University of Southern Queensland

Faculty of Health, Engineering and Sciences

ENG4111/ENG4112 Research Project

EVALUATION OF SIGNALISED INTERSECTIONS IN NSW WITH RIGHT TURN FILTERS

A dissertation report submitted by

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In fulfillment of the requirements of

ENG4111 and ENG4112 Research Project

Towards the Degree of

Bachelor of Civil Engineering (Honors)

October 2015

Abstract

The use of right turn filters provides improved intersection efficiency, although results in higher rates of ‘right through’ and ‘cross traffic’ crashes. This research paper aims to quantify the effects on road safety of the use of right turn filter movements at signalised intersections.

This research examines 77 traffic signal site with 147 approaches with right turn filtering enabled throughout the greater Sydney metropolitan, Newcastle and Wollongong areas. This research looks into factors influencing crash rates at these intersections including speed, number of opposing lanes, traffic volumes and characteristics of the right turning driver including gender and age.

It was found that the opposing traffic volume has a large impact on both the ability for drivers to undertake right turn movements and the rate of ‘right through’ crashes. It was found that at opposing traffic volumes between 100 to 300 vehicles per hour per lane results in the highest rate of ‘right through’ crashes. Above 300 vehicles per hour the ability to undertake opposed right turns is very limited and the right turn filter benefits of improved traffic efficiency are non-existent.

The crash data indicates that young drives (17-29) are much more likely to be involved in ‘right through’ crashes than any other age group. The occurrence of ‘right through’ crashes decreased as the age of the driver increases. It was found that as the age of the drive increased their risk of crashing at a signalised intersection with right turn filters enabled decreased. There is no indication that older drivers (>60) have an increased crash risk at these intersections. In fact, the data shows that driver in this age bracket have the lowest crash risk of all ages.

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D. Farrugia

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Acknowledgements

It has been a long road to get to this point in this Bachelor of Engineering Degree and I could not have achieve a fraction of what I have without the love and support of my partner Jade Patterson and son Lachlan Farrugia. They have both kept me focused and sacrificed much of their time to make this possible.

A big thanks must also go to my employer, the NSW Roads and Maritime Services and all my colleagues that contributed to not only this project but my studies as a whole. Without the vital information provided to me by the Road and Maritime Service (RMS), the task of completing this research project would have been near impossible.

I would also like to acknowledge the support of the University of Southern Queensland and all the lecturers and facilitators that have created a positive learning environment. In particular I would like to personally thank Soma Somasundaraswaran for his support and guidance in helping me complete this research project.

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1 Introduction

1.1 Background

Signalised intersections can have either fully controlled right turn phasing, where all right turn movements are performed under green arrow conditions, or right turn filter phasing, where right turn movements are performed under general road rule for right turning vehicles and undertaken when it is safe from conflicting traffic movements. The general road rules in NSW for right turning traffic specify that right turning vehicles must 'give way to oncoming vehicle going straight ahead, oncoming vehicle turning left and any vehicle on your right' (RMS NSW, 2015). This research project will focus on traffic signal approaches that have right turn filter phasing and will examine factors that contribute to crashes at these sites. Figure 1 shows a traffic signal during a right turn filter phase.

Figure 1 - Photo of Right Turn Filter Traffic Signal

The use of right turn filters at signalised intersections is extensively used in all states and territories of Australia. The right turn filter allows the major through movements of the intersection to be completely signal controlled while offering flexibility for right turn manoeuvres to be performed when safe from the opposing through traffic. This allows the intersection to operate more efficiently, as it reduces the time required for right turn phases and gives the through movements greater green time.

The use of right turn filters carries a higher degree of risk than fully signal controlled intersections. This is due to the increased number of conflict points between opposing traffic flows and a higher number of 'right through' and 'cross traffic' crashes at sites with right turn filters enabled. It has been documented that sites with right turn filters enabled have approximately 70% more 'right through' crashes than fully controlled signal sites (Bui, Cameron, & Chee Wai, 1991).

The occurrence of 'right through' crashes often results in severe injuries and/or fatalities. This is due to the through vehicle impacting the right turning vehicle at a point where there is often less protection for the vehicles occupants. The use of curtain air bags and side impact protection bars have helped to reduce the severity of 'right through' crashes (McCartt & Kyrychenko, 2007). However prevention of these crashes through education programs, media campaigns and updates to road design guidelines have failed to reduce the rate of 'right through' crashes over the past five years.

1.2 Problem Statement

The major downfall of right turn filters compared with fully signal controlled right turns is that it creates a point of conflict between through traffic and right turners. Right turn filters rely on human judgment when undertaking the right turn movement, this leaves the potential for mistakes that can result in devastating consequences. As a result, higher rates of 'right through' and 'cross traffic' crashes occur at intersection with filtered right turns. This research project questions, how bad are right turn filters, should they be removed from all signalised intersections and can they be safely used in some circumstances.

The use of right turn filters in NSW has progressively been restricted through directives from the NSW Centre for Road Safety. This has resulted in amendments to the Traffic Signal Design manual that now restrict the use of right turn filters on intersections that have an 85th percentile speed of 70km/h or greater and turn across more than one lane of opposing traffic (RTA NSW, 2010). However, is this the correct solution to a road safety issue that has several contributing factors that can influence the crash rate?

1.3 Objectives

The major objective of this project is to determine attributes of signalised intersections that contribute to a high rate of 'right through' and 'cross traffic' crashes. This is expected to allow current and future signalised intersections to be assess to identify if the intersection will have a greater occurrence of crashes as a result of right turn filters being implemented.

This research project also aims to provide a starting point for further research in this area. The research project examines the use of right turn filters under NSW traffic conditions and may provide data that is comparable for other Australian states and territories.

The research that supports the guidelines for the use of right turn filters is not well documented in RTA NSW (2010) and Austroads (2014). Through conducting this research project it is hoped that factors that contribute to right turn filter crashes can be identified and help to confirm that the guidelines set out in RTA NSW (2010) and Austroads (2014) are correct. Further to this, where this research paper identifies discrepancies in the guidelines, it is expected that further research can be undertaken in these areas and lead to possible adjustment to the guides.

To achieve the above project objectives the following tasks have been undertaken:

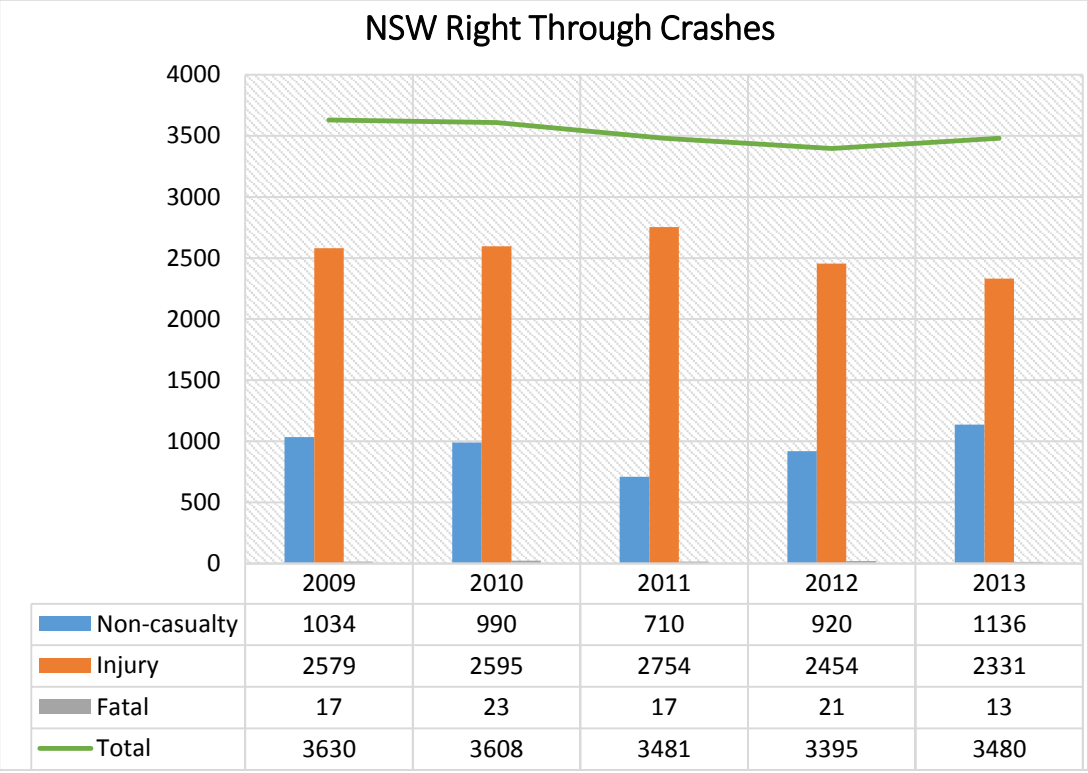
- Completion of a literature review. The literature review has accessed research related to intersection operation and road safety. Where possible this research project confirms information obtained through the literature review. Further to this, the literature review provides a foundation for the expansion of the existing information in this area.
- Determination of suitable sample intersections within the greater Sydney, Newcastle and Wollongong areas. The sites have been chosen using crash data from the 2014 calendar year with a large enough sample group to achieve an accurate analysis. Further information regarding site selection can be found in Section 3.1.
- Analysis of the selected sites to establish if there were any contributing factors that may have resulted in a higher rate of 'right through' crashes at signalised intersections. The contributing factors have been examined in comparison to other sample sites. Further information on the analysis used in this research can be found in Section 3.3 - Analysis.
- Identification of trends in the crash data for each contributing factor.
- Acquisition of traffic counts based on the information collected from traffic signal detector loops.
- Analysis of the traffic counts to determine the increase risk of 'right through' crashes at different traffic volumes.
- Determination and outlining of the extent that each contributing factor has on 'right through' crashes at signalised intersections with right turn filters enables.

2 Literature Review

For clarity of this literature review all information from the US and Europe which has been undertaken on left turn opposed movements will be referred to as opposed right turn movements.

2.1 General Crash Statistics for Right Turn Filters

From the Transport for NSW (2009, 2010, 2011, 2012, 2013) annual reports of road traffic crashes, it can be established that the number of right turn crashes occurring per year has consistently been around the 3500. Of these crashes, there have constantly been around 20 (0.5%) fatal crashes and 2500 (70%) injury crashes per year. While right turn crash numbers have remained relatively static, over this same period there has been a reduction of total crashes of 4.6%, non-casualty crashes of 1.4%, injury crashes of 8.2% and fatal crashes of 22.5%. This shows the complexity of right turn movements across opposing traffic and the difficulty faced by all traffic authorities when attempting to improve right turn road safety at intersections.



	2009	2010	2011	2012	2013
Non-casualty	1034	990	710	920	1136
Injury	2579	2595	2754	2454	2331
Fatal	17	23	17	21	13
Total	3630	3608	3481	3395	3480

Figure 2 - NSW Right Through Crash Statistics.

(Transport for NSW 2009, 2010, 2011, 2012, 2013).

2.2 Intersection Operation and Control Mechanisms

2.2.1 Types of Signal Controls

2.2.1.1 Two Phase Signal Phasing

A two phased signal site is the simplest form of intersection signalisation available. This phasing type does not provided any dedicated turning moment with all right turns preformed across opposing through lanes and pedestrian crossings. This results in this phasing type having four 'cross traffic' conflict points and eight vehicle / pedestrian conflict points (Austroads, 2014). Figure 3 below shows a typical two phase operation.

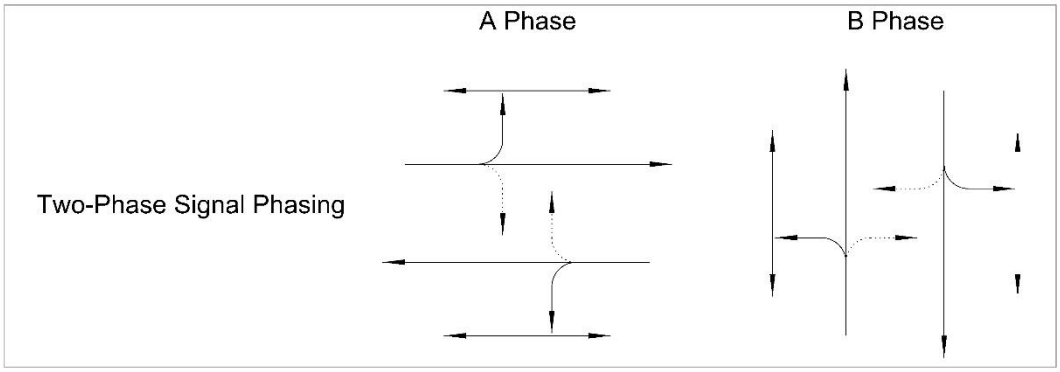


Figure 3 - Two-Phase Signal Phasing.

(RTA NSW, 2010).

The use of two phased signal sites is limited to locations that have low turning vehicle traffic volumes, sufficient sight distance, a geometry that conforms to design standards and low pedestrian volumes (RTA NSW, 2010). If the above requirements cannot be met or there is a crash history at a site with a two phase operation, diamond overlap or split approach phasing should be used.

2.2.1.2 Diamond Overlap Phasing

A diamond overlap phased intersection incorporates right turn phasing into the signal control. Intersections with this phasing can operate using double diamond overlap phasing, see Figure 4, with all legs of the intersection having overlapping right turn phases, or using single diamond overlap phasing, see Figure 5, with the major road operating an overlap right turn phase and the minor road having a single phase or split approach phasing (Austroads, 2014).

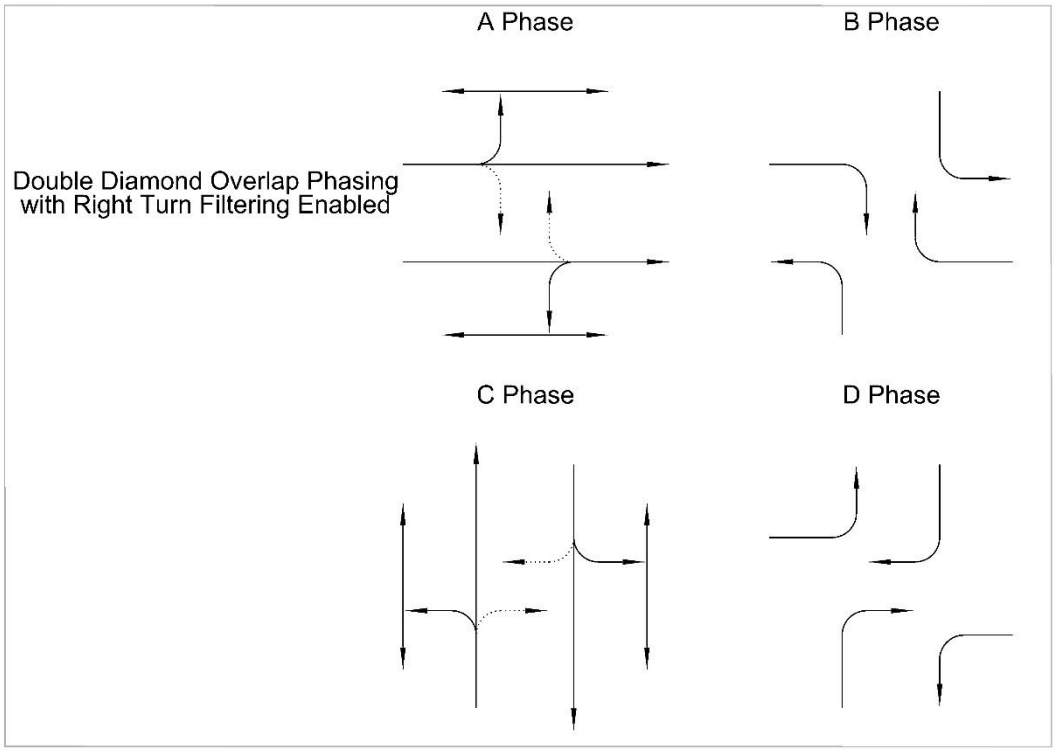


Figure 4 - Double and Single Diamond Overlap Phasing.

(RTA NSW, 2010).

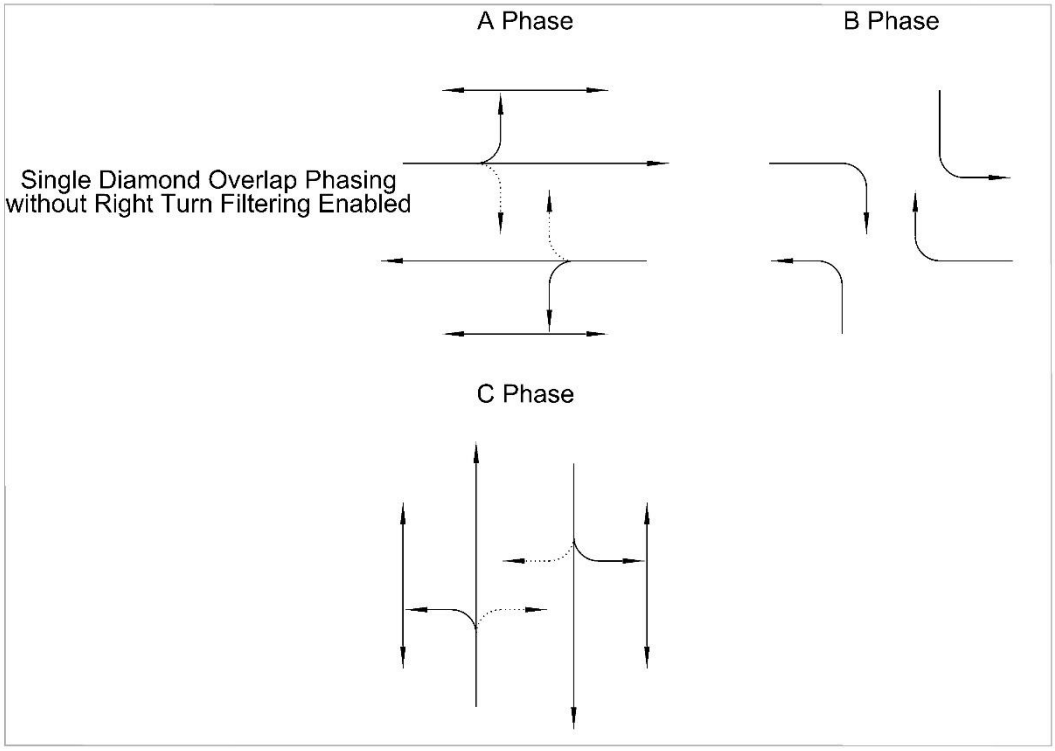


Figure 5 - Single Diamond Overlap Phasing

(RTA NSW, 2010).

2.2.1.3 Split Approach Phasing

A split approach phased intersection operates by allocating green time for all movement types on one leg of the intersection then in the following phases giving the opposing leg of the intersection green time for all movement types. Right turn filtering cannot be enable on the approaches with this phasing arrangement. This phasing type is often used on the minor road of the intersection where the requirements of a single phase are too great and overlapping right turns cannot be achieved (Austroads, 2014). Figure 6 below shows a typical split approach phasing operation.

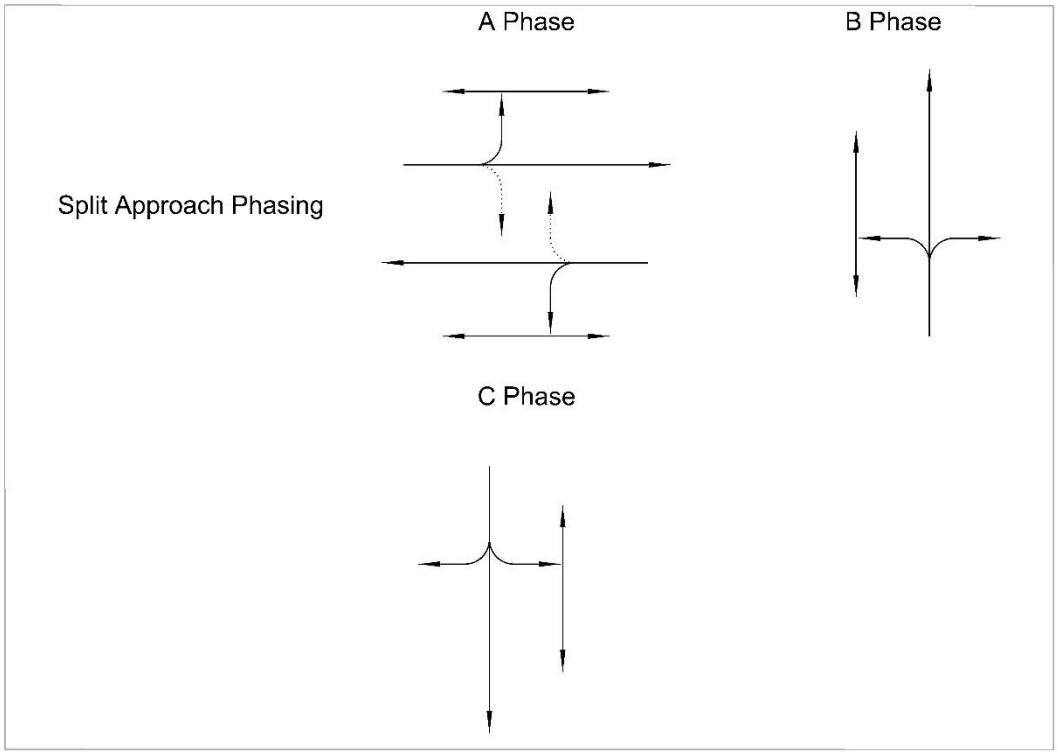


Figure 6 - Split Approach Phasing.

(RTA NSW, 2010).

2.2.2 Phasing Sequences

2.2.2.1 Trailing Right Turn Phasing

RTA NSW (2010) describes trailing right turn phasing as 'the through movement preceding the right turn movement'. This phasing type is more consistent with the expectations of the driver when approaching a signalised intersection and as a result have been more extensively used throughout

Australian then leading right turn phasing (Bui, Cameron, & Chee Wai, 1991). The use of trailing right turn phasing with filters enabled is further explained with Figure 7. Wilke (2006) identified a 30% reduction in 'right through' crashes using trailing right turn phasing with filters when compared to signal sites with no right turn phasing.

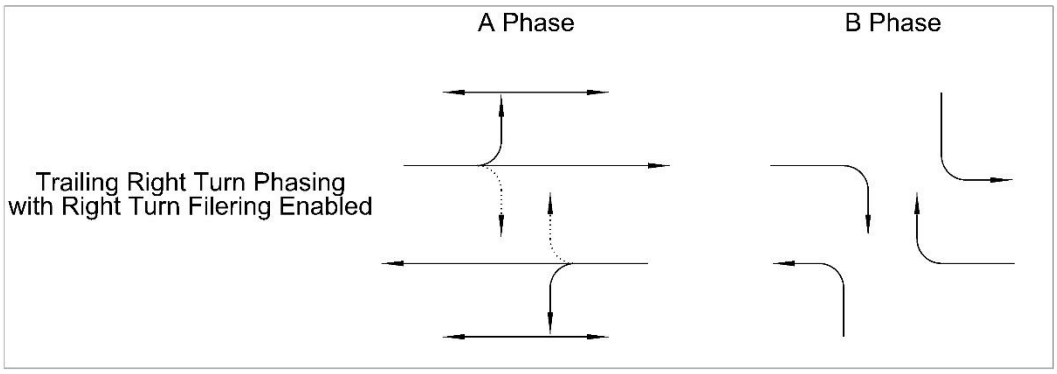


Figure 7 - Trailing Right Turn Phasing.

(RTA NSW, 2010).

2.2.2.2 Leading Right Turn Phasing

RTA NSW (2010) describes leading right turn phasing as 'the right turn movement preceding the through movement'. When this phasing type is implemented with right turn filtering enabled, a red signal is required for the right turn movement before preceding to the through phase with the filters operated on a late start interval (RTA NSW, 2010). The use of leading right turn phasing with filters enabled is further explained with Figure 8. Wilke (2006) identified a 68% reduction in 'right through' crashes using leading right turn phasing with filter when the intergreen phasing is operated as discussed above.

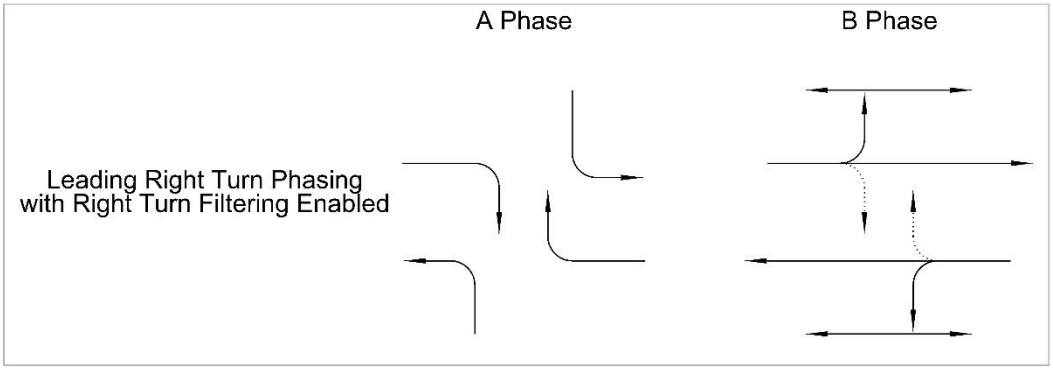


Figure 8 - Leading Right Turn Phasing.

(RTA NSW, 2010).

2.2.2.3 No Right Turn Phasing

With the use of two phase signals sites and single overlap sites with the minor road of the intersection having only one phase, all right turn movements are undertaken opposing the through lanes and often pedestrian crossings. This results in a total of 16 conflict points between opposing traffic streams (Austroads, 2014). The implementation of these phasing types is outlined in Section 2.2.1.1 and requires a sound intersection design and low volumes of turning vehicles and pedestrians. However, there are a significant number of this type of signal site installed throughout the road network that have had significant increases in traffic volume without further assessment of the safety of the intersection. Wilke (2006) indicated that signal sites with no right turn phasing have higher rates of 'right through' crashes compared to sites with leading and trailing right turn phasing.

2.2.3 Warrants for use of Right Turn Filter in NSW

The RTA NSW (2010) outlines the use of right turn filters at signalised intersections in NSW. The use of a right turn filter requires the intersection to fulfil the following requirements or special approval by the RMS Manager Network Operations is required.

- There must be minimum gap sight distance available.
- There must be no history of crashes related to right turn filtering.
- There must be only one right turn lane.

- The opposing traffic 85th percentile operating speed must be less than 70km/h if there is more than one opposing through lane.
- The right turn flow must be fewer than 120 vehicles per hour.
- A single opposing through lane approach must have fewer than 900 vehicles per hour.
- A duel opposing through lane approach must have fewer than 700 vehicles per hour per lane.
- A triple opposing through lane approach must have fewer than 500 vehicles per hour per lane.

2.3 Importance of Conflict Management at Intersections

2.3.1 Use of Signalisation

The determination of whether or not an intersection should be signalised in NSW is documented in Section 2 of the RMS NSW (2008). Signalisation is required if any of the following warrants are met:

- There is a traffic demand of greater than 600 vehicles per hour on the major road or 200 vehicles per hour on the minor road.
- There is continuous flow that causes undue delays to vehicles turning onto the major road.
- There are pedestrian safety concerns due to a volume of 600 pedestrians per hour or more crossing the major road or an 85th percentile speed on the major road greater than 75km/h.
- There is a crash history of a least three reportable crashes within a three year period.

2.4 Factors Contributing of Right Turn Filter Crashes

2.4.1 Approach Speed

The parameter of speed is a principal consideration in all road related operations. Speed has a major effect on road parameters such as stopping sight distance, horizontal curvature and vertical curvature. Speed also results in a reduced field of vision for the driver. It is documented in Austroads (2014) that right turn filters have a higher risk factor when installed where the conflicting through lane has an 85^{th} percentile operating speed of 70km/h or greater.

The use of high opposing operating speeds at right turn filters has a major effect on the turning driver's ability to perceive an acceptable gap in the traffic stream. It can also be seen from Section 2.4.4 that increases in approach speed have a major effect on the required gap distance for an acceptable manoeuvre to be undertaken. This results in a reduced occurrence of acceptable gaps and an increased likelihood of risky manoeuvres being undertaken (de Winter, Spek, de Groot, & Wieringa, 2009).

The risk of being involved in a crash increases as the operating speed increases. The severity of the crash also increases with any increases in operating speed. Therefore it is expected that this research will identify that the occurrence of 'right through' and 'cross traffic' crashes will increase as the operating speed of the road increases.

2.4.2 Number of Opposing Lanes

The use of right turn filters when there are multiple lanes of opposing traffic has been identified as an issue with speed perception by Wilke (2006). An increased road safety risk for right turners opposed by multiple lanes can also be attributed to the confusion in the intent of the opposing vehicles, whether they are intending to go through or turning left. Further discussion on speed perception can be found above in Section 2.4.1.

A right turn filter movement that crosses multiple lanes of opposing traffic requires the driver to potentially determine minimum gap sight distance on several vehicles at one time. This is a difficult task which requires perception of speed and distance while requiring the driver to take physical action based on this information. The requirement of the driver to make these assessments on multiple lanes of traffic at one time further increases the risk of errors in judgment.

2.4.3 Traffic Volumes

2.4.3.1 Opposing Traffic Volume

As the traffic volume of the opposing through lane increases the occurrence of acceptable gaps reduces. RTA NSW (2010) specifies that the through traffic volume should not exceed 900 vehicles per hour for a single opposing lane approach, 700 vehicles per hour per lane for a two opposing lane approach and 500 vehicles per hour per lane for a three opposing lane approach for a right turn filter to be enabled. Documentation of the source of the traffic volumes specified above is not provided in this document and similar research papers do not provide specific volumes for acceptable use of right turn filters.

2.4.3.2 Right Turn Traffic Volume

As the traffic volume of the right turn increases the pressure on drivers to accept a smaller gap than desired increases. This results in higher risk manoeuvres being undertaken and greater likelihood of ‘right through’ crashes. RTA NSW (2010) specifies that the right turn traffic volume should not exceed 120 vehicles per hour for a right turn filter to be enabled. Documentation of the source of the traffic volumes specified above is not provided in this document and similar research papers do not provide specific volumes for acceptable use of right turn filters.

2.4.3.3 Pedestrian Volumes

The concept of safety in numbers is well documented in regards to pedestrian and bicyclist safety. Jacobsen (2003) examined the concept of greater volumes of pedestrians and bicyclist and the effect this has on crash rates. He found that areas with larger volumes of pedestrians and bicyclists resulted in reduced collision rates with motor vehicles. It is unclear from the analysis what exactly changes in areas with higher pedestrian and bicyclist movements to result in this reduction but it is believed that drivers generally have a higher allertness and reduced speed in an area with higher pedestrian and bicyclist volumes (Jacobsen, 2003).

2.4.4 Sight Distance

2.4.4.1 Stopping Sight Distance

Stopping sight distance is documented in Austroads (2010a) as 'the distance to enable a normally alert driver, travelling at the design speed on wet pavement, to perceive, react and brake to a stop before reaching a hazard on the road ahead'.

Stopping sight distance is measured from the driver's eye height of 1.1m to an object 0.2m high on the pavement surface. Stopping sight distance is the minimum length of sight required at intersections (Austroads, 2010a).

The following equation is used to calculate stopping sight distance:

Equation 1 - Stopping Sight Distance

$$SSD = \frac{R_T V}{3.6} + \frac{V^2}{254(d + 0.01a)}$$

R_T = Reaction time (seconds)

V = Operating speed (km/h)

d = Longitudinal coefficient of friction (generally 0.36 in NSW)

a = Longitudinal grade (%)

2.4.4.2 Minimum Gap Sight Distance

The minimum gap sight distance is determined by the critical gap acceptance and follow-up headway that drivers will accept when undertaking a manoeuvre (Austroads, 2010b). The critical gap acceptance is dependent on the following parameters:

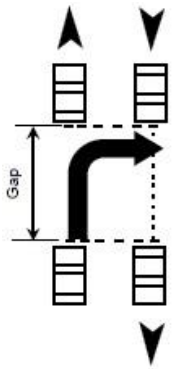
- Type of manoeuvre being undertaken.
- Width of the opposing carriageway.
- Angle of observation.

Minimum gap sight distance is measured from the driver's eye height of 1.1m to a vehicles turning signal height of 0.65m. The minimum gap sight distance is the required distance that a driver requires to perceive a safe gap in the opposing traffic stream and undertake a safe manoeuvre (Austroads, 2010b).

The minimum gap sight distance can be calculated using Table 1 and the equation below:

Table 1 - Minimum Gap Sight Distance Requirements.

(Austroads, 2010b).

Movement Type	Diagram	Description	Critical Gap Acceptance (ta)	Follow-up Headway (tf)
Right turn across opposing through traffic		One opposing lane	4 seconds	2 seconds
		Two opposing lanes	5 seconds	3 seconds
		Three opposing lanes	6 seconds	4 seconds

Equation 2 - Minimum Gap Sight Distance

$$MGSD = \frac{(ta + tf) \cdot V}{3.6}$$

ta = Critical gap acceptance

tf = Follow-up headway

V = Operating speed (km/h)

Table 2 - Calculated Minimum Gap Sight Distance

Speed	Minimum Gap Sight Distance for One Opposing Lane (m)	Minimum Gap Sight Distance for Two Opposing Lanes (m)	Minimum Gap Sight Distance for Three or More Opposing Lanes (m)
50	83	111	139
60	100	133	167
70	117	156	194
80	133	178	222

2.4.4.3 Offset Right Turn Lanes

An offset right turn lane moves both right turn lanes to the right of their typical position to improve sight distance. The use of offset right turn lanes allows the right turning driver to view the opposing through traffic without restriction to sight imposed by opposing right turning traffic. Figure 9 shows a typical intersection layout with offset right turn lanes on the major road.

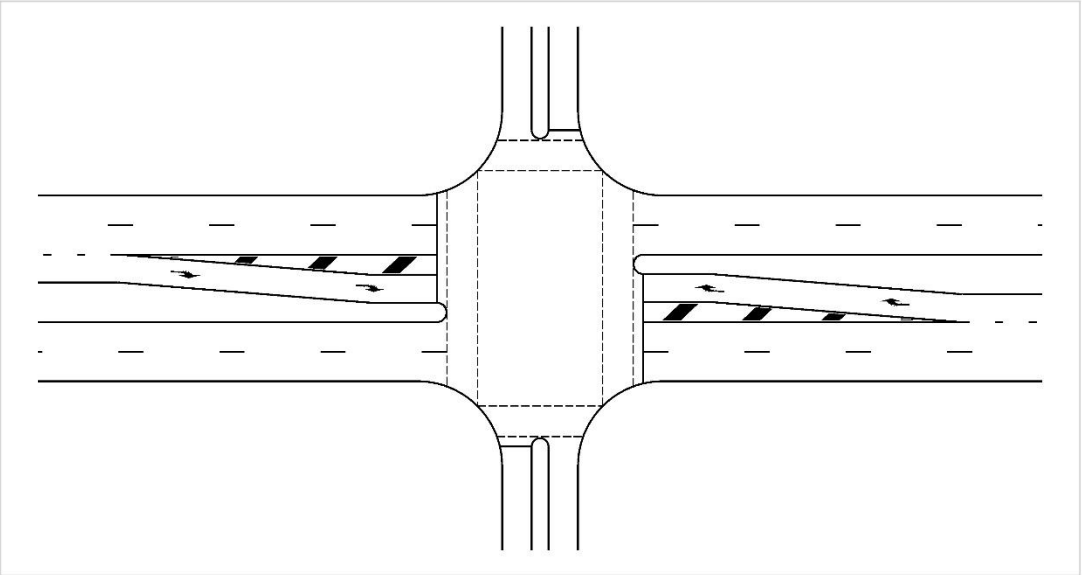


Figure 9 - Typical Intersection with Offset Right Turn Lanes.

The use and benefits of offset turn lanes are well documented in literature from the US. Naik (2005) found a reduction in 'right through' crashes of 1.5% by conducting a before and after analysis on three intersections in the City of Lincoln area. It was also mentioned in the research paper that a larger safety benefit is expected if this research was conducted on a larger sample of intersections. The use of a 1.2m wide offset for right turn lanes will provided an unrestricted line of sight at most intersections (Tarawneh & Mc Coy, 2014).

Unfortunately, offset right turn lanes are rarely, if ever used at intersections in NSW and Australia. The use of offset right turn lanes will not be included in this research. Further research into the benefits of offset right turn lanes under Australian conditions could prove that the additional sight distance gained through this layout would result in a significant gain in road safety at opposing right turns at intersections.

2.4.5 Time of Day

Upon review of traffic volumes, it can often be seen that in urban areas there are two distinct peak periods. One in the morning and one in the afternoon. During these periods the level of service of these roads is reduced as the traffic volumes increase (Corpuz, 2006). However, outside these periods the road will often return to a higher level of service with low traffic volumes. This reduction in traffic volumes creates more opportunities for drivers to pick a safe gap in the opposing traffic.

