trailer

2.0 Speed Summary

The posted speed limit on Dominion Ave. is 50 km/h. However, generally it is accepted that vehicles travelling up to *10km/h above* the posted speed limit are not considered to be speeding. Table 2. below shows an overall speed summary of the data collected for eastbound and westbound directions. The eastbound direction is divided into data collected on weekdays and the weekend.

Table 2. Speed Summary

Direction	Average Speed (km/h)	Minimum Speed (km/h)	Maximum Speed(km/h)
Eastbound(<i>Weekday</i>)	36.66	10	76
Eastbound(<i>Weekend</i>)	34.05	10	68
Westbound	31.64	10	73

2.1 Eastbound Speed Analysis

Figure 2, 3, 4 & 5 below show the speed summary for the *Eastbound traffic*.

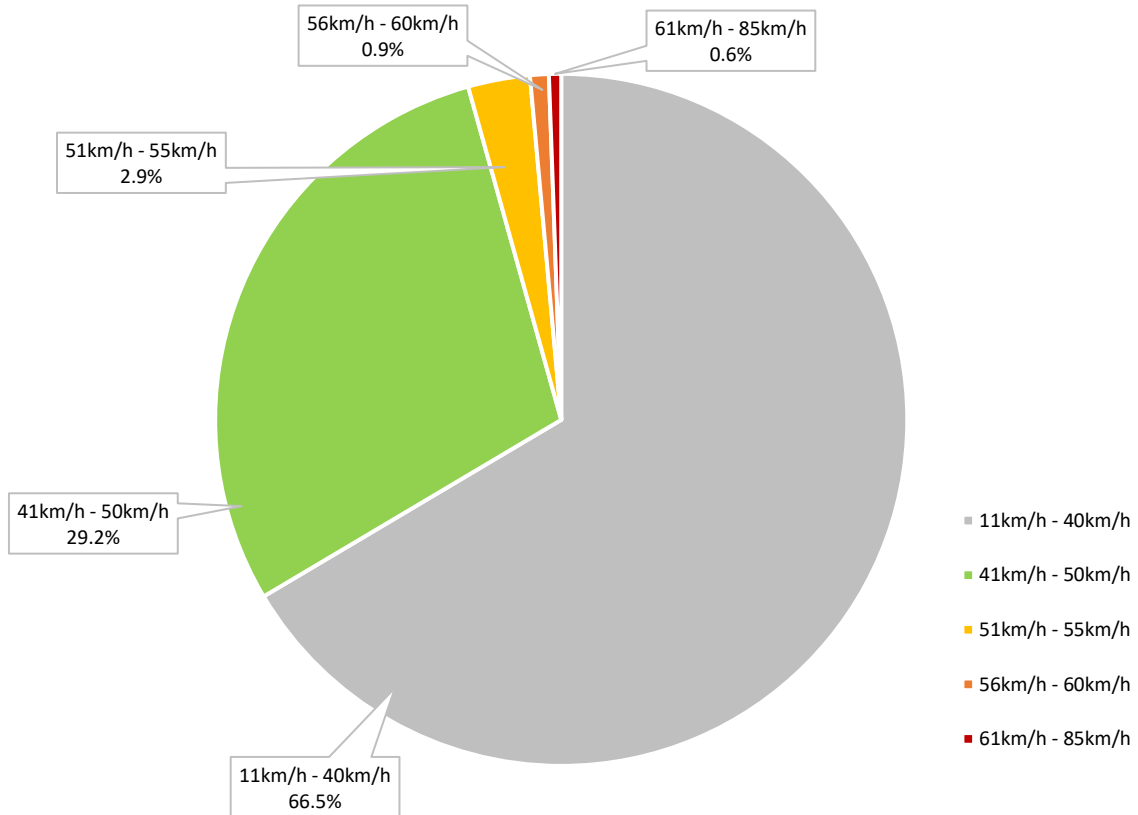


Figure 2. Dominion Ave. Eastbound Speed Breakdown (Weekday)

