

# Traffic Data Analysis

Cook Drive.

Eastbound and Westbound



Town of Midland

Engineering Department

September 6<sup>th</sup>, 2019

## 1.0 Introduction

A traffic count was conducted from August 26<sup>th</sup>, 2019 to September 2<sup>nd</sup>, 2019 on Cook Drive 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 issues, raise safety awareness, and help calm traffic by displaying speeds of vehicles approaching.

### 1.1 Location

The traffic trailer was placed on Cook Drive for both eastbound and westbound directions. Table 1 below shows the location of the traffic trailer and data collection period.

**Table 1. Locations of Traffic Trailer**

Direction	Location	Period
Eastbound	1011 Cook Dr, Midland, ON	8:00 am on Aug 26 <sup>th</sup> , 2019 – 8:00 am on Aug 29 <sup>nd</sup> , 2019
Westbound	1010 Cook Dr, Midland, ON	8:00 am on Aug 30 <sup>th</sup> , 2019 – 8:00 am on Sept 2 <sup>nd</sup> , 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 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

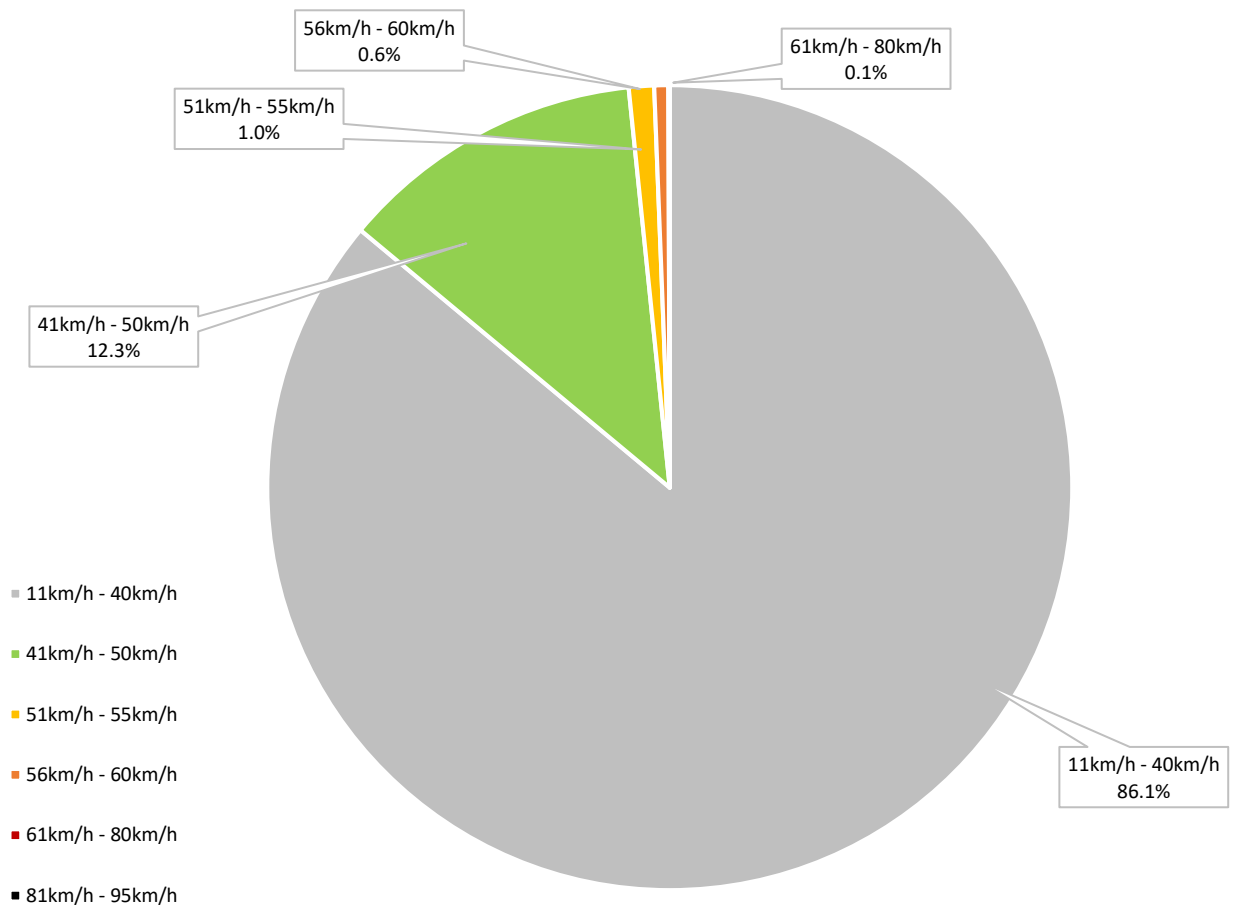
The posted speed limit on Cook Drive is 50 km/h; however, generally it is accepted that vehicles that are travelling up to 10km/h above the posted speed limit are not considered to be speeding. Table 2 below shows an overall speed summary of the data collected for eastbound and westbound directions.

