

# Traffic Data Analysis

Victoria St.

Eastbound and Westbound



Town of Midland

Engineering Department

August 29<sup>th</sup>, 2019

## 1.0 Introduction

A traffic count was conducted from **August 19th, 2019** to **August 26th, 2019** on **Victoria St.** 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 **Victoria St.** 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	687 Victoria St., Midland, ON	8:00 am on August 19 <sup>th</sup> , 2019 – 8:00 am on August 22 <sup>nd</sup> , 2019
Westbound	658 Victoria St., Midland, ON	8:00 am on August 23 <sup>rd</sup> , 2019 – 8:00 am on August 26 <sup>th</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 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

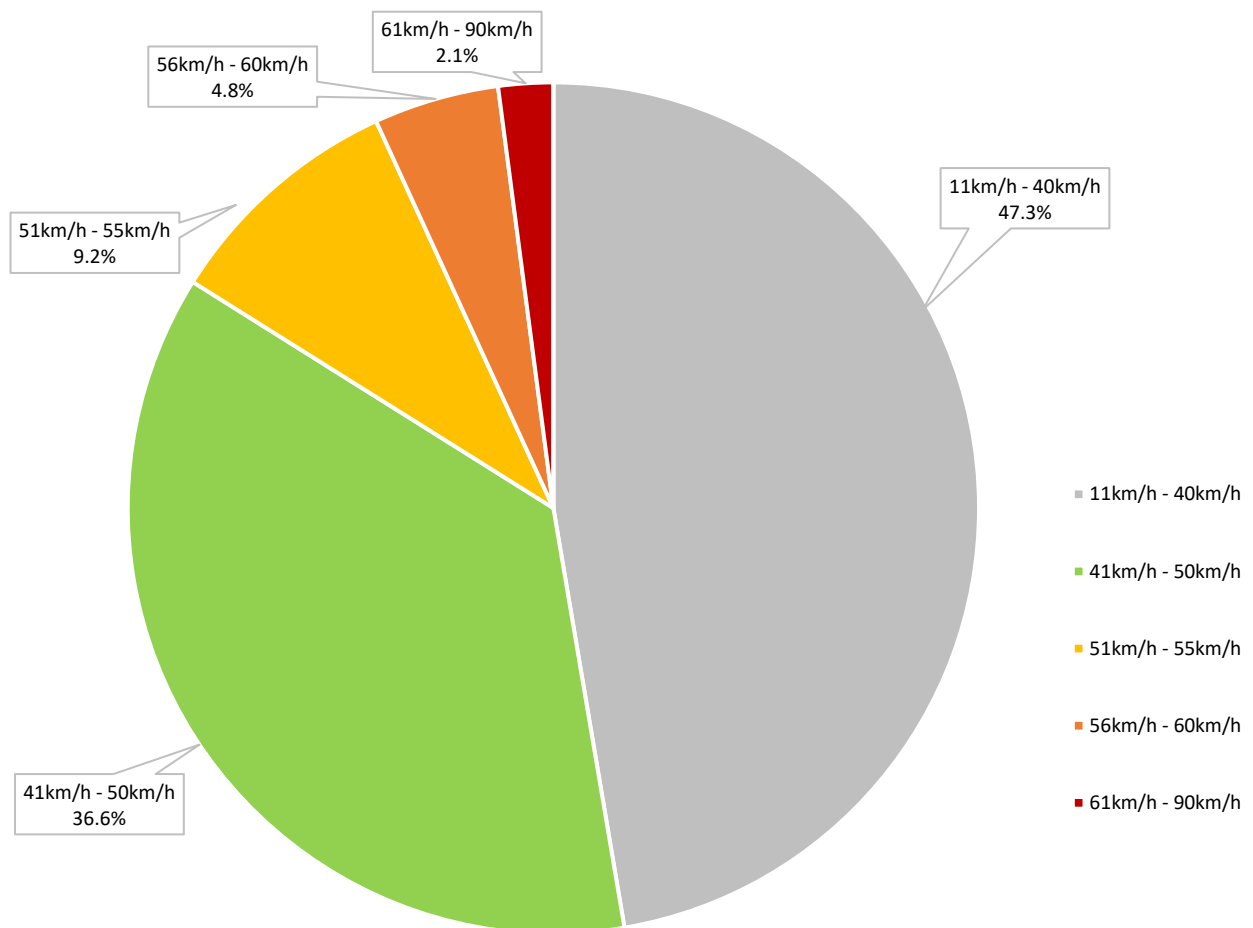
The posted speed limit on **Victoria St.** is 50km/h. However, generally it is accepted that vehicles that are travelling up to *10km/h above* the posted speed limit are not considered to be speeding. Table 2. below shows an overall speed summary of the data collected for eastbound and westbound directions.