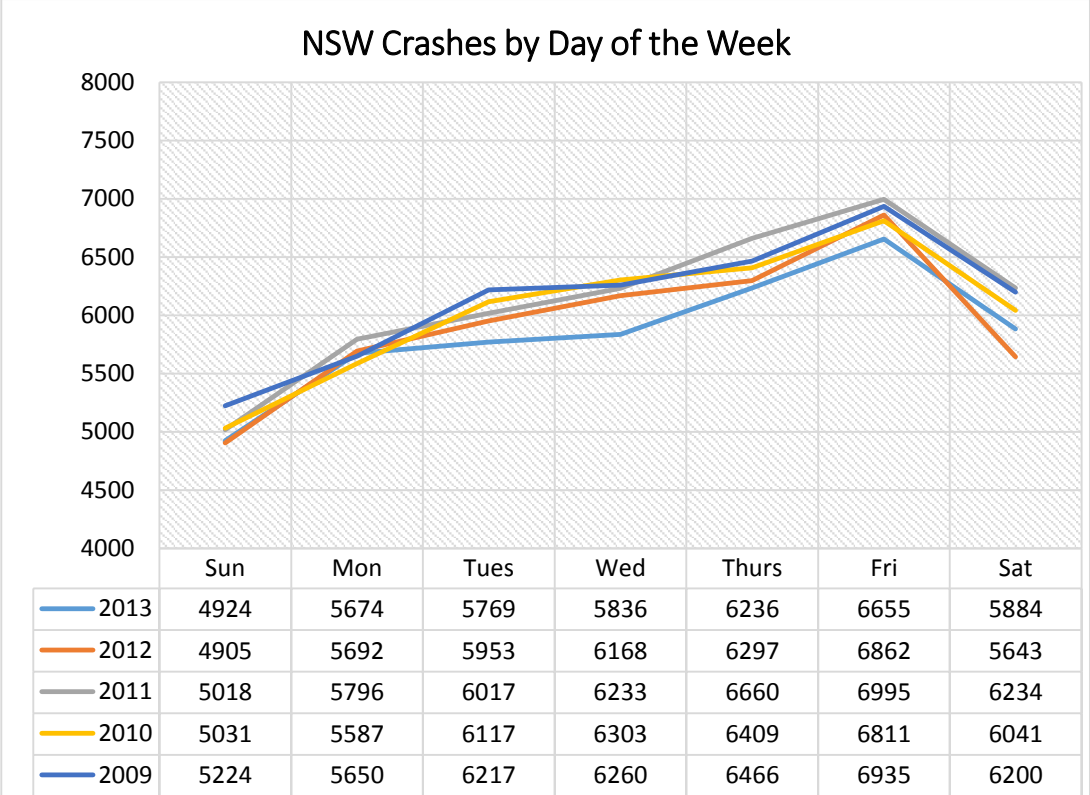
It is documented by Bui, Cameron & Chee Wai (1991) that filtering right turns outside peak periods would have little effect in reducing 'right through' crashes at signalised intersections. This research project is expected to confirm this information through the analysis of the time of day at which crashes occur and there relationship with opposing through traffic volumes.

2.4.6 Day of the Week

From the Transport for NSW (2009, 2010, 2011, 2012, 2013) annual reports of road traffic crashes, it can be identified that a highest crash occurrence is consistently on Fridays with Thursdays and Wednesdays having a higher rate of crashes than all other days.

Farmer & Williams (2005) identified that during the period between 1986-2002, the highest average number of motor vehicle deaths occurred on Saturdays, closely followed by Fridays and Sundays. It was itentified in the Farmer & Williams (2005) report that higher incidences of drink driving and a larger number of trips were the likely causes of the increased rate of crashes on weekends. It is unclear from the liturature review if this data is tranferable to Australian road conditions.

This research project will attempt to determine if right turn filter crashes are more likely to occur on a certain day of the week. From this liturature review it is expected that a higher rate of crashes will occur leading up to the weekends.



	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
2013	4924	5674	5769	5836	6236	6655	5884
2012	4905	5692	5953	6168	6297	6862	5643
2011	5018	5796	6017	6233	6660	6995	6234
2010	5031	5587	6117	6303	6409	6811	6041
2009	5224	5650	6217	6260	6466	6935	6200

Figure 10 - NSW Crashes by Day of the Week.

(Transport for NSW 2009, 2010, 2011, 2012, 2013).

2.4.7 Weather and Surface Conditions

The climate of the greater Sydney areas receives on average 144 rainy days per year. These rainy days are spread across all months with varied volume of rain depending on the season. This leaves on average 221 days that will have dry conditions each year. Sydney also experiences numerous days with morning fog with these days mostly occurring during the winter months (Weather Zone, 2014).

It is outlined by Ogden (1996) and further documented in Austroads (2009b) that the road environment, including weather and surface conditions, is a major factor in 28% of all road crashes. However, only 2% of crashes can be attributed to the road environment only with 24% of crashes a combination of road environment and driver error as a combined factor in crashes.

Bergel-Hayat et al. (2013) conducted research on the effect of weather on crash occurance in France, the Netherlands and Greece and found that the effect of weather conditions varied depending on the road type. However, the study generally found that an increase in precipitation resulted in a higher crash rate in France and the Netherlands. This trend was not continued in Greece where higher precipitation resulted in a reduced occurance of crashes. A reduced crash rate on rainy days was further confirmed under Athens operation and climate conditions by Yannis & Karlaftis (2011). This reduction in crashes under wet operating conditions was attributed to a reductions in speed and higher driver awareness under these conditions.

Liturature in the area that is completely transferable to Australian climate and road conditions was not available for this liturature review. From the above, it can be seen that the climate and road conditions can increase or decrease road crash rates. Although there is a lack of data for Australian conditions it is expected that there will be a higher representation of 'right through' crashes under wet or foggy conditions when conducting this analysis.

2.4.8 Street Lighting

The use of street lighting is well documented for its potential to reduce crime and provide social order. However, a wide range of results were documented by Beyer & Ker (2010) review of 145 published and unpublished research papers conducted in the area of street lighting and its effect on road safety. For example Beyer & Ker (2010) documented that Vincent (1981) research in this area did not support any reduction in road crashes as a result of street lighting whereas a similar study by Elvik (1995) return results of a reductions of 65% and 30% in fatal crashes and injury crashes respectively. Upon review of the overall liturature it is believed that the increase in a drivers visual perception and the ability to detect hazards provides an improvement in road safety due to street lighting (Beyer & Ker, 2010).

A street lighting guideline for NSW road could not be found while undertaking this literature review. However, the Vic Roads (2010) guide to road lighting identifies that all signalised intersections that have pedestrian facilities should be lit for a minimum of 50m in approach to the intersection. The level of luminance required at signalised intersections with pedestrian facilities is determined using AS/NZS 1158.

2.4.9 Gender of Driver Turning Right

It can be clearly identified from Figure 11 that males are three times as likely to be killed on NSW roads (Transport for NSW 2009, 2010, 2011, 2012, 2013). These statistics can be the result of many factors including, male drivers on average drive 65% more than female drivers, the types of trip generally performed by male drivers are usually longer than female drivers and increased risk taking by male drivers when compared to female drivers (Ginpil & Attewell, 1994). In contrast to male drivers taking an increased risks when driving, Ginpil & Attewell (1994) identified that the female driver fatalitiy rate is likely caused by driver error, mis-judgement or inattention.

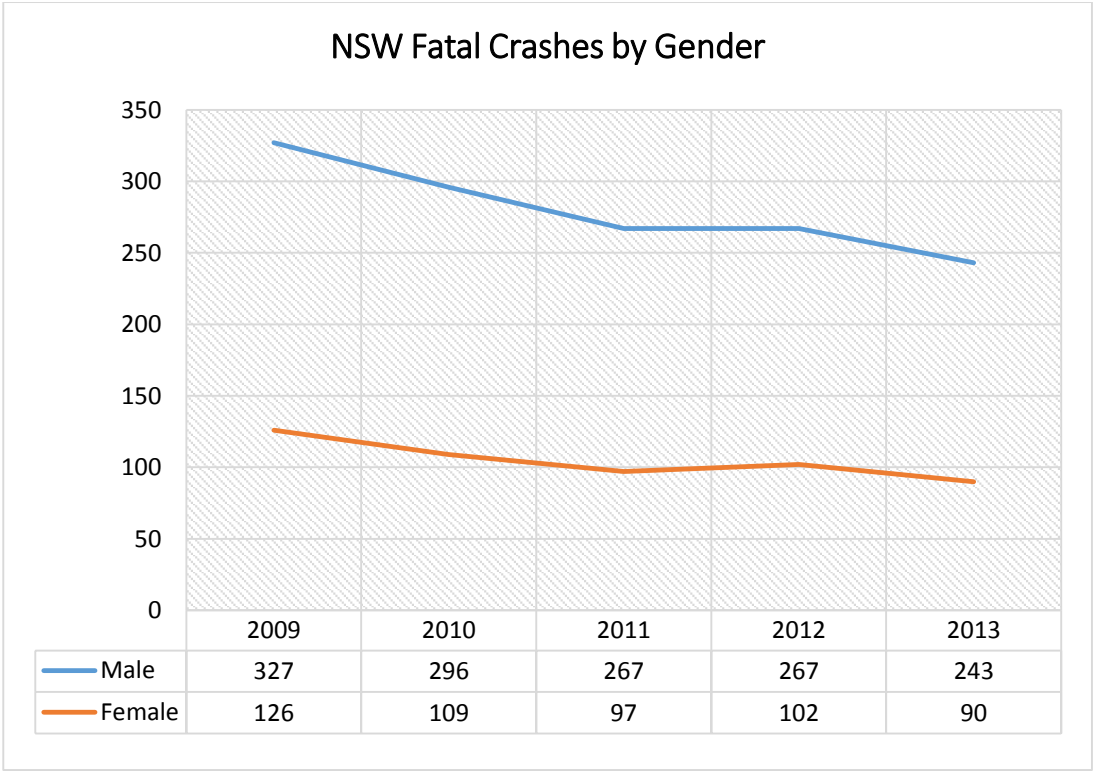


Figure 11 - NSW Fatal Crashes by Gender.

(Transport for NSW 2009, 2010, 2011, 2012, 2013).

2.4.10 Age of Driver Turning Right

2.4.10.1 Older Drivers

The manoeuvre undertaken by a motorist turning right at a filtered intersection is dependent on the driver's ability to quickly determine the speed and distance of an oncoming vehicle and determine if there is sufficient gap for the manoeuvre to be completed safely. It is well documented that older drivers are overly represented in crashes involving visual perception, such as opposing right turn movements (Andrea, Fildes, & Triggs, 1999). The high occurrence of older drivers being involved in crashes is despite substantial documentation suggesting that older drivers are risk adverse and required a larger gap acceptance when performing a right turn manoeuvre.

As the age of a driver increases the time taken for the brain to estimate speed increases and the ability to determine differences in velocity diminishes (Fildes, et al., 1994). This results in older drivers being overly involved in crashes that require complex decision making and actions. A large contribution to older driver's involvement in complex manoeuvre crashes is the deterioration of vision (Liu, Utter, & Chen, 2007).

It is expected that while older drivers (aged over 60) only account for approximately 23% of all licensed drivers in NSW (Transport for NSW, 2013), this research project will identify that they are more likely to be involved in a right turn filter related crash.

2.4.10.2 Younger Drivers

While it is not documented that younger drivers have a higher risk of having a right turn filter crash, it is well documented that younger drivers have an overall higher risk of being involved in a crash. This is often attributed to inexperience, inability to fully perceive a risk and excitement seeking (Palamara, et al., 2013). These are several attributes that can be associated with a higher risk for right turn filter crashes.

Road crashes are the second leading cause of death amongst 17-24 year olds in NSW with only suicide accounting for more deaths in this age group (ABS, 2013). Drivers in this age bracket in NSW account for approximately 14% of all licensed drivers but in the 2013 calendar year, were involved in 21% of all fatal crashes (Transport for NSW, 2013).

2.4.11 Driver Distraction and Fatigue

The increase in technology implemented into vehicles and hand held devices has resulted in an ever increasing rate of driver distraction being a contributing factor in all crash types. The following Figure 12 show the increase in crashes that have a driver distraction as a contributing factor to the crash. This data have been extracted from Transport for NSW (2009, 2010, 2011, 2012, 2013).

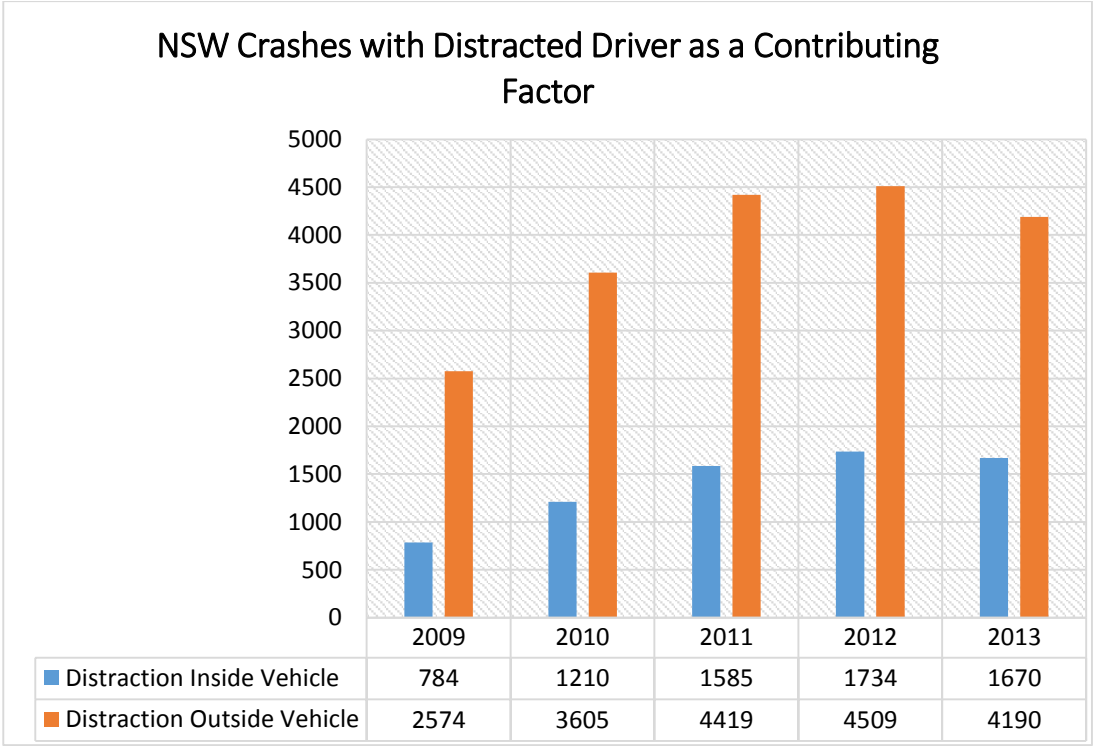


Figure 12 – NSW Crashes with Distracted Drivers as a Contributing Factor. (Transport for NSW 2009, 2010, 2011, 2012, 2013).

A study by Glaze & Ellis (2003), documented 2792 crashes throughout several states in the US and found that the major driver distractions that contributes to crashes are:

- Fatigue or falling asleep (17%)
- Looking at other vehicles, road incident or traffic (13%)
- Looking at scenery or landmarks (10%)
- Passenger or children distraction (9%)
- Adjusting radio (7%)
- Cell phone (4%)

As outlined above fatigue is the largest contributor to crashes with drivers that are not paying full attention to the road. Fatigue also effects the ability of drivers to predict speed and gaps in traffic, which are critical to a driver's ability to negotiate right turn filter movements. With the above data it is expected that driver distraction and in particular fatigue will have a major effect on the crash rate at intersections with right turn filters.

2.4.12 Classification of Opposing Traffic Unit

2.4.12.1 Passenger Vehicles

Passenger vehicles account for approximately 77.2% of the total registered vehicles in NSW (ABS, 2015a) but were involved in 88.4% of all crashes in the 2013 calendar year (Transport for NSW, 2013). Passenger vehicles are by far the largest traffic unit type with over four million of this vehicle type registered in NSW. This vehicle type also accounts for the most kilometres travelled throughout Australia with 72.3% of the total kilometres travelled being by passenger vehicle (ABS, 2015b).

As this vehicle type is not considered to be a vulnerable traffic unit, there is limited literature that examines ‘right through’ crashes for passenger vehicles. However there is a large amount of research that has been conducted on reducing injury severity for ‘head-on’ and ‘right through’ crashes which suggests that these type of crashes with passenger vehicles results in a high number of serious injuries and fatalities. Due to the large percentage of the registration and use of this vehicle type it is expected that this analysis will identify a large number of ‘right through’ crashes occurring with passenger vehicles.

2.4.12.2 Heavy Vehicles

This traffic unit includes light trucks, heavy trucks and articulated vehicles. Heavy vehicles account for approximately 17.8% of the total registered vehicles in NSW (ABS, 2015a) but were involved in 28.1% of all crashes in the 2013 calendar year (Transport for NSW, 2013). Heavy vehicles account for 25.6% of kilometres travelled throughout Australia (ABS, 2015b).

Due to the increased size of heavy vehicles it is generally perceived that this traffic unit type is not generally over represented in not at fault ‘right through’ crashes. Therefore there is limited literature documenting heavy vehicles and there risk of ‘right through’ crashes. However, Archer & Young (2009) documented poor heavy vehicle compliance with red signals which may have an effect on the rate of ‘right through’ crashes in this analysis. It is expected that the rate of ‘right through’ crashes with a heavy vehicle as the opposing traffic unit will be low due to the increased ability of a right turning driver to identify this larger vehicle type.

2.4.12.3 Motorcycles

Motorcycles account for approximately 4.2% of the total registered vehicles in NSW (ABS, 2015a) but were involved in 7.1% of all crashes in the 2013 calendar year (Transport for NSW, 2013). When looking at this data more closely, motorcyclists account for 22.2% (70) of the total fatal crashes and 14.7% (2545) of the total injury crashes in the 2013 calendar year (Transport for NSW, 2013). The data presented indicates that motorcyclists are one of the most at risk traffic units on NSW roads. This is due to the limited protection offered by the vehicle and their reduced size makes this vehicle type harder to see.

Stebbing (2009) conducted research on crashes at intersections throughout Victoria that involved motorcycles over a five year period and found that 29% of the total motorcycle crashes were 'right through' crashes with 62% of these crashes occurring in a 60km/h speed zone. These figures were echoed in Chen, Meuleners, Fraser, & Broughton (2012) research conducted over a similar period which identified that 40% of all motorcycle crashes were 'right through' crashes. It is particularly concerning that in 95.2% of these 'right through' crashes the right turning vehicle failed to give way to the motorcyclist preceding in an opposing through lane (Stebbing, 2009).

2.4.12.4 Pedestrians

Pedestrians were involved in 4.0% of all crashes in the 2013 calendar year (Transport for NSW, 2013). When looking at this data more closely, pedestrians accounted for 13.9% (44) of the total fatal crashes and 9.3% (1610) of the total injury crashes in the 2013 calendar year (Transport for NSW, 2013). The data presented indicates that pedestrians have an increased risk of being involved in a crash of high severity on NSW roads. A major difficulty faced by all road authorities is the inability to manage the movements of pedestrians. Introduction of pedestrian and signalised crossings provides facilities for pedestrians but does not strictly limit pedestrian to using these locations. Further to this, pedestrians are a fragile traffic unit with no protection when impacted by other traffic units.

Lord, Smiley & Haroun (1998) documented that ‘right though’ crashes accounted for between 17 to 32% of the total ‘pedestrian’ crashes that occurred at intersections. Modelling of signalised intersections shows that ‘T’ intersections have a higher risk to pedestrians from right turning vehicles than on ‘X’ intersections (Quaye, Larsden, & Hauer, 1993).

2.4.13 Auxiliary Lanes and Channelisation

The use of auxiliary turn lanes and channelisation at intersections improves through lane efficiency and road safety for turning vehicles (Austroads, 2009a). Channelisation also improves the delineation of the intersection and where central medians are provided allows placement of traffic signal displays (Austroads, 2010b). Austroads (2013) specifically identifies a reduction in ‘rear end’ and ‘overtaking-intersection’ crashes when treated with auxiliary right turn lanes and channelisation. With the above literature, it is expected that this research will identify a reduced occurrence of ‘rear end’ type crashes at intersections that have auxiliary right turn lanes and channelisation.

3 Methodology

3.1 Site Selection

The intersections selection process was undertaken by selecting sites that have a ‘right through’ crash history in the 2014 calendar year. Each intersection with a ‘right through’ crash in this year was then assessed to first confirm that it was a signalised site. Secondly the traffic signal design was checked to ensure that right turn filtering was enabled on the site. Lastly the site was check in google street view to determine if there were individual intersection properties that would affect the occurrence of crashes. This process resulted in a fairly random selection of sites across the greater Sydney, Newcastle and Wollongong road network.

3.1.1 Locality

The selection of traffic signal sites included the greater Sydney, Newcastle and Wollongong areas. Using the above method, 77 traffic signal sites were selected for analysis with 147 individual approaches. Of these approaches, 140 approaches are within the greater Sydney area, one approach in the Newcastle area and six approaches in the Wollongong area.

3.1.2 Horizontal Alignment

For this analysis it was generally desired that all intersections have a straight horizontal alignment in approach to and through the intersection. It was also desired that the angle of the minor road to the major road be close to 90^{o}. These attributes of the intersection were chosen to allow a consistent comparison between each approach. All traffic signal sites that had a poor horizontal alignment were not included in the analysis.

3.1.3 Bus and Bicycle Priority

Several sites presented that had bus and bicycle priority facilities including bus early starts, bus signals and dedicated bicycle lanes with bicycle signals. When determining if these sites should be included it was found that these sites often had different phasing arrangements to facilitate these special movements. It was determined that the increased complexity of the traffic signal phasing may result in skewing of crash data or data that is not comparable to the other traffic signal sites chosen. Therefore, all sites that incorporated these special traffic movements were not included in the analysis.

3.2 Data Collection

3.2.1 Crash Data

The crash data for this research project was obtained from the NSW Crash Link database. Crash Link is used to record all reportable crashes that occur on roads or road related environments within NSW. Information is supplied to the database by the NSW Police through crash reports and information documented at the site of the crash. The following crash data can has been obtained from Crash Link for the analysis of right turn filter crashes in the research project.

- Location.
- Crash identification number.
- Date, day and time of crashes.
- Speed zone.
- Severity of crash – fatal, injury or non-casualty.
- Crash type – right through, cross traffic, rear end, etc.
- Environmental conditions at time of crash – lighting, surface and weather conditions.
- Driver information – age and gender.
- Distraction and fatigue factors

A study period between the calendar years 2009 and 2013 was chosen to provide an accurate representation of the current road environment. The 2014 calendar year was omitted as all the crash data for this year had not been reported into Crash Link before the commencement of this research project. Also changes to the reporting requirements of crashes within the 2014 calendar year would result in inconsistent crash data for this year.

The crash data provided to Crash Link is provided by the NSW Police and is susceptible to errors and human judgement. The reports completed by the NSW Police are based on interviews with drivers involved in the crash and or witnesses to the crash, resulting in misleading or false information being documented. This data is access by Crash Link personnel to confirm the accuracy of the data provided and to interpret the crash reports into the required data fields. All of these steps can result in a reduction in the accuracy of the data and potential risk and errors in the data used in this report.

Throughout NSW there are numerous crashes which occur every year that are not reported as they fall outside the requirements for a crash to be reported. This results in the full extent of crashes being unclear and possibly misleading. Crashes are only reported if any of the following criteria is met:

- Police attend the crash site.
- At least one person is killed or injured.
- At least one vehicle is towed away.

Although the above information outlines the limitations of the data used for this analysis, the information provides a reasonable sample of crashes that occur throughout NSW.

3.2.2 Speed Zone

The speed zoning provided from Crash Link gave inconsistent data with crashes at the same site being reported as having different speed zones. This could have been attributed to changes in speed zone throughout the duration of the study period. However, a closer inspection of the dates of crashes reveal that this could not be the case in all instances and that these different recordings for speed may be due to reporting or data entry errors.

To provide a consistent methodology for determining the speed zone at each site, a desktop site visit was conducted on each site to determine the sign posted speed limit. The posted speed limit was then adopted as the speed zone for analysis of this research project.

3.2.3 Number of Opposing Lanes

The number of opposing lanes is not recorded in the crash data from Crash Link. The number of opposing lanes was determined using both traffic signal design plans and desktop site visits. Where inconsistencies between the two sources of information were found the number opposing lanes identified by the traffic signal design plan were used for this analysis.

The number of opposing through lanes includes opposing left turn lanes. Therefore a site that has two opposing through lanes and a left turn lane would be counted as having three opposing lanes.

3.2.4 Traffic Volume Data

The detector loops on all signalised intersections in NSW record traffic counts via the number of times the detector is activated. An operating system called Sidra is used for traffic management and data collection on all traffic signals within NSW. The data collected by Sidra is accessed by a program called Traffic Reporter.

From Traffic Reported information within the last year can be access directly from Sidra, beyond a year the data is archived. Due to the difficulty in retrieving data from archives, it was decided that detector loop traffic counts from within the 2014 calendar year would provide acceptable data for this research project. A week of traffic counts were extracted from Traffic Reporter which were free of public and school holidays for each study site.

The traffic data extracted from Traffic Reporter was hourly traffic counts for both the right turn and opposing through movements for each study approach. It was impossible to determine the traffic volumes of right turners at approaches that had a shared through and right turn lane. Therefore at these sites only the opposing through traffic volumes were determined.

3.2.5 Signal Phasing

The operation of each site was first assessed using the traffic signal design to determine that right turn filters are enabled. The phasing of the site was then recorded as leading, trailing or no right turn phasing. The Network Operation division of the RMS occasionally removes right turn filters or amends the phasing sequence to improve road safety without amending the traffic signal design. This may lead to inaccuracy in the analysis of phasing and a lower occurrence of ‘right through’ crashes. Through close inspection of the crash data it is believed that all sites selected have right turn filters enabled and the phasing is as per the traffic signal design plans.

3.2.6 Sight Distance

The site distance at each approach was determined using google street view and aerial photography. Each approach was first examined in google street view to determine the line of site from the stop line of the right turn approach to a physical feature in the opposing through carriageway. The distance from the stop line to the physical feature was then measured using the aerial photography.

The method used to determining sight distance outline above is very primitive and has a high potential for error. However, the resources and time required to conduct a more accurate analysis of sight distance on 147 intersection approaches is beyond the capabilities of this research project. Therefore, this method will be used to provide an indicative sight distance for this analysis.

3.3 Analysis

3.3.1 Crash Data

The crash data collected from Crash Link for each intersection approach was sorted using an excel spreadsheet. The sorted crash data can be found attached in Appendix B. This allowed several contributing factors that are believed to effect the crash rate at filtered right turns to be analyzed. These factors include:

- Approach Speed.
- Number of Opposing Lanes.
- Traffic Volume.
- Availability of gap sight distance.
- Time of day.
- Day of week.
- Weather and surface conditions.
- Lighting.
- Gender of the driver making the right turn manoeuvre.
- Age of the driver making the right turn manoeuvre.
- Driver distraction and fatigue.
- Type of oncoming vehicle.
- Lane configuration and channalisation.
- The effect of leading or trailing right turn phasing.

3.3.2 Traffic Volumes

The traffic volumes were manually transferred from text files into an excel spreadsheet for ease of analysis. A week of traffic data for each approach were averaged to provide a typical daily traffic volume of hourly traffic flows. This data was then compared to each individual crash in respect to the time of day documented that the crash occur to determine an indicative traffic volume for both the right turn and opposing through movements. Daily traffic volumes with hourly flow rates for each approach can be found attached in Appendix D.

4 Results

4.1 Overall Crash Data

From the 147 study approaches there is a total of 1111 reported crashes over the five year study period. This results in an average of 7.6 crashes per approach over this period. It can be seen in Figure 13 that the major crash types are ‘right through’ 493 (43.6%), ‘rear end’ 337 (29.8%) and ‘cross traffic’ 106 (9.4%). Other crashes 145 (12.8%) is made up of crashes that are often not effected by the use of right turn filters such as ‘side swipe’ and ‘off carriageway’ crashes.

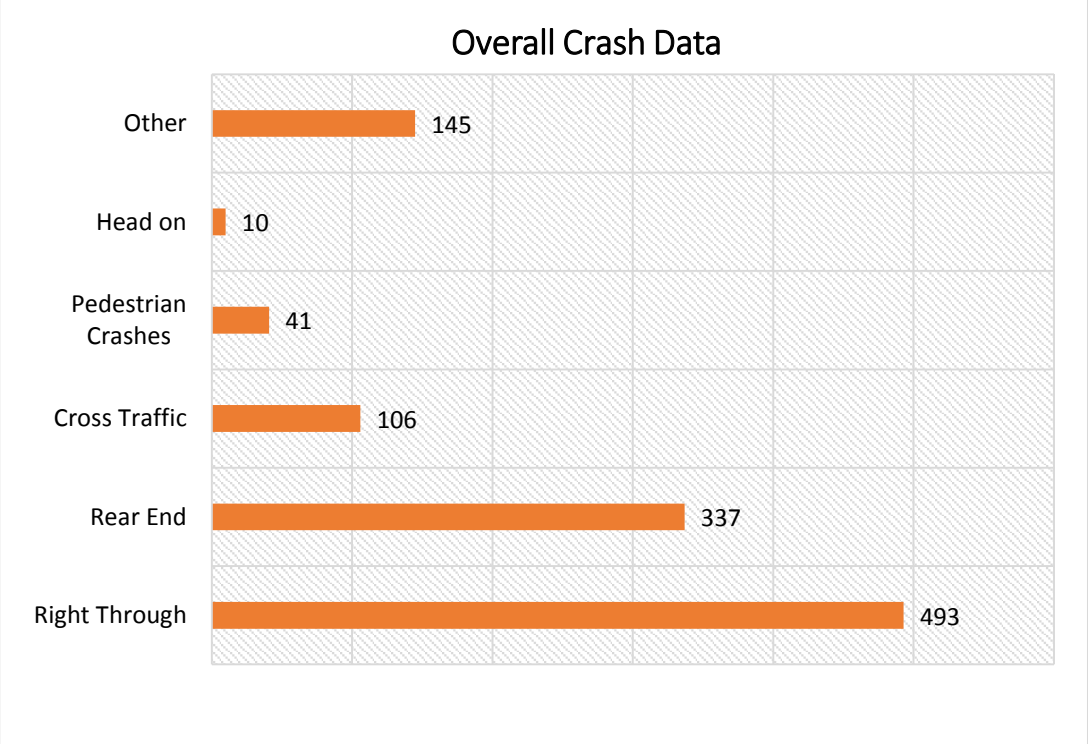


Figure 13 - Overall Crash Data

4.2 Crashes by Right Turn Phasing

The crash data indicates that the number of 'right through' crashes per approach for trailing right turn phasing type is the largest with 4.03 'right through' crashes per approach. Approaches with no right turn signals have a 'right through' crash rate that is almost half the rate of trailing phasing with 2.42 'right through' crashes per approach. The number of 'right through' crashes at sites with leading right turn phasing is the lowest with 0.83 'right through' crashes per approach. The number of 'cross traffic' crashes per approach are very similar for trailing and no right turn phased sites. For 'cross traffic' crashes with leading right turn phasing there is a lower rate of crashes than the other phasing types.

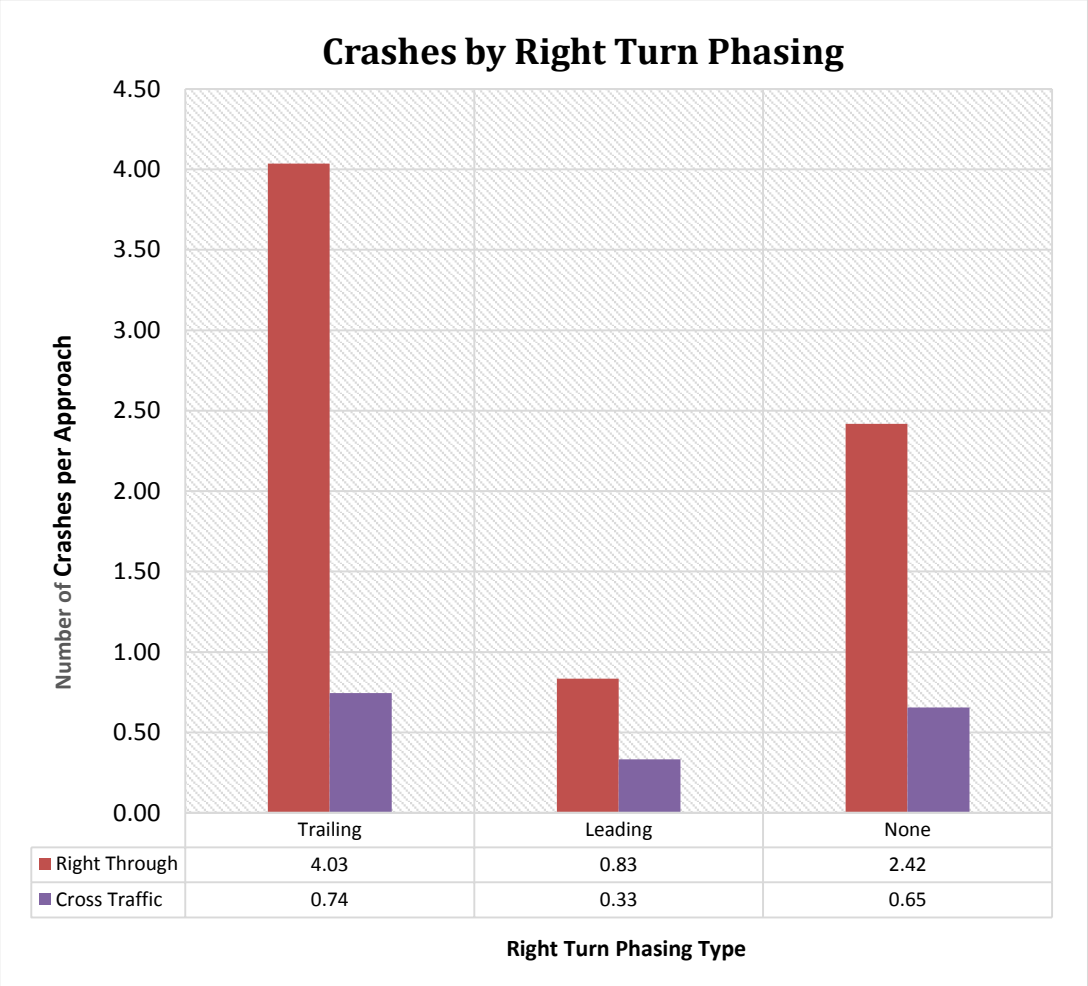
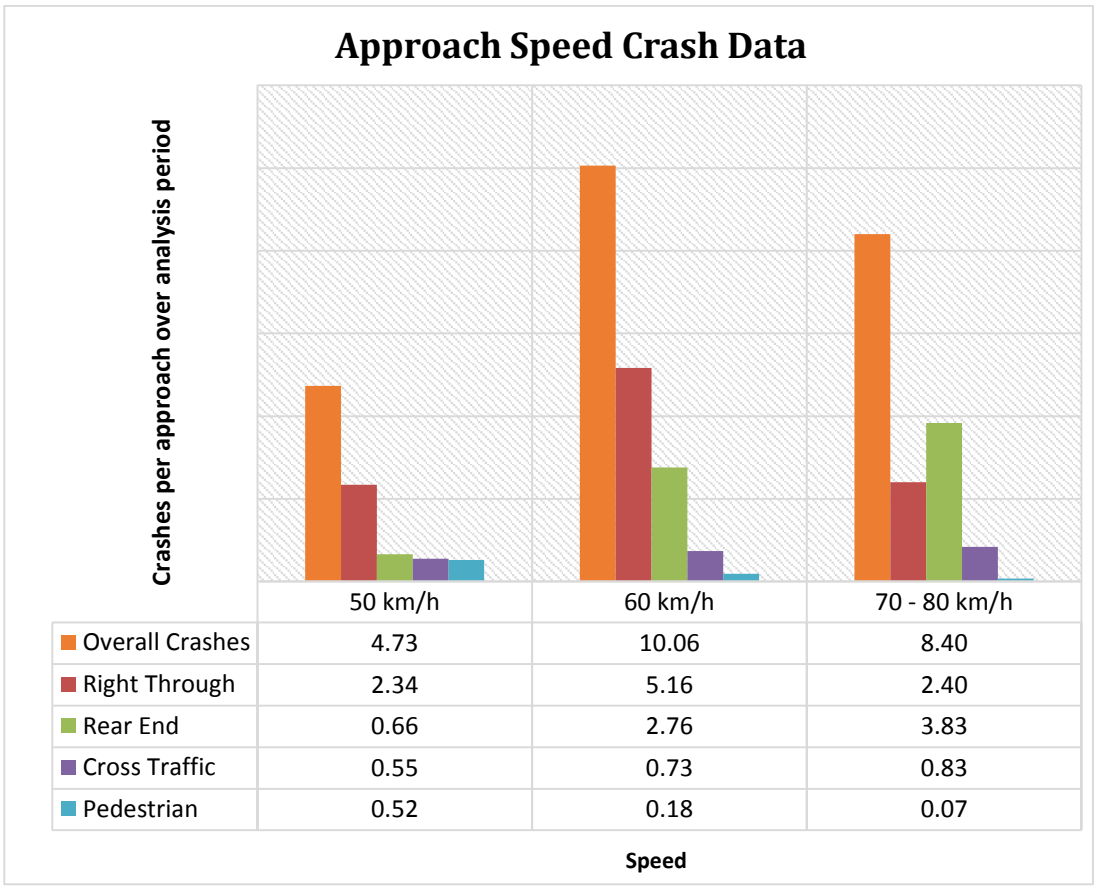


Figure 14 - Crashes by Right Turn Phasing

4.3 Crashes by Approach Speed

The increase in travel speed is well documented, in both the literature review conducted for the project and all road related literature available, as a major contributing factor in road crashes. This analysis has 56 approaches with a speed zone of 50 km/h, 49 approaches with a speed zone of 60 km/h, 28 approaches with a speed zone of 70 km/h and 14 approaches with a speed zone of 80 km/h. It can be seen from Figure 15 that the overall crashes per approach increases between 50 km/h and 60 km/h approaches, although between 60km/h and 70-80 km/h the overall crashes decreases. This pattern is continues when analyzing the 'right through' crashes with 2.34 crashes per approach at 50 km/h, 5.16 crashes per approach at 60 km/h and 2.40 crashes per approach at 70-80 km/h. The number of crashes per approach increased with a raise in speed for both 'rear end' and 'cross traffic' crashes. 'Pedestrian' crashes decreased with increase in travel speed.