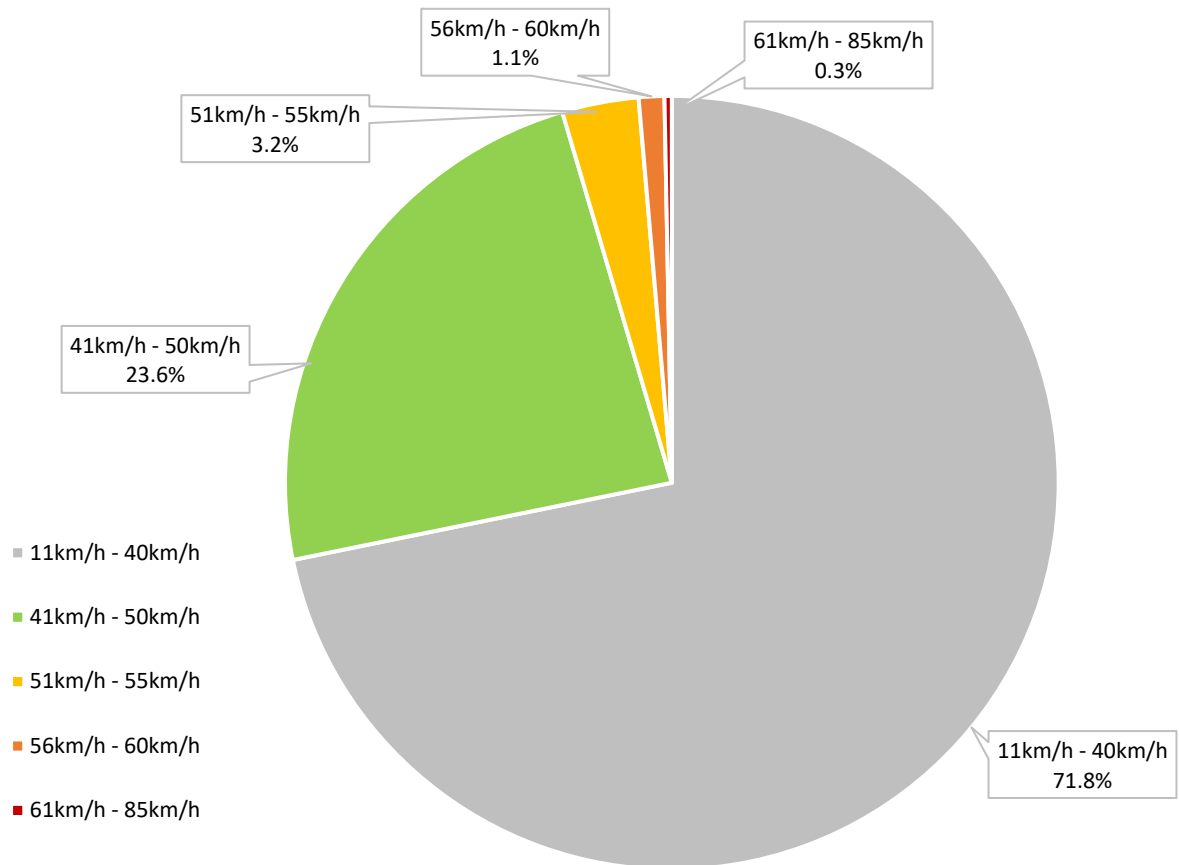


Figure 3. Dominion Ave. Eastbound Speed Breakdown (Weekend)

From Figure 2 we can summarize that 94.7% of vehicles were travelling below the posted speed limit, 3.8% of vehicles were travelling between 51-60 km/h, and 0.6% of vehicles were travelling above 60km/h. When we consider the accepted speed limit is 10km/h over the posted speed limit, we find 99.4% of vehicles were travelling within the accepted speed limit in the eastbound direction during weekdays.

From Figure 3 we can summarize that 95.4% of vehicles were travelling below the posted speed limit, 4.3% of vehicles were travelling between 51-60 km/h, and 0.3% of vehicles were travelling above 60km/h. When we consider the accepted speed limit is 10km/h over the posted speed limit, we find 99.7% of vehicles were travelling within the accepted speed limit in the eastbound direction on weekends.