**Table 2. Speed Summary**

Direction	Average Speed (km/h)	Minimum Speed (km/h)	Maximum Speed(km/h)
Eastbound	29.48	10	85
Westbound	28.51	10	85

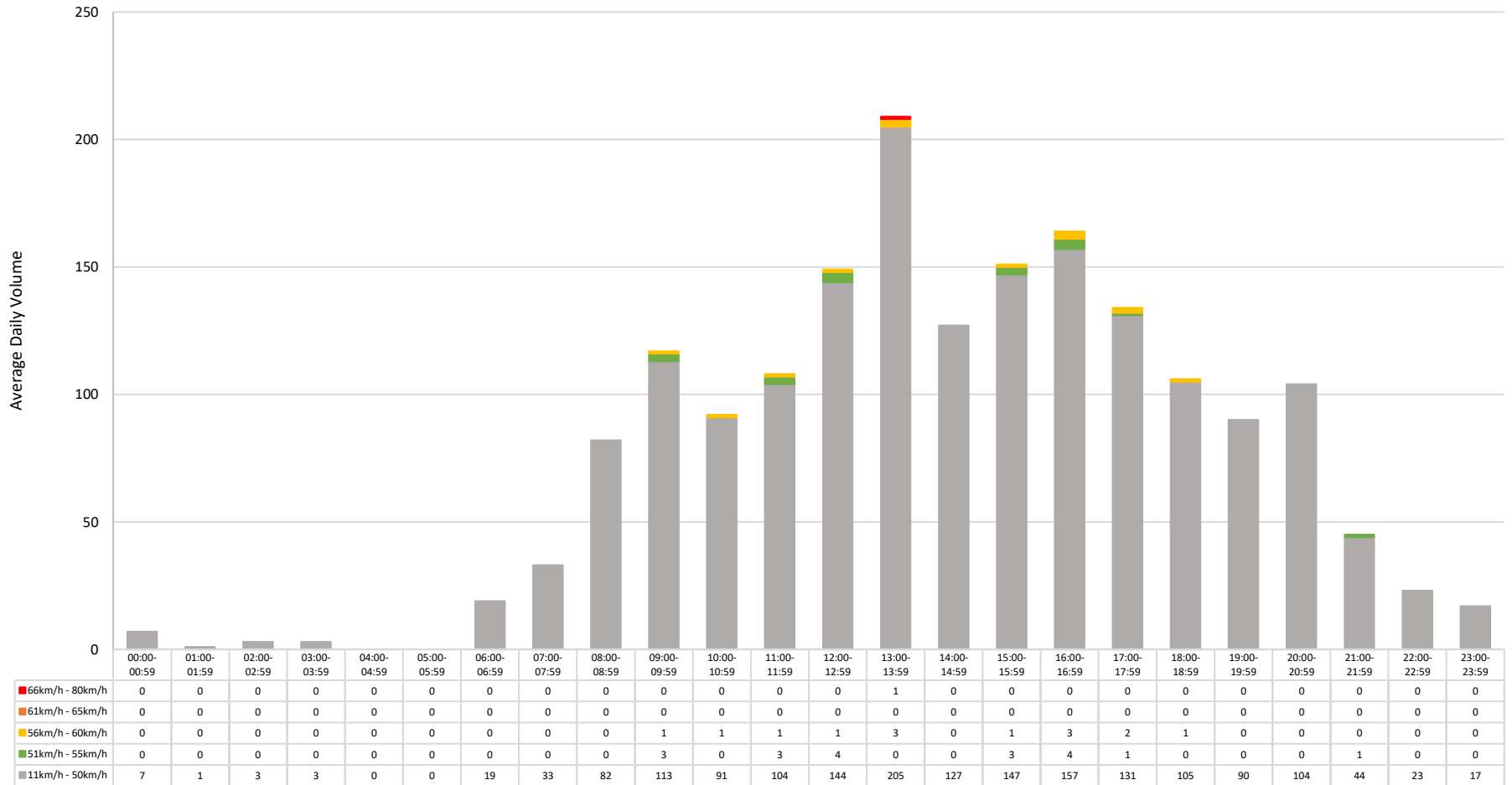
### 2.1 Eastbound Speed Analysis

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



**Figure 2. Cook Dr. Eastbound Speed Breakdown**

Figure 2 shows that 98.4% of vehicles were travelling below the posted speed limit and 0.7% of vehicles were travelling between 51-60 km/h. Considering the accepted speed limit is 10km/h over the posted speed limit, we find that a total of 99.9% of vehicles were travelling within the accepted speed limit in the eastbound direction.