	50 km/h	60 km/h	70 - 80 km/h
Overall Crashes	4.73	10.06	8.40
Right Through	2.34	5.16	2.40
Rear End	0.66	2.76	3.83
Cross Traffic	0.55	0.73	0.83
Pedestrian	0.52	0.18	0.07

Figure 15 - Approach Speed Crash Data

4.4 Crashes by Number of Opposing Lanes

This analysis has 27 approaches with one opposing through traffic lane, 66 approaches with two opposing through traffic lanes and 53 approaches with three or four opposing through traffic lanes. It can be seen from Figure 16 that as the number of opposing lanes increases the overall number of crashes per approach increases. For the 'right through' crashes type, the number of crashes per approach increases between one and two opposing through lanes although between two and three or four through lane the number of crashes per approach decreases. The number of 'cross traffic' crashes per approach increases as the number of opposing through lanes increase.

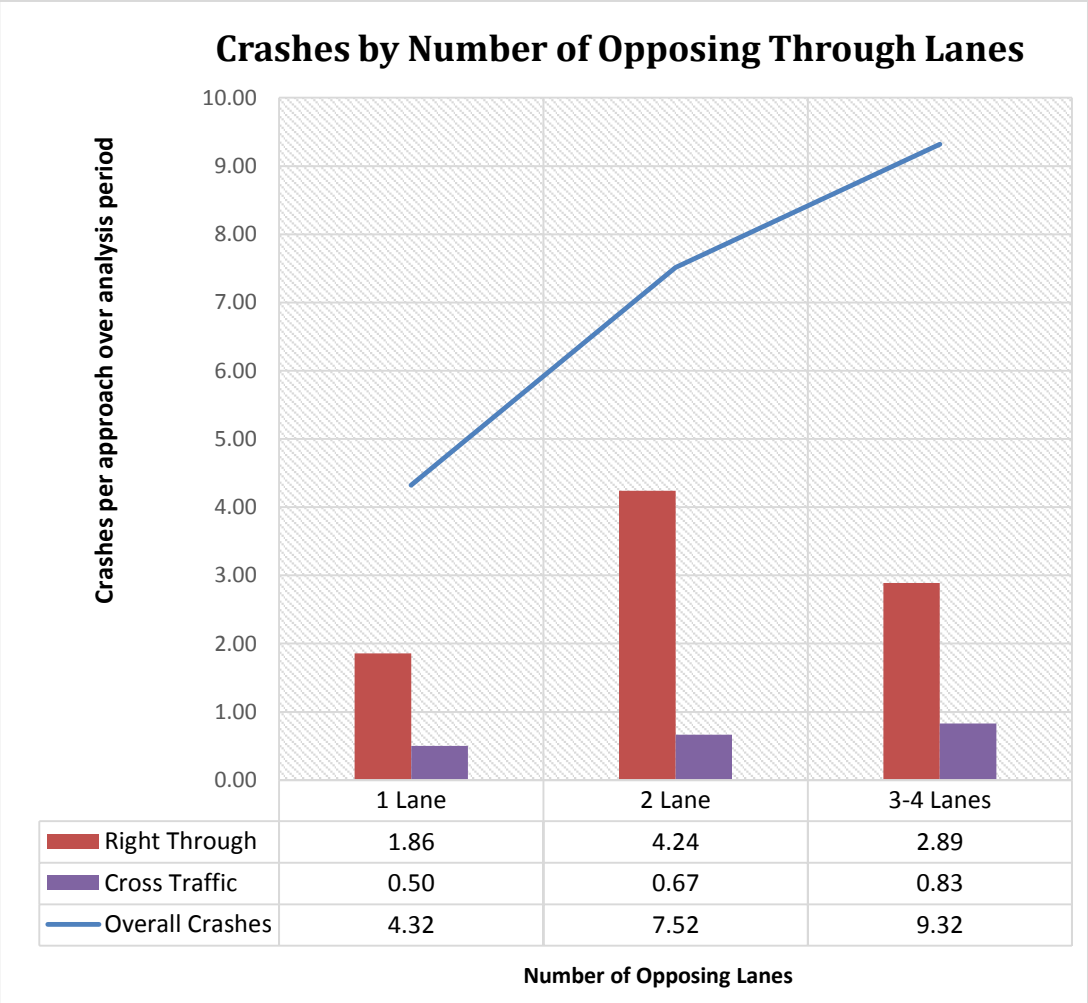


Figure 16 - Number of Opposing Through Lanes Crash Data

4.5 Crashes by Traffic Volume

4.5.1 Opposing Traffic Volume

The analysis of opposing through traffic volumes on 'right through' crashes indicates that at low volumes the crash rate quickly increases and continues to increases to the point of approximately 250 vehicles per hour per lane. At traffic volumes greater than 250 vehicles per hour per lane the crash rate steadily decreases till 700 vehicles per hour per lane at which time there are minimal 'right through' crashes at traffic volumes above this point. The rate of 'cross traffic' crashes generally follows the same pattern but has a much flatter increase and decrease in crashes.

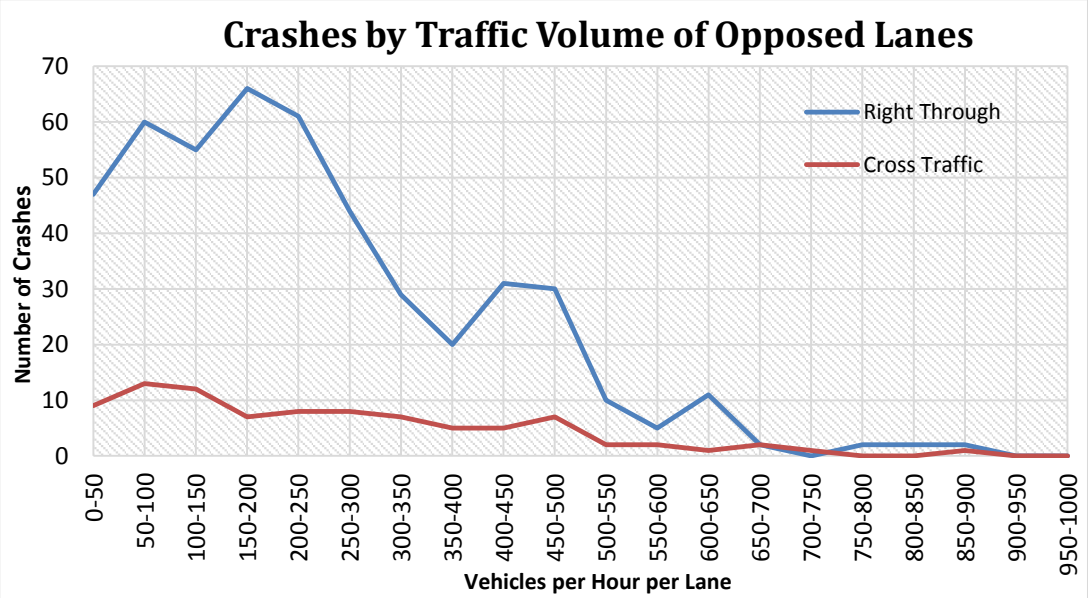


Figure 17 - Crashes by Traffic Volume of Opposing Lanes

4.5.2 Right Turn Traffic Volume

The analysis of right turn traffic volumes on ‘right through’ crashes indicates that the crash rate changes randomly with changes in traffic volume. Although the number of ‘right through’ crashes varies between 43 and 10 crashes over the traffic volume from 50 to 275 vehicles per hours, these traffic volumes experience a much higher crash rate than at traffic volumes greater than 275 vehicles per hour. The rate of ‘cross traffic’ crashes generally follows the same pattern as the ‘right through’ crashes.

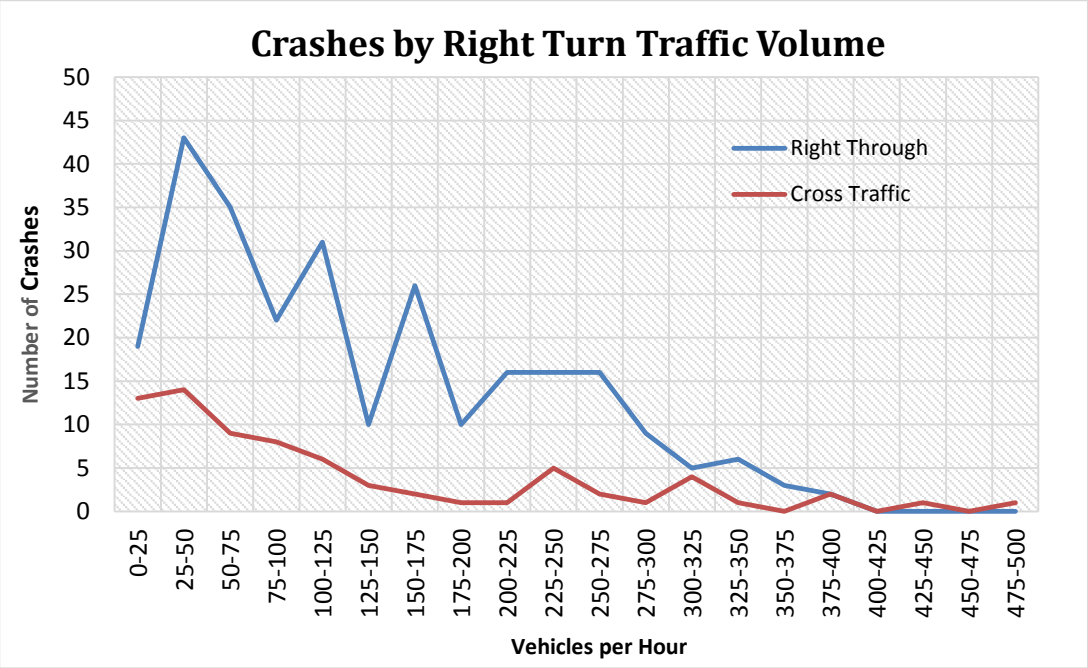


Figure 18 - Crashes by Right Turn Traffic Volume

4.6 Crashes by Gap Sight Distance

It can be seen by the analysis that as the available sight distance approaches the required gap sight distance the 'right through' crash rate increases. As the available sight distance exceeds the required gap sight distance the 'right through' crash rate decreases. This trend is generally followed when analyzing 'cross traffic' crashes.

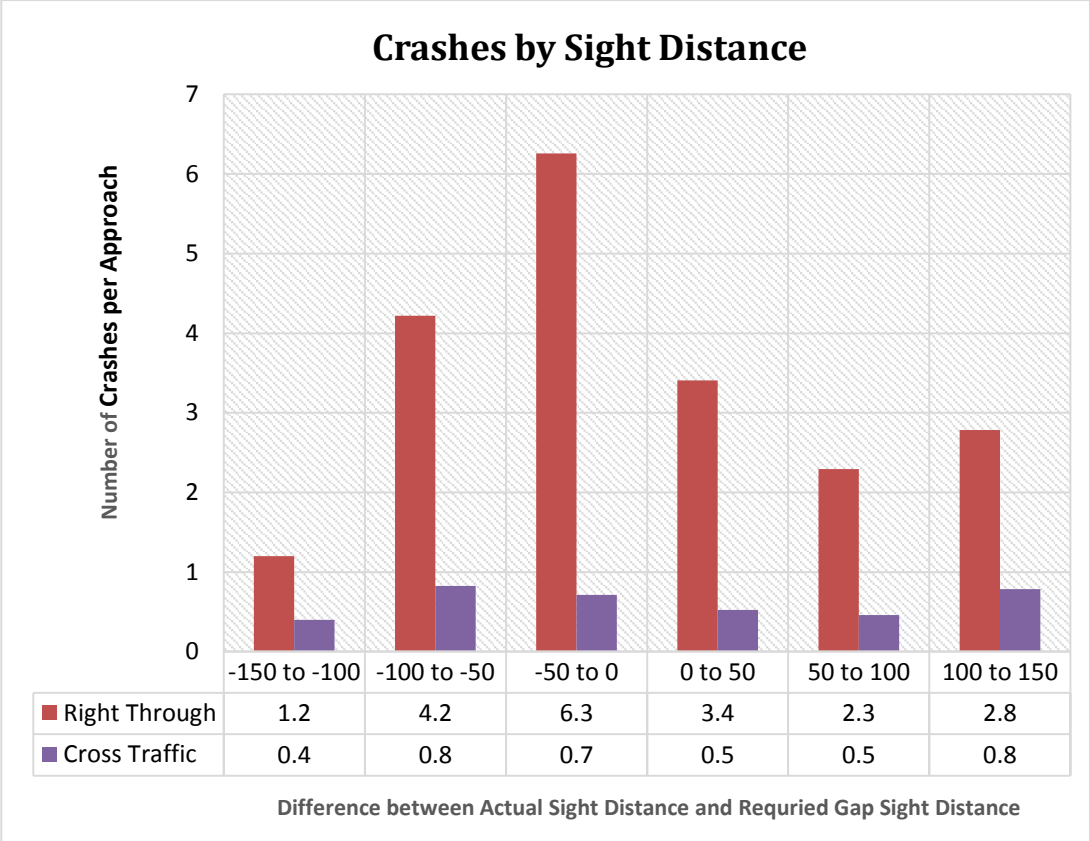


Figure 19 - Crashes by Sight Distance

4.7 Crashes by Time of Day

The analysis of crashes by time of day indicates that between the hours of 11pm and 6am the 'right through' crash rate is very low with less than 10 crashes in each hour time period. The rate of 'right through' crashes sharply increases and remains around the 30 crashes per hour time period between the hours of 6am and 11pm. The distribution of 'cross traffic' crashes is similar to the 'right through' crashes with the majority of crashes occurring between 6am and 11pm.

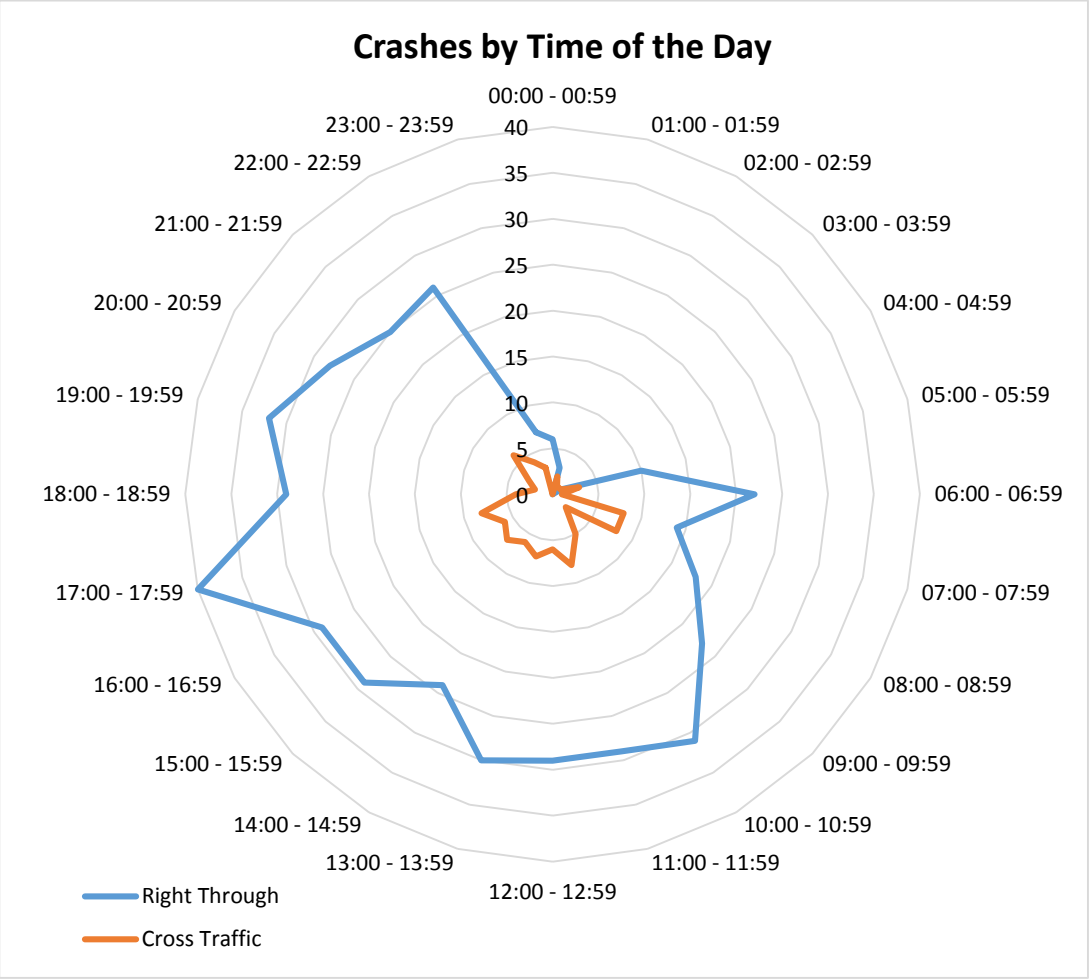
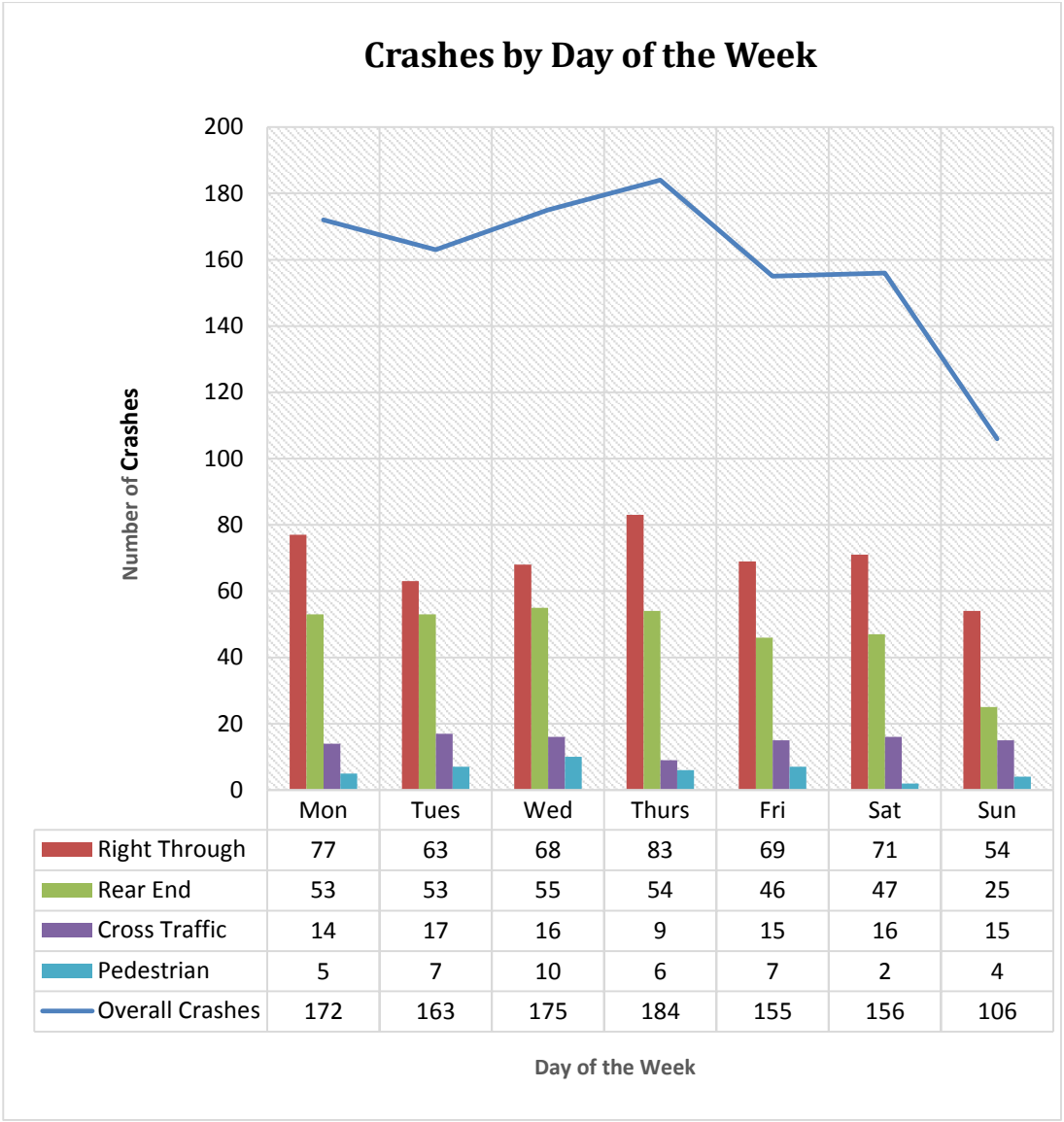


Figure 20 - Crashes by Time of the Day

4.8 Crashes by Day of the Week

The crash data for the study sites indicate that crashes are generally spread evenly across all days of the week. For 'right through' crashes there is an average of 69 crashes per day of the week. The highest occurrence of 'right through' crashes is on Thursdays (83 crashes) and the lowest rate of 'right through' crashes is on Sundays (54 crashes).

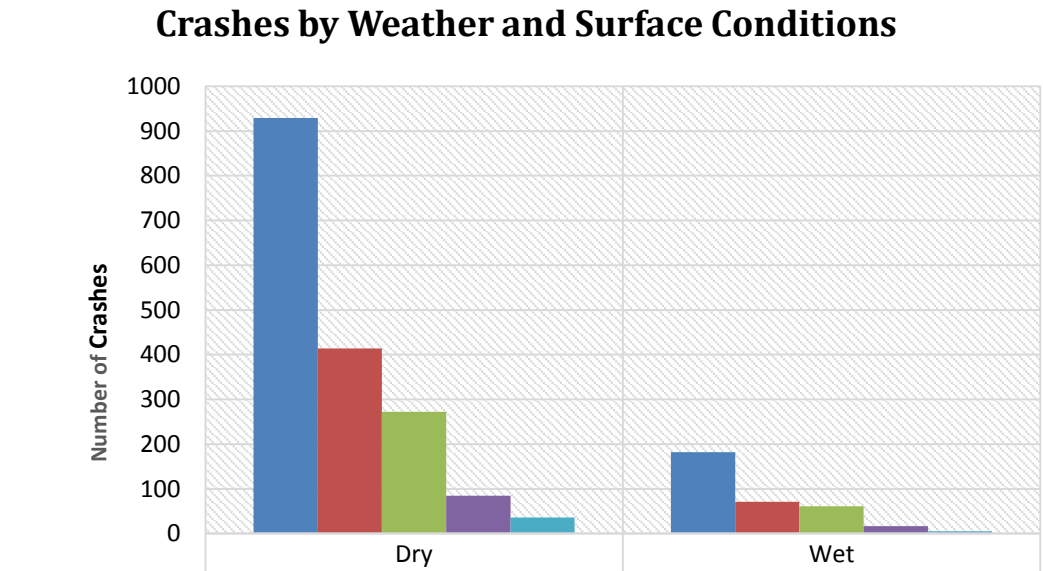


	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Right Through	77	63	68	83	69	71	54
Rear End	53	53	55	54	46	47	25
Cross Traffic	14	17	16	9	15	16	15
Pedestrian	5	7	10	6	7	2	4
Overall Crashes	172	163	175	184	155	156	106

Figure 21 - Crashes by Day of the Week

4.9 Crashes by Weather and Surface Conditions

The analysis of crashes under wet and dry conditions indicates in all crash types that approximately 83% of crashes occurred under dry operating conditions. The rate of 'right through' crashes in dry conditions were slightly higher than the average with 85.4% of crashes. 'Cross traffic' crashes follow the trend of all other crashes with 83.3% of crashes occurring under dry operating conditions.



	Dry	Wet
Overall Crashes	929	182
Right Through	414	71
Rear End	272	61
Cross Traffic	85	17
Pedestrian	36	5

Figure 22 - Crashes by Weather and Surface Conditions

4.10 Crashes by Lighting Conditions

The crash data indicates that there are double the number of overall crashes during naturally lit conditions (732) compared to when operating condition under street lighting (379). This trend is continued when looking at the analysis of 'right through' and 'cross traffic' crashes with the number of crashes occurring with natural lighting doubling the number of crashes with street lighting conditions. The number of 'rear end' crashes that occur in natural lighting (232) is three times the amount that occur under street lighting condition (84). The analysis indicates that there are an even number of 'pedestrian' crashes under both lighting conditions.

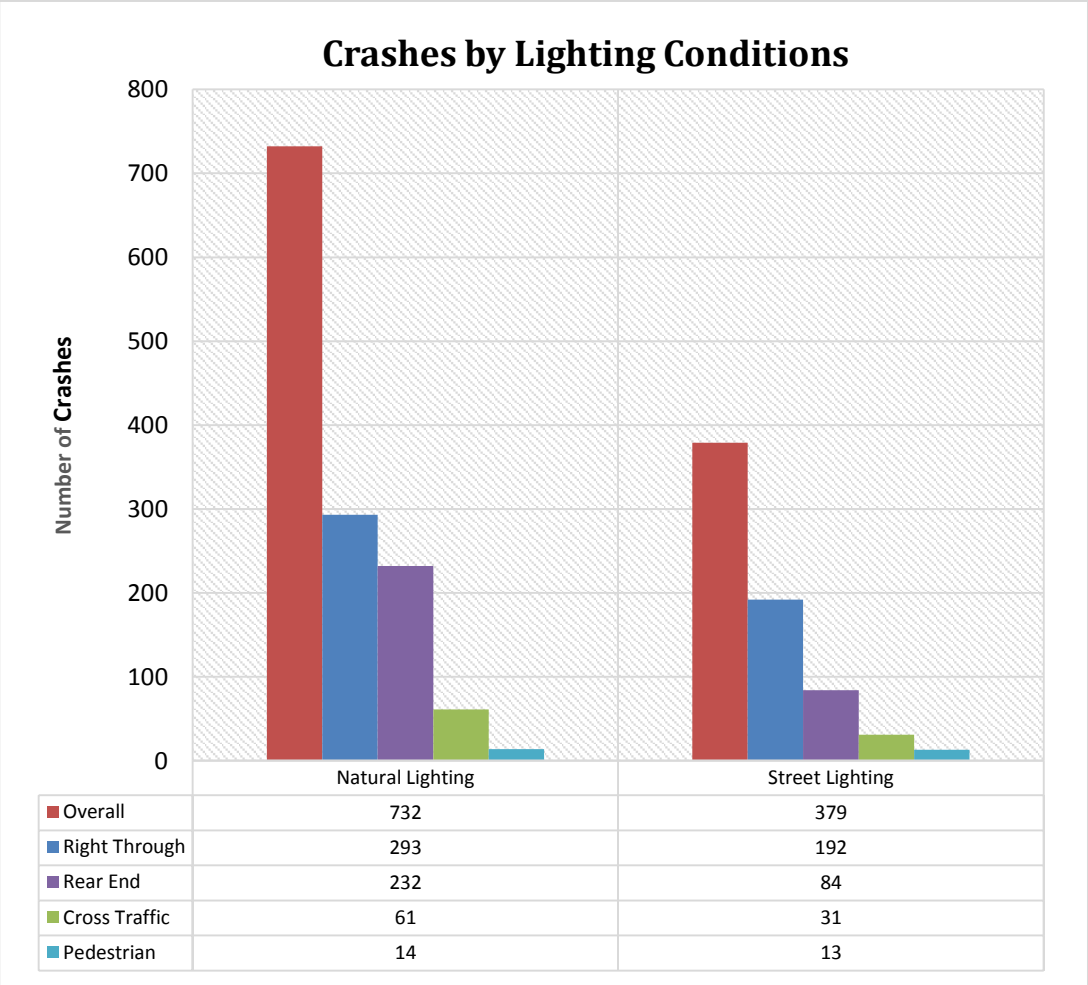


Figure 23 - Crashes by Lighting Conditions

4.11 Crashes by Gender of Driver Turning Right

The crash data based on the gender of the driver indicates that of all crash types males had 675 (60.8%) of crashes and females had 397 (35.7%) of crashes. There were 39 crashes that did not have the gender of the driver recorded. Crash data for the 'right through' and 'cross traffic' crashes was more evenly spread between males and female but was still skewed with higher crash rates for male drivers. For 'right through' and 'cross traffic' crashes males accounted for 274 (56.5%) and 57 (55.9%) respectively while females accounted for 205 (42.3%) and 40 (39.2%) respectively.

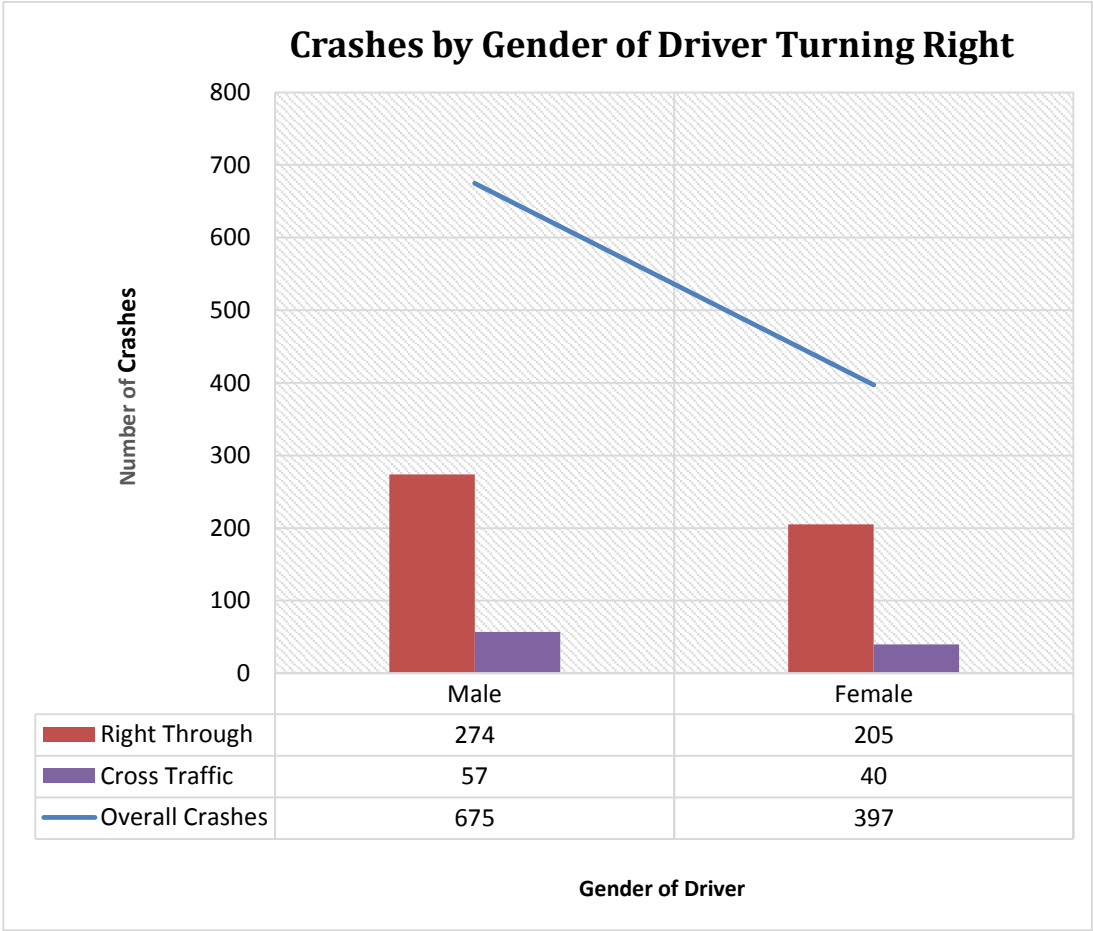


Figure 24 - Crashes by Gender of Driver Turning Right

4.12 Crashes by Age of Driver Turning Right

The data indicated that the occurrence of 'right through' crashes are highest in the 21-29 year old age bracket and the likelihood of a driver being the at fault right turning driver steadily decreases with age. Figure 25 indicates that the under <20 year old age bracket are involved in further 'right through' crashes than the 21-29 year old age bracket. However, this age group only accounts for 14% of driver in NSW but is the at-fault turning driver in 17.9% of the 'right through' crashes assessed in this analysis.

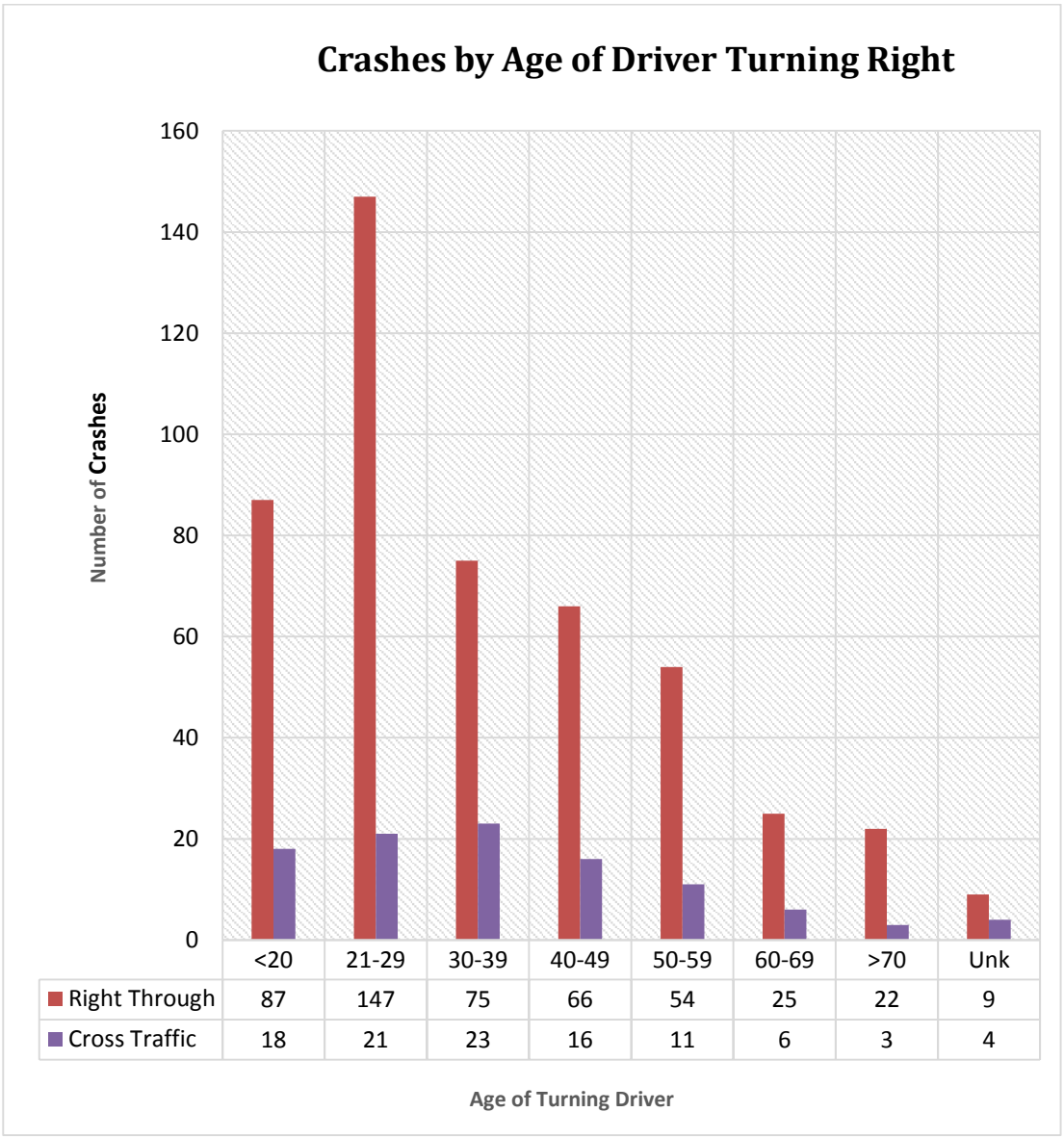


Figure 25 - Crashes by Age of Driver Turning Right

4.13 Effect of Driver Distraction and Fatigue on Crashes

The crash data for the 1111 crashes reported in this analysis indicates that fatigue or distraction was a contributing factor in 175 (18.7%) of the crashes. From Table 3 it can be identified that fatigue was not reported on any 'right through' or 'cross traffic' crashes. Distractions from outside the vehicle result in a larger number of crashes than all other fatigue and distraction factor types put together. The percentage of 'right through' and 'cross traffic' crashes which have a distraction recorded as a factor in the crash are 16.3% and 14.6% respectively.

Table 3 – Crashes by Driver Distraction and Fatigue

	Fatigue	**Distracted Inside**	**Distracted Outside**	**Other Distraction**	**Total Crashes**
Overall Crashes	8	30	120	17	175
Right Through	0	1	65	2	68
Rear End	1	15	33	9	58
Cross Traffic	0	5	8	0	13
Pedestrian	0	1	8	0	9

4.14 Crashes by Classification Opposing Traffic Unit

The analysis of the classification of opposing vehicle being involved in a 'right through' or 'cross traffic' crash type indicates that in approximately 85% of these crashes a passenger vehicle is the opposing vehicle. Heavy vehicles are the opposing vehicle in 7.2 % of 'right through' crashes and 9.8% of 'cross traffic' crashes. Motorcycles are the opposing vehicle in 4.3% of 'right through' crashes and 2.0% of 'cross traffic' crashes. Bicycles are the opposing vehicle in 2.5% of 'right through' crashes. There were no reported 'pedestrian' crashes for either crash type.