**Table 2. Speed Summary**

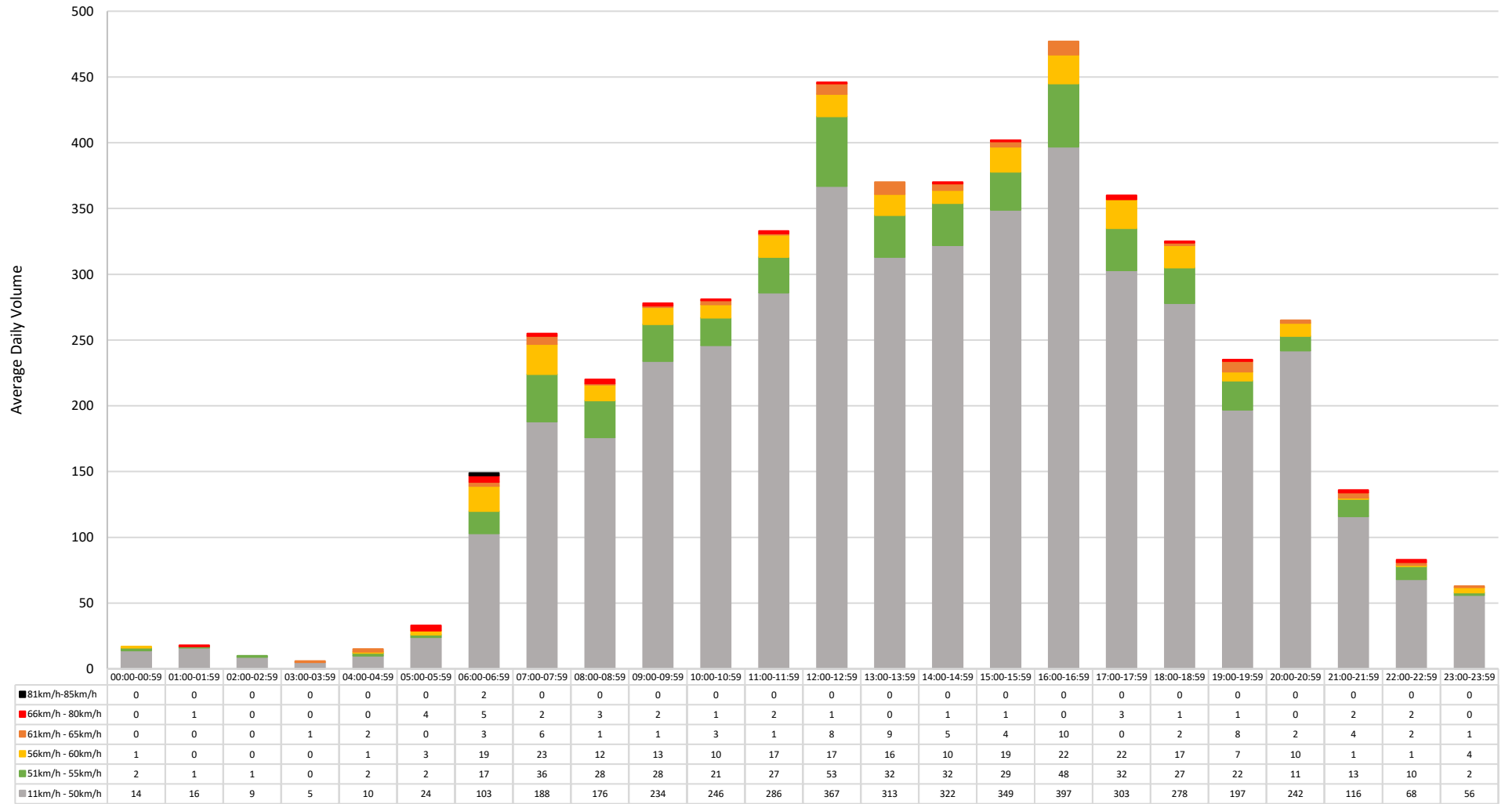
Direction	Average Speed (km/h)	Minimum Speed (km/h)	Maximum Speed(km/h)
Eastbound	38.32	10	85
Westbound	33.01	10	85