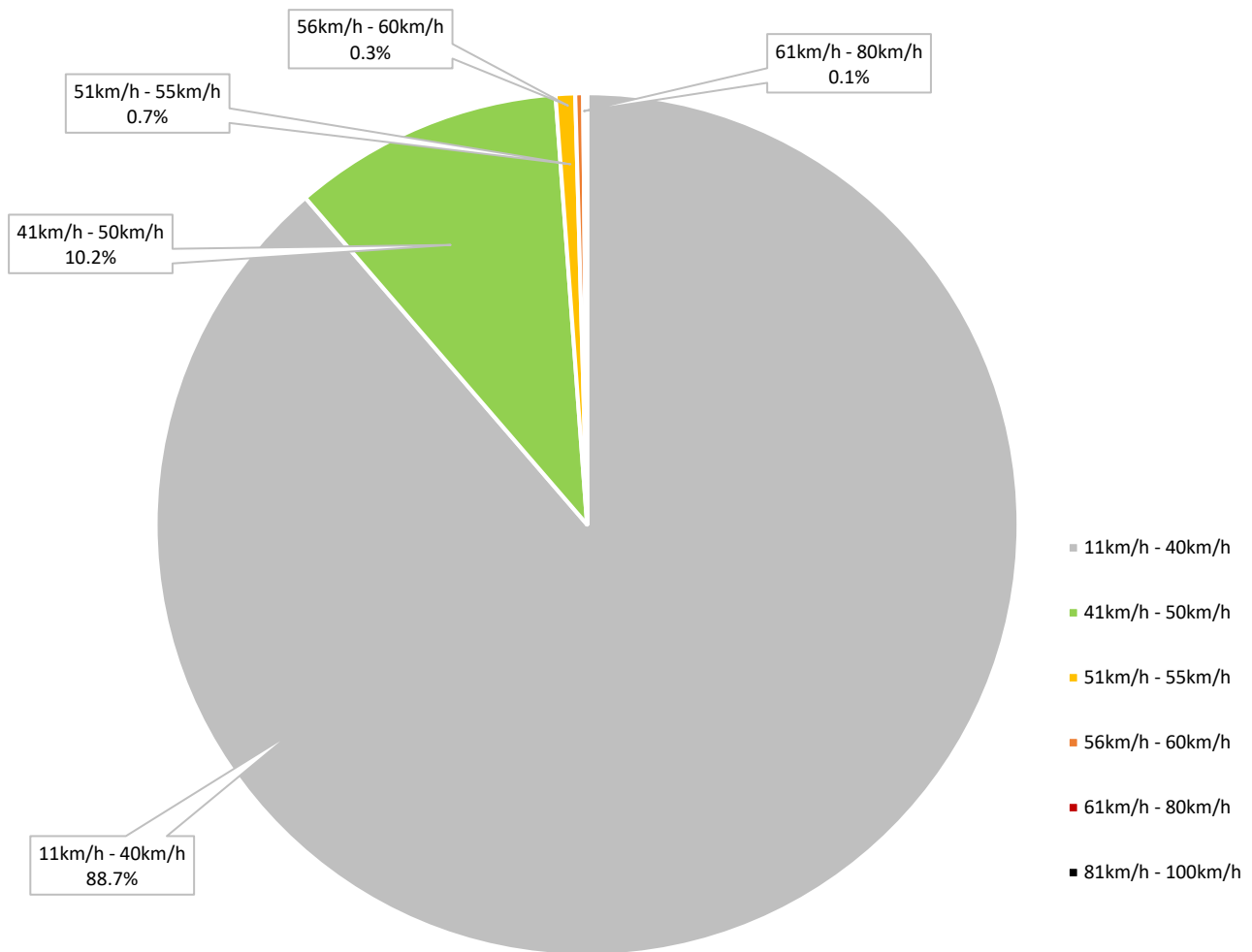


**Figure 3. Speed by Hour Analysis for Eastbound**

Figure 3 is the speed by hour graph used to determine the time where most speeding occurs. This graph highlights that there are no speeding concerns at any point throughout the collection period.

## 2.2 Westbound Speed Analysis

Figure 4 and 5 below is the speed summary for the westbound traffic.



**Figure 4. Cook Dr. Westbound**

Figure 4 shows that 98.9% of the vehicles were travelling below the posted speed limit and 1% of vehicles were travelling between 51-60 km/h. Considering the accepted speed limit is 10km/h over the posted speed limit, a total of 99.9% of vehicles were travelling within the accepted speed limit.