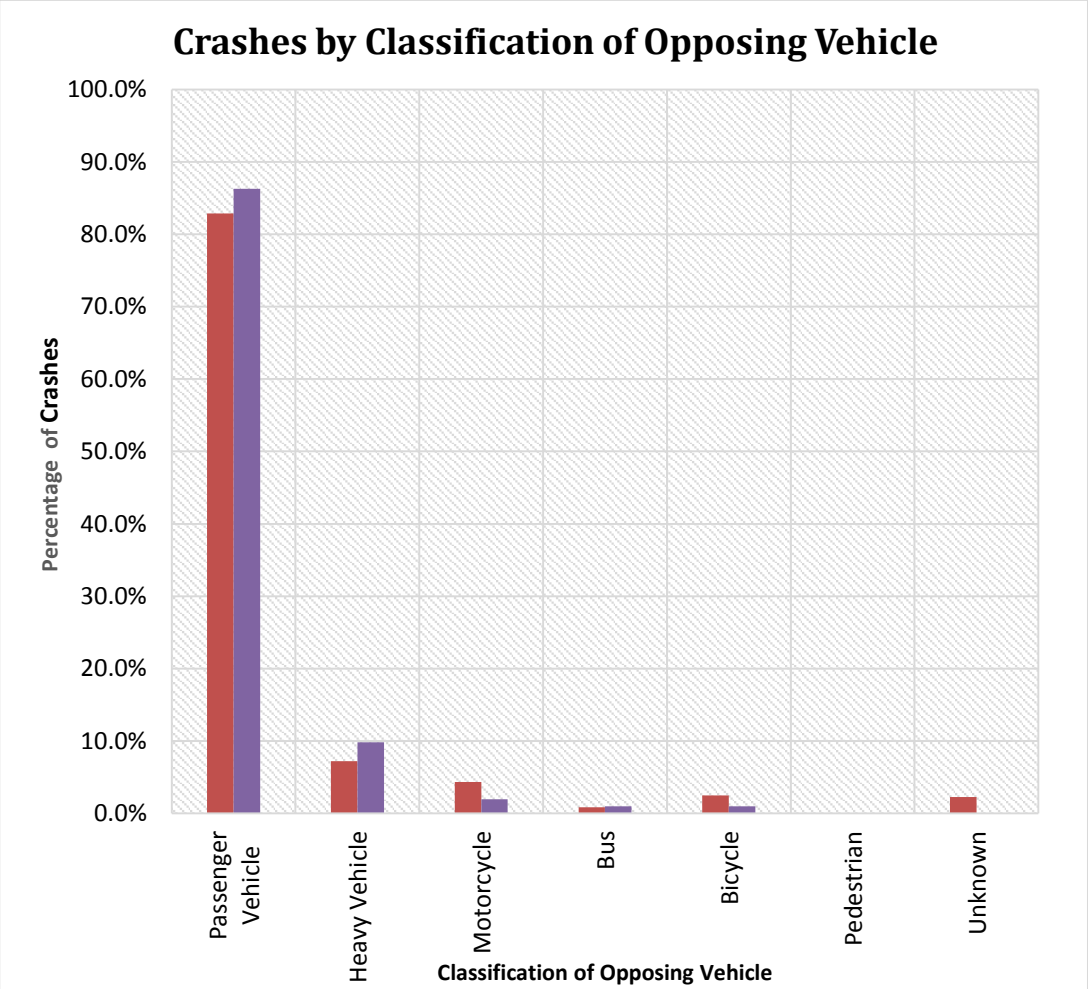
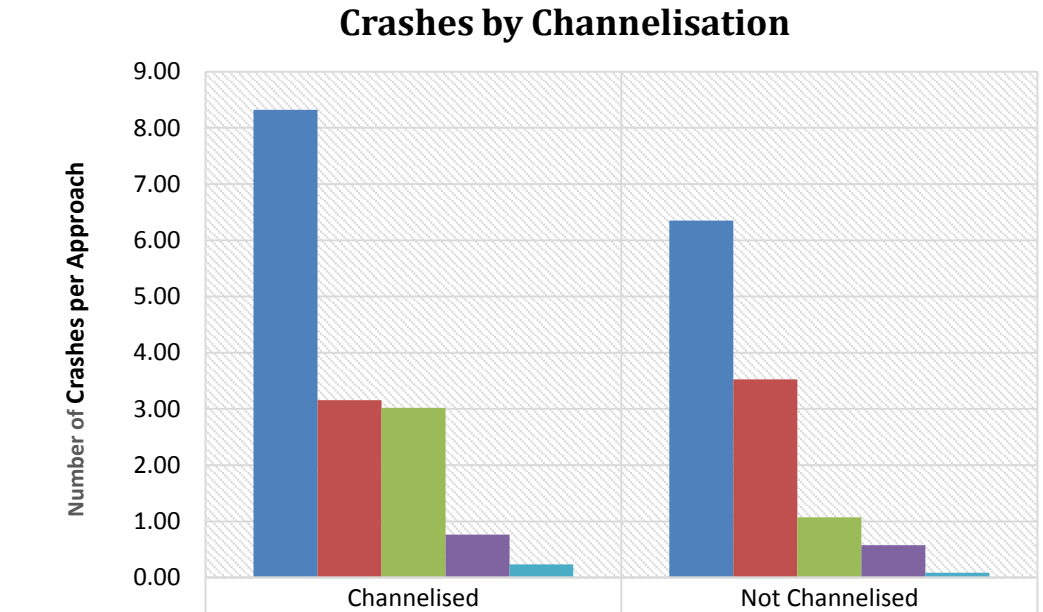


Figure 26 - Crashes by Classification of Opposing Vehicle

4.15 Crashes by Auxiliary Lanes and Channalisation

This analysis has 90 approaches with channelisation and 57 approaches without channelisation. It can be seen from the analysis of overall crashes that there are approximately two more crashes per approach at signal sites that have channelisation of the right turn movement compared with sites that have a shared through and right turn lane. The only crash type that increased from channelised to unchannelised was 'right through' crashes with 3.16 crashes per approach with channelisation and 3.53 crashes per approach for sites that were unchannelised. This analysis shows that there are three times the amount of 'rear end' crashes at sites with channelisation when compared to sites that are unchannelised.



	Channelised	Not Channelised
Overall Crashes	8.32	6.35
Right Through	3.16	3.53
Rear End	3.02	1.07
Cross Traffic	0.77	0.58
Pedestrian	0.23	0.09

Figure 27 - Crashes by Channelisation

4.16 Assessment of Sites with No Crash History

There were six approaches that have no crashes over the five year analysis period. When comparing these sites it can be seen that five of the six sites have a 50 km/h speed zone with the other site a 60 km/h speed zone. Four of the six sites cross only one opposing lane of traffic with the other two sites only crossing two lanes. All sites except one have sight distance much greater than the required gap sight distance and the other site has a sight distance very close to the prescribed gap sight distance. All these approaches are at 'x' intersections from the minor road of the intersection with no right turn phasing except one approach.

Table 4 - Comparison of Site with No Crash History

Approach No.	Street 1	Street 2	Dir. of Travel	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Max. Opp. TV	Max. Right Turn TV	Aval. SD vs Req. Gap SD
46	DELHI Rd	PLASSEY Rd	N	X	60	1	L	227	-	50
53	ANZAC Pde	STRACHAN St	E	X	50	1	N	425	42	59
68	EUSTON Rd	MADDOX St	E	X	50	2	N	199	-	-16
94	QUEENS Rd	WALKER St	N	X	50	1	N	306	236	143
95	QUEENS Rd	WALKER St	S	X	50	1	N	50	-	76
103	GLOSSIP St	KARRAJONG Ave	E	X	50	2	N	495	12	52

5 Discussion

5.1 Phasing Type

The analysis of the phasing type indicates that there is not a large enough sample size for leading right turn phasing to perform an accurate assessment of crashes at sites with this phasing type. However, the use of trailing right turn phasing is consistent with the expectation of road users when approaching signalised intersections. Further to this, as documented in the literature review the use of no right turn phases is widely accepted when approaching from the minor leg of the intersection where opposing through volumes are low.

The data that is presented in this analysis is consistent with what is expected in that the number of crashes on approaches with trailing right turn phasing is larger than on approaches with no right turn phasing. This is due to the fact that trailing right turn phasing is only implemented on sites where the traffic volumes have grown too high for no right turn phasing to work from both a traffic and safety point of view. This means that the sites in this analysis with no right turn phasing generally have lower traffic volumes and therefore lower 'right through' and 'cross traffic' crash rates.

5.2 Approach Speed

The use of right turn filter phasing on signalised intersections with a speed of 70 km/h or greater is limited by the RTA NSW (2010). During the selection of sites for this project it was identified that finding approaches in 70 and 80 km/h speed zones with right turn filter phasing enabled was a lot more difficult than in the lower speed zones. During this stage it was recognised that all sites that have been upgraded or constructed within the last decade in the 70 and 80 km/h speed zones did not incorporate right turn filtering.

All sites chosen for the 70 and 80 km/h speed zone were well established signal sites and it is believed that most traffic signal sites with a high crash rate in these speed zones have been updated to fall in line with the RTA NSW (2010). The author of this project believes that the result displayed for approach speed do not accurately represent the crash rate for intersections in higher speed zones.

5.3 Number of Opposing Through Lanes

The use of right turn filters on signalised intersections with three or more opposing lanes has been limited by the RTA NSW (2010) with recent changes to this document also limiting the use of filtered right turns at intersections with two or more opposing lanes. This has resulted in similar circumstances as that of the opposing approach speed in that all sites that had three or more opposing lanes and a crash history have had the filter right turns disabled. As a result it is believed that the results displayed for the number of opposing through lanes do not accurately represent the crash rate for intersections with multiple opposing lanes.

5.4 Traffic Volumes

5.4.1 Opposing Traffic Volumes

The analysis of ‘right through’ crash rates when compared with opposing traffic volume indicated that the crash rate steadily reduced at traffic volumes of greater than 250 vehicles per hour per lane. This is in contradiction to the expected outcome that the larger the opposing traffic volume the more ‘right through’ crashes will occur. However when analyzing this from a traffic movement point of view, it becomes clear that the amount of filter right turn movements that can occur will also decrease with this increase in traffic volume.

Figure 28 shows the decrease in the ability for a driver to undertake a filtered right turn movement as opposing traffic volumes increase. The figure also shows how this relates to the trend line of the crash data from this analysis.

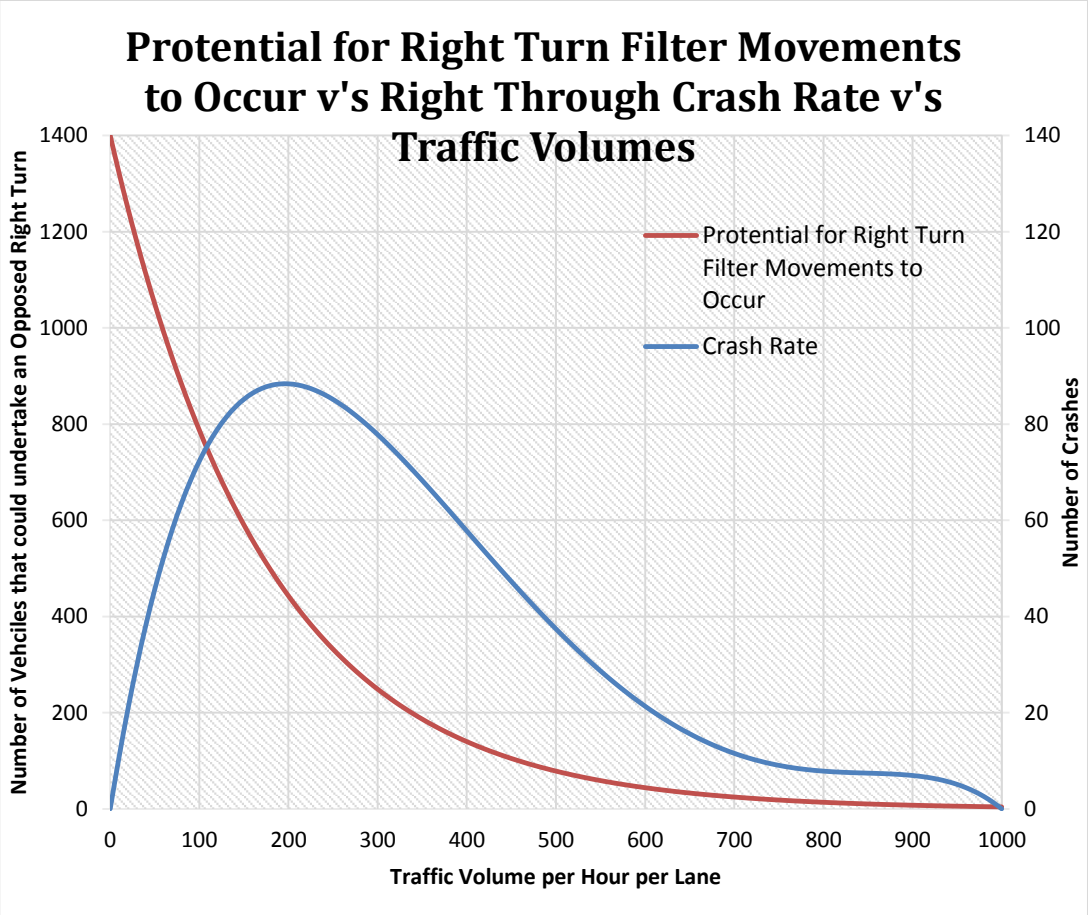


Figure 28 - Right Turn Filter Movements v's Right Through Crash Rate v's Traffic Volume

5.4.2 Right Turn Traffic Volumes

The analysis of 'right through' crash rates when compared with right turning traffic volumes indicates that the crash rate steadily reduced at traffic volumes of greater than 150 vehicles per hour. This is in contradiction to the expected outcome that the larger the right turn traffic volume the more 'right through' crashes will occur. However, generally when the right turn traffic volume is high so is the opposing through volume. As discussed above when the opposing through traffic is high the number of right turn movements being undertaken reduces and therefore so do the number of 'right through' crashes.

5.5 Gap Sight Distance

The crash data indicates that at sites with sight distance that is substantially lower than the prescribe gap sight distance the occurrence of ‘right through’ crashes is low. This is believed to be due to the right turning driver not being comfortable in undertaking an opposed turn under these conditions. However the use of a right turn filter under these conditions results in a higher risk for the driver undertaking this movement.

The crash data indicates that at sites that have sight distance of just below the prescribed gap sight distance have the highest crash rate. At sites where the sight distance is only just met there is still a high crash rate. This indicates that at the prescribed gap sight distance the turning drives feels more comfortable in undertaking the manoeuvre but often choose undesirable gaps resulting in high crash rates.

5.6 Time of Day Filtering

The distribution of crashes from this analysis indicated that there is a low ‘right through’ crash rate between 11pm and 6am and a high ‘right through’ crash rate between 6am and 11pm. The traffic volume data of this report consistently shows very low traffic volumes late at night and early in the morning and high traffic volumes for the rest of the day. Sections 4.5 and 5.4 of this report outline the increased risk of ‘right through’ crashes at traffic volume between 100 to 400 vehicles per hour. The data presented for crashes by time of day further verify the effect of traffic volumes on ‘right through’ crash rates.

5.7 Day of the Week

The crash data indicates that there are no trends of a higher risk of ‘right through’ crashes on any particular day. The number of crashes per day is slightly lower leading into and on the weekends. This is believed to be due to generally lower traffic volumes operating on these day.

5.8 Weather and Surface Conditions

The crash analysis for this report indicates that 83% of all crashes occur in dry conditions although the literature review indicates that for the greater Sydney metropolitan area the split between dry and wet days is 60% to 40%. These result generally match the findings of Yannis & Karlaftis (2011) in that wet driving condition resulted in reduced crash rates. It is believed that the rate of crashes in wet weather is lower due to decreased speed and higher driver awareness under this operating condition.

5.9 Lighting Conditions

The analysis indicates that there are generally double the number of crashes under natural lighting conditions compared to street lighting conditions. As discussed in Section 5.4.1 - Opposing Traffic Volumes and Section 5.6 - Time of Day Filtering there are generally much larger traffic volumes during the day when the intersections are naturally lit. It is believed that the result of this analysis are showing the effect of traffic volume rather than the effect of reduced visibility due to street lighting conditions.

5.10 Gender of Driver Turning Right

The data from this research project and the literature review both indicated that when evaluating all crash types male drivers are three times more likely to be involved in a crash than female drivers. However, the data of this analysis indicates that this trend does not hold true for ‘right through’ and ‘cross traffic’ crashes with the number of male crashes only slightly larger than female crashes. This data suggests that female drivers may struggle more than male drivers when undertaking right opposed movements.

5.11 Age of Driver Turning Right

The involvement of young drivers in all crash types is well documented with most road authorities within Australia and developed countries throughout the world having campaigns and strategies to reduce crashes involving young drivers. In NSW this includes licensing requirements, school education programs and television, radio and social media campaigns. However, the data collected as part of the literature review for the project and from the study sites both indicate that the rate of crashes involving young drivers is still a major problem.

The crash data within this report indicates that younger drivers have a higher likelihood of being involved in a 'right through' crash at a filtered signalised intersection. The data found no indication of an increase in crashes of older drivers. With drivers aged greater than 60 years old accounting for 23% of drivers in NSW but only accounting for 9.7% of 'right through' crashes in this analysis. This data indicates that inexperience, inability to fully perceive a risk and excitement seeking plays a role in the occurrence of 'right through' crashes.

5.12 Driver Distraction and Fatigue

The identification of fatigue or distraction as a factor in crashes is difficult to determine as often it comes down to the driver admitting to being distracted or fatigued. This rarely occurs and results in the recording of fatigue or distraction up to the judgement of the attending police officer. This results in the actual number of recorded crashes with fatigue or distraction as a factor being less than the actual extent of the problem.

The crash data indicates that fatigues has not played a role in any of the recorded 'right through' or 'cross traffic' crashes. Distraction from inside the vehicle also have very little effect on the rate of 'right through' and 'cross traffic' crashes with only 1 and 5 crashes recorded respectively. From this analysis the only distraction that seems to have any effect on 'right through' and 'cross traffic' crashes is distraction from outside the vehicle with 65 and 8 crashes recorded respectively.

The data from this research identifies distractions and fatigue as a factor in 18.7% of crashes. This does not correspond with the data identified in the literature review which identified distractions and fatigue as a factor in approximately 22% of all crashes in NSW.

The data presented in this analysis is contradictory to the author and literature reviews expectations of the effect of distractions and fatigue crashes at right turn filtered intersections. This may be due to inability to identify fatigue and distraction inside the vehicle accurately at these sites.

5.13 Classification of Opposing Traffic Unit

5.13.1 Passenger Vehicles

The data of this report indicates that the majority of 'right through' crashes that occur have a passenger vehicle as the opposing vehicle in the crash. As documented in the literature review, passenger vehicles account for 77.2% of all registered vehicle and 72.3% of all kilometres travelled. Further to this data from Transport for NSW (2013) indicates that passenger vehicles account for 88.4% of crashes. The data from the analysis indicates that passenger vehicles are involved in approximately 85% of 'right through' and 'cross traffic' crashes at signalised intersection with right turn filters. While this data shows an over representation of crashes compared to the number of this vehicle type and distance travelled by this vehicle type, this analysis is consistent with the crash data presented in Transport for NSW (2013)

5.13.2 Heavy Vehicles

The data of this report indicates that heavy vehicles are involved in less than 10% of all 'right through' and 'cross traffic' crashes at signalised intersections with right turn filters. When comparing this data with the number of heavy vehicle register in NSW (17.8%) and percentage of kilometres travelled by this vehicle type (28.1%), the data suggests that heavy vehicles are less susceptible to these crash types. As indicated in the literature review, it is believed the increased size of these vehicles allows right turning driver to easily identify an opposing heavy vehicle resulting in the reduced crash rate documented in this report.

5.13.3 Motorcycles

The literature review of this report indicated that motorcyclists are more vulnerable to not at fault ‘right through’ crashes. However this analysis showed a comparative rate of ‘right through’ crashes to the number of motorcycle registered in NSW with motorcycles accounting for 4.0% (Transport for NSW, 2013) of all vehicles and as indicated in this report accounted for 4.4% of ‘right through’ crashes.

The biggest difference between the data reported in the literature review and this analysis is the signalisation of the intersection. The data reported in the literature review was based on analysis of all motorcycle crashes at intersections. This may indicate that the use of signalisation reduces the occurrence of ‘right through’ with an opposing motorcycle crashes.

5.13.4 Pedestrians

The crash data indicated that there were no ‘right through’ or ‘cross traffic’ crashes involving pedestrians. This data may suggest that pedestrians are less vulnerable to ‘right through’ and ‘cross traffic’ crashes than other crash types. The lack of ‘pedestrian’ crashes may also be a result of improved safety for pedestrians at signalised intersections.

The reporting of right though and ‘cross traffic’ crashes involving pedestrians could easily be classified into one of the ‘pedestrian’ crash types. For this data analysis, this may have contributed to the result of zero ‘right through’ and ‘cross traffic’ crashes involving pedestrians in this analysis.

5.14 Auxiliary Lanes and Channelisation

The use of channelisation is generally used to reduce traffic congestion issues at intersections and to remove points of conflict between traffic movements. Therefore channelisation is often used on intersection that have larger traffic volumes. The large increase in ‘rear end’ crashes may be the result of this increased traffic volume at these approaches.

From the data of this report, the crash rate of ‘right through’ reduced by 10.5% for with channelisation indicating that the approaching lane configuration play a role a minor role in opposed right turn crashes. This does not take into account the potential further reduction in ‘right through’ crashes through the use of offset right turn lane which were discussed in the literature review of this project.

5.15 Sites with No Crash History

The data of the approaches with no crashes in the five year study period indicates that sites with a low speed environment, ‘X’ intersection type with only one opposing lane, sight distance well above the prescribed gap sight distance and the approach being on the minor road of the intersections are good attributes for a low crash rate. Although the data indicates that several of the intersections have a high maximum opposing traffic volume, looking more closely at the traffic volume data attached in Appendix D shows that all of these intersections operate at traffic volumes of less than 100 vehicles per hour per lane for the majority of the day with the traffic volumes spiking to these maximum values for a short period of the day.

6 Conclusions

6.1 Phasing Type

The sites chosen for this analysis did not allow for comparison of right turn filter crashes on sites with leading or trailing signal phasing. This is due to the lack of leading right turn phased sites in the sample sites chosen. However the current approach of predominately using trailing right turn phasing has created a more consistent road network which is documented in RTA NSW (2010) as reducing driver confusion and improving road safety.

The analysis of this report determined that the 'right through' and 'cross traffic' crash rate at approaches that are trailing right turn phased is approximately double the crash rate when compared to sites with no right turn phasing. It is documented in RTA NSW (2010) that the use of no right turn phasing is strictly limited to sites with low traffic volumes, good sight distance and excellent geometry. Whereas trailing right turn phasing will often be used on the majority of sites that do not meet these warrants.

It can be concluded from this analysis that the use of no right turn phasing will result in a relatively low crash rate if installed in sites that strictly meet the requirements set out in RTA NSW (2010). However when the these warrants are not met and the intersection requires a greater level of signal control, right turn filters will generally carry a higher rate of 'right through' and 'cross traffic' crashes.

6.2 Approach Speed

The use of speed as a method for determining if a right turn filter will be safe or not is a very simple approach to a complex situation. While the author of this research agrees that in general circumstances, an increase in approach speed at signalised intersections with right turn filtering enable results in a higher crash rate, there are several identified sites in this analysis that are in 70 and 80 km/h speed zones that have a lower crash rate compared to other sites in 50 and 60 km/h speed zones. It is believed that these results have been identified in this report as intersections with approach speeds of 70 km/h or

greater that present with a crash history have had the right turn filter disabled. This indicates that although increases in approach speed has a bearing on the crash rate of right turn filtered approaches, other factors may play a larger role in this crash rate.

The RMS method specified in RTA NSW (2010) uses speed as a major determining factor in the use of right turn filters or not. Although this research indicates that other factors may carry a larger role in the occurrence of crashes at these approaches, the use of speed in determining if a right turn filter should be used or not is one of the simplest methods of reducing the potential for crashes.

The speed zone specified by RTA NSW (2010) for exclusion of right turn filtering is greater than 70 km/h. Although this analysis was unable to show the increase in crashes at 70 and 80 km/h speed zones for the reasons outlined in section 5.2, the data did identify an increase of more than double the crashes per approach between 50 and 60 km/h speed zones. With these result, there is an indication that further research into the effect of approach speed on filter right turn crashes with a cost benefit analysis is required to determine the speed at which right turn filtering is not economically viable.

6.3 Number of Opposing Through Lanes

Similar to the above conclusion for approach speed, the determination of the road safety effects of a right turn filter based on the number of opposing through lanes is very simplistic. Although it is agreed that the number of opposing lanes has an effect on the 'right through' crash rate, this report shows that sites with multiple opposing through lanes can have a low 'right through' crash rate if other intersection properties are met. It is believed that the reduced number of crashes between two opposing lanes and three or more opposing lanes is due to closer monitoring of right turn filters across multiple opposing lanes which has resulted in right turn filters being removed from sites that present with 'right through' crashes. This has identified that a more appropriate assessment process of an intersections ability to provide right turn filtering would allow some sites with multiple opposing through lanes to benefit from right turn filtering while maintaining a low road safety risk.

The RMS method specified in the RTA NSW (2010) has the number of opposing lanes as a major determining factor in the use of right turn filters. It can be seen from this analysis that if other contributing factors to opposing right turn crashes are not present, a site with multiple opposing through lanes can operate with a relatively low crash rate. Further research in this area and the development of a risk matrix for determining the actual road safety risk of each intersection is required to improve the process of deciding if an intersection should or should not have right turn filters enabled.

6.4 Traffic Volumes

6.4.1 Opposing Traffic Volumes

The data presented in this report indicates that the opposing traffic volumes per lane specified in RTA NSW (2010) for the use of right turn filters do not adequately ensure a safe design. As outlined in the literature review of this report, RTA NSW (2010) indicates that right turn filters are not to be installed when traffic volume are greater than 900 vehicles per hour for one opposing lane, 700 vehicles per hour for two opposing lanes and 500 vehicles per hour for more than two opposing lanes. However this analysis indicates that the traffic volume that has the greatest crash rate is between 100 and 300 vehicles per hour per lane.

6.4.2 Right Turn Traffic Volumes

The data presented in this report indicates that the right turn traffic volumes specified in RTA NSW (2010) for the use of right turn filters do not adequately ensure a safe design. As outlined in the literature review of this report, RTA NSW (2010) indicates that right turn filters are not to be installed when right turn traffic volume are greater than 120 vehicles per hour. However this analysis indicates that the traffic volume that has the greatest crash rate is between 50 and 150 vehicles per hour.

6.5 Gap Sight Distance

The data of this report indicates that the highest rate of ‘right through’ and ‘cross traffic’ crashes occurs when the available sight distance is just short of the gap sight distance prescribed in Austroads (2010b). The rate of these crashes is still high when the prescribed gap sight distance is only just met. This indicates that when drivers have the prescribed gap sight distance they feel more confortable in undertaking opposed right turn movements. However the data also suggests that a high number of mistakes and subsequently crashes occur when the available sight distance is around the prescribed gap sight distance.

The data shows that at sites with available sight distance well above the required gap sight distance the rate of ‘right through’ and ‘cross traffic’ crashes decereased. This indicates that the prescribed gap sight distance outlined in Austroads (2010b) may be too short for drivers undertaking an opposed right turn movement. Further analysis of gap sight distance for opposed right turn movements is required to confirm the data of this report and to form a basis for possible changes to the guidelines.

6.6 Time of Day Filtering

The report by Bui, Cameron & Chee Wai (1991) found that filtering right turn movements outside peak period would not result in a reduction of ‘right through’ crashes. However, this analysis indicates that right turn filters could be turned off during the day and on in the late night and early morning and result in large decreases in ‘right through’ crashes. The main problem with this approach is that the demand for right turn filtering is highest during the day when the traffic volumes are high. This results in time of day filtering being counter productive due to low traffic volumes on the road and less demain on green time in the periods that right turn filters would be enabled. It can easily be argued that it is not worth the increased crash risk having right turn filters turned on at these times because the efficiency gain of the filter is minimal due to low demain.

6.7 Day of the Week

The crash data for the study sites does not indicate that 'right through' or any other crash types can be reduced by making changes to signalised intersections on certain days. The overall crash data for NSW, investigated in the literature review of this research projects indicates that a higher rate of crashes occur on Wednesdays, Thursdays and Fridays and lower rate of crashes on Sundays and Mondays. The crash data from the study sites do not directly confirm the overall NSW data with crashes in this study generally spread evenly across all days. A study including a larger number of approaches is expected to produce results closer to that indicated in the literature review. However, this research project does not indicate an increased risk of 'right through' crashes at signalised intersections on any particular day of the week.

6.8 Weather and Surface Conditions

The crash data of this report indicates that under NSW operating conditions the crash rate at signalised intersections generally decreases in wet conditions. This is believed to be due to greater driver awareness and a reduction in risk taking under wet weather conditions. Further to this there is commonly a reduction in speed in wet weather.

6.9 Lighting Conditions

The analysis of lighting condition in this report generally failed to identify if reduced visibility due to street lighting condition was a factor in increased 'right through' crashes at intersections with right turn filters enabled. Analysis of intersections with no street lighting could not be undertaken as part of this research as all signalised intersection in NSW have street lighting. The literature review of this report indicates that there is a road safety benefit in the use of street lighting, however the actual advantage that is gain for right turn filters cannot be confirmed in this report. Further research could be undertaken to confirm the benefits of street lighting on right turn filter movements.

6.10 Gender of Driver Turning Right

The data of this report indicates that female drivers are more vulnerable to ‘right through’ and ‘cross traffic’ crashes. This data cannot confirm the reasoning for the increased risk for female drivers. However the literature review of this report identified that female drivers generally have crashes due to driver error, mis-judgement or inattention. Further research could be undertaken to identify the cause of the increased crash rate for female drivers when undertaking right turn filter movements.

6.11 Age of Driver Turning Right

The crash analysis of this report indicates that the age of the driver making a right turn at a filtered signalised intersection has an impact on the likelihood of being involved in a ‘right through’ crash. From the data it is believed that young drivers, aged under 29 years old, have a substantially higher risk of having a crash at filtered right turn intersection. The crash data does not indicate any increase in crash involvement at these intersections for drivers aged over 60 years old.

6.12 Driver Distraction and Fatigue

The data presented in crash analysis for this report does not seem to completely represent the extent that distraction and fatigue contributes to crashes at signalised intersections. It is believed that this is due to the limitation in the ability to identify if these factors were involved in the crash. As discussed in Section 5.12, the recording of these factors as contributing to the crash is judge on the attending police officers discretion. This method is inaccurate as it depends on the at fault driver admitting to being distracted or fatigued.

Therefore, it is believed that the data presented for driver distraction and fatigue in this report does not accurately represent the full extent that this contributing factor plays on opposed right turn crash rates. Further research in this area could be undertaken, however if improvements are not made to the reporting of distraction and fatigue, then similar inaccurate results can be expected.

6.13 Classification of Opposing Traffic Unit

6.13.1 Passenger Vehicles

The crash data of this report indicates a consistent percentage of ‘right through’ and ‘cross traffic’ crashes with passenger vehicles to the rate documented in Transport for NSW (2013). This suggests that there generally is not a higher rate of ‘right through’ or ‘cross traffic’ crashes at signalised intersections with right turn filters than is reasonably expected. However this data does further highlight the fact that passenger vehicles are over represented in the total percentage of crashes across NSW.

6.13.2 Heavy Vehicles

This analysis indicates that heavy vehicles have a low percentage of ‘right through’ and ‘cross traffic’ crashes at signalised intersection with right turn filters compared to the percentage of these vehicles using NSW roads and distance travelled by this vehicle type. It is believed that heavy vehicles have a lower occurrence of opposed right turn crashes due to the increased ability for right turning drivers to easily spot these larger vehicles.

6.13.3 Motorcycles

The crash data of this report indicates that motorcycles do not have a higher vulnerability to ‘right through’ at signalised intersections with right turn filters enabled. The literature review of this project indicated a high rate of ‘right through’ crashes involving motorcyclists with 90% of these crashes the motorcyclist being not at fault. However this literature analysed all motorcycle crashes and did not give information regarding the make-up of crashes at signalised and un-signalised intersections. From this report it is believed that although motorcyclists are generally more susceptible to ‘right through’ crashes, the rate of these crashes is greatly reduced at signalised intersection.

6.13.4 Pedestrians

The data of this report indicates that there are zero ‘right through’ and ‘cross traffic’ crashes. This is believed to be due to a combination of improved safety for pedestrians at signalised intersections and the how ‘pedestrian’ crashes are recorded. Further research could be undertaken on crashes involving pedestrians at signalised intersections to determine contributing factors in this crash type. In conclusion, this analysis indicates that the use of signalised intersections results in a reduced occurrence of crashes involving pedestrians and little or no crash history for ‘right through’ and ‘cross traffic’ crashes.

6.14 Auxiliary Lanes and Channelisation

The data of this report indicates that the use of channelisation has a minor effect on the rate of ‘right through’ crashes. However these results cannot assess the effects of offset right turn lanes that is documented in the literature review for its benefits of allowing a right turning drivers improved sight distance. Further research into the implementation of offset right turns and improved methods of providing channelisation may result further improves in road safety at channelised approaches to opposed right turn movements.

The data of this report confirmed the finding by Bui, Cameron, & Chee Wai (1991) that channelised approaches to signalised intersections resulted in a higher occurance of ‘rear end’ crashes. It is believed that this increase in ‘rear end’ crashes occures due to the right turn lanes spilling into the through lane and causing unexpected stoppages to the through lane. Data was not available for this report to analysis this hypothesis, but future research in this area could be undertaken to identify the contributing factors to the increased ‘rear end’ crash occurance at channelised intersections.

6.15 Sites with No Crash History

The data of approaches with no crashes over the five year study period generally confirms the conclusions above. As concluded in Sections 6.2 and 6.3, the data of sites with no crash history verifies that further research is required to determine the speed and number of opposing lanes that result in an appropriate benefit of improved traffic flow for the cost of increased crashes. This data also confirms that a review of the gap sight distance criterion will more than likely result in an increase in the required gap sight distance for opposed right turn movements.

7 Recommendations

7.1 Approach Speed

While it is agreed that using approach speed as a primary factor in assessing if a signalised site is appropriate for right turn filtering is the simplest method for road authorities to reduce crash rates, the approach speed that is deemed safe cannot be determined by this report. Further research is required in this area to determine the economic costs and benefits of having right turn filters at each speed zone. This would allow the appropriate cut off speed zone to be determine in which the road authority gets maximum benefit from the right turn filter movements with the least cost from crashes and injuries.

It is recommended that an analysis of the benefits versus costs of including right turn filters at different speed zones is undertaken to determine the speed zone that right turn filters are no longer financially viable. As discussed below in Section 7.7, this data should be coupled into an intersection risk matrix to improve the accuracy in determining the risk of using right turn filters.

7.2 Number of Opposing Through Lanes

Similar to the Section 7.1 above, whether the use of the number of opposing lanes to determine if right turn filtering should or should not be used is a simplistic approach for traffic authorities. However the current guidelines for the use of right turn filters with different opposing lane configurations does not seem to be based on any documented research.

It is recommended that an analysis of the benefits versus costs of including right turn filters with different opposing lane configurations is undertaken to determine under what lane conditions right turn filters are no longer financially viable. Similarly to above, the data from the recommended research should also be feed into an intersection risk matrix.

7.3 Traffic Volumes

7.3.1 Opposing Traffic Volumes

The analysis of the data in this project clearly indicates that using an upper limit of opposing traffic volumes as a measure of an intersections ability to safely provide right turn filter movements is incorrect. With this information it is recommended that amendments be made to RTA NSW (2010) with either a reduction in the upper traffic volume to opposing traffic volumes of 100 vehicles per hour per lane or removal of this guideline altogether until further analysis can be undertaken.

This analysis indicates that the crash rate at right turn filters may be predicted based on the amount of time the intersection has a particular opposing traffic volume. The following Table 5 shows preliminary crash rates per hours of operation at certain traffic volumes. Due to the limited time and resources available for undertaking this report a more extensive analysis in this area could not be undertaken.

Table 5 - Crash Rate per Hours of Operation at Traffic Volume Range

Traffic volume range	Hours of operation (hours)	Number of right through crashes	Hours of operation per crash (hours per crash)	Five year crash rate per hour of operation
0-50	1845075	47	39257	0.04649
50-100	923450	60	15391	0.11858
100-150	678900	55	12344	0.14785
150-200	574875	66	8710	0.20952
200-250	441650	61	7240	0.25207
250-300	394200	44	8959	0.20370
300-350	403325	29	13908	0.13122
350-400	246375	20	12319	0.14815
400-450	257325	31	8301	0.21986
450-500	187975	30	6266	0.29126
500-550	127750	10	12775	0.14286
550-600	87600	5	17520	0.10417
600-650	78475	11	7134	0.25581
650-700	32850	2	16425	0.11111
700-750	40150	1	40150	0.04545
750-800	34675	2	17338	0.10526
800-850	29200	2	14600	0.12500
850-900	23725	2	11863	0.15385
900-950	21900	1	21900	0.08333
950-1000	9125	1	9125	0.20000

The initial values in Table 5 have not been completely tested and will need further research and amendment before these crash rate can be confidently used to model the crash rate of opposing traffic volumes. It is recommended that further research, testing and analysis of the crash rate per opposing traffic volumes is undertaken to improve the accuracy of this data. This data should then be fed into an intersection risk matrix so that other contributing factors can also be included to more accurately determine the road safety risk of including right turn filters at individual signalised intersections.