## 2.1 Eastbound Speed Analysis

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



**Figure 2. Victoria St. Eastbound Speed Breakdown**

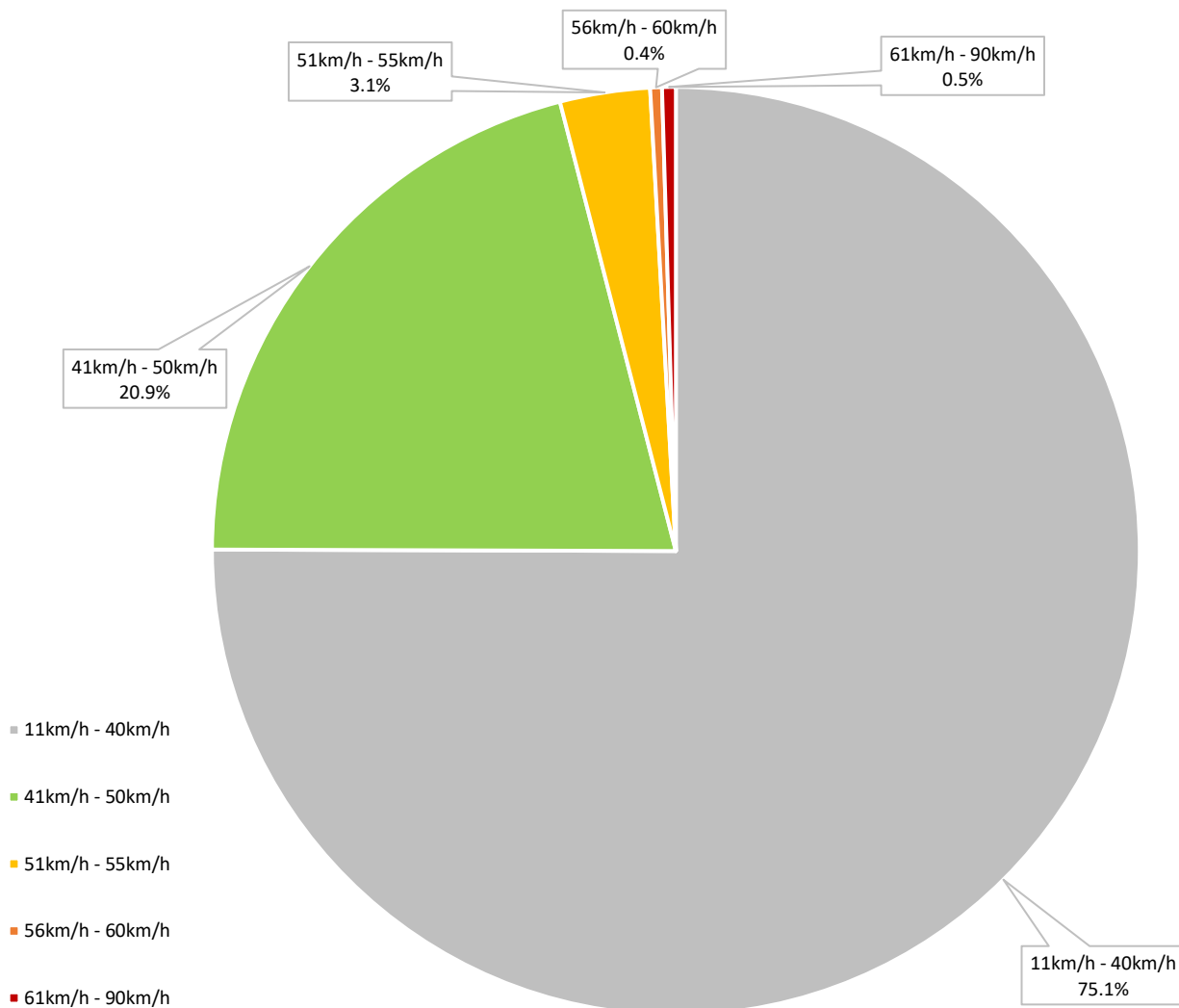


**Figure 3. Speed by Hour Analysis for Eastbound**

From Figures 2 and 3, we can see that **83.9%** of vehicles were travelling below the posted speed limit, **14%** of vehicles were travelling between 51-60 km/h, and **2.1%** of vehicles were travelling above 60km/h. As previously stated, it is generally accepted to travel 10km/h over the posted speed limit. With that said, we find that a total of **97.9%** of vehicles were travelling within the accepted speed limit in the Eastbound direction.

## 2.2 Westbound Speed Analysis

Figure 4. and 5. show the speed summary for the **Westbound traffic**.