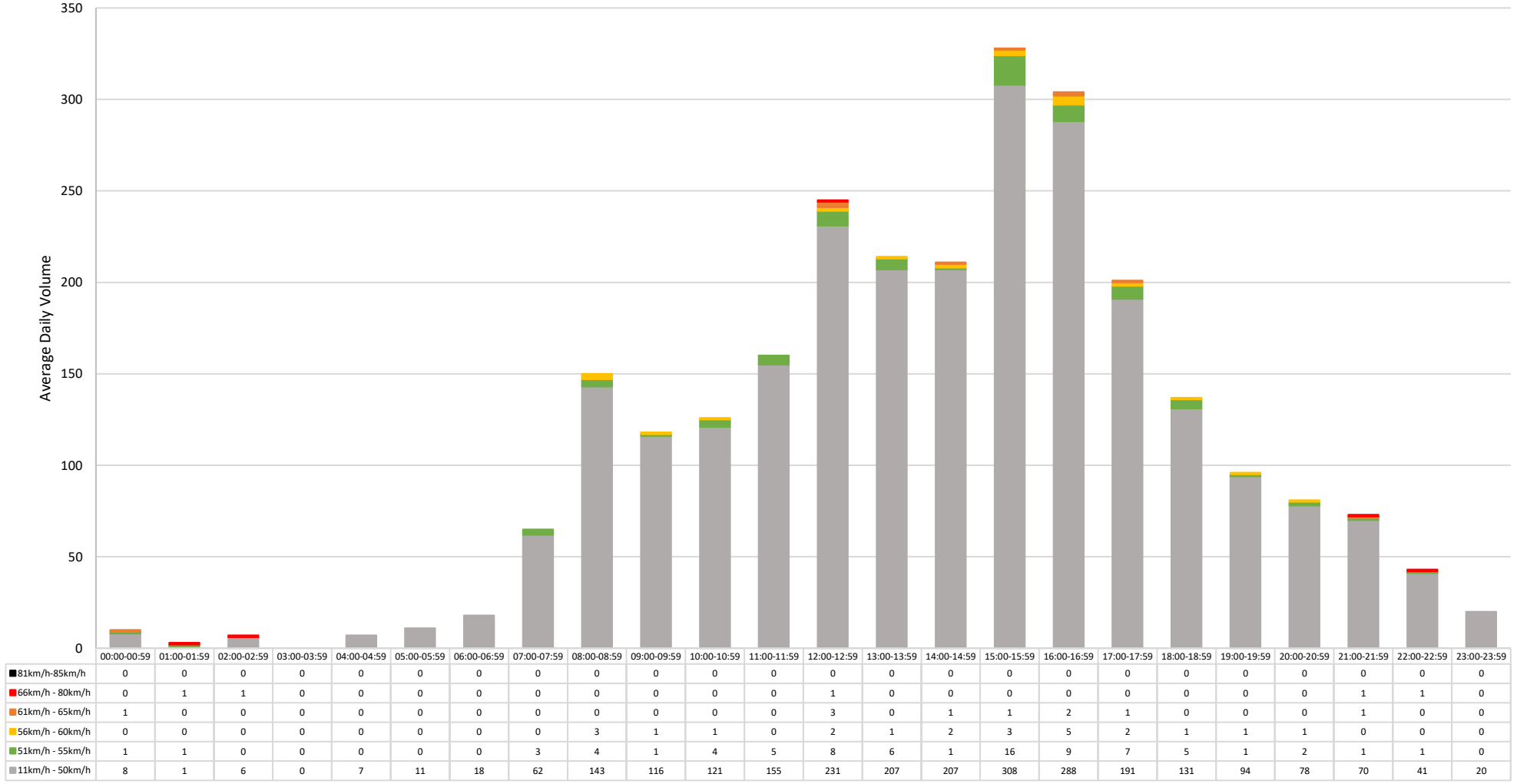


Figure 4. Speed by Hour Analysis for Eastbound (Weekday)