7.3.2 Right Turn Traffic Volumes

The analysis of the data in this project clearly indicates that using an upper limit of right turn traffic volumes as a measure of an intersections ability to safely provide right turn filter movements is incorrect. With this information it is recommended that amendments be made to RTA NSW (2010) in regards to the use of an upper limit for right turn traffic volumes.

It is believed that the opposing traffic volume has a much larger effect on the crash rate at filtered right turns than right turn volumes. RTA NSW (2010) should be amended to remove right turn traffic volumes as a parameter in deciding if a right turn filter should or should not be used.

7.4 Gap Sight Distance

The analysis indicates that at sites that have sight distance close to the required gap sight distance there is still a large crash rate. This may indicate that the gap sight distance specified in Austroads (2014a) may be shorter than required. It is recommended that an analysis of the existing gap sight distance criteria be undertaken to confirm that the currently prescribed length is too short and determine the length required for opposed right turn movements that will result in an acceptable road safety risk.

7.5 Gender of Driver Turning Right

The data of this report indicates that there is a higher than expected occurrence of ‘right through’ and ‘cross traffic’ crashes where a female driver is at fault. This may indicate that females struggle with undertaking opposed right turns. Therefore, it is recommended that further research be undertaken in this area to determine the extent of this problem and measures that can be implemented to reduce this trend.

7.6 Age of Driver Turning Right

The use of road safety campaigns including licensing requirements, school education programs and television, radio and social media campaigns generally have a positive road safety outcome. However, this reports indicates that young drivers, under the age of 29, are struggling to undertake the complex manoeuvre of turning right when faced with oncoming through traffic. It is recommended that a more targeted approach in educating young drivers of the risks when undertaking these manoeuvres will result in a significant reduction in 'right through' crashes as a whole and for this age group.

7.7 Intersection Risk Matrix

This analysis has determined that the opposing approach speed, opposing traffic volume and gap sight distance are contributing factors to the occurrence of crashes at sites with right turn filters enabled. It is also documented above that further research needs to be conducted in each of these areas to determine the full extent that these factors play in the road safety of intersections. It is recommended that once these extents are known an accurate intersection risk matrix can be developed to help predict the rate of crashes at any given intersection when it has right turn filters enabled.

7.8 Improved Monitoring of Sites with Right Turn Filters

RTA NSW (2010) indicates that right turn filters should not be used if there is a crash history relating to the right turn filter movements. The crash analysis of this report highlights that there are numerous intersections in operation throughout NSW with right turn filters enabled and an ongoing high crash rate. This indicates that sites with right turn filters enabled are not being monitored to ensure the ongoing safety of the opposed right turn movement. It is understood that crash monitoring of over 4000 intersection is not possible. Although it is recommended that sweeping reviews of intersections crash history periodically be undertaken to identify problem intersections and improve road safety. It is also recommended that a process be implemented to monitor a newly installed intersection with right turn filters enabled for a period of time following its installation.

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Appendix A – Project Specification

University of Southern Queensland

FACULTY OF ENGINEERING AND SURVEYING

ENG4111/4112 Research Project

PROJECT SPECIFICATION

FOR: **Daniel Joseph FARRUGIA**

TOPIC: INVESTIGATE PROPERTIES OF SIGNALISED INTERSECTIONS WITH RIGHT TURN FILTERS THAT RESULT IN AN INCREASED ROAD SAFETY RISK.

SUPERVISOR: Soma Somasundaraswaran

PROJECT OBJECTIVES: Traffic signals are often phased with filters. Filters allow traffic to turn at an intersection when safe from oncoming vehicles. Right turn filters are used at signalised intersections to improve the efficiency of the intersection. Research by the NSW Centre for Road Safety has identified that there is an increased risk of crashes at signalised intersections with right turn filters enabled. As a result, NSW Roads and Maritime Services have been progressively removing right turn filers from signalised intersections as part of Blackspot programs. Further to this changes have been made to the RMS' Traffic Signal Design Manual to reduce the use of right turn filters. This research project aims to determine properties of signalised intersections that result in an increased road safety risk.

PROGRAMME: (Issue A, 13th March 2015)

1. Perform a literature review of published material.
2. Identify sample intersections with filter phasing to determine the rates of crashes.
3. Analysis the selected intersections to determine the primary cause of the crashes.
4. Develop relationships between the crash data and other possible factors that could have contributed to the crashes.
5. Conduct an analysis of the intersections to determine the properties of the intersections that result in an increased risk of crashes. The properties of the intersection to be assessed include number of opposing lanes a right turn filter movement crosses, speed zone, phasing type, the time of day and day of the week crashes occur and if weather conditions play a role in crash likelihood.

As time permits:

6. Acquire traffic counts based on the information collected from traffic signal detector loops. Convert this data to a usable AADT for both opposing through traffic and right turn movements.
7. Analysis the traffic counts to determine the increase risk of intersection crashes at different traffic volumes.

AGREED _____ (student)

_____ (supervisor)

Date: Date:

Examiner/Co-examiner: _____

Appendix B – Crash Data

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Fri	12:45	23/01/09	30	T	60	3	T	454	-	-59	D	NL	-	37	M	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Sat	12:30	14/03/09	30	T	60	3	T	454	-	-59	D	NL	-	59	M	-
1	WOODVILLE Rd	CRESCENT St	S	Thu	13:30	14/05/09	21	T	60	3	T	462	-	-59	D	NL	C	33	F	DO
1	WOODVILLE Rd	CRESCENT St	S	Wed	23:30	11/03/09	21	T	60	3	T	434	-	-59	W	SL	C	19	F	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Sat	13:00	08/08/09	30	T	60	3	T	462	-	-59	D	NL	-	47	M	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Mon	10:25	10/08/09	30	T	60	3	T	474	-	-59	D	NL	-	35	F	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Mon	18:10	20/07/09	30	T	60	3	T	479	-	-59	D	NL	-	52	M	-
1	WOODVILLE Rd	CRESCENT St	S	Thu	10:30	17/09/09	35	T	60	3	T	474	-	-59	D	NL	-	Unk	U	-
1	WOODVILLE Rd	CRESCENT St	S	Fri	16:25	16/10/09	30	T	60	3	T	487	-	-59	D	NL	-	25	M	-
1	WOODVILLE Rd	CRESCENT St	S	Tue	18:30	27/10/09	30	T	60	3	T	487	-	-59	D	SL	-	20	M	DO
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Tue	18:58	22/09/09	34	T	60	3	T	487	-	-59	W	SL	-	38	F	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Sat	9:00	07/11/09	30	T	60	3	T	522	-	-59	D	NL	-	28	M	-
1	WOODVILLE Rd	CRESCENT St	U	Mon	20:55	12/10/09	19	T	60	3	T	332	-	-59	D	SL	-	Unk	U	-
1	WOODVILLE Rd	CRESCENT St	S	Thu	10:15	01/10/09	21	T	60	3	T	474	-	-59	D	NL	C	74	F	DO
1	WOODVILLE Rd	CRESCENT St	S	Fri	23:30	23/04/10	30	T	60	3	T	434	-	-59	D	NL	-	21	M	DO
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Mon	18:30	23/08/10	30	T	60	3	T	479	-	-59	D	SL	-	28	M	DO
1	WOODVILLE Rd	CRESCENT St	S	Fri	10:30	03/09/10	32	T	60	3	T	474	-	-59	W	NL	-	35	M	-
1	WOODVILLE Rd	CRESCENT St	S	Sun	11:55	19/12/10	21	T	60	3	T	434	-	-59	D	NL	C	19	F	-
1	WOODVILLE Rd	CRESCENT St	S	Sun	12:05	30/01/11	21	T	60	3	T	454	-	-59	D	NL	C	20	F	-
1	WOODVILLE Rd	CRESCENT St	S	Tue	19:30	26/04/11	21	T	60	3	T	442	-	-59	W	SL	C	19	M	-
1	WOODVILLE Rd	CRESCENT St	S	Fri	18:08	20/05/11	21	T	60	3	T	479	-	-59	D	SL	C	44	M	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Sat	14:20	18/02/12	30	T	60	3	T	474	-	-59	D	NL	-	22	F	-
1	WOODVILLE Rd	CRESCENT St	S	Mon	6:15	27/02/12	32	T	60	3	T	479	-	-59	D	NL	-	40	M	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Fri	9:10	09/03/12	30	T	60	3	T	522	-	-59	D	NL	-	31	M	-
1	WOODVILLE Rd	THE CRESCENT Ms	S	Mon	8:00	28/05/12	21	T	60	3	T	509	-	-59	D	NL	T	43	M	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
1	WOODVILLE Rd	CRESCENT St	S	Thu	16:00	26/07/12	35	T	60	3	T	487	-	-59	D	NL	-	51	M	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Wed	17:45	23/01/13	30	T	60	3	T	526	-	-59	D	NL	-	42	M	-
1	WOODVILLE Rd	CRESCENT St	S	Tue	14:30	02/04/13	30	T	60	3	T	474	-	-59	D	NL	-	59	M	-
1	WOODVILLE Rd	CRESCENT St	S	Mon	22:55	08/07/13	21	T	60	3	T	474	-	-59	D	SL	C	46	M	-
1	WOODVILLE Rd	CRESCENT St	S	Fri	19:30	12/07/13	21	T	60	3	T	442	-	-59	D	SL	T	22	M	-
1	WOODVILLE Rd	CRESCENT St	S	Mon	6:25	30/09/13	21	T	60	3	T	479	-	-59	D	NL	C	23	M	-
1	WOODVILLE Rd	CRESCENT St	S	Tue	16:50	30/07/13	21	T	60	3	T	487	-	-59	D	SL	C	39	F	-
1	WOODVILLE Rd	CRESCENT St	S	Sat	21:45	16/11/13	21	T	60	3	T	522	-	-59	W	SL	C	56	F	-
1	WOODVILLE Rd	GREAT WESTERN Hwy	S	Tue	18:30	31/12/13	30	T	60	3	T	479	-	-59	D	SL	-	51	M	DO
2	ALISON Rd	BOTANY St	E	Fri	13:30	30/01/09	21	T	60	2	T	200	257	-51	D	NL	C	27	M	DO
2	ALISON Rd	BOTANY St	E	Fri	6:55	20/03/09	21	T	60	2	T	59	38	-51	D	NL	C	33	F	-
2	ALISON Rd	BOTANY St	E	Wed	17:15	03/06/09	21	T	60	2	T	199	336	-51	W	SL	C	28	M	-
2	ALISON Rd	BOTANY St	E	Sat	12:30	03/10/09	21	T	60	2	T	199	248	-51	W	NL	C	40	M	-
2	ALISON Rd	BOTANY St	E	Sat	6:30	06/11/10	21	T	60	2	T	59	38	-51	W	NL	Bus	22	M	-
2	ALISON Rd	BOTANY St	E	Thu	13:30	11/11/10	21	T	60	2	T	200	257	-51	D	NL	C	38	F	-
2	ALISON Rd	BOTANY St	E	Mon	14:05	11/07/11	21	T	60	2	T	190	238	-51	D	NL	C	26	M	-
2	ALISON Rd	BOTANY St	E	Thu	13:47	25/10/12	21	T	60	2	T	200	257	-51	D	NL	T	26	M	-
2	ALISON Rd	BOTANY St	E	Sat	19:00	09/02/13	21	T	60	2	T	183	314	-51	D	NL	C	24	F	-
2	ALISON Rd	BOTANY St	E	Sun	17:00	03/03/13	21	T	60	2	T	199	336	-51	D	NL	C	23	F	-
2	ALISON Rd	BOTANY St	E	Sat	13:10	18/05/13	13	T	60	2	T	200	257	-51	D	NL	C	25	F	-
2	ALISON Rd	BOTANY St	E	Tue	13:20	27/08/13	21	T	60	2	T	200	257	-51	D	NL	C	50	F	-
2	ALISON Rd	BOTANY St	E	Thu	10:30	05/09/13	21	T	60	2	T	202	302	-51	D	NL	C	25	F	-
2	ALISON Rd	BOTANY St	E	Mon	6:30	16/12/13	21	T	60	2	T	59	38	-51	D	SL	Bicy	Unk	U	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Thu	21:00	15/01/09	21	T	60	2	T	113	110	17	W	SL	C	71	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Fri	11:20	23/01/09	21	T	60	2	T	36	119	17	D	NL	C	79	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Mon	12:55	30/03/09	30	T	60	2	T	317	136	17	D	NL	-	68	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Mon	16:15	22/06/09	21	T	60	2	T	339	213	17	D	NL	C	45	F	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sun	9:00	09/08/09	30	T	60	2	T	424	104	17	D	NL	-	21	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sun	10:05	16/08/09	21	T	60	2	T	412	104	17	D	NL	C	69	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Wed	19:30	14/10/09	21	T	60	2	T	275	254	17	D	SL	C	46	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sun	19:45	17/01/10	21	T	60	2	T	275	254	17	D	NL	C	27	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sun	12:25	15/08/10	21	T	60	2	T	317	136	17	W	NL	C	19	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Wed	20:15	16/02/11	21	T	60	2	T	165	166	17	D	SL	C	41	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sat	20:40	30/04/11	21	T	60	2	T	165	166	17	W	SL	C	18	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Wed	19:25	14/12/11	21	T	60	2	T	275	254	17	D	SL	C	65	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sat	23:15	04/02/12	21	T	60	2	T	75	71	17	D	SL	C	19	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Thu	7:20	29/03/12	21	T	60	2	T	440	22	17	D	NL	T	31	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Thu	9:20	26/04/12	21	T	60	2	T	424	104	17	D	NL	C	38	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Tue	21:50	08/05/12	21	T	60	2	T	113	110	17	D	SL	C	50	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Thu	20:15	10/05/12	21	T	60	2	T	165	166	17	D	SL	C	28	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sun	17:30	13/05/12	21	T	60	2	T	341	241	17	D	SL	C	18	F	DO
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sat	19:15	22/09/12	21	T	60	2	T	275	254	17	D	SL	C	70	M	DO
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Thu	10:00	14/02/13	21	T	60	2	T	412	104	17	D	NL	C	58	F	DO
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Mon	19:10	15/04/13	21	T	60	2	T	275	254	17	D	SL	C	21	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sun	19:00	16/06/13	21	T	60	2	T	275	254	17	D	SL	C	39	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Sun	15:15	11/08/13	21	T	60	2	T	300	166	17	D	NL	C	40	F	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	E	Mon	19:30	21/10/13	21	T	60	2	T	275	254	17	D	SL	C	27	M	-
3	BOUNDARY Rd	FRANCIS GREENW Dr	W	Tue	21:00	19/11/13	21	T	60	2	T	113	110	17	D	SL	C	45	F	-
4	BOUNDARY St	ARCHER St	E	Wed	5:30	03/06/09	81	T	60	2	T	45	-	37	W	SL	-	19	M	-
4	BOUNDARY St	ARCHER St	E	Wed	4:15	03/06/09	62	T	60	2	T	30	-	37	W	SL	-	Unk	M	-
4	BOUNDARY St	ARCHER St	E	Wed	6:50	26/08/09	30	T	60	2	T	152	-	37	D	NL	-	62	M	DO
4	BOUNDARY St	ARCHER St	E	Tue	11:35	08/12/09	21	T	60	2	T	643	-	37	D	NL	C	55	M	-
4	BOUNDARY St	ARCHER St	E	Thu	5:30	11/02/10	21	T	60	2	T	45	-	37	D	SL	Bicy	21	M	-
4	BOUNDARY St	ARCHER St	E	Sat	18:25	17/09/11	21	T	60	2	T	559	-	37	D	SL	T	46	M	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
4	BOUNDARY St	ARCHER St	E	Sat	17:00	07/01/12	21	T	60	2	T	584	-	37	D	NL	C	18	M	-
4	BOUNDARY St	ARCHER St	E	Thu	22:20	31/01/13	21	T	60	2	T	172	-	37	D	SL	C	29	M	-
4	ARCHER St	BOUNDARY St	E	Sat	8:20	25/05/13	81	T	60	2	T	566	-	37	D	NL	-	20	F	-
4	BOUNDARY St	ARCHER St	E	Mon	11:30	19/08/13	21	T	60	2	T	643	-	37	D	NL	C	46	M	-
4	BOUNDARY St	ARCHER St	E	Sun	7:50	20/10/13	21	T	60	2	T	482	-	37	D	NL	C	88	F	-
5	BROUGHTON St	QUEEN St	E	Sun	21:50	10/01/10	21	T	50	2	N	37	-	89	D	SL	Unk	19	F	-
5	BROUGHTON St	QUEEN St	E	Tue	6:30	30/03/10	71	X	50	2	N	39	-	89	W	SL	-	18	M	-
5	BROUGHTON St	QUEEN St	E	Thu	17:50	02/09/10	21	X	50	2	N	106	-	89	W	NL	C	29	M	DO
5	BROUGHTON St	QUEEN St	E	Mon	16:05	07/03/11	0	X	50	2	N	135	-	89	D	NL	-	46	F	-
5	BROUGHTON St	QUEEN St	E	Tue	8:45	26/07/11	21	X	50	2	N	87	-	89	D	NL	C	21	F	-
5	BROUGHTON St	QUEEN St	E	Thu	17:10	31/01/13	21	X	50	2	N	106	-	89	D	NL	C	78	M	-
5	BROUGHTON St	QUEEN St	E	Thu	7:20	14/02/13	21	X	50	2	N	68	-	89	D	NL	C	21	F	-
5	BROUGHTON St	QUEEN St	E	Wed	12:20	22/05/13	21	X	50	2	N	122	-	89	D	NL	C	83	M	-
6	BROUGHTON St	QUEEN St	W	Tue	19:25	23/06/09	21	X	50	2	N	89	-	1	D	SL	C	Unk	U	-
6	BROUGHTON St	QUEEN St	W	Wed	18:50	25/05/11	21	X	50	2	N	95	-	1	D	SL	MC	20	M	DO
6	BROUGHTON St	QUEEN St	W	Fri	21:30	01/07/11	21	X	50	2	N	44	-	1	D	SL	MC	20	M	-
6	BROUGHTON St	QUEEN St	W	Thu	18:10	18/04/13	21	X	50	2	N	95	-	1	D	SL	C	41	M	-
6	QUEEN St	BROUGHTON St	W	Fri	14:05	12/07/13	30	X	50	2	N	62	-	1	D	NL	-	18	M	DO
6	BROUGHTON St	QUEEN St	W	Sun	20:30	01/12/13	37	X	50	2	N	62	-	1	D	SL	-	19	M	-
6	BROUGHTON St	QUEEN St	W	Sat	16:00	28/12/13	10	X	50	2	N	83	-	1	D	NL	C	34	F	-
7	BUNGARRIBEE Rd	WALTERS Rd	N	Mon	16:15	23/03/09	21	X	60	2	N	184	-	3	D	NL	C	23	M	-
7	BUNGARRIBEE Rd	WALTERS Rd	N	Mon	6:30	29/06/09	21	X	60	2	N	71	-	3	D	NL	C	59	M	-
7	BUNGARRIBEE Rd	WALTERS Rd	N	Sun	9:00	14/02/10	47	X	60	2	N	195	-	3	D	NL	-	56	F	-
7	BUNGARRIBEE Rd	WALTERS Rd	N	Mon	10:39	19/04/10	10	X	60	2	N	139	-	3	D	NL	C	48	M	-
7	BUNGARRIBEE Rd	WALTERS Rd	N	Tue	18:10	22/02/11	21	X	60	2	N	177	-	3	D	NL	T	20	F	-
7	BUNGARRIBEE Rd	WALTERS Rd	N	Tue	8:34	02/08/11	21	X	60	2	N	173	-	3	D	NL	C	43	F	DO
7	WALTERS Rd	BUNGARRIBEE Rd	N	Thu	14:15	08/12/11	35	X	60	2	N	132	-	3	W	NL	-	42	M	-

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7	BUNGARRIBEE Rd	WALTERS Rd	N	Tue	8:23	18/09/12	10	X	60	2	N	173	-	3	D	NL	C	23	M	DO
8	BUNGARRIBEE Rd	WALTERS Rd	S	Tue	11:35	02/02/10	21	X	60	2	N	165	-	123	D	NL	C	43	M	-
8	BUNGARRIBEE Rd	WALTERS Rd	S	Fri	16:46	23/04/10	83	X	60	2	N	277	-	123	D	NL	-	61	M	-
8	BUNGARRIBEE Rd	WALTERS Rd	S	Thu	15:10	26/05/11	21	X	60	2	N	209	-	123	D	NL	C	24	M	-
8	WALTERS Rd	BUNGARRIBEE Rd	S	Thu	3:30	12/01/12	70	X	60	2	N	10	-	123	D	SL	-	25	M	-
8	BUNGARRIBEE Rd	WALTERS Rd	S	Thu	18:45	28/03/13	21	X	60	2	N	278	-	123	W	SL	C	26	F	-
8	BUNGARRIBEE Rd	WALTERS Rd	S	Thu	17:00	05/09/13	21	X	60	2	N	268	-	123	D	NL	MC	25	F	-
8	BUNGARRIBEE Rd	WALTERS Rd	S	Tue	11:30	15/10/13	21	X	60	2	N	165	-	123	D	NL	C	51	M	DO
9	BUNGARRIBEE Rd	WALTERS Rd	E	Tue	16:00	25/08/09	21	X	50	2	N	293	NA	11	D	NL	C	55	F	-
9	BUNGARRIBEE Rd	WALTERS Rd	E	Sun	10:51	13/06/10	21	X	50	2	N	187	NA	11	D	NL	C	28	F	DO
9	BUNGARRIBEE Rd	WALTERS Rd	E	Thu	10:30	11/08/11	21	X	50	2	N	187	NA	11	D	NL	C	34	M	-
9	BUNGARRIBEE Rd	WALTERS Rd	E	Sat	19:25	13/08/11	21	X	50	2	N	242	NA	11	D	SL	C	23	M	DO
9	BUNGARRIBEE Rd	WALTERS Rd	E	Tue	10:50	23/08/11	21	X	50	2	N	187	NA	11	D	NL	C	17	M	-
9	BUNGARRIBEE Rd	WALTERS Rd	E	Fri	5:00	02/09/11	21	X	50	2	N	20	NA	11	D	SL	C	17	M	-
10	BUNGARRIBEE Rd	WALTERS Rd	W	Thu	21:25	25/11/10	21	X	50	2	N	16	NA	24	D	SL	C	27	F	-
10	BUNGARRIBEE Rd	WALTERS Rd	W	Wed	16:20	23/11/11	30	X	50	2	N	40	NA	24	W	NL	-	23	M	-
10	BUNGARRIBEE Rd	WALTERS Rd	W	Thu	0:10	19/04/12	71	X	50	2	N	5	NA	24	W	SL	-	44	M	F
10	BUNGARRIBEE Rd	WALTERS Rd	W	Tue	22:30	27/11/12	21	X	50	2	N	16	NA	24	W	SL	C	17	M	-
10	BUNGARRIBEE Rd	WALTERS Rd	W	Mon	21:15	11/03/13	21	X	50	2	N	16	NA	24	D	SL	C	59	M	-
10	BUNGARRIBEE Rd	WALTERS Rd	W	Sun	11:45	10/11/13	12	X	50	2	N	19	NA	24	W	NL	-	61	M	-
11	WENTWORTH Ave	BUNNERONG Rd	E	Mon	10:30	06/04/09	30	T	60	2	T	330	954	-33	D	NL	-	Unk	U	-
11	BUNNERONG Rd	WENTWORTH Ave	S	Fri	2:20	07/12/12	85	T	60	2	T	16	842	-33	D	SL	-	21	M	-
12	BURNETT St	WESTERN Exp	N	Sun	9:34	18/01/09	21	T	60	2	T	146	-	186	D	NL	C	40	M	-
12	BURNETT St	WESTERN Exp	N	Sun	14:25	12/07/09	81	T	60	2	T	124	-	186	D	NL	-	46	M	-
12	BURNETT St	WESTERN Exp	N	Sun	19:30	19/07/09	21	T	60	2	T	182	-	186	D	SL	C	21	M	-
12	BURNETT St	WESTERN Exp	N	Sat	22:50	29/08/09	21	T	60	2	T	87	-	186	D	SL	C	20	M	-
12	BURNETT St	WESTERN Exp	N	Sat	6:40	10/10/09	21	T	60	2	T	23	-	186	D	NL	C	50	M	-

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12	BURNETT St	WESTERN Exp	N	Sat	17:45	14/11/09	21	T	60	2	T	239	-	186	D	NL	C	18	M	-
12	BURNETT St	WESTERN Exp	N	Tue	9:25	26/01/10	21	T	60	2	T	146	-	186	D	NL	C	23	F	-
12	BURNETT St	WESTERN Exp	N	Fri	19:50	12/03/10	21	T	60	2	T	182	-	186	D	NL	C	24	M	-
12	BURNETT St	WESTERN Exp	N	Sun	19:00	13/06/10	21	T	60	2	T	182	-	186	D	SL	C	21	F	-
12	BURNETT St	WESTERN Exp	N	Thu	16:15	29/07/10	21	T	60	2	T	204	-	186	W	SL	C	73	M	-
12	BURNETT St	WESTERN Exp	N	Wed	18:30	04/08/10	21	T	60	2	T	247	-	186	D	SL	T	23	F	DI
12	BURNETT St	WESTERN Exp	N	Mon	0:05	09/08/10	21	T	60	2	T	25	-	186	D	SL	C	29	M	-
12	BURNETT St	WESTERN Exp	N	Fri	11:18	17/09/10	21	T	60	2	T	102	-	186	D	NL	MC	47	F	DO
12	BURNETT St	WESTERN Exp	N	Tue	14:15	16/11/10	21	T	60	2	T	124	-	186	D	NL	C	19	F	-
12	BURNETT St	WESTERN Exp	N	Mon	17:50	28/02/11	30	T	60	2	T	239	-	186	W	SL	-	22	F	-
12	BURNETT St	WESTERN Exp	N	Sat	11:30	12/03/11	21	T	60	2	T	102	-	186	D	NL	C	28	F	-
12	BURNETT St	WESTERN Exp	N	Sat	0:02	26/03/11	21	T	60	2	T	25	-	186	W	SL	C	31	F	-
12	BURNETT St	WESTERN Exp	N	Thu	16:00	26/05/11	21	T	60	2	T	204	-	186	D	NL	C	37	F	-
12	BURNETT St	WESTERN Exp	N	Sat	18:00	18/06/11	21	T	60	2	T	247	-	186	D	SL	C	29	F	-
12	BURNETT St	WESTERN Exp	N	Thu	14:20	24/11/11	30	T	60	2	T	124	-	186	W	NL	-	35	M	-
12	BURNETT St	WESTERN Exp	N	Wed	0:15	11/01/12	21	T	60	2	T	25	-	186	D	SL	C	23	M	-
12	BURNETT St	WESTERN Exp	N	Sat	15:30	13/10/12	21	T	60	2	T	160	-	186	D	NL	C	22	M	-
12	BURNETT St	WESTERN Exp	N	Fri	12:50	04/01/13	21	T	60	2	T	112	-	186	D	NL	C	61	M	-
12	BURNETT St	WESTERN Exp	N	Fri	11:48	28/06/13	21	T	60	2	T	102	-	186	D	NL	C	33	M	-
12	BURNETT St	WESTERN Exp	N	Wed	13:10	18/09/13	21	T	60	2	T	122	-	186	D	NL	C	18	M	-
12	BURNETT St	WESTERN Exp	N	Tue	14:50	24/12/13	81	T	60	2	T	124	-	186	D	NL	-	29	M	-
13	MARSDEN St	CAMPBELL St	N	Fri	14:45	14/08/09	62	X	50	3	N	183	-	-43	D	NL	-	26	F	-
13	CAMPBELL St	MARSDEN St	N	Tue	23:10	23/03/10	21	X	50	3	N	96	-	-43	D	SL	C	23	M	-
13	CAMPBELL St	MARSDEN St	N	Wed	16:35	06/07/11	13	X	50	3	N	206	-	-43	D	SL	C	21	F	-
13	CAMPBELL St	MARSDEN St	N	Wed	23:30	15/02/12	10	X	50	3	N	96	-	-43	D	SL	C	25	M	-
13	CAMPBELL St	MARSDEN St	N	Thu	20:00	04/04/13	21	X	50	3	N	121	-	-43	W	SL	C	31	M	DO
13	CAMPBELL St	MARSDEN St	N	Thu	15:39	11/04/13	21	X	50	3	N	188	-	-43	D	SL	C	26	M	-

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14	CAMPBELL St	MARSDEN St	S	Wed	14:50	25/02/09	34	X	50	2	N	205	-	-11	D	NL	-	36	M	-
14	CAMPBELL St	MARSDEN St	S	Tue	21:00	07/04/09	10	X	50	2	N	122	-	-11	D	SL	C	32	F	-
14	CAMPBELL St	MARSDEN St	S	Sat	22:30	01/08/09	21	X	50	2	N	89	-	-11	D	SL	C	27	M	-
14	CAMPBELL St	MARSDEN St	S	Thu	19:00	15/04/10	21	X	50	2	N	211	-	-11	D	SL	C	Unk	U	-
14	CAMPBELL St	MARSDEN St	S	Tue	11:10	12/04/11	21	X	50	2	N	233	-	-11	D	NL	C	25	M	-
14	CAMPBELL St	MARSDEN St	S	Thu	14:30	09/06/11	21	X	50	2	N	205	-	-11	D	NL	C	54	F	-
14	CAMPBELL St	MARSDEN St	S	Wed	17:40	20/07/11	21	X	50	2	N	203	-	-11	D	SL	C	30	F	-
14	CAMPBELL St	MARSDEN St	S	Fri	12:30	28/10/11	21	X	50	2	N	218	-	-11	D	NL	C	89	M	-
14	CAMPBELL St	MARSDEN St	S	Sat	15:10	10/12/11	21	X	50	2	N	200	-	-11	D	NL	C	39	M	-
14	CAMPBELL St	MARSDEN St	S	Mon	14:00	09/01/12	21	X	50	2	N	205	-	-11	D	NL	T	22	M	DO
14	CAMPBELL St	MARSDEN St	S	Tue	19:30	16/04/13	21	X	50	2	N	211	-	-11	D	SL	C	22	F	-
14	CAMPBELL St	MARSDEN St	S	Mon	13:25	22/04/13	21	X	50	2	N	213	-	-11	D	NL	C	19	M	-
14	CAMPBELL St	MARSDEN St	S	Thu	20:55	12/09/13	88	X	50	2	N	175	-	-11	D	SL	-	25	M	-
14	CAMPBELL St	MARSDEN St	S	Thu	16:05	28/11/13	47	X	50	2	N	203	-	-11	D	NL	-	21	M	-
15	CAMPBELL St	MARSDEN St	E	Wed	11:45	09/09/09	0	X	50	2	N	57	72	26	D	SL	-	24	M	-
15	CAMPBELL St	MARSDEN St	E	Tue	12:28	01/12/09	15	X	50	2	N	61	131	26	D	NL	-	26	F	-
15	CAMPBELL St	MARSDEN St	E	Thu	21:15	14/01/10	0	X	50	2	N	47	66	26	D	NL	-	44	M	-
15	CAMPBELL St	MARSDEN St	E	Wed	21:35	24/11/10	10	X	50	2	N	47	66	26	D	SL	C	32	M	-
15	CAMPBELL St	MARSDEN St	E	Fri	23:50	02/09/11	10	X	50	2	N	30	25	26	D	SL	C	19	F	-
16	CAMPBELL St	MARSDEN St	U	Thu	20:00	15/10/09	0	X	50	2	N	81	88	23	D	SL	-	Unk	U	DO
16	CAMPBELL St	MARSDEN St	W	Wed	18:35	26/09/12	21	X	50	2	N	179	21	23	D	SL	C	18	M	-
17	CAMPBELLTOWN Rd	HARBORD Rd	N	Sat	18:40	12/12/09	30	X	60	2	T	683	212	94	D	NL	-	18	F	DO
17	CAMPBELLTOWN Rd	HARBORD Rd	N	Fri	12:15	09/04/10	30	X	60	2	T	468	230	94	D	SL	-	52	F	-
17	CAMPBELLTOWN Rd	HARBORD Rd	N	Thu	7:50	22/12/11	30	X	60	2	T	170	207	94	W	NL	-	19	M	-
17	CAMPBELLTOWN Rd	HARBOUR Rd	N	Fri	15:20	22/06/12	35	X	60	2	T	560	216	94	D	NL	-	21	F	-
17	CAMPBELLTOWN Rd	HARBORD Rd	N	Wed	12:40	11/07/12	0	X	60	2	T	468	230	94	D	NL	-	29	M	-
17	CAMPBELLTOWN Rd	HARBORD Rd	N	Thu	8:00	17/01/13	30	X	60	2	T	316	265	94	D	NL	-	73	F	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
17	CAMPBELLTOWN Rd	HARBORD Rd	N	Thu	14:45	04/07/13	10	X	60	2	T	477	239	94	D	NL	T	17	M	DO
17	CAMPBELLTOWN Rd	HARBORD Rd	N	Sat	21:45	09/11/13	34	X	60	2	T	185	73	94	D	SL	-	79	F	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Tue	14:46	27/01/09	10	X	60	2	T	485	124	63	D	NL	C	Unk	U	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Tue	9:55	05/05/09	30	X	60	2	T	514	83	63	D	NL	-	51	F	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Mon	12:30	29/06/09	30	X	60	2	T	480	112	63	D	NL	-	Unk	M	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Fri	9:50	04/09/09	30	X	60	2	T	514	83	63	D	NL	-	68	M	DO
18	CAMPBELLTOWN Rd	HARBORD Rd	S	Wed	17:08	30/05/12	10	X	60	2	T	636	161	63	D	SL	C	50	F	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Tue	21:05	17/07/12	30	X	60	2	T	206	83	63	D	SL	-	21	M	OD
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Thu	19:20	14/02/13	30	X	60	2	T	385	185	63	D	SL	-	23	M	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Sat	10:50	30/03/13	30	X	60	2	T	461	83	63	D	NL	-	30	M	DO
18	CAMPBELLTOWN Rd	HARBORD Rd	S	Sat	7:01	20/07/13	21	X	60	2	T	458	50	63	D	NL	C	46	M	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Tue	15:05	23/07/13	20	X	60	2	T	519	126	63	D	SL	-	26	M	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Mon	14:30	26/08/13	33	X	60	2	T	485	124	63	D	NL	-	52	F	-
18	CAMPBELLTOWN Rd	PLOUGH INN Rd	S	Thu	17:45	05/09/13	71	X	60	2	T	636	161	63	D	SL	-	62	M	-
18	CAMPBELLTOWN Rd	HARBORD Rd	S	Sat	21:20	07/09/13	13	X	60	2	T	206	83	63	D	SL	C	17	M	-
19	PENNANT St	CASTLE St	N	Thu	17:05	22/10/09	34	X	60	2	T	542	188	28	D	NL	-	56	F	-
19	PENNANT St	CASTLE St	N	Thu	13:10	06/05/10	34	X	60	2	T	450	266	28	D	NL	-	Unk	U	-
19	CASTLE St	PENNANT St	N	Sat	21:50	11/06/11	21	X	60	2	T	193	104	28	W	SL	C	20	F	-
19	CASTLE St	PENNANT St	N	Thu	9:40	23/06/11	10	X	60	2	T	388	179	28	D	NL	C	20	M	-
19	PENNANT St	CASTLE St	N	Wed	17:30	29/06/11	30	X	60	2	T	542	188	28	W	SL	-	20	M	OD
19	CASTLE St	PENNANT St	N	Fri	21:00	16/09/11	21	X	60	2	T	193	104	28	D	SL	C	Unk	F	-
19	CASTLE St	PENNANT St	N	Tue	20:30	01/05/12	21	X	60	2	T	275	157	28	D	SL	C	25	F	-
19	CASTLE St	PENNANT St	N	Mon	22:30	14/05/12	21	X	60	2	T	168	51	28	D	SL	C	19	M	-
19	CASTLE St	PENNANT St	N	Wed	21:50	30/05/12	21	X	60	2	T	193	104	28	D	SL	C	21	M	-
19	CASTLE St	PENNANT St	N	Thu	8:35	30/08/12	21	X	60	2	T	305	118	28	D	NL	C	19	M	-
19	CASTLE St	PENNANT St	N	Sat	21:07	01/12/12	21	X	60	2	T	193	104	28	W	SL	C	21	F	-
19	CASTLE St	PENNANT St	N	Mon	20:03	28/01/13	21	X	60	2	T	275	157	28	W	SL	C	29	F	-