**Figure 4. Victoria St. Westbound**



**Figure 5. Speed by Hour Analysis for Westbound**

From Figures 4 and 5 we can see that **96%** of the vehicles were travelling below the posted speed limit, **3.5%** of vehicles were travelling between 51-60 km/h, and **0.5%** of vehicles were travelling above 60km/h. When we consider the acceptable to travel 10km/h over the posted speed limit, we find that **99.5%** of vehicles were driving within the acceptable range. The overall average speed is lower in the Westbound direction compared to Eastbound. This is most likely due to the topography and vehicles are travelling uphill following a turn from Fourth Street and still accelerating.

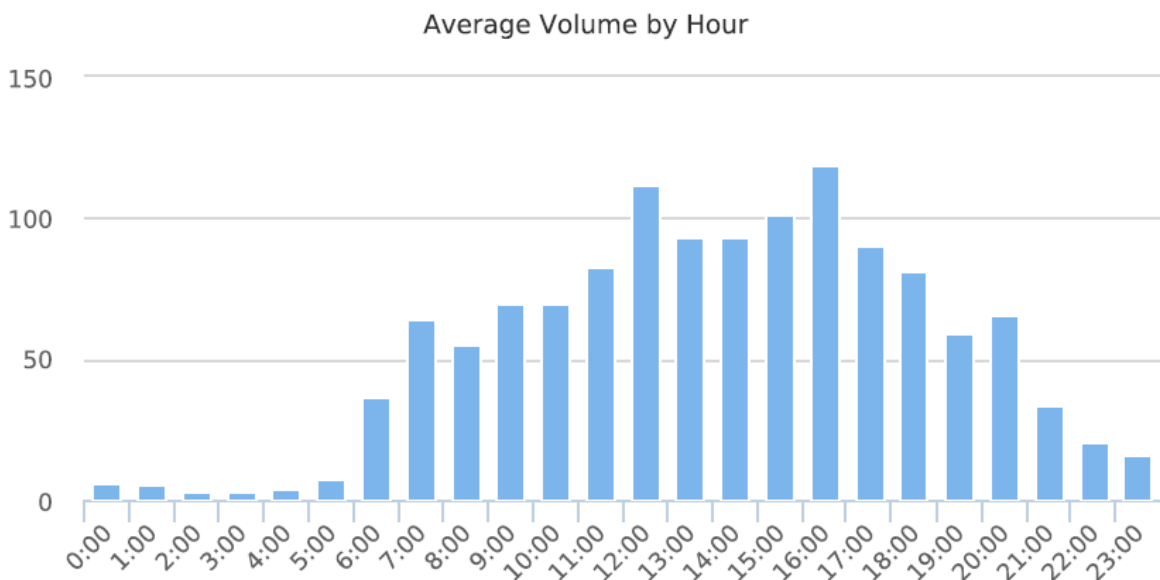
### 3.0 Traffic Volume

Table 3. shows the average daily volume on **Victoria St.** 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.