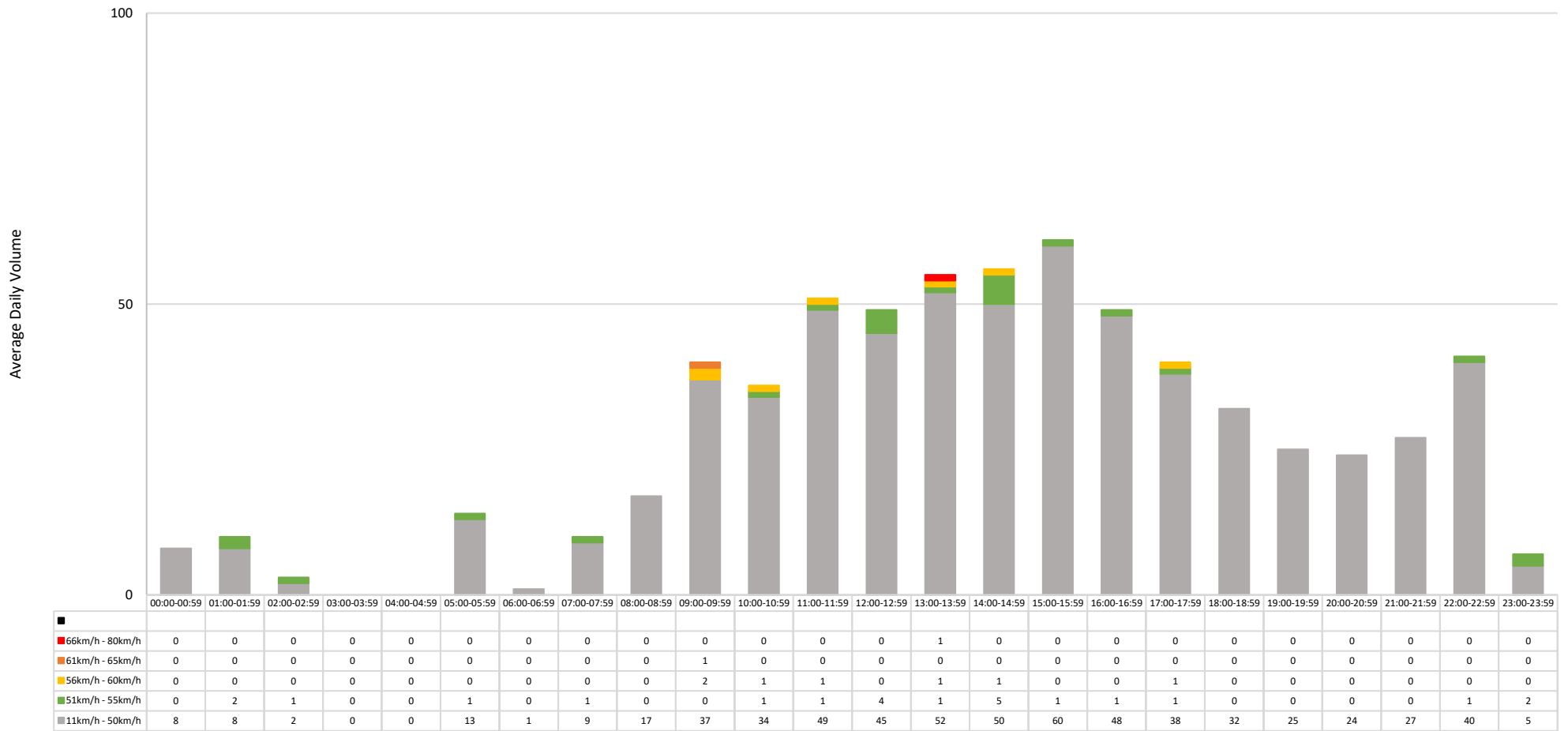


Figure 5. Speed by Hour Analysis for Eastbound (Weekend)

2.2 Westbound Speed Analysis

Figure 6 and 7 below show the speed summary for the *Westbound traffic*.