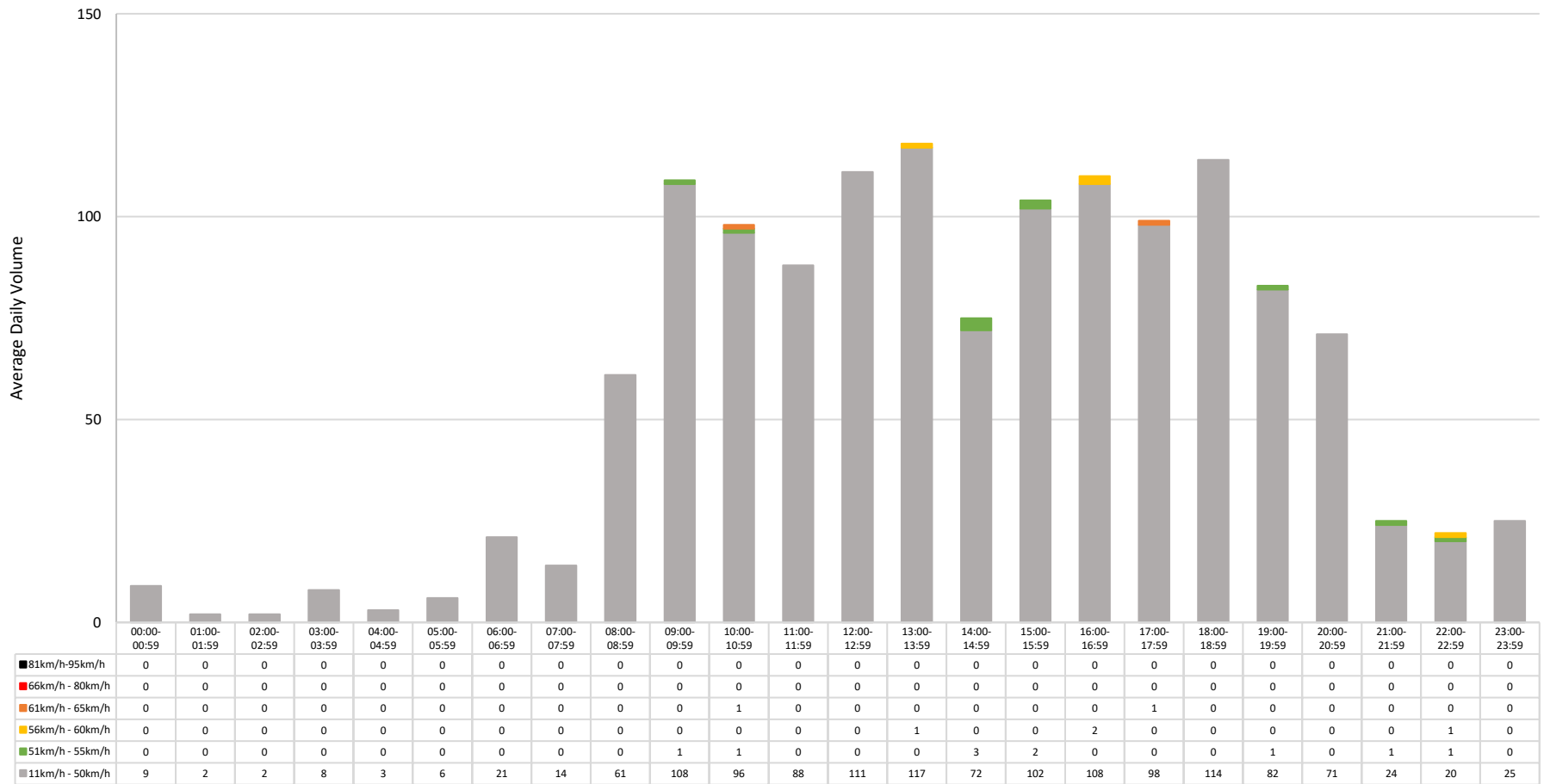


Figure 5. Speed by Hour Analysis for Westbound

Figure 5

above is the speed by hour graph used to determine the time where most speeding occurs. The graph highlights that there are no speeding concerns at any point throughout the collection period

### 3.0 Traffic Volume

Table 3. shows the average daily volume on Cook Drive 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.

**Table 3. Volume Summary**

Direction	Period	Average Daily Traffic Volume
Eastbound	Aug 27 <sup>th</sup> to Aug 29 <sup>th</sup> (Tues, Wed, Thurs)	522
Westbound	Aug 30 <sup>th</sup> to Sept 2 <sup>nd</sup> (Fri to Mon)	342

### 3.1 Eastbound Volume by Hour

The data collected from August 27<sup>th</sup> to August 29<sup>th</sup> is used to analyze the average traffic volume at different times of day (Figure 6). From the graph, Cook Drive has peak traffic around lunch hour, otherwise following a normal curve.