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19	CASTLE St	PENNANT St	N	Sat	20:30	13/04/13	21	X	60	2	T	275	157	28	D	SL	C	16	M	-
19	CASTLE St	PENNANT St	N	Fri	9:18	19/04/13	21	X	60	2	T	388	179	28	D	NL	C	42	F	-
19	PENNANT St	CASTLE St	N	Sat	9:20	05/10/13	42	X	60	2	T	388	179	28	D	NL	-	40	M	-
19	CASTLE St	PENNANT St	N	Tue	20:45	08/10/13	21	X	60	2	T	275	157	28	D	SL	C	20	M	-
19	CASTLE St	PENNANT St	N	Thu	21:40	17/10/13	21	X	60	2	T	193	104	28	D	SL	C	17	F	-
20	CASTLE St	PENNANT St	S	Mon	13:40	02/02/09	21	X	60	2	T	365	84	-42	D	NL	C	87	M	-
20	CASTLE St	PENNANT St	S	Tue	9:10	16/06/09	21	X	60	2	T	327	76	-42	D	NL	C	20	F	-
20	PENNANT St	CASTLE St	S	Sat	17:30	21/11/09	30	X	60	2	T	374	117	-42	D	NL	-	20	F	-
20	PENNANT St	CASTLE St	S	Tue	15:30	18/05/10	30	X	60	2	T	376	89	-42	W	NL	-	18	F	-
20	CASTLE St	PENNANT St	S	Tue	11:25	13/07/10	31	X	60	2	T	368	97	-42	D	NL	-	23	F	-
20	PENNANT St	CASTLE St	S	Mon	18:20	13/06/11	30	X	60	2	T	379	121	-42	W	SL	-	23	M	DI
21	CASTLE St	PENNANT St	E	Fri	5:00	05/11/10	10	X	50	2	N	3	-	-61	W	SL	C	18	M	-
21	CASTLE St	PENNANT St	E	Fri	12:25	15/04/11	21	X	50	2	N	109	-	-61	D	NL	C	29	F	-
21	CASTLE St	PENNANT St	E	Thu	18:30	11/08/11	21	X	50	2	N	177	-	-61	D	SL	T	20	M	DO
22	CASTLE St	PENNANT St	W	Thu	6:50	19/08/10	71	X	50	2	N	15	-	52	W	NL	-	16	M	-
22	CASTLE St	PENNANT St	W	Thu	18:45	09/09/10	39	X	50	2	N	155	-	52	W	SL	-	33	M	-
23	CASTLE HILL Rd	NEW LINE Rd	N	Mon	17:45	02/02/09	30	T	60	2	T	498	499	-45	D	NL	-	36	M	DO
23	CASTLE HILL Rd	NEW LINE Rd	E	Sun	12:15	03/05/09	30	T	60	2	T	452	297	-45	D	NL	-	25	M	DO
23	CASTLE HILL Rd	NEW LINE Rd	E	Sat	9:20	27/06/09	30	T	60	2	T	461	260	-45	D	NL	-	42	F	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Wed	10:50	05/08/09	21	T	60	2	T	504	276	-45	D	NL	C	60	F	-
23	CASTLE HILL Rd	NEW LINE Rd	S	Wed	8:20	07/07/10	11	T	60	2	T	500	233	-45	D	NL	C	43	M	DO
23	CASTLE HILL Rd	NEW LINE Rd	W	Sat	9:35	28/08/10	21	T	60	2	T	461	260	-45	D	NL	C	39	M	-
23	NEW LINE Rd	CASTLE HILL Rd	S	Wed	11:00	01/09/10	31	T	60	2	T	442	276	-45	D	NL	-	45	F	-
23	NEW LINE Rd	CASTLE HILL Rd	S	Tue	9:15	12/04/11	30	T	60	2	T	461	260	-45	D	NL	-	25	M	DI
23	CASTLE HILL Rd	NEW LINE Rd	W	Sun	12:00	24/04/11	21	T	60	2	T	452	297	-45	D	NL	C	43	F	-
23	CASTLE HILL Rd	NEW LINE Rd	E	Sat	17:10	07/05/11	20	T	60	2	T	498	499	-45	D	SL	-	20	M	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Thu	11:15	05/04/12	30	T	60	2	T	442	276	-45	D	NL	-	35	M	-

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23	CASTLE HILL Rd	NEW LINE Rd	W	Tue	16:10	18/09/12	30	T	60	2	T	487	445	-45	W	NL	-	23	M	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Wed	22:20	26/09/12	21	T	60	2	T	193	218	-45	D	SL	C	21	M	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Mon	15:30	31/12/12	30	T	60	2	T	459	381	-45	D	SL	-	38	M	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Mon	14:20	21/01/13	30	T	60	2	T	425	342	-45	D	NL	-	18	M	DI
23	CASTLE HILL Rd	NEW LINE Rd	E	Wed	6:35	13/02/13	30	T	60	2	T	194	36	-45	W	NL	-	33	M	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Fri	9:40	15/03/13	21	T	60	2	T	461	276	-45	D	NL	C	42	M	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Mon	22:30	15/04/13	21	T	60	2	T	193	218	-45	W	SL	T	21	M	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Mon	6:50	22/04/13	21	T	60	2	T	194	36	-45	W	NL	C	32	M	-
23	CASTLE HILL Rd	NEW LINE Rd	W	Wed	8:27	26/06/13	21	T	60	2	T	500	233	-45	W	NL	C	28	F	DO
23	CASTLE HILL Rd	NEW LINE Rd	S	Sat	12:50	26/10/13	16	T	60	2	T	452	297	-45	D	NL	-	77	F	-
24	CENTENARY Rd	OLD PROSPECT Rd	N	Wed	7:50	07/03/12	30	X	60	2	T	76	28	8	D	NL	-	30	M	-
24	CENTENARY Rd	OLD PROSPECT Rd	N	Tue	12:12	06/08/13	10	X	60	2	T	155	28	8	D	NL	C	47	F	-
24	CENTENARY Rd	OLD PROSPECT Rd	S	Thu	9:10	07/05/09	21	X	60	2	T	210	56	8	D	NL	C	28	M	-
24	CENTENARY Rd	OLD PROSPECT Rd	S	Tue	21:00	17/11/09	10	X	60	2	T	97	21	8	D	SL	C	32	M	-
24	CENTENARY Rd	OLD PROSPECT Rd	S	Mon	19:00	04/04/11	71	X	60	2	T	194	30	8	D	SL	-	59	F	DI
24	CENTENARY Rd	OLD PROSPECT Rd	S	Wed	17:05	18/05/11	21	X	60	2	T	230	27	8	D	SL	C	23	M	-
24	CENTENARY Rd	OLD PROSPECT Rd	S	Wed	17:00	18/05/11	21	X	60	2	T	230	27	8	D	NL	C	18	F	OD
24	CENTENARY Rd	OLD PROSPECT Rd	S	Fri	16:00	14/09/12	30	X	60	2	T	228	35	8	D	NL	-	Unk	U	-
24	CENTENARY Rd	OLD PROSPECT Rd	S	Thu	16:50	06/12/12	10	X	60	2	T	228	35	8	D	NL	T	55	M	-
24	CENTENARY Rd	OLD PROSPECT Rd	S	Fri	22:30	07/12/12	21	X	60	2	T	80	19	8	D	SL	C	21	M	-
24	CENTENARY Rd	OLD PROSPECT Rd	S	Mon	7:30	25/11/13	10	X	60	2	T	76	28	8	D	NL	T	36	F	-
25	CENTENARY Rd	OLD PROSPECT Rd	S	Thu	9:10	07/05/09	21	X	60	1	T	217	87	-39	D	NL	C	28	M	-
25	CENTENARY Rd	OLD PROSPECT Rd	S	Tue	21:00	17/11/09	10	X	60	1	T	95	96	-39	D	SL	C	32	M	-
25	CENTENARY Rd	OLD PROSPECT Rd	S	Mon	19:00	04/04/11	71	X	60	1	T	193	218	-39	D	SL	-	59	F	DI
25	CENTENARY Rd	OLD PROSPECT Rd	S	Wed	17:05	18/05/11	21	X	60	1	T	242	246	-39	D	SL	C	23	M	-
25	CENTENARY Rd	OLD PROSPECT Rd	S	Wed	17:00	18/05/11	21	X	60	1	T	242	246	-39	D	NL	C	18	F	OD
25	CENTENARY Rd	OLD PROSPECT Rd	S	Fri	16:00	14/09/12	30	X	60	1	T	235	235	-39	D	NL	-	Unk	U	-

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25	CENTENARY Rd	OLD PROSPECT Rd	S	Thu	16:50	06/12/12	10	X	60	1	T	235	235	-39	D	NL	T	55	M	-
25	CENTENARY Rd	OLD PROSPECT Rd	S	Fri	22:30	07/12/12	21	X	60	1	T	79	75	-39	D	SL	C	21	M	-
25	CENTENARY Rd	OLD PROSPECT Rd	S	Mon	7:30	25/11/13	10	X	60	1	T	116	36	-39	D	NL	T	36	F	-
26	OLD PROSPECT Rd	CENTENARY Rd	E	Mon	6:30	18/10/10	30	X	50	1	N	10	24	-18	D	NL	-	42	F	DO
26	CENTENARY Rd	OLD PROSPECT Rd	E	Sun	12:25	20/03/11	13	X	50	1	N	47	85	-18	D	NL	C	24	M	-
26	CENTENARY Rd	OLD PROSPECT Rd	E	Sun	15:25	27/01/13	21	X	50	1	N	67	91	-18	W	NL	C	52	M	-
26	CENTENARY Rd	OLD PROSPECT Rd	E	Mon	21:45	27/05/13	21	X	50	1	N	29	62	-18	W	SL	C	18	M	-
26	OLD PROSPECT Rd	CENTENARY Rd	E	Fri	7:19	16/08/13	1	X	50	1	N	26	83	-18	D	NL	-	47	M	DO
26	OLD PROSPECT Rd	CENTENARY Rd	E	Fri	20:20	25/10/13	21	X	50	1	N	43	84	-18	D	SL	C	19	M	-
27	ALLEN St	CENTENARY Rd	W	Thu	7:00	16/02/12	30	X	50	1	N	178	23	44	D	NL	-	27	M	DO
28	CHALMERS St	REDFERN St	W	Tue	5:25	10/03/09	21	X	50	1	T	24	NA	-15	D	SL	Bicy	74	M	-
28	CHALMERS St	REDFERN St	W	Wed	18:45	08/04/09	49	X	50	1	T	257	NA	-15	D	SL	-	20	M	DO
28	CHALMERS St	REDFERN St	W	Thu	20:00	16/07/09	0	X	50	1	T	166	NA	-15	D	SL	-	Unk	U	-
28	CHALMERS St	REDFERN St	W	Fri	7:06	23/10/09	21	X	50	1	T	100	NA	-15	D	NL	C	64	M	-
28	CHALMERS St	REDFERN St	W	Sun	14:30	17/01/10	21	X	50	1	T	201	NA	-15	D	NL	C	22	M	-
28	CHALMERS St	REDFERN St	W	Sat	15:00	17/04/10	21	X	50	1	T	194	NA	-15	D	NL	C	38	M	DO
28	CHALMERS St	REDFERN St	W	Fri	21:35	06/08/10	21	X	50	1	T	137	NA	-15	D	SL	C	21	M	-
28	REDFERN St	CHALMERS St	W	Wed	8:20	06/10/10	33	X	50	1	T	163	NA	-15	D	NL	-	52	M	-
28	CHALMERS St	REDFERN St	W	Sat	19:15	16/10/10	21	X	50	1	T	232	NA	-15	D	SL	C	45	M	-
28	CHALMERS St	REDFERN St	W	Fri	20:00	13/05/11	21	X	50	1	T	166	NA	-15	D	SL	MC	19	F	-
28	CHALMERS St	REDFERN St	W	Fri	20:20	01/07/11	21	X	50	1	T	166	NA	-15	W	SL	Unk	23	M	-
28	REDFERN St	CHALMERS St	W	Wed	19:01	17/08/11	30	X	50	1	T	232	NA	-15	W	SL	-	51	F	OD
28	CHALMERS St	REDFERN St	W	Mon	14:20	14/05/12	21	X	50	1	T	201	NA	-15	D	NL	C	51	M	DO
28	CHALMERS St	REDFERN St	W	Sun	13:15	24/06/12	21	X	50	1	T	199	NA	-15	D	NL	Bicy	21	F	-
28	CHALMERS St	REDFERN St	W	Thu	15:30	09/05/13	21	X	50	1	T	194	NA	-15	D	NL	Bicy	48	M	-
28	REDFERN St	CHALMERS St	W	Fri	23:00	07/06/13	30	X	50	1	T	107	NA	-15	D	SL	-	33	M	-
28	CHALMERS St	REDFERN St	W	Mon	19:55	02/09/13	21	X	50	1	T	232	NA	-15	D	SL	C	22	F	-

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29	CHURCH St	BARNEY St	S	Fri	17:15	13/03/09	10	X	60	3	T	244	302	-51	D	NL	C	25	M	-
29	CHURCH St	BARNEY St	S	Mon	15:50	09/11/09	21	X	60	3	T	216	338	-51	D	NL	Unk	18	F	-
29	CHURCH St	BARNEY St	S	Sat	15:30	05/12/09	21	X	60	3	T	216	338	-51	D	NL	T	33	F	-
29	CHURCH St	BARNEY St	S	Tue	6:50	09/02/10	21	X	60	3	T	28	120	-51	D	NL	C	53	M	-
29	CHURCH St	BARNEY St	S	Sat	10:15	03/04/10	21	X	60	3	T	128	523	-51	D	NL	C	56	F	-
29	CHURCH St	BARNEY St	S	Wed	17:45	07/07/10	21	X	60	3	T	244	302	-51	D	SL	C	43	M	DO
29	CHURCH St	BARNEY St	S	Mon	16:45	12/07/10	21	X	60	3	T	241	371	-51	D	SL	T	40	F	DO
29	CHURCH St	BARNEY St	S	Wed	9:30	04/08/10	21	X	60	3	T	126	606	-51	D	NL	C	49	M	DO
29	CHURCH St	BARNEY St	S	Fri	9:55	17/09/10	21	X	60	3	T	126	606	-51	D	NL	C	55	F	-
29	CHURCH St	BARNEY St	S	Sat	7:40	09/10/10	21	X	60	3	T	128	523	-51	D	NL	Bus	34	F	-
29	CHURCH St	BY St	S	Fri	14:30	10/12/10	30	X	60	3	T	190	353	-51	D	NL	-	68	M	-
29	CHURCH St	BARNEY St	S	Thu	17:00	17/02/11	30	X	60	3	T	244	302	-51	D	NL	-	41	F	-
29	CHURCH St	BARNEY St	S	Thu	15:40	26/05/11	21	X	60	3	T	216	338	-51	D	NL	C	17	F	-
29	CHURCH St	BARNEY St	S	Fri	7:50	28/10/11	30	X	60	3	T	58	261	-51	D	NL	-	29	M	-
29	CHURCH St	BARNEY St	S	Wed	11:15	01/02/12	21	X	60	3	T	150	391	-51	D	NL	T	59	M	-
29	CHURCH St	BARNEY St	S	Tue	7:45	10/04/12	21	X	60	3	T	58	261	-51	D	NL	C	58	M	-
29	CHURCH St	BARNEY St	S	Fri	18:00	27/04/12	37	X	60	3	T	249	298	-51	D	SL	-	78	M	-
29	CHURCH St	BARNEY St	S	Sun	20:50	16/09/12	21	X	60	3	T	146	193	-51	D	SL	C	51	F	-
29	CHURCH St	BARNEY St	S	Fri	10:15	16/11/12	21	X	60	3	T	128	523	-51	W	NL	Bus	45	F	-
29	CHURCH St	BARNEY St	S	Thu	12:05	21/03/13	30	X	60	3	T	172	375	-51	D	NL	-	47	M	-
29	CHURCH St	BARNEY St	S	Wed	17:55	08/05/13	21	X	60	3	T	244	302	-51	D	NL	MC	68	F	DO
29	CHURCH St	BARNEY St	S	Sun	14:30	19/05/13	30	X	60	3	T	190	353	-51	D	NL	-	53	F	-
29	CHURCH St	BARNEY St	S	Sun	12:00	26/05/13	21	X	60	3	T	172	375	-51	D	NL	C	40	M	DO
29	CHURCH St	BARNEY St	S	Fri	10:45	11/10/13	21	X	60	3	T	128	523	-51	D	NL	C	32	F	-
30	CLANCY St	DAVIES Rd	W	Fri	18:10	24/07/09	21	T	50	2	T	66	286	11	D	SL	C	26	F	-
30	CLANCY St	DAVIES Rd	W	Sun	15:45	15/08/10	21	T	50	2	T	50	249	11	D	NL	Unk	18	M	-
30	CLANCY St	DAVIES Rd	W	Sun	21:00	28/11/10	21	T	50	2	T	27	106	11	D	SL	C	22	M	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
30	CLANCY St	ALFORDS PT Rd	W	Fri	14:30	12/10/12	21	T	50	2	T	46	227	11	D	NL	C	32	F	-
30	CLANCY St	DAVIES Rd	W	Tue	12:30	05/02/13	21	T	50	2	T	52	229	11	D	NL	C	57	M	-
30	CLANCY St	DAVIES Rd	W	Tue	18:05	05/02/13	21	T	50	2	T	66	286	11	D	NL	C	29	M	-
30	ALFORDS PT Rd	CLANCY St	W	Tue	22:00	18/06/13	81	T	50	2	T	23	93	11	W	SL	-	30	M	-
30	CLANCY St	DAVIES Rd	W	Fri	10:30	28/06/13	21	T	50	2	T	73	242	11	W	NL	C	22	F	-
30	CLANCY St	DAVIES Rd	W	Wed	15:25	27/11/13	21	T	50	2	T	50	249	11	D	NL	C	26	F	-
31	CLEVELAND St	CROWN St	U	Wed	22:50	22/04/09	0	X	50	2	T	362	-	-3	W	SL	-	Unk	U	-
31	CROWN St	CLEVELAND St	U	Tue	1:50	05/10/10	3	X	50	2	T	169	-	-3	W	SL	-	Unk	U	-
31	CLEVELAND St	CROWN St	W	Thu	5:55	19/03/09	20	X	50	2	T	83	-	-3	D	SL	-	29	M	F
31	CLEVELAND St	CROWN St	W	Mon	15:00	06/04/09	30	X	50	2	T	449	-	-3	D	NL	-	26	M	-
31	CLEVELAND St	BAPTIST St	W	Mon	8:35	01/06/09	0	X	50	2	T	409	-	-3	D	NL	-	27	M	-
31	CLEVELAND St	CROWN St	W	Fri	16:30	18/02/11	30	X	50	2	T	462	-	-3	D	NL	-	27	F	-
31	CLEVELAND St	CROWN St	W	Thu	8:35	09/06/11	30	X	50	2	T	409	-	-3	D	NL	-	25	M	-
31	CLEVELAND St	CROWN St	W	Tue	19:30	05/07/11	32	X	50	2	T	473	-	-3	D	SL	-	23	F	-
31	CLEVELAND St	CROWN St	W	Mon	14:50	12/09/11	21	X	50	2	T	449	-	-3	D	NL	C	37	M	-
31	CLEVELAND St	BAPTIST St	W	Mon	16:15	19/09/11	2	X	50	2	T	462	-	-3	D	NL	-	21	M	-
31	CLEVELAND St	CROWN St	W	Wed	10:10	01/08/12	21	X	50	2	T	429	-	-3	D	NL	Unk	31	F	-
31	CLEVELAND St	BAPTIST St	W	Sat	15:50	18/08/12	10	X	50	2	T	449	-	-3	D	NL	C	22	F	-
31	CLEVELAND St	CROWN St	W	Wed	12:45	23/01/13	21	X	50	2	T	447	-	-3	D	NL	C	27	F	-
31	CLEVELAND St	CROWN St	W	Thu	22:40	21/02/13	21	X	50	2	T	362	-	-3	D	SL	C	63	M	-
31	CLEVELAND St	CROWN St	W	Tue	9:30	14/05/13	21	X	50	2	T	432	-	-3	D	NL	C	24	M	-
31	CLEVELAND St	CROWN St	W	Sun	0:01	14/07/13	30	X	50	2	T	253	-	-3	D	SL	-	18	F	-
31	CLEVELAND St	CROWN St	W	Wed	13:00	27/11/13	21	X	50	2	T	440	-	-3	D	NL	C	52	M	-
31	CLEVELAND St	CROWN St	W	Wed	5:05	11/12/13	21	X	50	2	T	83	-	-3	D	SL	MC	76	M	-
32	COOGEE BAY Rd	CARRINGTON Rd	N	Tue	18:10	06/07/10	0	X	50	2	N	286	-	134	D	SL	-	Unk	M	-
32	COOGEE BAY Rd	CARRINGTON Rd	N	Thu	7:10	15/07/10	10	X	50	2	N	130	-	134	D	NL	Bicy	29	M	-
32	COOGEE BAY Rd	CARRINGTON Rd	N	Sun	12:55	20/05/12	10	X	50	2	N	265	-	134	W	NL	T	41	F	-

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32	CARRINGTON Rd	COOGEE BAY Rd	N	Wed	18:45	21/08/13	30	X	50	2	N	286	-	134	D	SL	-	22	M	-
33	COOGEE BAY Rd	CARRINGTON Rd	S	Mon	13:00	19/10/09	21	X	50	2	N	126	-	67	D	NL	C	22	M	-
33	COOGEE BAY Rd	CARRINGTON Rd	S	Thu	17:45	30/06/11	21	X	50	2	N	165	-	67	D	SL	MC	53	F	-
33	COOGEE BAY Rd	CARRINGTON Rd	S	Tue	9:40	22/01/13	37	X	50	2	N	213	-	67	D	NL	-	54	F	-
33	CARRINGTON Rd	COOGEE BAY Rd	S	Sun	14:35	27/01/13	32	X	50	2	N	100	-	67	W	NL	-	75	M	DI
33	COOGEE BAY Rd	CARRINGTON Rd	S	Sat	15:40	23/03/13	12	X	50	2	N	139	-	67	W	NL	-	38	M	-
34	CARRINGTON Rd	COOGEE BAY Rd	E	Fri	14:30	05/07/13	2	X	50	2	N	149	-	31	D	NL	-	55	F	-
35	CARRINGTON Rd	COOGEE BAY Rd	W	Sun	15:20	03/05/09	0	X	50	2	N	117	-	50	D	NL	-	23	F	-
35	CARRINGTON Rd	COOGEE BAY Rd	W	Wed	16:15	26/05/10	0	X	50	2	N	156	-	50	W	SL	-	39	F	-
35	COOGEE BAY Rd	CARRINGTON Rd	W	Mon	10:50	16/08/10	21	X	50	2	N	104	-	50	D	NL	C	56	M	-
35	COOGEE BAY Rd	CARRINGTON Rd	W	Thu	16:30	25/04/13	21	X	50	2	N	156	-	50	D	NL	C	23	M	-
35	CARRINGTON Rd	COOGEE BAY Rd	W	Sun	15:22	07/07/13	0	X	50	2	N	117	-	50	D	NL	-	29	M	DO
35	COOGEE BAY Rd	CARRINGTON Rd	W	Mon	18:05	23/09/13	21	X	50	2	N	154	-	50	D	SL	Bicy	54	M	-
36	CORRIMAL St	BURELLI St	S	Sun	13:45	04/01/09	21	X	60	2	T	289	-	-24	D	NL	C	25	F	-
36	CORRIMAL St	BURELLI St	S	Sun	22:00	01/03/09	35	X	60	2	T	129	-	-24	D	SL	-	23	M	-
36	CORRIMAL St	BURELLI St	S	Mon	14:07	19/10/09	21	X	60	2	T	275	-	-24	D	NL	C	53	F	-
36	CORRIMAL St	BURELLI St	S	Fri	13:10	19/08/11	10	X	60	2	T	289	-	-24	D	NL	C	28	F	DO
36	CORRIMAL St	BURELLI St	S	Thu	10:45	22/03/12	74	X	60	2	T	257	-	-24	D	NL	-	19	M	-
36	CORRIMAL St	BURELLI St	S	Sat	19:50	25/08/12	35	X	60	2	T	212	-	-24	D	SL	-	21	M	-
37	CORRIMAL St	BURELLI St	E	Thu	0:05	16/07/09	21	X	50	2	N	43	-	29	D	SL	C	18	M	-
37	CORRIMAL St	BURELLI St	E	Wed	8:20	15/12/10	10	X	50	2	N	70	-	29	D	NL	C	28	M	DO
37	CORRIMAL St	BURELLI St	E	Sat	23:00	03/08/13	21	X	50	2	N	61	-	29	D	SL	C	17	F	-
38	CORRIMAL St	BURELLI St	W	Sun	16:50	24/03/13	21	X	50	2	N	98	-	22	D	NL	C	17	M	-
39	COWARD St	BOURKE Rd	N	Thu	10:06	04/10/12	35	X	50	1	T	147	26	-13	D	NL	-	39	M	-
39	BOURKE Rd	COWARD St	N	Fri	13:10	29/11/13	10	X	50	1	T	153	27	-13	W	NL	C	28	F	-
40	COWARD St	BOURKE Rd	W	Mon	14:15	02/02/09	30	X	50	2	N	81	-	71	D	NL	-	46	M	-
40	COWARD St	BOURKE Rd	W	Fri	8:30	13/03/09	21	X	50	2	N	60	-	71	D	NL	C	20	M	-

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40	COWARD St	BOURKE Rd	W	Mon	12:10	12/07/10	21	X	50	2	N	69	-	71	D	NL	C	66	M	DO
40	COWARD St	BOURKE Rd	W	Sun	11:56	17/04/11	21	X	50	2	N	62	-	71	D	NL	C	69	M	-
40	COWARD St	BOURKE St	W	Tue	16:30	05/03/13	21	X	50	2	N	82	-	71	D	NL	C	29	F	-
40	COWARD St	BOURKE Rd	W	Mon	11:55	22/07/13	21	X	50	2	N	62	-	71	D	NL	C	43	M	DO
41	CROYDON Rd	QUEENS Rd	S	Sat	19:30	09/05/09	21	T	60	2	T	209	-	9	D	SL	C	30	M	-
41	CROYDON Rd	QUEENS Rd	S	Mon	8:00	02/11/09	21	T	60	2	T	188	-	9	D	NL	C	Unk	U	-
41	CROYDON Rd	QUEENS Rd	S	Sat	22:35	13/02/10	21	T	60	2	T	96	-	9	W	SL	C	27	F	-
41	CROYDON Rd	QUEENS Rd	S	Wed	19:05	26/05/10	21	T	60	2	T	209	-	9	W	SL	C	21	M	-
41	CROYDON Rd	QUEENS Rd	S	Sat	9:25	03/07/10	21	T	60	2	T	217	-	9	D	NL	C	57	F	-
41	CROYDON Rd	QUEENS Rd	S	Tue	20:05	06/07/10	21	T	60	2	T	143	-	9	W	SL	C	18	M	-
41	CROYDON Rd	QUEENS Rd	S	Thu	15:50	28/10/10	21	T	60	2	T	206	-	9	D	NL	C	47	M	-
41	CROYDON Rd	QUEENS Rd	S	Sat	12:30	06/11/10	21	T	60	2	T	177	-	9	D	NL	T	48	F	-
41	CROYDON Rd	QUEENS Rd	S	Sun	14:40	05/12/10	21	T	60	2	T	189	-	9	W	NL	C	49	M	-
41	CROYDON Rd	QUEENS Rd	S	Sat	22:44	09/04/11	21	T	60	2	T	96	-	9	D	SL	C	24	M	-
41	CROYDON Rd	QUEENS Rd	S	Mon	6:05	02/05/11	21	T	60	2	T	59	-	9	D	SL	C	25	M	-
41	CROYDON Rd	QUEENS Rd	S	Fri	20:00	15/07/11	21	T	60	2	T	143	-	9	W	SL	C	33	F	-
41	CROYDON Rd	QUEENS Rd	S	Tue	15:30	09/08/11	21	T	60	2	T	206	-	9	D	NL	C	43	M	-
41	CROYDON Rd	QUEENS Rd	S	Sat	18:00	27/08/11	21	T	60	2	T	252	-	9	D	SL	C	16	F	-
41	CROYDON Rd	QUEENS Rd	S	Sat	11:40	24/09/11	21	T	60	2	T	172	-	9	W	NL	C	46	F	-
41	CROYDON Rd	QUEENS Rd	S	Fri	5:45	03/02/12	21	T	60	2	T	16	-	9	W	SL	Bicy	52	M	-
41	CROYDON Rd	QUEENS Rd	S	Sat	12:30	21/04/12	21	T	60	2	T	177	-	9	D	NL	T	18	F	-
41	CROYDON Rd	QUEENS Rd	S	Sun	22:00	22/04/12	21	T	60	2	T	96	-	9	D	SL	C	22	M	DO
41	CROYDON Rd	QUEENS Rd	S	Mon	1:41	30/04/12	41	T	60	2	T	24	-	9	D	SL	-	26	F	DI
41	CROYDON Rd	QUEENS Rd	S	Fri	18:10	01/06/12	21	T	60	2	T	252	-	9	D	SL	C	38	M	-
41	CROYDON Rd	QUEENS Rd	S	Sun	22:50	26/08/12	21	T	60	2	T	96	-	9	D	SL	C	26	M	-
41	CROYDON Rd	QUEENS Rd	S	Sun	10:48	14/10/12	21	T	60	2	T	192	-	9	D	NL	C	54	F	-
41	CROYDON Rd	QUEENS Rd	S	Sun	11:05	11/11/12	21	T	60	2	T	172	-	9	W	NL	C	34	M	-

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41	CROYDON Rd	QUEENS Rd	S	Tue	14:30	02/04/13	21	T	60	2	T	189	-	9	D	NL	T	82	F	-
41	CROYDON Rd	QUEENS Rd	S	Sat	17:47	27/04/13	21	T	60	2	T	237	-	9	D	SL	C	19	F	DO
41	CROYDON Rd	QUEENS Rd	S	Sat	13:27	18/05/13	21	T	60	2	T	189	-	9	D	NL	C	18	F	-
41	CROYDON Rd	QUEENS Rd	S	Sun	21:25	30/06/13	21	T	60	2	T	117	-	9	W	SL	C	32	F	-
42	CUMBERLAND Hwy	SMITH St	N	Mon	9:30	09/03/09	21	X	70	3	N	491	68	-63	W	SL	C	45	F	-
42	CUMBERLAND Hwy	SMITH St	N	Mon	6:45	23/03/09	35	X	70	3	N	199	3	-63	D	NL	-	Unk	M	-
42	CUMBERLAND Hwy	SMITH St	N	Mon	5:40	20/12/10	31	X	70	3	N	77	1	-63	D	SL	-	38	M	-
42	CUMBERLAND Hwy	SMITH St	N	Sun	12:50	27/02/11	21	X	70	3	N	441	36	-63	D	NL	C	65	M	-
42	CUMBERLAND Hwy	SMITH St	N	Wed	18:30	06/04/11	30	X	70	3	N	601	43	-63	W	NL	-	Unk	U	-
42	CUMBERLAND Hwy	SMITH St	N	Sat	19:10	23/07/11	30	X	70	3	N	485	44	-63	D	SL	-	39	F	-
42	CUMBERLAND Hwy	SMITH St	N	Tue	19:00	29/05/12	30	X	70	3	N	485	44	-63	D	SL	-	46	M	-
43	CUMBERLAND Hwy	SMITH St	S	Tue	13:30	08/09/09	10	X	70	3	N	338	433	106	W	NL	C	17	M	DI
43	CUMBERLAND Hwy	SMITH St	S	Sun	20:30	17/01/10	10	X	70	3	N	266	385	106	D	SL	C	17	M	-
43	CUMBERLAND Hwy	SMITH St	S	Fri	7:50	12/03/10	30	X	70	3	N	410	511	106	D	NL	-	18	F	-
43	CUMBERLAND Hwy	SMITH St	S	Wed	18:15	23/06/10	30	X	70	3	N	449	601	106	W	SL	-	20	M	DO
43	CUMBERLAND Hwy	SMITH St	S	Sun	2:20	16/10/11	30	X	70	3	N	37	49	106	D	SL	-	26	M	-
43	CUMBERLAND Hwy	SMITH St	S	Sun	17:15	05/02/12	30	X	70	3	N	411	544	106	D	NL	-	49	F	-
43	CUMBERLAND Hwy	SMITH St	S	Fri	13:45	24/02/12	34	X	70	3	N	338	433	106	D	NL	-	Unk	U	-
43	CUMBERLAND Hwy	SMITH St	S	Thu	20:15	14/06/12	35	X	70	3	N	266	385	106	W	SL	-	36	M	-
43	CUMBERLAND Hwy	SMITH St	S	Sun	14:50	19/08/12	30	X	70	3	N	349	450	106	D	NL	-	23	M	DI
43	CUMBERLAND Hwy	SMITH St	S	Tue	21:00	03/09/13	10	X	70	3	N	187	289	106	D	SL	C	33	F	-
44	CUMBERLAND Hwy	FERNDALE Cl	E	Sat	11:20	13/02/10	30	X	70	3	T	352	242	45	W	NL	-	42	M	-
44	CUMBERLAND Hwy	FERNDALE Cl	E	Thu	22:10	23/09/10	35	X	70	3	T	174	111	45	D	SL	-	45	M	-
44	CUMBERLAND Hwy	HARRIS Rd	E	Sat	12:00	11/06/11	21	X	70	3	T	357	243	45	D	NL	C	23	M	-
44	CUMBERLAND Hwy	FERNDALE Cl	E	Thu	18:30	06/06/13	30	X	70	3	T	521	288	45	D	SL	-	25	M	DO
44	CUMBERLAND Hwy	HARRIS Rd	E	Tue	16:00	17/12/13	21	X	70	3	T	492	275	45	D	NL	C	30	F	DO
45	CUMBERLAND Hwy	HARRIS Rd	W	Sat	12:50	23/01/10	30	X	70	3	T	572	31	94	D	NL	-	35	M	DO

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45	CUMBERLAND Hwy	FERNDALE Cl	W	Thu	17:30	16/05/13	21	X	70	3	T	680	54	94	D	SL	C	22	M	-
46	DARBY St	HUNTER St	E	Thu	13:00	13/08/09	21	T	50	3	T	227	-	70	D	NL	MC	24	F	-
46	DARBY St	HUNTER St	E	Mon	14:10	04/01/10	32	T	50	3	T	227	-	70	D	NL	-	40	M	-
46	DARBY St	HUNTER St	E	Tue	16:05	13/04/10	21	T	50	3	T	209	-	70	D	NL	C	53	F	-
46	DARBY St	HUNTER St	E	Wed	15:50	08/08/12	21	T	50	3	T	225	-	70	D	NL	C	19	M	-
46	DARBY St	HUNTER St	E	Thu	19:15	14/02/13	21	T	50	3	T	132	-	70	D	SL	C	18	F	-
46	DARBY St	HUNTER St	E	Tue	7:05	26/02/13	21	T	50	3	T	53	-	70	D	NL	Bicy	64	F	DO
46	HUNTER St	DARBY St	E	Fri	22:00	20/12/13	0	T	50	3	T	87	-	70	D	SL	-	23	M	-
48	DELHI Rd	PLASSEY Rd	S	Thu	17:10	20/12/12	30	X	60	3	T	408	32	-81	D	NL	-	40	F	DI
49	DELHI Rd	JULIUS Ave	W	Thu	16:30	15/01/09	30	X	50	1	L	76	81	109	D	NL	-	Unk	U	-
49	DELHI Rd	PLASSEY Rd	W	Fri	19:15	12/03/10	21	X	50	1	L	84	26	109	D	NL	C	Unk	U	-
49	DELHI Rd	PLASSEY Rd	W	Wed	22:00	19/01/11	30	X	50	1	L	9	5	109	D	SL	-	30	F	DO
49	DELHI Rd	PLASSEY Rd	W	Wed	8:10	25/01/12	21	X	50	1	L	19	15	109	D	NL	C	22	M	DO
49	DELHI Rd	PLASSY Rd	W	Mon	16:30	28/05/12	30	X	50	1	L	76	81	109	D	NL	-	40	M	-
49	DELHI Rd	PLASSEY Rd	W	Thu	17:00	14/02/13	21	X	50	1	L	136	69	109	D	NL	MC	64	F	DO
49	DELHI Rd	EPPING Rd	W	Wed	18:30	03/07/13	30	X	50	1	L	126	63	109	D	SL	-	61	M	-
49	DELHI Rd	JULIUS Ave	W	Mon	7:00	30/09/13	30	X	50	1	L	7	12	109	D	NL	-	21	M	-
50	NORTON St	CITY WEST LINK Rd	E	Sun	7:45	04/01/09	10	X	70	3	T	289	33	24	D	NL	Bus	Unk	U	-
50	CITY WEST LINK Rd	NORTON St	E	Sun	11:35	15/02/09	10	X	70	3	T	495	117	24	W	NL	C	42	M	-
50	NORTON St	CITY WEST LINK Rd	E	Sat	10:11	07/03/09	10	X	70	3	T	457	114	24	D	NL	C	61	M	-
50	NORTON St	CITY WEST LINK Rd	E	Fri	6:30	27/11/09	30	X	70	3	T	142	28	24	D	NL	-	40	M	DO
50	NORTON St	CITY WEST LINK Rd	E	Sun	6:54	17/01/10	10	X	70	3	T	142	28	24	D	NL	C	59	F	-
50	CITY WEST LINK Rd	NORTON St	E	Sat	17:50	27/02/10	30	X	70	3	T	704	108	24	D	NL	-	34	M	-
50	CITY WEST LINK Rd	JAMES St	E	Thu	20:30	01/04/10	30	X	70	3	T	536	88	24	D	SL	-	24	F	-
50	CITY WEST LINK Rd	JAMES St	E	Sat	20:25	23/10/10	30	X	70	3	T	536	88	24	W	SL	-	31	F	-
50	CITY WEST LINK Rd	NORTON St	E	Wed	11:20	20/07/11	34	X	70	3	T	495	117	24	W	NL	-	Unk	U	-
50	CITY WEST LINK Rd	NORTON St	E	Wed	6:45	12/10/11	2	X	70	3	T	142	28	24	D	NL	-	46	M	DO