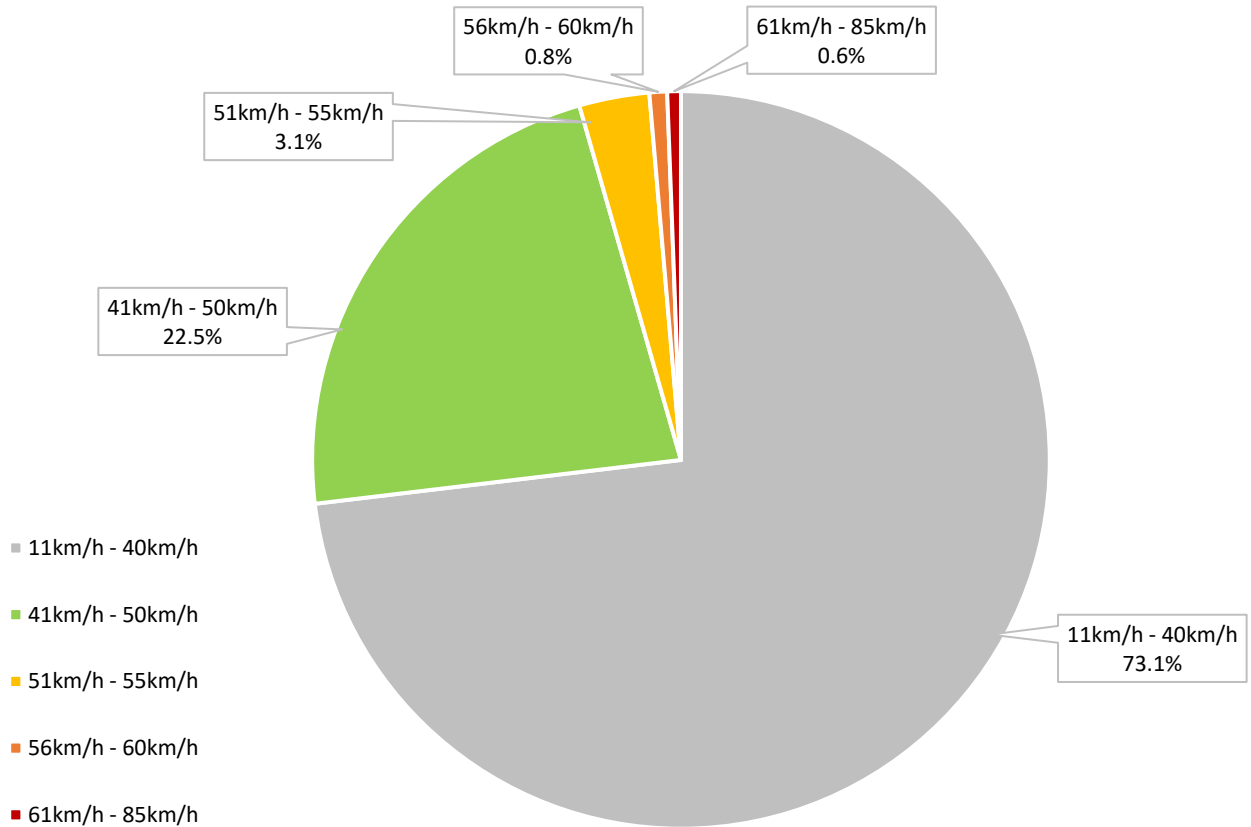


Figure 6. Dominion Ave. Westbound Speed Breakdown

From Figure 6 we can summarize that 95.6% of vehicles were travelling below the posted speed limit, 3.9% of vehicles were travelling between 51-60 km/h, and 0.6% of vehicles were travelling above 60km/h. When we consider the accepted speed limit is 10km/h over the posted speed limit, we find 99.4% of vehicles were travelling within the accepted speed limit in the Westbound direction.