<b>Direction</b>	<b>Period</b>	<b>Average Daily Traffic Volume</b>
Eastbound	August 20 <sup>th</sup> to August 21 <sup>st</sup> (Tuesday & Wednesday)	1,520
Westbound	August 23 <sup>rd</sup> to August 25 <sup>th</sup> (Friday to Sunday)	445

The trailer was placed in the Westbound direction on **Victoria St.** for full days during the weekend of **Saturday - August 24<sup>th</sup>, Sunday - August 25<sup>th</sup>** and from 8 am onwards on **Friday – August 23<sup>rd</sup>**. The average daily volume in the Westbound direction is comparable on Friday and the days of the weekend.

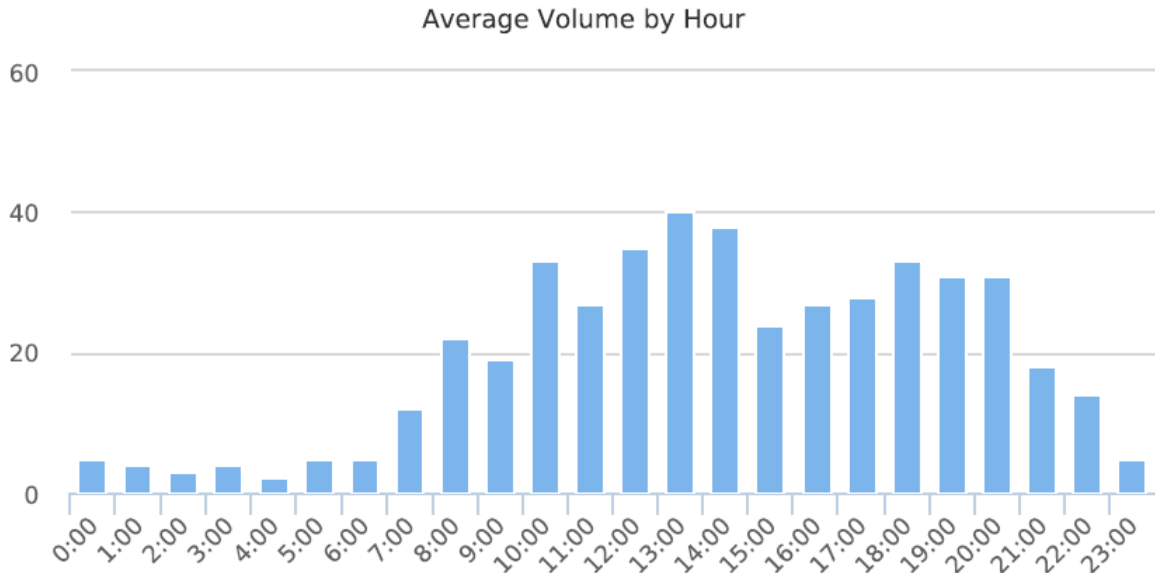
### 3.1 Eastbound Volume by Hour



**Figure 6. Average Volume by Hour (Eastbound)**

The data collected from **August 20<sup>th</sup>** and **August 21<sup>st</sup>** is used to analyze the average traffic volume at different times of day (Figure 6). From the graph, Victoria St has peak traffic during the typical evening rush hour and noon.

### 3.2 Westbound Volume by Hour



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

The data collected from **August 24<sup>th</sup>** to **August 25<sup>th</sup>** is used to analyze the average traffic volume at different times of day (Figure 7). From the graph, Victoria St. Has peak traffic just after noon and in the evening around 8pm.

### 4.0 Conclusion

The traffic study conducted on **Victoria St.** for both Eastbound and Westbound directions was successfully carried out on August 20<sup>th</sup> to August 25<sup>th</sup>, 2019. The speed analysis shows that a large portion of vehicles (**83.9% Westbound and 96% Eastbound**) travel **below** the posted speed limit and only **1.3%** of vehicles **exceed** the speed limit by over 10 km/h. It was also determined that the overall average speed was lower in the Westbound direction when compared to Eastbound.