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
50	CITY WEST LINK Rd	JAMES St	E	Tue	16:30	15/11/11	34	X	70	3	T	700	113	24	D	NL	-	46	M	-
50	CITY WEST LINK Rd	NORTON St	E	Tue	18:15	27/03/12	30	X	70	3	T	684	104	24	D	NL	-	53	F	-
50	CITY WEST LINK Rd	NORTON St	E	Sat	17:15	26/05/12	34	X	70	3	T	704	108	24	D	NL	-	38	F	-
50	NORTON St	CITY WEST LINK Rd	E	Sat	15:35	25/05/13	10	X	70	3	T	684	102	24	D	NL	C	24	M	-
50	NORTON St	CITY WEST LINK Rd	E	Sat	20:45	01/06/13	10	X	70	3	T	536	88	24	W	SL	C	18	U	-
51	CITY WEST LINK Rd	NORTON St	W	Fri	11:55	23/01/09	30	X	70	3	T	643	14	-92	D	NL	-	52	M	-
51	CITY WEST LINK Rd	NORTON St	W	Mon	17:45	05/07/10	30	X	70	3	T	622	13	-92	W	SL	-	71	F	-
51	CITY WEST LINK Rd	NORTON St	W	Thu	8:45	30/09/10	30	X	70	3	T	577	11	-92	D	NL	-	35	M	-
51	CITY WEST LINK Rd	NORTON St	W	Thu	21:09	04/11/10	30	X	70	3	T	346	5	-92	W	SL	-	21	F	-
51	CITY WEST LINK Rd	NORTON St	W	Mon	20:15	25/04/11	21	X	70	3	T	481	10	-92	D	SL	C	Unk	M	-
51	CITY WEST LINK Rd	NORTON St	W	Wed	17:30	25/05/11	30	X	70	3	T	622	13	-92	W	SL	-	31	M	-
51	CITY WEST LINK Rd	NORTON St	W	Tue	4:40	19/07/11	35	X	70	3	T	90	1	-92	D	SL	-	25	M	-
51	CITY WEST LINK Rd	NORTON St	W	Wed	14:15	20/07/11	30	X	70	3	T	591	12	-92	W	NL	-	23	F	-
51	CITY WEST LINK Rd	NORTON St	W	Sun	3:30	30/10/11	30	X	70	3	T	61	1	-92	D	SL	-	21	F	OD
51	NORTON St	CITY WEST LINK Rd	W	Tue	10:40	22/11/11	73	X	70	3	T	623	14	-92	D	NL	-	33	F	DO
51	CITY WEST LINK Rd	NORTON St	W	Sun	7:20	03/03/13	35	X	70	3	T	635	6	-92	D	NL	-	Unk	U	-
51	CITY WEST LINK Rd	NORTON St	W	Mon	20:00	15/04/13	30	X	70	3	T	481	10	-92	W	SL	-	18	M	-
51	CITY WEST LINK Rd	NORTON St	W	Sat	20:32	01/06/13	30	X	70	3	T	481	10	-92	W	SL	-	22	M	-
52	ANZAC Pde	STRACHAN St	N	Thu	7:55	28/01/10	30	X	60	3	N	101	11	-39	D	NL	-	47	M	-
52	MIDDLE St	ANZAC Pde	N	Tue	17:25	14/05/13	7	X	60	3	N	337	21	-39	D	SL	-	21	M	DO
53	ANZAC Pde	MIDDLE St	S	Thu	21:53	26/11/09	33	X	60	3	N	191	33	-12	D	SL	-	45	M	-
53	MIDDLE St	MIDDLE Lane	S	Fri	14:10	11/06/10	42	X	60	3	N	333	34	-12	D	NL	-	33	M	-
53	ANZAC Pde	MIDDLE St	S	Mon	2:20	14/06/10	30	X	60	3	N	41	4	-12	D	SL	-	19	F	DO
53	ANZAC Pde	MIDDLE St	S	Wed	18:40	04/08/10	30	X	60	3	N	336	33	-12	D	SL	-	17	M	F
53	ANZAC Pde	MIDDLE St	S	Wed	20:45	29/12/10	21	X	60	3	N	254	33	-12	D	SL	C	24	F	-
53	ANZAC Pde	MIDDLE St	S	Sat	7:30	05/02/11	2	X	60	3	N	255	4	-12	D	NL	-	22	F	-
53	ANZAC Pde	STRACHAN St	S	Thu	8:50	19/05/11	21	X	60	3	N	386	8	-12	D	NL	C	20	M	-

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53	ANZAC Pde	STRACHAN St	S	Wed	13:05	07/03/12	21	X	60	3	N	343	36	-12	D	NL	C	36	F	DO
53	ANZAC Pde	MIDDLE St	S	Thu	22:50	25/10/12	63	X	60	3	N	171	24	-12	D	SL	-	25	M	-
53	ANZAC Pde	MIDDLE St	S	Tue	20:00	17/09/13	30	X	60	3	N	254	33	-12	D	SL	-	18	F	DI
53	ANZAC Pde	MIDDLE St	S	Tue	12:40	24/09/13	74	X	60	3	N	323	30	-12	W	NL	-	22	M	-
53	ANZAC Pde	STRACHAN St	S	Sun	15:10	13/10/13	30	X	60	3	N	308	32	-12	D	NL	-	21	M	-
55	ANZAC Pde	MIDDLE St	W	Mon	12:30	30/03/09	0	X	50	1	N	40	65	24	D	NL	-	18	M	-
55	MIDDLE St	ANZAC Pde	W	Thu	18:03	28/01/10	42	X	50	1	N	56	98	24	D	NL	-	56	M	-
55	STRACHAN St	ANZAC Pde	W	Wed	1:30	28/04/10	73	X	50	1	N	5	14	24	D	NL	-	Unk	U	F
55	ANZAC Pde	MIDDLE St	W	Sun	15:00	06/05/12	2	X	50	1	N	42	84	24	D	NL	-	29	M	-
56	GREAT WESTERN Hwy	CHARLES HACKET Dr	E	Wed	17:26	14/01/09	10	X	60	3	T	336	392	123	D	NL	C	58	F	-
56	GREAT WESTERN Hwy	PAGES Rd	E	Thu	22:15	20/08/09	21	X	60	3	T	113	105	123	D	SL	C	23	F	-
56	GREAT WESTERN Hwy	PAGES Rd	E	Sat	12:13	28/08/10	30	X	60	3	T	300	224	123	D	NL	-	30	F	-
56	GREAT WESTERN Hwy	CHARLES HACKET Dr	E	Thu	15:05	23/09/10	1	X	60	3	T	306	281	123	D	NL	-	60	M	DO
56	GREAT WESTERN Hwy	PAGES Rd	E	Fri	21:00	04/03/11	21	X	60	3	T	132	124	123	D	SL	C	16	M	-
56	GREAT WESTERN Hwy	CHARLES HACKET Dr	E	Thu	21:48	23/06/11	30	X	60	3	T	132	124	123	D	SL	-	39	M	-
56	GREAT WESTERN Hwy	PAGES Rd	E	Wed	8:30	24/08/11	30	X	60	3	T	183	274	123	D	NL	-	26	F	-
56	GREAT WESTERN Hwy	CHARLES HACKET Dr	E	Mon	15:20	17/06/13	30	X	60	3	T	306	281	123	D	NL	-	36	M	-
56	GREAT WESTERN Hwy	PAGES Rd	E	Sat	9:08	29/06/13	21	X	60	3	T	325	263	123	W	NL	C	84	M	-
57	GREAT WESTERN Hwy	CHARLES HACKET Dr	W	Sun	10:15	03/05/09	21	X	60	3	T	270	134	6	D	NL	C	25	F	-
57	GREAT WESTERN Hwy	PAGES Rd	W	Wed	10:50	19/08/09	30	X	60	3	T	270	134	6	D	NL	-	19	M	-
57	GREAT WESTERN Hwy	PAGES Rd	W	Fri	17:40	05/02/10	62	X	60	3	T	354	252	6	W	NL	-	25	M	-
57	GREAT WESTERN Hwy	CHARLES HACKET Dr	W	Wed	11:00	17/02/10	30	X	60	3	T	271	132	6	D	NL	-	79	M	DO
57	GREAT WESTERN Hwy	CHARLES HACKET Dr	W	Wed	17:40	19/05/10	35	X	60	3	T	354	252	6	D	NL	-	32	F	-
57	GREAT WESTERN Hwy	CHARLES HACKET Dr	W	Sat	0:26	13/11/10	30	X	60	3	T	48	24	6	D	SL	-	41	M	DO
57	GREAT WESTERN Hwy	PAGES Rd	W	Thu	8:20	03/03/11	30	X	60	3	T	303	68	6	D	NL	-	28	F	-
57	GREAT WESTERN Hwy	PAGES Rd	W	Fri	16:00	04/03/11	30	X	60	3	T	377	225	6	D	NL	-	26	M	-
57	GREAT WESTERN Hwy	CHARLES HACKET Dr	W	Tue	10:00	29/03/11	30	X	60	3	T	370	134	6	D	NL	-	33	F	-

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57	GREAT WESTERN Hwy	PAGES Rd	W	Wed	16:05	10/08/11	30	X	60	3	T	377	225	6	D	NL	-	78	M	-
57	GREAT WESTERN Hwy	PAGES Rd	W	Tue	14:45	30/08/11	30	X	60	3	T	319	146	6	D	NL	-	22	F	-
57	GREAT WESTERN Hwy	PAGES Rd	W	Sat	9:50	17/12/11	30	X	60	3	T	313	122	6	D	NL	-	54	F	-
57	GREAT WESTERN Hwy	CHARLES HACKET Dr	W	Mon	6:30	26/03/12	30	X	60	3	T	158	22	6	D	SL	-	20	M	-
57	GREAT WESTERN Hwy	PAGES Rd	W	Fri	15:00	13/04/12	30	X	60	3	T	341	178	6	D	SL	-	23	F	-
57	GREAT WESTERN Hwy	PAGES Rd	W	Mon	8:30	27/08/12	30	X	60	3	T	303	68	6	D	NL	-	52	M	OD
57	GREAT WESTERN Hwy	PAGES Rd	W	Sun	14:40	07/10/12	30	X	60	3	T	319	146	6	D	NL	-	24	F	-
58	LOCKYER Ave	HENRY LAWSON Ave	W	Fri	15:25	10/12/10	0	T	50	2	T	246	45	-21	D	NL	-	58	F	-
58	DUNHEVED Rd	HENRY LAWSON Ave	W	Mon	19:12	09/05/11	21	T	50	2	T	205	67	-21	D	SL	C	25	F	DO
58	DUNHEVED Rd	HENRY LAWSON Ave	W	Tue	18:40	30/07/13	21	T	50	2	T	329	98	-21	D	SL	C	50	M	DO
58	DUNHEVED Rd	HENRY LAWSON Ave	W	Mon	15:15	18/11/13	30	T	50	2	T	246	45	-21	W	NL	-	30	F	-
59	EASTERN VALLEY Way	SMITH St	S	Tue	18:45	09/06/09	21	T	60	2	T	845	154	-45	D	SL	C	59	F	-
59	EASTERN VALLEY Way	SMITH St	S	Sun	18:10	26/09/10	21	T	60	2	T	845	154	-45	D	SL	C	20	M	-
59	EASTERN VALLEY Way	SMITH St	S	Fri	11:14	24/12/10	21	T	60	2	T	493	286	-45	D	NL	MC	57	M	-
59	EASTERN VALLEY Way	SMITH St	S	Wed	14:00	22/08/12	21	T	60	2	T	526	226	-45	D	NL	C	28	M	-
59	EASTERN VALLEY Way	SMITH St	S	Sun	16:25	26/08/12	30	T	60	2	T	757	229	-45	D	NL	-	44	M	-
59	EASTERN VALLEY Way	SMITH St	S	Fri	9:30	11/01/13	21	T	60	2	T	467	319	-45	D	NL	C	26	M	-
59	EASTERN VALLEY Way	SMITH St	S	Sat	16:00	18/05/13	21	T	60	2	T	757	229	-45	D	NL	C	29	M	-
59	EASTERN VALLEY Way	SMTIH St	S	Mon	11:10	01/07/13	62	T	60	2	T	493	286	-45	D	NL	-	41	F	-
59	EASTERN VALLEY Way	SMITH St	S	Wed	10:52	17/07/13	21	T	60	2	T	484	330	-45	D	NL	C	29	F	-
59	EASTERN VALLEY Way	SMITH St	S	Sat	15:29	07/12/13	21	T	60	2	T	630	215	-45	D	NL	C	35	F	-
59	EASTERN VALLEY Way	CASTLE COVE Dr	S	Tue	10:00	17/12/13	30	T	60	2	T	484	330	-45	D	NL	-	49	M	-
60	ELIZABETH St	CAMPBELL St	S	Tue	23:50	24/11/09	71	T	60	3	T	168	32	31	W	SL	-	29	M	-
60	ELIZABETH St	HAY St	S	Sat	21:10	07/07/12	21	T	60	3	T	189	35	31	D	SL	Unk	22	M	-
60	ELIZABETH St	HAY St	S	Wed	7:17	18/07/12	21	T	60	3	T	178	32	31	W	NL	Bicy	21	M	-
60	ELIZABETH St	CAMPBELL St	S	Wed	12:10	03/07/13	42	T	60	3	T	278	62	31	D	NL	-	42	M	-
60	ELIZABETH St	HAY St	S	Tue	17:40	22/10/13	21	T	60	3	T	299	65	31	D	NL	C	39	M	-

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61	ELIZABETH Dr	FLOWERDALE Rd	E	Sat	13:00	29/05/10	30	X	70	3	T	341	232	4	W	NL	-	38	M	-
61	ELIZABETH Dr	FLOWERDALE Rd	E	Fri	11:30	03/09/10	21	X	70	3	T	253	217	4	W	NL	C	63	M	-
61	ELIZABETH Dr	FLOWERDALE Rd	E	Thu	16:10	06/12/12	30	X	70	3	T	473	337	4	D	NL	-	53	M	DI
61	ELIZABETH Dr	FLOWERDALE Rd	E	Sun	17:20	06/01/13	21	X	70	3	T	534	360	4	D	NL	C	46	M	-
61	ELIZABETH Dr	ANASTASIO Rd	E	Thu	17:07	20/06/13	30	X	70	3	T	534	360	4	D	SL	-	68	M	-
62	ELIZABETH Dr	ANASTASIO Rd	W	Thu	22:57	03/03/11	20	X	70	3	T	159	11	78	D	SL	-	48	M	OD
62	ELIZABETH Dr	FLOWERDALE Rd	W	Wed	14:38	13/07/11	30	X	70	3	T	359	21	78	D	NL	-	18	M	-
62	FLOWERDALE Rd	ELIZABETH Dr	W	Wed	1:30	04/07/12	87	X	70	3	T	46	3	78	D	SL	-	37	M	DI
63	EPPING Rd	VIMIERA Rd	N	Mon	18:25	06/06/11	21	X	50	1	T	149	-	19	D	SL	C	22	F	-
64	EPPING Rd	VIMIERA Rd	S	Fri	18:50	05/03/10	21	X	50	2	T	105	160	134	W	SL	C	32	M	-
64	VIMIERA Rd	EPPING Rd	S	Wed	15:20	24/11/10	30	X	50	2	T	74	169	134	D	NL	-	56	F	-
64	EPPING Rd	VIMIERA Rd	S	Tue	17:45	07/08/12	21	X	50	2	T	97	211	134	D	SL	T	32	M	-
64	EPPING Rd	VIMIERA Rd	S	Thu	14:02	30/08/12	21	X	50	2	T	57	144	134	D	NL	C	21	F	-
65	EPPING Rd	VIMIERA Rd	E	Thu	7:55	20/08/09	35	X	70	3	T	446	15	-113	D	NL	-	20	F	-
65	EPPING Rd	VIMIERA Rd	E	Mon	10:00	31/08/09	35	X	70	3	T	491	57	-113	D	NL	-	22	M	-
66	EPPING Rd	VIMIERA Rd	W	Wed	13:30	06/05/09	30	X	70	3	T	304	28	-87	D	NL	-	21	M	-
66	EPPING Rd	VIMIERA Rd	W	Thu	18:25	11/06/09	30	X	70	3	T	255	39	-87	D	SL	-	24	M	-
66	EPPING Rd	VIMIERA Rd	W	Thu	11:45	24/09/09	0	X	70	3	T	376	35	-87	D	NL	-	22	F	-
66	EPPING Rd	VIMIERA Rd	W	Tue	18:36	06/04/10	30	X	70	3	T	255	39	-87	W	SL	-	Unk	U	-
66	EPPING Rd	VIMIERA Rd	W	Mon	22:50	28/06/10	10	X	70	3	T	133	24	-87	W	SL	C	38	M	-
66	EPPING Rd	VIMIERA Rd	W	Wed	19:30	17/08/11	30	X	70	3	T	238	40	-87	W	SL	-	30	M	-
66	EPPING Rd	VIMIERA Rd	W	Fri	23:10	11/01/13	30	X	70	3	T	96	19	-87	D	SL	-	24	F	-
66	EPPING Rd	VIMIERA Rd	W	Mon	17:00	26/08/13	30	X	70	3	T	254	34	-87	D	NL	-	31	M	-
66	EPPING Rd	VIMIERA Rd	W	Wed	6:29	04/12/13	30	X	70	3	T	201	2	-87	W	NL	-	38	M	-
67	EUSTON Rd	MADDOX St	N	Mon	17:30	23/11/09	21	X	60	2	N	90	-	57	D	NL	C	24	M	-
67	EUSTON Rd	MADDOX St	N	Sat	14:20	17/04/10	21	X	60	2	N	102	-	57	D	NL	C	62	M	-
67	EUSTON Rd	MADDOX St	N	Thu	8:40	22/04/10	21	X	60	2	N	107	-	57	D	NL	T	19	M	-

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67	EUSTON Rd	MADDOX St	N	Mon	6:05	07/06/10	21	X	60	2	N	22	-	57	W	NL	C	48	F	-
67	EUSTON Rd	MADDOX St	N	Wed	18:40	11/08/10	21	X	60	2	N	86	-	57	D	SL	C	33	F	DO
67	EUSTON Rd	MADDOX St	N	Sat	15:35	16/10/10	30	X	60	2	N	99	-	57	D	NL	-	27	M	-
67	EUSTON Rd	MADDOX St	N	Fri	18:00	23/09/11	21	X	60	2	N	86	-	57	D	SL	C	49	F	-
67	EUSTON Rd	MADDOX St	N	Mon	8:05	07/11/11	21	X	60	2	N	107	-	57	D	NL	C	28	M	-
67	EUSTON Rd	MADDOX St	N	Wed	20:10	20/02/13	21	X	60	2	N	47	-	57	D	SL	C	47	F	-
67	EUSTON Rd	MADDOX St	N	Tue	16:20	26/03/13	21	X	60	2	N	106	-	57	D	NL	C	28	M	-
67	EUSTON Rd	MADDOX St	N	Sun	12:00	19/05/13	30	X	60	2	N	96	-	57	D	NL	-	37	M	-
67	EUSTON Rd	MADDOX St	N	Thu	15:10	08/08/13	21	X	60	2	N	99	-	57	W	NL	C	36	F	-
67	EUSTON Rd	MADOX St	N	Fri	15:10	23/08/13	21	X	60	2	N	99	-	57	D	NL	C	50	M	-
68	EUSTON Rd	MADDOX St	S	Tue	10:00	19/07/11	0	X	60	2	N	85	-	93	D	NL	-	37	M	-
68	EUSTON Rd	MADDOX St	S	Fri	17:30	04/11/11	30	X	60	2	N	174	-	93	D	NL	-	34	M	-
68	EUSTON Rd	MADDOX St	S	Wed	22:00	27/11/13	21	X	60	2	N	27	-	93	D	SL	Bicy	42	F	-
70	EUSTON Rd	MADDOX St	W	Wed	7:35	09/02/11	21	X	50	2	N	126	-	28	D	NL	MC	32	F	DO
71	FAIRFIELD Rd	DURSLEY Rd	N	Tue	6:00	14/04/09	21	T	60	2	T	55	-	145	D	NL	C	23	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Mon	13:55	27/04/09	21	T	60	2	T	219	-	145	D	NL	C	18	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Mon	5:40	25/05/09	21	T	60	2	T	16	-	145	D	SL	T	56	F	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Thu	15:55	17/09/09	30	T	60	2	T	287	-	145	D	NL	-	18	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Fri	6:30	26/03/10	21	T	60	2	T	55	-	145	D	SL	C	44	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Wed	7:50	22/09/10	30	T	60	2	T	120	-	145	D	NL	-	40	F	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Wed	8:55	19/01/11	30	T	60	2	T	186	-	145	D	NL	-	40	F	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Wed	13:00	09/03/11	21	T	60	2	T	219	-	145	D	NL	C	48	M	DO
71	FAIRFIELD Rd	DURSLEY Rd	N	Thu	9:15	16/06/11	35	T	60	2	T	264	-	145	W	NL	-	28	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Thu	7:45	23/06/11	21	T	60	2	T	120	-	145	D	NL	C	21	F	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Fri	7:20	23/12/11	21	T	60	2	T	120	-	145	D	NL	C	43	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Sat	6:05	17/03/12	21	T	60	2	T	55	-	145	W	NL	C	67	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Mon	13:30	06/08/12	21	T	60	2	T	219	-	145	D	NL	C	58	M	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
71	FAIRFIELD Rd	DURSLEY Rd	N	Thu	15:00	29/11/12	21	T	60	2	T	219	-	145	D	NL	C	49	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Tue	10:20	16/04/13	21	T	60	2	T	217	-	145	W	NL	C	32	F	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Fri	5:00	26/07/13	21	T	60	2	T	16	-	145	D	SL	C	28	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Wed	5:30	25/09/13	21	T	60	2	T	16	-	145	D	NL	T	62	M	-
71	FAIRFIELD Rd	DURSLEY Rd	N	Wed	6:00	16/10/13	21	T	60	2	T	55	-	145	D	NL	C	66	M	-
72	FALCON St	ALEXANDER St	N	Tue	11:30	13/03/12	10	X	60	2	T	108	-	-57	D	NL	C	38	F	-
72	FALCON St	ALEXANDER St	N	Tue	6:19	21/08/12	0	X	60	2	T	11	-	-57	D	NL	-	31	M	-
72	FALCON St	ALEXANDER St	N	Thu	23:25	17/01/13	10	X	60	2	T	50	-	-57	D	SL	C	24	M	-
73	FALCON St	ALEXANDER St	W	Fri	10:55	20/02/09	30	X	50	2	T	367	-	11	D	NL	-	44	F	-
73	FALCON St	ALEXANDER St	W	Thu	15:00	15/03/12	31	X	50	2	T	393	-	11	D	NL	-	25	M	-
74	FIVE ISLANDS Rd	KING St	N	Sat	8:45	08/08/09	30	X	60	3	T	151	20	27	D	NL	-	18	F	-
74	KING St	WATTLE St	N	Tue	6:30	21/12/10	30	X	60	3	T	42	12	27	D	NL	-	28	F	-
74	FIVE ISLANDS Rd	WATTLE St	N	Sat	15:10	05/03/11	39	X	60	3	T	338	17	27	D	NL	-	27	M	-
74	KING St	FIVE ISLANDS Rd	N	Sat	8:00	19/03/11	30	X	60	3	T	151	20	27	W	NL	-	21	F	-
74	KING St	FIVE ISLANDS Rd	N	Sun	14:10	10/04/11	30	X	60	3	T	308	23	27	W	NL	-	17	F	-
74	KING St	FIVE ISLANDS Rd	N	Fri	8:45	12/07/13	30	X	60	3	T	151	20	27	D	NL	-	67	M	-
75	FIVE ISLANDS Rd	WATTLE St	S	Wed	22:28	20/05/09	21	X	60	3	T	96	10	-62	D	SL	C	50	M	-
75	FIVE ISLANDS Rd	WATTLE St	S	Wed	6:15	16/06/10	30	X	60	3	T	161	5	-62	D	NL	-	28	F	-
75	FIVE ISLANDS Rd	WATTLE St	S	Sat	10:00	07/08/10	30	X	60	3	T	290	21	-62	D	NL	-	25	M	DI
75	FIVE ISLANDS Rd	KING St	S	Sat	13:00	14/05/11	10	X	60	3	T	298	18	-62	D	NL	C	45	M	-
75	FIVE ISLANDS Rd	WATTLE St	S	Fri	17:40	25/11/11	30	X	60	3	T	333	30	-62	W	NL	-	65	F	-
75	FIVE ISLANDS Rd	WATTLE St	S	Thu	9:00	19/01/12	32	X	60	3	T	448	25	-62	D	NL	-	42	F	-
75	FIVE ISLANDS Rd	WATTLE St	S	Tue	9:00	07/02/12	30	X	60	3	T	448	25	-62	D	NL	-	27	M	-
75	FIVE ISLANDS Rd	WATTLE St	S	Mon	14:55	17/09/12	30	X	60	3	T	308	23	-62	D	NL	-	19	M	-
76	FLAGSTAFF Rd	LAKE Ave	W	Tue	20:20	28/07/09	21	T	50	1	T	66	99	147	D	SL	C	41	F	-
76	FLAGSTAFF Rd	LAKE Ave	W	Wed	17:27	05/08/09	21	T	50	1	T	122	198	147	D	NL	C	39	F	-
76	FLAGSTAFF Rd	LAKE Ave	W	Thu	10:35	26/07/12	21	T	50	1	T	126	155	147	D	NL	C	29	M	-

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76	FLAGSTAFF Rd	LAKE Ave	W	Thu	12:00	31/01/13	21	T	50	1	T	108	165	147	D	NL	C	23	F	-
77	ANZAC Pde	TODMAN Ave	S	Fri	15:50	11/09/09	31	X	60	3	T	278	198	-82	D	NL	-	Unk	M	-
77	ANZAC Pde	TODMAN Ave	S	Thu	10:59	22/10/09	21	X	60	3	T	259	203	-82	D	NL	C	28	M	-
77	ANZAC Pde	TODMAN Ave	S	Tue	13:20	13/07/10	30	X	60	3	T	270	179	-82	D	NL	-	36	M	-
77	TODMAN Ave	ANZAC Pde	S	Wed	13:19	28/07/10	2	X	60	3	T	270	179	-82	W	NL	-	27	M	-
77	ANZAC Pde	TODMAN Ave	S	Tue	16:30	26/10/10	30	X	60	3	T	290	252	-82	D	NL	-	28	M	-
77	ANZAC Pde	TODMAN Ave	S	Thu	16:15	05/05/11	74	X	60	3	T	290	252	-82	D	NL	-	55	F	-
77	ANZAC Pde	TODMAN Ave	S	Sun	12:40	30/10/11	21	X	60	3	T	255	167	-82	D	NL	C	Unk	M	-
77	ANZAC Pde	TODMAN Ave	S	Fri	18:15	08/06/12	21	X	60	3	T	294	220	-82	D	SL	C	63	M	-
77	ANZAC Pde	TODMAN Ave	S	Fri	20:00	27/07/12	21	X	60	3	T	220	120	-82	D	SL	C	34	M	-
77	ANZAC Pde	TODMAN Ave	S	Sat	20:10	03/11/12	30	X	60	3	T	220	120	-82	D	NL	-	32	M	-
77	ANZAC Pde	TODMAN Ave	S	Wed	8:00	28/08/13	10	X	60	3	T	286	161	-82	D	NL	C	37	M	-
77	ANZAC Pde	TODMAN Ave	S	Sun	23:48	06/10/13	21	X	60	3	T	134	63	-82	D	SL	Unk	25	M	-
77	ANZAC Pde	TODMAN Ave	S	Mon	22:30	07/10/13	21	X	60	3	T	169	82	-82	D	SL	C	29	F	-
78	FOREST Rd	SOMERVILLE St	S	Thu	1:00	22/07/10	10	X	50	1	T	9	10	-26	D	SL	C	18	M	-
78	FIRTH St	FOREST Rd	S	Wed	15:15	10/11/10	0	X	50	1	T	81	67	-26	D	NL	-	23	M	DI
78	SOMERVILLE St	FOREST Rd	S	Wed	12:30	16/02/11	20	X	50	1	T	73	59	-26	D	NL	-	27	M	-
78	FIRTH St	FOREST Rd	S	Mon	8:15	18/06/12	48	X	50	1	T	109	39	-26	D	NL	-	43	F	-
78	SOMERVILLE St	FOREST Rd	S	Fri	17:13	11/01/13	30	X	50	1	T	82	74	-26	D	NL	-	28	F	-
78	FOREST Rd	FIRTH St	S	Sun	16:11	23/06/13	21	X	50	1	T	94	90	-26	W	SL	C	26	M	-
79	FOREST Rd	EDEN St	W	Thu	9:05	08/01/09	21	X	60	2	N	411	-	1	D	NL	C	19	M	-
79	FOREST Rd	EDEN St	W	Tue	16:50	07/09/10	21	X	60	2	N	308	-	1	D	NL	C	43	M	-
79	FOREST Rd	FIRTH St	W	Thu	10:30	30/09/10	21	X	60	2	N	426	-	1	D	SL	C	42	M	-
79	FOREST Rd	EDEN St	W	Wed	7:42	29/02/12	21	X	60	2	N	484	-	1	W	NL	C	29	F	-
79	FOREST Rd	FIRTH St	W	Sun	22:30	25/03/12	21	X	60	2	N	164	-	1	D	SL	C	51	F	-
79	FOREST Rd	FIRTH St	W	Fri	15:05	11/05/12	34	X	60	2	N	329	-	1	W	NL	-	31	F	-
79	FOREST Rd	FIRTH St	W	Mon	20:15	10/09/12	30	X	60	2	N	240	-	1	D	SL	-	38	F	-

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80	MILPERRA Rd	ASHFORD Ave	E	Mon	12:50	29/12/08	39	T	70	3	T	439	123	-4	D	NL	-	35	M	DO
80	MILPERRA Rd	ASHFORD Ave	E	Wed	10:51	20/05/09	21	T	70	3	T	374	159	-4	W	NL	C	30	M	-
80	MILPERRA Rd	ASHFORD Rd	E	Wed	15:00	05/05/10	40	T	70	3	T	563	103	-4	D	NL	-	44	M	-
80	MILPERRA Rd	ASHFORD Ave	E	Fri	20:26	07/05/10	21	T	70	3	T	333	44	-4	D	SL	C	18	M	-
80	MILPERRA Rd	ASHFORD Ave	E	Sat	16:30	29/05/10	21	T	70	3	T	612	121	-4	W	NL	C	35	M	-
80	MILPERRA Rd	ASHFORD Ave	E	Mon	17:20	09/08/10	21	T	70	3	T	632	112	-4	D	SL	C	25	F	-
80	MILPERRA Rd	ASHFORD Ave	E	Fri	19:11	18/02/11	21	T	70	3	T	524	67	-4	D	SL	C	36	F	DO
80	MILPERRA Rd	ASHFORD Ave	E	Tue	6:45	22/03/11	30	T	70	3	T	151	71	-4	D	NL	-	Unk	M	-
80	MILPERRA Rd	ASHFORD Ave	E	Wed	17:00	20/07/11	21	T	70	3	T	632	112	-4	D	NL	C	33	M	-
80	MILPERRA Rd	ASHFORD Ave	E	Thu	13:40	15/09/11	21	T	70	3	T	621	121	-4	D	NL	C	20	F	-
80	MILPERRA Rd	ASHFORD Ave	E	Tue	16:00	13/03/12	30	T	70	3	T	612	121	-4	D	NL	-	21	M	-
80	MILPERRA Rd	UNKNOWN Uk	E	Thu	12:45	24/05/12	71	T	70	3	T	439	123	-4	W	NL	-	60	M	OD
80	MILPERRA Rd	ASHFORD Ave	E	Mon	18:50	23/09/13	21	T	70	3	T	641	115	-4	D	SL	C	57	F	-
81	FOREST Way	ADAMS St	N	Thu	6:40	05/03/09	32	X	70	3	N	94	-	51	D	NL	-	37	M	-
81	FOREST Way	ADAMS St	N	Thu	10:10	30/07/09	30	X	70	3	N	425	-	51	D	NL	-	31	F	-
81	FOREST Way	ADAMS St	N	Thu	18:40	03/09/09	30	X	70	3	N	500	-	51	D	SL	-	19	M	-
81	FOREST Way	ADAMS St	N	Fri	10:50	25/09/09	10	X	70	3	N	425	-	51	D	NL	C	24	M	-
81	FOREST Way	ADAMS St	N	Sat	11:00	21/08/10	21	X	70	3	N	391	-	51	D	NL	C	41	F	-
81	FOREST Way	ADAMS St	N	Mon	13:20	25/10/10	30	X	70	3	N	413	-	51	W	NL	-	49	M	-
81	FOREST Way	ADAMS St	N	Sun	11:30	05/12/10	30	X	70	3	N	391	-	51	D	NL	-	20	M	-
81	FOREST Way	ADAMS St	N	Wed	16:00	10/08/11	30	X	70	3	N	468	-	51	D	NL	-	21	M	DO
81	FOREST Way	ADAMS St	N	Thu	12:50	12/01/12	21	X	70	3	N	407	-	51	D	SL	Unk	23	M	-
81	FOREST Way	ADAMS St	N	Sat	12:55	18/02/12	21	X	70	3	N	407	-	51	D	NL	C	34	F	-
81	FOREST Way	ADAMS St	N	Wed	12:00	15/08/12	30	X	70	3	N	407	-	51	D	NL	-	62	M	-
81	FOREST Way	ADAMS St	N	Sun	10:00	19/08/12	21	X	70	3	N	425	-	51	D	NL	C	64	M	DO
81	FOREST Way	ADAMS St	N	Thu	17:45	04/10/12	34	X	70	3	N	476	-	51	D	SL	-	56	F	-
81	FOREST Way	ADAMS St	N	Sat	10:00	16/02/13	30	X	70	3	N	425	-	51	D	NL	-	53	M	DI

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81	FOREST Way	ADAMS St	N	Mon	9:40	06/05/13	30	X	70	3	N	391	-	51	D	NL	-	39	F	OD
81	FOREST Way	ADAMS St	N	Fri	15:40	10/05/13	21	X	70	3	N	407	-	51	D	NL	C	39	F	-
81	FOREST Way	ADAMS St	N	Fri	11:05	21/06/13	21	X	70	3	N	391	-	51	D	NL	Bicy	34	F	-
81	FOREST Way	ADAMS St	N	Thu	6:48	07/11/13	21	X	70	3	N	94	-	51	D	NL	C	22	M	DO
82	WAKEHURST Pkwy	CASTLE Cct	S	Thu	14:55	03/10/13	30	T	60	1	T	16	478	63	D	NL	-	68	F	OD
83	FREDERICK St	ELIZABETH St	N	Wed	15:20	08/04/09	32	X	60	1	N	830	92	36	D	NL	-	28	M	DI
83	FREDERICK St	ELIZABETH St	N	Tue	13:30	23/06/09	39	X	60	1	N	736	83	36	D	NL	-	16	F	-
83	FREDERICK St	ELIZABETH St	N	Sun	6:15	07/06/09	0	X	60	1	N	154	80	36	W	SL	-	51	F	-
83	FREDERICK St	ELIZABETH St	N	Tue	17:20	18/05/10	10	X	60	1	N	873	88	36	W	SL	C	Unk	U	-
83	FREDERICK St	ELIZABETH St	N	Fri	9:58	29/10/10	21	X	60	1	N	653	142	36	D	SL	C	27	M	-
83	FREDERICK St	ELIZABETH St	N	Fri	17:50	23/12/11	21	X	60	1	N	873	88	36	D	NL	C	41	F	-
83	FREDERICK St	ELIZABETH St	N	Mon	17:10	02/04/12	21	X	60	1	N	873	88	36	D	NL	MC	74	M	DO
83	FREDERICK St	ELIZABETH St	N	Mon	18:40	30/07/12	71	X	60	1	N	865	88	36	D	SL	-	35	M	F
83	FREDERICK St	ELIZABETH St	N	Wed	5:15	17/04/13	10	X	60	1	N	110	43	36	D	NL	C	49	M	-
83	FREDERICK St	ELIZABETH St	N	Sat	10:05	25/05/13	30	X	60	1	N	644	93	36	D	NL	-	64	M	-
83	FREDERICK St	ELIZABETH St	N	Mon	21:35	05/08/13	21	X	60	1	N	522	55	36	D	SL	MC	20	M	-
84	FREDERICK St	ELIZABETH St	S	Mon	14:34	09/02/09	30	X	60	1	N	719	77	47	D	NL	-	30	M	DI
84	FREDERICK St	ELIZABETH St	S	Tue	11:30	24/02/09	21	X	60	1	N	790	65	47	D	NL	C	72	M	-
84	FREDERICK St	ELIZABETH St	S	Sat	15:30	02/04/11	10	X	60	1	N	742	75	47	D	NL	C	32	F	-
84	FREDERICK St	ELIZABETH St	S	Tue	15:00	20/09/11	30	X	60	1	N	742	75	47	D	NL	-	44	M	-
84	FREDERICK St	ELIZABETH St	S	Mon	18:30	30/04/12	37	X	60	1	N	818	54	47	D	SL	-	39	M	-
84	FREDERICK St	ELIZABETH St	S	Mon	16:15	20/08/12	30	X	60	1	N	732	74	47	D	NL	-	50	F	-
84	FREDERICK St	ELIZABETH St	S	Fri	7:30	13/09/13	37	X	60	1	N	809	32	47	D	NL	-	44	M	-
84	FREDERICK St	ELIZABETH St	S	Thu	6:10	24/10/13	21	X	60	1	N	444	31	47	D	NL	T	53	M	-
85	FREDERICK St	ELIZABETH St	E	Sat	17:00	23/05/09	21	X	50	1	N	181	-	112	W	SL	C	45	M	-
85	FREDERICK St	ELIZABETH St	E	Thu	6:30	11/07/13	48	X	50	1	N	44	-	112	D	SL	-	27	M	-
85	ELIZABETH St	FREDERICK St	E	Sat	23:30	26/10/13	71	X	50	1	N	110	-	112	D	SL	-	30	M	DI