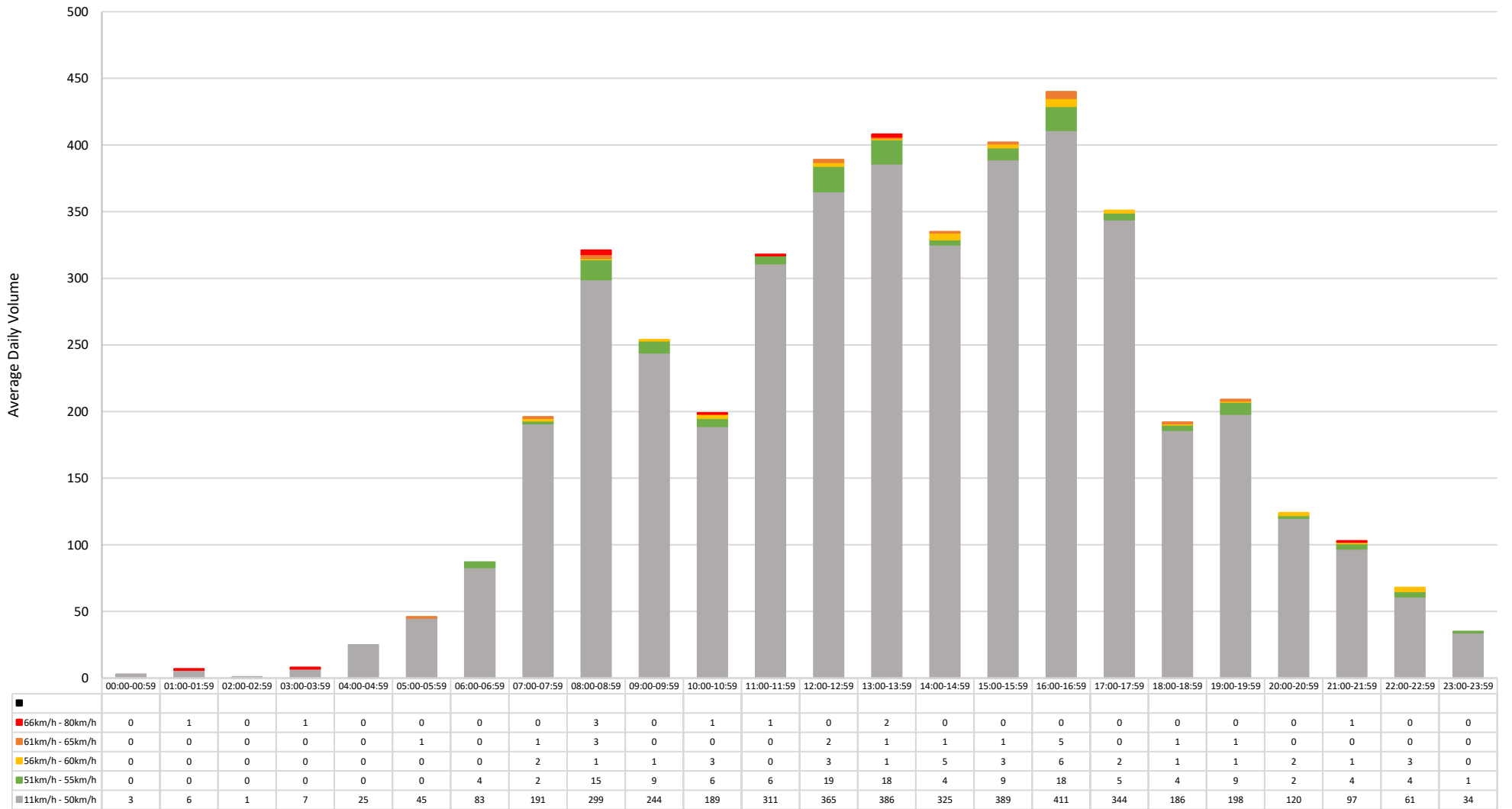


Figure 7. Speed by Hour Analysis for Westbound

3.0 Traffic Volume

Table 3. shows the average daily volume on Dominion Ave. for Eastbound and Westbound directions. Only the days when the traffic trailer was placed there for the full 24 hours are used in traffic volume analysis.