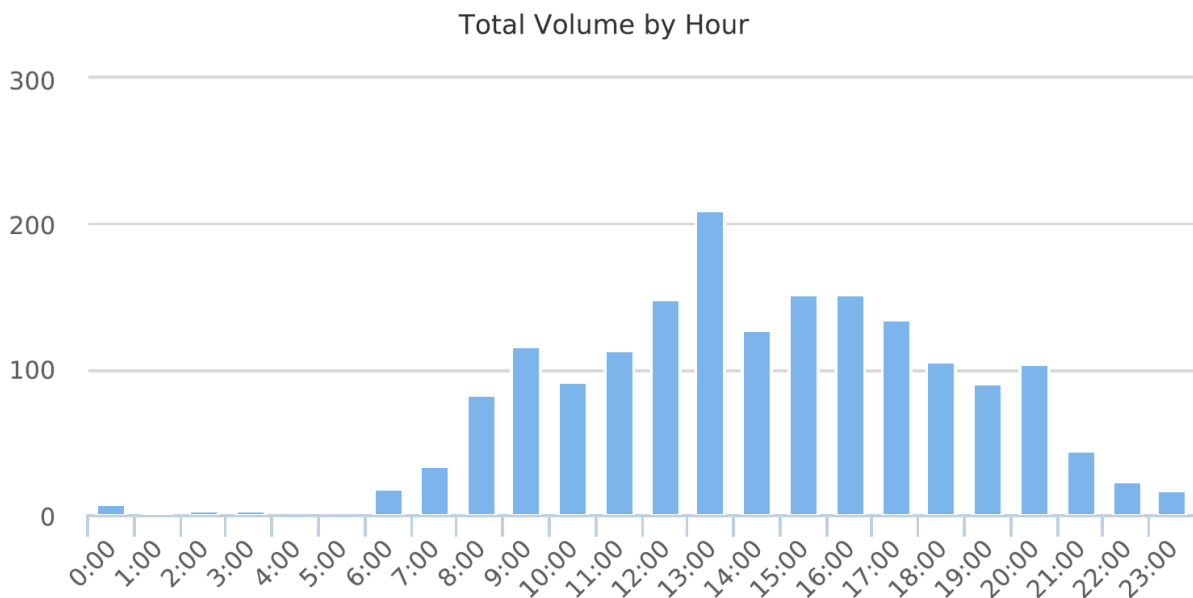
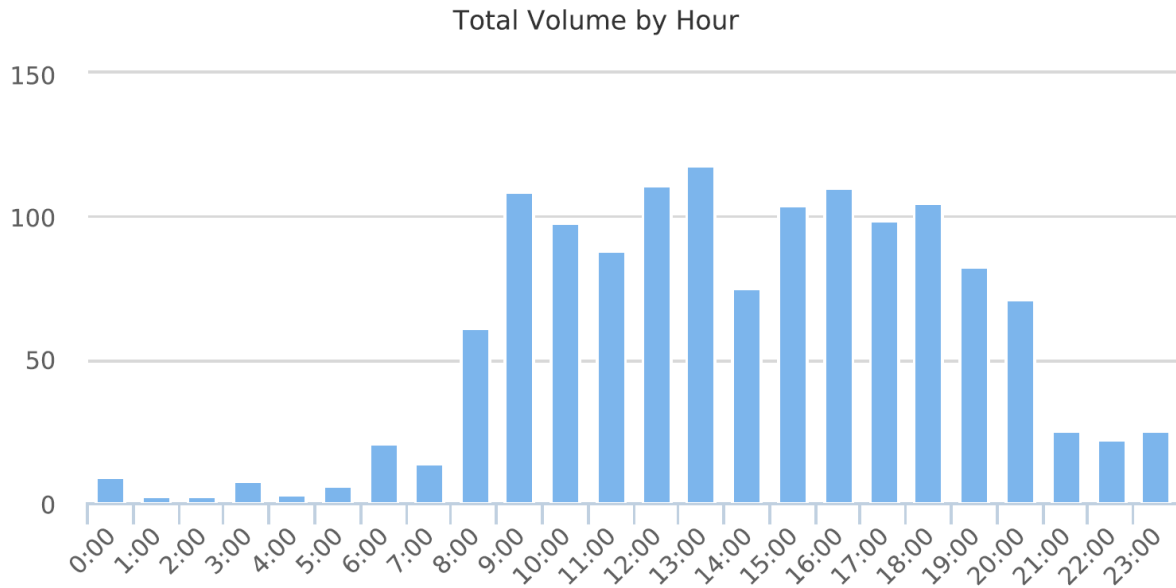


Figure 6. Average Volume by Hour (Eastbound)

### 3.2 Westbound Volume by Hour

The data collected from August 30<sup>th</sup> to September 2<sup>nd</sup> is used to analyze the average traffic volume at different times of day (Figure 7). From the graph, Cook Drive has relatively steady traffic volumes from 8:00am to 8:00pm.



**Figure 7. Average Volume by Hour (Westbound)**

#### 4.0 Conclusion

The traffic study conducted on Cook Drive, for both eastbound and westbound directions was successfully carried out from August 27<sup>th</sup>, 2019 to September 2<sup>nd</sup>, 2019. The speed analysis shows that 99.9% of vehicles were travelling below the posted speed limit. Despite the topography sloping down in the eastbound direction, average speeds are almost identical in both eastbound and westbound directions.