Direction	Period	Average Daily Traffic Volume
Eastbound(Weekday)	Oct 07 th to Oct 11 th (Mon – Fri)	561
Eastbound(Weekend)	Oct 12 th to Oct 13 th (Sat – Sun)	328
Westbound	Oct 15 th to Oct 18 th (Tue - Fri)	1498

Traffic volumes in the **Eastbound** direction decrease during the weekend to approximately **55 – 60%** of daily volumes on weekdays. Traffic volumes in the **Westbound** direction are on average 3 – 4 times the traffic volumes in the **Eastbound** direction

3.1 Eastbound Volume by Hour (Weekday)

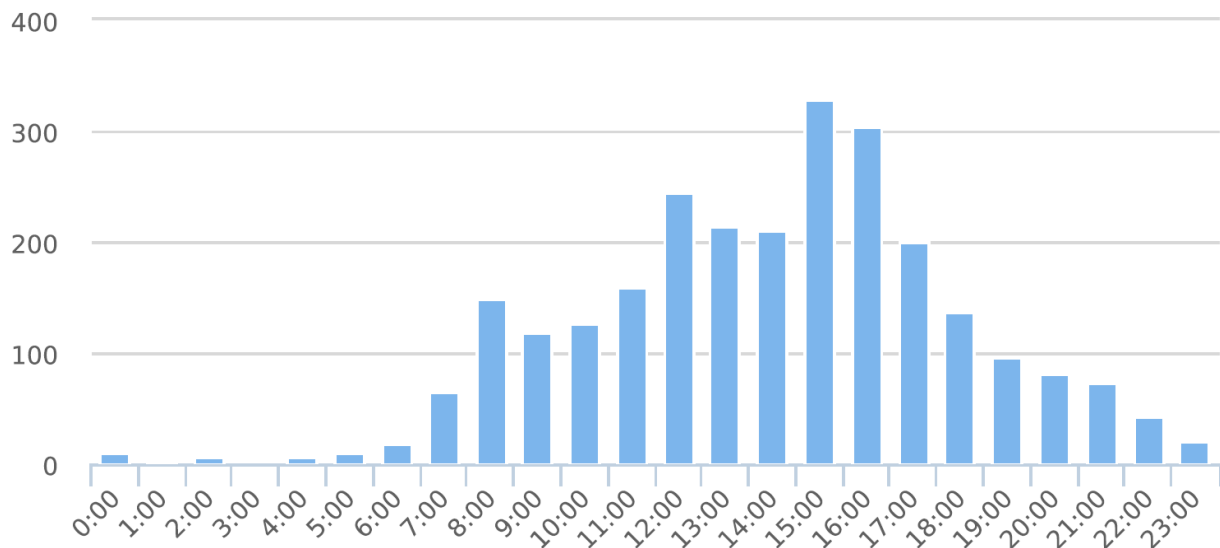


Figure 8. Average Volume by Hour during weekdays (Eastbound)

The data collected from **October 07th to October 11th** is used to analyze the average traffic volume at different times of day in the eastbound direction during weekdays (Figure 8). From the graph, traffic volume on Dominion Ave. follow a normal curve with a spike around evening rush hour times.

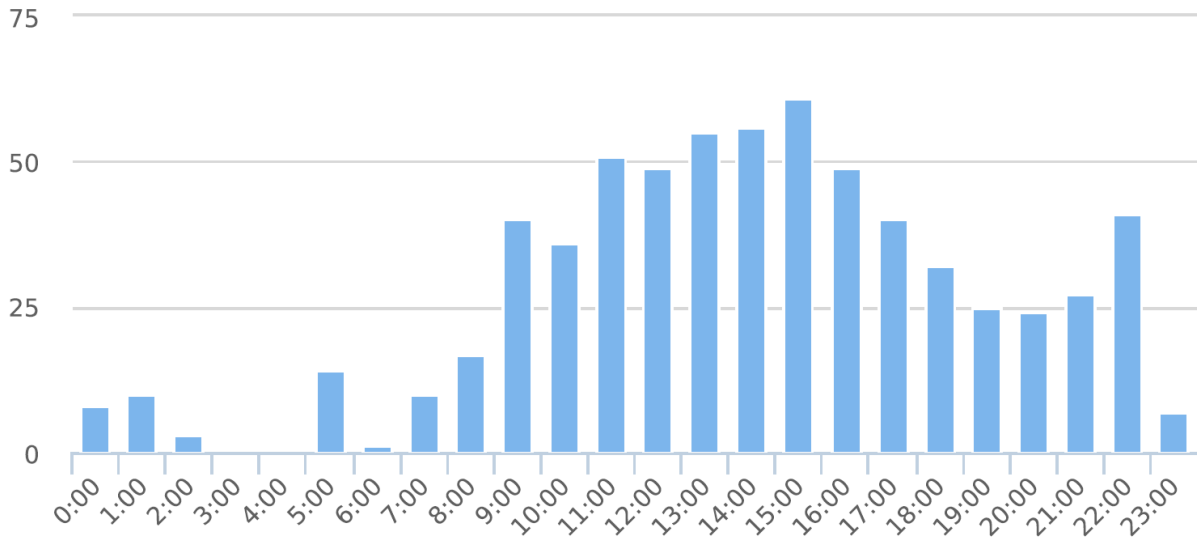


Figure 9. Average Volume by Hour during weekends (Eastbound)

The data collected from October 12th to October 13th is used to analyze the average traffic volume at different times of day in the eastbound direction during the weekend (Figure 9). From the graph, traffic volume on Dominion Ave. follow a normal curve with a spike late in the evening around 21:00 and 22:00.

3.2 Westbound Volume by Hour

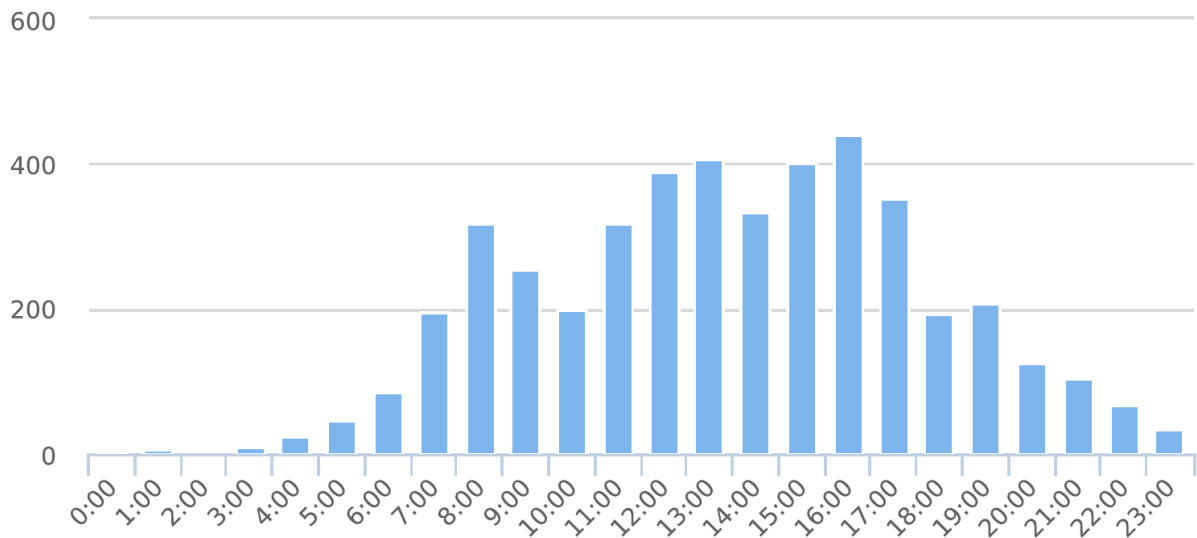


Figure 10. Average Volume by Hour (Westbound)

The data collected from **October 15th to October 18th** is used to analyze the average traffic volume at different times of day in the westbound direction (Figure 10). From the graph, Dominion Ave. traffic volumes follow a normal curve with a slight dip at 10:00.

4.0 Conclusion

The traffic study conducted on **Dominion**, for both Eastbound and Westbound directions was successfully carried out on October 07th to October 18th, 2019. The speed analysis shows that a majority of vehicles (**95% Eastbound and 95.4% Westbound**) travel *below* the posted speed limit and only **0.45% Eastbound and 0.6% westbound** of vehicles *exceed* the speed limit by over 10 km/h.

Average speeds are slightly higher in the eastbound direction than in the westbound direction. Traffic volumes in the westbound direction are 3 – 4 times higher than traffic volumes in the eastbound direction.