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85	FREDERICK St	ELIZABETH St	E	Tue	17:05	19/11/13	30	X	50	1	N	181	-	112	D	NL	-	59	F	-
86	FREDERICK St	ELIZABETH St	W	Fri	15:30	27/11/09	21	X	50	1	N	141	-	32	D	NL	C	29	F	-
86	FREDERICK St	ELIZABETH St	W	Mon	9:00	07/11/11	0	X	50	1	N	185	-	32	D	NL	-	43	F	-
86	FREDERICK St	ELIZABETH St	W	Thu	21:30	08/03/12	21	X	50	1	N	104	-	32	D	SL	C	31	M	DO
86	FREDERICK St	ELIZABETH St	W	Fri	21:25	25/05/12	0	X	50	1	N	104	-	32	D	SL	-	27	M	-
87	PACIFIC Hwy	FULLERS Rd	S	Mon	19:30	19/07/10	10	X	60	3	T	671	232	-49	W	SL	C	35	F	-
87	PACIFIC Hwy	FULLERS Rd	S	Wed	11:00	16/03/11	10	X	60	3	T	476	305	-49	D	NL	C	47	F	-
87	PACIFIC Hwy	FULLERS Rd	S	Tue	10:58	14/02/12	10	X	60	3	T	469	266	-49	W	NL	C	22	F	-
87	PACIFIC Hwy	HELP St	S	Sun	8:35	01/04/12	10	X	60	3	T	424	349	-49	D	NL	C	37	M	DI
87	PACIFIC Hwy	FULLERS Rd	S	Sat	14:45	09/11/13	10	X	60	3	T	570	306	-49	D	NL	C	89	M	-
88	GALSTON Rd	SOMERVILLE Rd	N	Tue	16:00	27/04/10	21	T	60	1	T	275	246	41	D	NL	C	27	M	-
88	GALSTON Rd	SOMERVILLE Rd	N	Wed	17:00	07/11/12	21	T	60	1	T	300	295	41	W	NL	C	19	M	-
88	GALSTON Rd	SOMERVILLE Rd	N	Thu	19:16	21/03/13	21	T	60	1	T	214	285	41	D	SL	T	17	F	-
89	PITTWATER Rd	GARDEN St	S	Mon	11:30	09/03/09	21	T	70	3	T	415	80	-11	D	NL	C	30	F	-
89	PITTWATER Rd	GARDEN St	S	Fri	19:00	25/09/09	21	T	70	3	T	473	60	-11	D	SL	C	20	M	-
89	PITTWATER Rd	GARDEN St	S	Fri	15:05	20/08/10	30	T	70	3	T	469	70	-11	D	NL	-	85	M	-
89	PITTWATER Rd	GARDEN St	S	Fri	16:00	12/11/10	30	T	70	3	T	534	73	-11	D	NL	-	53	F	DO
89	PITTWATER Rd	GARDEN St	S	Mon	13:30	07/02/11	34	T	70	3	T	460	76	-11	D	NL	-	72	M	-
89	PITTWATER Rd	GARDEN St	S	Fri	16:45	22/06/12	21	T	70	3	T	534	73	-11	D	SL	C	24	F	-
89	PITTWATER Rd	GARDEN St	U	Sat	11:00	24/08/13	49	T	70	3	T	415	80	-11	D	NL	-	39	M	-
90	GARDENERS Rd	BOURKE Rd	W	Sat	16:50	28/11/09	21	X	60	3	T	284	143	-37	D	NL	C	27	F	-
90	GARDENERS Rd	BOURKE Rd	W	Thu	8:30	13/05/10	21	X	60	3	T	315	97	-37	D	NL	C	17	F	-
90	GARDENERS Rd	BOURKE Rd	W	Fri	19:15	02/07/10	21	X	60	3	T	211	71	-37	W	SL	C	35	F	-
90	GARDENERS Rd	BOURKE Rd	W	Tue	14:40	28/09/10	21	X	60	3	T	288	164	-37	D	NL	T	24	F	-
90	GARDENERS Rd	BOURKE Rd	W	Sun	18:00	03/10/10	21	X	60	3	T	284	115	-37	W	NL	C	37	M	-
90	GARDENERS Rd	BOURKE Rd	W	Sun	16:15	05/06/11	21	X	60	3	T	284	143	-37	D	NL	C	39	M	-
90	GARDENERS Rd	BOURKE Rd	W	Mon	10:10	13/06/11	21	X	60	3	T	312	150	-37	W	NL	C	22	M	-

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90	GARDENERS Rd	BOURKE Rd	W	Thu	13:42	14/07/11	21	X	60	3	T	295	162	-37	D	NL	C	22	M	-
90	GARDENERS Rd	BOURKE Rd	W	Thu	11:25	22/09/11	21	X	60	3	T	284	154	-37	D	NL	C	66	F	-
90	GARDENERS Rd	BOURKE Rd	W	Mon	8:50	05/03/12	21	X	60	3	T	315	97	-37	D	NL	C	32	F	-
90	GARDENERS Rd	BOURKE Rd	W	Mon	12:29	09/04/12	21	X	60	3	T	291	162	-37	D	NL	C	54	M	-
90	GARDENERS Rd	BOURKE Rd	W	Sun	10:00	07/04/13	21	X	60	3	T	312	150	-37	D	NL	C	60	F	-
90	GARDENERS Rd	BOURKE Rd	W	Mon	8:28	27/05/13	21	X	60	3	T	315	97	-37	W	NL	C	53	M	DO
91	THE GRAND Pde	BAY St	S	Wed	15:20	06/05/09	30	T	60	3	T	487	193	18	D	NL	-	17	F	-
91	BAY St	THE GRAND Pde	S	Wed	0:01	07/04/10	21	T	60	3	T	98	113	18	W	SL	C	21	M	-
91	THE GRAND Pde	BAY St	S	Fri	19:00	25/06/10	30	T	60	3	T	430	218	18	D	SL	-	76	F	-
91	THE GRAND Pde	BAY St	S	Sat	15:18	08/01/11	30	T	60	3	T	487	193	18	D	NL	-	20	M	-
91	THE GRAND Pde	BAY St	S	Wed	14:15	12/01/11	30	T	60	3	T	514	185	18	D	NL	-	48	M	-
91	THE GRAND Pde	BAY St	S	Sat	13:20	02/04/11	30	T	60	3	T	562	183	18	D	NL	-	43	M	-
91	THE GRAND Pde	BAY St	S	Sat	22:50	09/07/11	34	T	60	3	T	240	141	18	D	SL	-	18	F	-
91	BAY St	THE GRAND Pde	S	Mon	2:00	15/08/11	82	T	60	3	T	33	49	18	D	SL	-	22	M	-
91	GENERAL HOLMES Dr	BAY St	S	Thu	19:20	08/09/11	30	T	60	3	T	430	218	18	W	SL	-	72	M	-
91	THE GRAND Pde	BAY St	S	Tue	13:15	01/11/11	30	T	60	3	T	562	183	18	D	NL	-	23	F	-
91	THE GRAND Pde	BAY St	S	Fri	21:50	28/09/12	42	T	60	3	T	253	138	18	W	SL	-	33	F	-
91	THE GRAND Pde	BAY St	S	Sat	14:08	29/09/12	30	T	60	3	T	514	185	18	D	NL	-	21	M	-
91	THE GRAND Pde	BAY St	S	Mon	11:45	21/01/13	30	T	60	3	T	582	139	18	D	NL	-	54	M	-
91	THE GRAND Pde	BAY St	S	Wed	18:55	19/06/13	30	T	60	3	T	518	230	18	W	SL	-	27	F	-
91	THE GRAND Pde	BAY St	S	Tue	6:00	24/12/13	0	T	60	3	T	470	35	18	D	SL	-	35	M	-
92	MARKET St	KENT St	W	Fri	17:20	12/06/09	30	X	50	2	N	286	14	-13	D	SL	-	46	M	-
92	KENT St	MARKET St	W	Fri	18:00	12/03/10	36	X	50	2	N	270	24	-13	D	SL	-	41	F	-
92	KENT St	MARKET St	W	Fri	17:30	04/02/11	0	X	50	2	N	286	14	-13	D	NL	-	35	M	-
92	MARKET St	KENT St	W	Fri	22:10	30/09/11	2	X	50	2	N	243	5	-13	D	SL	-	30	M	-
92	MARKET St	KENT St	W	Wed	16:00	16/11/11	6	X	50	2	N	272	8	-13	D	NL	-	Unk	M	-
92	MARKET St	KENT St	W	Tue	19:45	08/05/12	30	X	50	2	N	287	18	-13	D	SL	-	25	M	-

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92	KENT St	MARKET St	W	Sat	12:10	01/12/12	21	X	50	2	N	236	5	-13	D	NL	C	31	M	-
92	MARKET St	KENT St	W	Wed	15:25	23/01/13	2	X	50	2	N	264	7	-13	D	NL	-	23	M	-
93	GEORGES RIVER Rd	BRIGHTON Ave	E	Tue	22:30	20/12/11	21	T	60	2	T	245	269	-18	D	SL	C	42	F	DO
94	CAMDEN Rd	HURLEY St	N	Fri	18:25	09/10/09	10	T	60	3	T	285	236	-99	D	NL	C	18	M	-
94	HURLEY St	CAMDEN Rd	N	Fri	13:30	20/05/11	30	T	60	3	T	282	219	-99	D	NL	-	47	M	DI
94	HURLEY St	CAMDEN Rd	N	Sat	19:10	12/05/12	21	T	60	3	T	208	218	-99	D	SL	Unk	17	M	-
94	CAMDEN Rd	HURLEY St	N	Thu	6:30	31/05/12	21	T	60	3	T	33	27	-99	D	SL	Bus	29	M	-
94	CAMDEN Rd	HURLEY St	N	Wed	11:15	03/07/13	21	T	60	3	T	250	204	-99	D	NL	T	25	F	-
97	QUEENS Rd	WALKER St	E	Thu	18:50	05/03/09	30	X	60	1	N	921	-	-31	D	SL	-	50	M	-
97	QUEENS Rd	TAYLOR St	E	Thu	11:20	22/12/11	30	X	60	1	N	720	-	-31	W	NL	-	31	M	-
97	QUEENS Rd	WALKER St	E	Sat	6:55	25/02/12	30	X	60	1	N	109	-	-31	D	NL	-	20	M	DO
97	GIPPS St	WALKER St	E	Sat	2:05	28/07/12	81	X	60	1	N	102	-	-31	D	SL	-	32	M	DO
97	QUEENS Rd	WALKER St	E	Wed	19:30	16/01/13	30	X	60	1	N	903	-	-31	D	NL	-	27	M	-
97	QUEENS Rd	WALKER St	E	Tue	9:25	14/05/13	35	X	60	1	N	868	-	-31	D	NL	-	Unk	U	-
98	RAILWAY Rd	HENRY St	N	Thu	12:35	12/05/11	21	X	50	2	N	353	-	-22	D	NL	C	24	M	DO
98	RAILWAY Rd	HENRY St	N	Mon	15:00	12/12/11	21	X	50	2	N	344	-	-22	D	NL	C	53	M	DO
98	RAILWAY Rd	HENRY St	N	Mon	16:40	09/07/12	21	X	50	2	N	340	-	-22	D	SL	C	37	M	DO
98	RAILWAY Rd	HENRY St	N	Mon	16:45	04/06/12	21	X	50	2	N	340	-	-22	W	SL	C	18	F	DO
98	RAILWAY Rd	HENRY St	N	Tue	13:30	02/10/12	21	X	50	2	N	349	-	-22	D	NL	C	77	M	DO
98	RAILWAY Rd	HENRY St	N	Sat	14:40	15/06/13	21	X	50	2	N	358	-	-22	W	NL	C	41	F	DO
99	RAILWAY Rd	HENRY St	S	Sat	14:15	22/10/11	35	X	50	2	N	389	-	33	D	NL	-	30	F	-
99	RAILWAY Rd	HENRY St	S	Sat	14:20	19/05/12	74	X	50	2	N	389	-	33	D	NL	-	41	M	DO
100	RAILWAY Rd	HENRY St	E	Thu	18:15	23/04/09	2	X	50	1	N	15	-	11	D	SL	-	23	F	-
100	RAILWAY Rd	HENRY St	E	Wed	17:00	06/05/09	21	X	50	1	N	17	-	11	D	NL	C	21	M	-
100	RAILWAY Rd	HENRY St	E	Sat	11:00	11/09/10	11	X	50	1	N	12	-	11	D	NL	C	48	F	-
100	RAILWAY Rd	HENRY St	E	Thu	21:10	08/12/11	35	X	50	1	N	6	-	11	W	SL	-	17	M	-
100	HENRY St	RAILWAY Rd	E	Mon	11:20	10/12/12	37	X	50	1	N	12	-	11	D	NL	-	43	M	-

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101	RAILWAY Rd	HENRY St	W	Thu	17:30	17/09/09	21	X	50	1	N	16	-	60	D	NL	C	29	F	-
101	RAILWAY Rd	HENRY St	W	Tue	15:40	20/10/09	2	X	50	1	N	14	-	60	D	NL	-	29	F	DO
101	RAILWAY Rd	HENRY St	W	Thu	16:00	03/02/11	21	X	50	1	N	20	-	60	D	NL	C	73	F	DO
101	RAILWAY Rd	HENRY St	W	Mon	17:50	23/05/11	21	X	50	1	N	16	-	60	D	SL	C	37	M	DO
101	RAILWAY Rd	HENRY St	W	Tue	17:50	16/08/11	20	X	50	1	N	16	-	60	D	SL	-	21	M	-
101	RAILWAY Rd	HENRY St	W	Wed	17:35	07/09/11	21	X	50	1	N	16	-	60	D	NL	C	24	F	DO
101	RAILWAY Rd	HENRY St	W	Fri	14:00	16/03/12	21	X	50	1	N	15	-	60	D	NL	C	51	M	DO
101	RAILWAY Rd	HENRY St	W	Tue	12:45	08/05/12	21	X	50	1	N	16	-	60	D	NL	MC	31	M	DO
101	RAILWAY Rd	HENRY St	W	Mon	13:54	03/09/12	21	X	50	1	N	18	-	60	D	NL	C	30	M	DO
101	RAILWAY Rd	HENRY St	W	Sun	13:05	18/11/12	21	X	50	1	N	18	-	60	D	NL	C	53	F	-
101	RAILWAY Rd	HENRY St	W	Mon	16:45	15/07/13	21	X	50	1	N	20	-	60	D	NL	C	39	F	-
102	GLOSSOP St	KURRAJONG Rd	N	Thu	16:30	03/09/09	32	X	60	2	T	556	176	-45	W	NL	-	30	M	-
102	GLOSSOP St	KURRAJONG Rd	N	Mon	15:35	26/10/09	21	X	60	2	T	487	165	-45	D	NL	C	30	M	DO
102	GLOSSOP St	KURRAJONG Rd	N	Wed	7:05	28/07/10	71	X	60	2	T	226	94	-45	W	NL	-	20	M	-
102	GLOSSOP St	KURRAJONG Rd	N	Fri	11:54	08/07/11	10	X	60	2	T	399	150	-45	D	NL	C	53	M	-
102	GLOSSOP St	FORTHORN Pl	N	Tue	7:20	04/10/11	10	X	60	2	T	226	94	-45	D	NL	MC	Unk	U	-
102	GLOSSOP St	CURRAJONG Rd	N	Sat	11:45	20/07/13	30	X	60	2	T	399	150	-45	D	NL	-	42	M	-
102	GLOSSOP St	KURRAJONG Rd	N	Tue	8:28	01/10/13	30	X	60	2	T	287	114	-45	D	NL	-	31	M	-
102	GLOSSOP St	KURRAJONG Rd	N	Sun	13:15	01/09/13	21	X	60	2	T	430	164	-45	D	NL	T	30	M	DO
102	GLOSSOP St	KURRAJONG Rd	N	Fri	13:10	01/11/13	21	X	60	2	T	430	164	-45	D	NL	C	23	F	-
102	GLOSSOP St	KURRAJONG Rd	N	Mon	17:00	19/08/13	21	X	60	2	T	534	175	-45	D	NL	C	66	M	-
103	GLOSSOP St	KURRAJONG Rd	S	Mon	14:20	31/05/10	37	X	60	2	N	422	9	62	W	NL	-	34	M	-
103	GLOSSOP St	FORTHORN Pl	S	Wed	8:02	07/11/12	21	X	60	2	N	318	8	62	D	NL	C	45	F	-
103	GLOSSOP St	KURRAJONG Rd	S	Wed	14:30	13/02/13	30	X	60	2	N	422	9	62	D	SL	-	Unk	M	-
104	FORTHORN Pl	GLOSSOP St	E	Tue	19:20	14/06/11	30	X	50	2	N	71	-	52	D	SL	-	21	M	-
106	GREAT WESTERN Hwy	GREAT NORTH Rd	E	Tue	21:30	28/04/09	30	T	60	3	T	463	105	-8	D	SL	-	19	M	-
106	GREAT WESTERN Hwy	GREAT NORTH Rd	E	Wed	18:39	07/04/10	30	T	60	3	T	822	261	-8	D	SL	-	30	F	-

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106	GREAT WESTERN Hwy	GREAT NORTH Rd	E	Thu	12:30	15/04/10	30	T	60	3	T	786	227	-8	D	NL	-	32	M	-
106	GREAT WESTERN Hwy	GREAT NORTH Rd	E	Sat	20:45	31/07/10	30	T	60	3	T	592	170	-8	D	SL	-	44	M	-
106	GREAT WESTERN Hwy	HENLEY MARINE Dr	E	Sat	2:50	12/02/11	71	T	60	3	T	91	21	-8	D	SL	-	34	M	F
106	GREAT WESTERN Hwy	GREAT NORTH Rd	E	Wed	6:40	05/09/12	49	T	60	3	T	578	49	-8	D	NL	-	54	M	-
106	GREAT WESTERN Hwy	GREAT NORTH Rd	E	Fri	11:35	30/11/12	30	T	60	3	T	784	216	-8	D	SL	-	70	M	DO
107	GREAT WESTERN Hwy	JONES St	N	Wed	23:15	22/06/11	21	X	50	2	N	37	-	-9	D	SL	C	19	M	-
107	GREAT WESTERN Hwy	JONES St	N	Mon	15:15	25/03/13	10	X	50	2	N	63	-	-9	D	NL	C	14	M	-
107	GREAT WESTERN Hwy	BERITH Rd	N	Sat	1:00	20/07/13	21	X	50	2	N	21	-	-9	D	SL	C	39	M	-
107	GREAT WESTERN Hwy	BERITH Rd	N	Tue	9:30	26/11/13	47	X	50	2	N	50	-	-9	D	NL	-	88	F	-
108	GREAT WESTERN Hwy	BERITH St	S	Mon	17:15	21/03/11	11	X	50	2	N	58	-	4	W	NL	C	19	M	-
108	GREAT WESTERN Hwy	BERITH Rd	S	Wed	18:20	01/06/11	10	X	50	2	N	51	-	4	D	SL	C	36	M	-
108	GREAT WESTERN Hwy	BERITH Rd	S	Mon	1:10	10/06/13	21	X	50	2	N	5	-	4	D	SL	C	28	M	-
109	GREAT WESTERN Hwy	BERITH Rd	E	Thu	7:40	05/02/09	21	X	80	3	T	68	152	65	D	NL	T	47	F	-
109	GREAT WESTERN Hwy	JONES St	E	Sat	22:40	12/12/09	21	X	80	3	T	92	200	65	D	SL	C	48	F	-
109	GREAT WESTERN Hwy	JONES St	E	Tue	13:25	18/05/10	10	X	80	3	T	155	319	65	D	NL	C	20	F	-
109	GREAT WESTERN Hwy	JONES St	E	Sat	17:50	25/12/10	35	X	80	3	T	220	544	65	D	NL	-	18	M	-
109	GREAT WESTERN Hwy	JONES St	E	Sun	8:30	19/08/12	10	X	80	3	T	97	216	65	D	NL	C	42	M	-
109	GREAT WESTERN Hwy	JONES St	E	Fri	15:50	19/04/13	30	X	80	3	T	182	397	65	D	NL	-	21	F	-
109	GREAT WESTERN Hwy	BERITH Rd	E	Wed	5:50	20/11/13	21	X	80	3	T	18	58	65	D	NL	T	21	M	-
110	JONES St	GREAT WESTERN Hwy	W	Fri	11:45	08/05/09	32	X	80	3	T	316	69	-48	D	NL	-	32	F	-
110	GREAT WESTERN Hwy	BERITH St	W	Mon	11:45	14/06/10	10	X	80	3	T	316	69	-48	D	NL	C	19	M	-
110	GREAT WESTERN Hwy	JONES St	W	Wed	11:30	23/06/10	35	X	80	3	T	316	69	-48	W	NL	-	45	M	-
110	GREAT WESTERN Hwy	JONES St	W	Sat	12:10	02/10/10	10	X	80	3	T	321	61	-48	W	NL	C	67	F	-
110	GREAT WESTERN Hwy	JONES St	W	Mon	20:15	03/10/11	21	X	80	3	T	204	65	-48	D	SL	C	38	M	-
110	GREAT WESTERN Hwy	JONES St	W	Wed	17:17	12/12/12	21	X	80	3	T	333	65	-48	D	NL	C	46	M	-
110	GREAT WESTERN Hwy	JONES St	W	Fri	19:40	02/08/13	20	X	80	3	T	289	71	-48	D	SL	-	23	M	-
111	GREAT WESTERN Hwy	FLUSHCOMBE Rd	N	Fri	11:30	13/02/09	13	X	50	2	N	121	-	57	W	NL	T	66	F	-

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111	GREAT WESTERN Hwy	FLUSHCOMBE Rd	N	Sun	12:58	25/10/09	11	X	50	2	N	138	-	57	W	NL	C	45	F	-
111	FLUSHCOMBE Rd	GREAT WESTERN Hwy	N	Thu	18:00	27/05/10	30	X	50	2	N	243	-	57	D	SL	-	20	M	-
112	FLUSHCOMBE Rd	GREAT WESTERN Hwy	S	Sat	5:55	04/04/09	21	X	50	2	N	9	-	17	W	NL	C	41	F	DO
112	GREAT WESTERN Hwy	FLUSHCOMBE Rd	S	Thu	20:10	09/04/09	16	X	50	2	N	7	-	17	D	SL	-	37	F	-
112	FLUSHCOMBE Rd	GREAT WESTERN Hwy	S	Sun	23:30	28/06/09	30	X	50	2	N	5	-	17	D	SL	-	26	M	-
112	GREAT WESTERN Hwy	FLUSHCOMBE Rd	S	Sat	13:10	09/04/11	21	X	50	2	N	26	-	17	D	NL	C	39	M	DO
112	GREAT WESTERN Hwy	FLUSHCOMBE Rd	S	Fri	15:50	04/05/12	21	X	50	2	N	54	-	17	D	NL	C	57	F	-
112	GREAT WESTERN Hwy	FLUSHCOMBE Rd	S	Tue	6:50	12/06/12	21	X	50	2	N	9	-	17	W	SL	Unk	26	M	-
112	GREAT WESTERN Hwy	FLUSHCOMBE Rd	S	Sun	4:28	06/10/13	11	X	50	2	N	5	-	17	D	SL	C	44	F	-
113	GREAT WESTERN Hwy	FLUSHCOMBE Rd	E	Tue	12:00	23/06/09	21	X	80	3	T	184	15	23	D	NL	C	27	M	-
113	GREAT WESTERN Hwy	FLUSHCOMBE Rd	E	Tue	8:00	01/12/09	30	X	80	3	T	189	8	23	D	NL	-	22	F	-
113	GREAT WESTERN Hwy	FLUSHCOMBE Rd	E	Sat	0:45	12/12/09	30	X	80	3	T	52	2	23	D	SL	-	35	M	-
113	GREAT WESTERN Hwy	FLUSHCOMBE Rd	E	Mon	7:00	18/04/11	30	X	80	3	T	109	11	23	D	NL	-	28	M	-
113	GREAT WESTERN Hwy	FLUSHCOMBE Rd	E	Tue	12:50	24/01/12	21	X	80	3	T	184	15	23	W	NL	C	45	M	-
113	GREAT WESTERN Hwy	FLUSHCOMBE Rd	E	Thu	16:00	03/01/13	21	X	80	3	T	341	12	23	D	NL	C	26	M	-
114	GREAT WESTERN Hwy	FLUSHCOMBE Rd	W	Sat	11:30	11/04/09	21	X	80	3	T	179	96	93	D	NL	C	46	M	-
114	GREAT WESTERN Hwy	FLUSHCOMBE Rd	W	Wed	8:40	26/08/09	33	X	80	3	T	403	66	93	D	NL	-	26	F	DI
114	GREAT WESTERN Hwy	FLUSHCOMBE Rd	W	Sat	10:30	05/12/09	30	X	80	3	T	233	99	93	D	NL	-	30	M	-
114	GREAT WESTERN Hwy	FLUSHCOMBE Rd	W	Tue	18:15	29/12/09	32	X	80	3	T	232	231	93	W	NL	-	21	M	-
114	GREAT WESTERN Hwy	FLUSHCOMBE Rd	W	Fri	14:10	06/08/10	10	X	80	3	T	204	116	93	D	NL	C	31	F	-
114	GREAT WESTERN Hwy	FLUSHCOMBE Rd	W	Wed	16:54	02/02/11	30	X	80	3	T	220	205	93	D	NL	-	42	F	-
114	GREAT WESTERN Hwy	FLUSHCOMBE Rd	W	Tue	17:45	16/07/13	30	X	80	3	T	222	220	93	W	SL	-	55	F	-
115	GREYSTANES Rd	OLD PROSPECT Rd	N	Wed	7:00	24/06/09	1	X	60	2	T	202	24	-32	D	NL	-	58	F	DO
115	GREYSTANES Rd	OLD PROSPECT Rd	N	Wed	21:45	30/12/09	21	X	60	2	T	94	19	-32	D	SL	T	25	F	-
116	GREYSTANES Rd	OLD PROSPECT Hwy	S	Tue	14:00	27/01/09	30	X	60	2	T	182	115	25	D	NL	-	24	M	-
116	GREYSTANES Rd	OLD PROSPECT Rd	S	Mon	13:58	23/02/09	33	X	60	2	T	183	103	25	D	NL	-	Unk	U	-
116	GREYSTANES Rd	OLD PROSPECT Rd	S	Tue	12:45	28/09/10	30	X	60	2	T	163	97	25	D	NL	-	53	M	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
116	GREYSTANES Rd	OLD PROSPECT Rd	S	Mon	20:10	25/03/13	10	X	60	2	T	109	153	25	D	SL	C	48	F	-
116	GREYSTANES Rd	BUTU WARGUN Dr	S	Mon	5:44	17/06/13	35	X	60	2	T	38	7	25	D	NL	-	27	M	-
116	GREYSTANES Rd	OLD PROSPECT Rd	S	Tue	14:00	20/08/13	10	X	60	2	T	182	115	25	D	NL	C	37	F	-
116	GREYSTANES Rd	BUTU WARGUN Dr	S	Thu	4:15	31/10/13	21	X	60	2	T	22	5	25	D	SL	C	23	F	-
117	GREYSTANES Rd	OLD PROSPECT Rd	E	Wed	15:30	25/02/09	21	X	50	2	L	122	43	9	D	NL	C	21	M	-
117	GREYSTANES Rd	OLD PROSPECT Rd	E	Sun	2:15	21/08/11	10	X	50	2	L	3	2	9	W	SL	C	42	M	DO
117	GREYSTANES Rd	BUTU WARGUN Dr	E	Tue	17:00	05/11/13	16	X	50	2	L	155	38	9	D	NL	-	Unk	F	-
118	GREYSTANES Rd	OLD PROSPECT Rd	W	Wed	8:30	21/04/10	10	X	50	1	L	78	69	62	D	NL	C	34	M	-
118	GREYSTANES Rd	BUTU WARGUN Dr	W	Sat	9:15	29/01/11	47	X	50	1	L	93	71	62	D	NL	-	35	M	-
118	OLD PROSPECT Rd	GREYSTANES Rd	W	Mon	8:30	27/08/12	30	X	50	1	L	78	69	62	D	NL	-	35	M	-
118	GREYSTANES Rd	BUTU WARGUN Dr	W	Tue	11:17	26/03/13	21	X	50	1	L	58	63	62	W	NL	C	68	F	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Tue	18:30	12/05/09	30	X	70	3	T	443	259	-132	D	SL	-	17	F	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Sat	15:00	29/08/09	31	X	70	3	T	397	261	-132	D	NL	-	31	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Tue	8:20	08/09/09	30	X	70	3	T	261	119	-132	D	NL	-	Unk	U	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Mon	1:20	19/10/09	10	X	70	3	T	69	35	-132	D	SL	C	52	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Mon	10:05	30/11/09	30	X	70	3	T	277	170	-132	D	NL	-	53	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Wed	17:30	17/03/10	34	X	70	3	T	474	282	-132	D	NL	-	66	M	-
119	CUMBERLAND Hwy	THORNEY Rd	N	Sun	14:30	25/04/10	30	X	70	3	T	333	229	-132	D	NL	-	20	F	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Wed	17:56	05/05/10	33	X	70	3	T	474	282	-132	D	SL	-	42	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Sat	15:40	29/05/10	34	X	70	3	T	397	261	-132	W	SL	-	17	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Sat	13:00	07/08/10	30	X	70	3	T	314	215	-132	D	NL	-	52	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Wed	17:12	15/02/12	34	X	70	3	T	474	282	-132	D	NL	-	19	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Thu	15:00	12/07/12	30	X	70	3	T	397	261	-132	D	NL	-	64	F	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Sun	15:40	20/01/13	30	X	70	3	T	397	261	-132	D	NL	-	52	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Wed	5:25	24/04/13	36	X	70	3	T	47	17	-132	D	SL	-	40	M	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Thu	6:15	25/07/13	30	X	70	3	T	107	42	-132	D	SL	-	Unk	U	-
119	CUMBERLAND Hwy	HAMILTON Rd	N	Wed	14:30	06/11/13	30	X	70	3	T	333	229	-132	D	NL	-	40	F	-

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119	CUMBERLAND Hwy	HAMILTON St	N	Thu	22:10	19/12/13	10	X	70	3	T	174	135	-132	D	SL	C	30	M	-
120	CUMBERLAND Hwy	HAMILTON Rd	S	Sat	18:20	16/05/09	10	X	70	3	T	207	476	-17	D	SL	T	70	M	-
120	CUMBERLAND Hwy	HAMILTON Rd	S	Thu	15:15	19/08/10	12	X	70	3	T	185	441	-17	D	NL	-	17	M	-
120	CUMBERLAND Hwy	HAMILTON Rd	S	Tue	18:27	14/09/10	30	X	70	3	T	207	476	-17	W	SL	-	23	M	-
120	CUMBERLAND Hwy	HAMILTON Rd	S	Sat	3:00	04/06/11	71	X	70	3	T	10	66	-17	D	SL	-	25	M	F
120	CUMBERLAND Hwy	HAMILTON Rd	S	Sat	22:35	24/09/11	30	X	70	3	T	84	241	-17	W	SL	-	64	M	-
120	CUMBERLAND Hwy	HAMILTON Rd	S	Thu	17:40	07/03/13	30	X	70	3	T	212	465	-17	D	NL	-	28	F	-
120	CUMBERLAND Hwy	HAMILTON Rd	S	Sat	13:30	13/04/13	30	X	70	3	T	10	66	-17	D	NL	-	31	M	DO
120	CUMBERLAND Hwy	HAMILTON Rd	S	Tue	8:40	10/09/13	45	X	70	3	T	205	547	-17	D	NL	-	48	M	-
120	CUMBERLAND Hwy	HAMILTON Rd	S	Mon	7:45	18/11/13	30	X	70	3	T	187	540	-17	W	NL	-	48	M	-
120	CUMBERLAND Hwy	HAMILTON Rd	S	Wed	3:37	27/11/13	10	X	70	3	T	10	66	-17	D	SL	C	66	F	DI
121	HECTOR St	PROCTOR Pde	N	Fri	23:00	13/03/09	12	X	50	2	N	64	-	167	D	SL	-	34	M	-
121	HECTOR St	PROCTOR Pde	N	Mon	15:40	25/03/13	30	X	50	2	N	187	-	167	D	NL	-	30	F	-
121	HECTOR St	PROCTOR Pde	N	Wed	22:10	25/12/13	10	X	50	2	N	93	-	167	W	SL	C	68	M	-
122	HECTOR St	PROCTOR Pde	S	Sat	13:00	16/05/09	10	X	50	2	N	229	-	135	D	NL	C	20	M	-
122	HECTOR St	PROCTOR Pde	S	Fri	12:15	03/07/09	21	X	50	2	N	234	-	135	D	NL	C	51	F	-
122	HECTOR St	PROCTOR Pde	S	Thu	16:40	30/07/09	21	X	50	2	N	284	-	135	D	NL	Bicy	41	M	-
122	HECTOR St	PROCTOR Pde	S	Sun	10:40	15/11/09	21	X	50	2	N	253	-	135	D	NL	C	17	M	-
122	HECTOR St	PROCTOR Rd	S	Fri	7:10	27/11/09	72	X	50	2	N	153	-	135	D	NL	-	53	M	-
122	HECTOR St	PROCTOR Pde	S	Tue	15:40	23/03/10	10	X	50	2	N	246	-	135	D	NL	T	48	F	-
122	HECTOR St	PROCTOR Pde	S	Mon	11:45	21/02/11	10	X	50	2	N	206	-	135	D	NL	C	51	F	DI
122	HECTOR St	PROCTOR Pde	S	Wed	8:55	06/07/11	10	X	50	2	N	209	-	135	D	NL	C	33	F	-
122	HECTOR St	PROCTOR Pde	S	Thu	0:30	20/10/11	30	X	50	2	N	61	-	135	D	SL	-	21	M	OD
122	HECTOR St	PROCTOR Pde	S	Fri	8:30	28/10/11	21	X	50	2	N	209	-	135	D	NL	C	49	M	-
122	HECTOR St	PROCTOR Pde	S	Fri	14:45	04/11/11	71	X	50	2	N	236	-	135	D	NL	-	32	F	-
122	HECTOR St	PROCTOR Pde	S	Mon	8:30	05/03/12	30	X	50	2	N	209	-	135	D	NL	-	24	M	-
122	HECTOR St	PROCTOR Pde	S	Tue	16:35	06/03/12	30	X	50	2	N	284	-	135	D	NL	-	21	M	-

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123	HECTOR St	PROCTOR Pde	E	Fri	9:20	24/07/09	13	X	50	1	N	197	-	84	D	NL	C	71	F	-
123	HECTOR St	PROCTOR Pde	E	Sat	13:00	26/06/10	2	X	50	1	N	212	-	84	D	NL	-	Unk	F	DO
123	HECTOR St	PROCTOR Pde	E	Fri	17:00	25/11/11	10	X	50	1	N	267	-	84	W	NL	C	56	F	-
123	PROCTOR Pde	HECTOR St	E	Thu	10:00	08/03/12	30	X	50	1	N	204	-	84	D	NL	-	43	M	-
124	HECTOR St	PROCTOR Pde	W	Fri	18:35	18/10/13	10	X	50	1	N	409	-	106	D	NL	C	57	F	DO
125	HUME Hwy	HECTOR St	W	Sun	1:15	27/12/09	30	T	70	3	T	88	41	-94	W	SL	-	24	M	-
125	HUME Hwy	HECTOR St	W	Fri	10:10	03/12/10	30	T	70	3	T	535	167	-94	D	NL	-	46	M	-
125	HUME Hwy	HECTOR St	W	Mon	19:15	29/08/11	32	T	70	3	T	544	209	-94	D	SL	-	Unk	U	-
125	HUME Hwy	HECTOR St	W	Mon	22:55	10/10/11	21	T	70	3	T	275	111	-94	D	SL	C	20	M	-
126	APPIN Rd	ST JOHNS Rd	N	Sat	23:30	19/06/10	21	T	80	2	T	126	24	103	D	SL	C	17	F	-
126	APPIN Rd	ST JOHNS Rd	N	Sun	16:41	05/06/11	74	T	80	2	T	510	140	103	D	NL	-	50	M	DO
126	APPIN Rd	ST JOHNS Rd	N	Tue	11:20	27/08/13	21	T	80	2	T	272	67	103	D	NL	C	66	M	-
127	APPIN Rd	WOODLAND Rd	N	Fri	20:56	27/02/09	21	T	80	3	T	217	52	-130	D	SL	C	18	F	-
127	APPIN Rd	WOODLAND Rd	N	Tue	20:50	10/03/09	21	T	80	3	T	217	52	-130	W	SL	C	17	M	-
127	APPIN Rd	WOODLAND Rd	N	Thu	14:50	21/01/10	30	T	80	3	T	247	56	-130	D	NL	-	71	M	-
127	APPIN Rd	WOODLAND Rd	N	Fri	20:50	14/05/10	21	T	80	3	T	217	52	-130	D	SL	C	19	F	-
127	APPIN Rd	WOODLAND Rd	N	Fri	19:32	25/06/10	21	T	80	3	T	331	68	-130	D	SL	C	22	M	-
127	APPIN Rd	WOODLAND Rd	N	Tue	21:30	09/11/10	21	T	80	3	T	156	35	-130	D	SL	Unk	22	M	-
127	APPIN Rd	WOODLAND Rd	N	Fri	8:50	25/05/12	30	T	80	3	T	158	26	-130	W	NL	-	18	F	-
128	CENTENARY Dr	WEEROONA Rd	S	Tue	9:00	02/11/10	30	T	70	3	T	907	39	-114	D	NL	-	53	F	-
128	CENTENARY Dr	WEEROONA Rd	S	Tue	14:50	19/07/11	30	T	70	3	T	905	84	-114	W	NL	-	19	M	-
128	CENTENARY Dr	WEEROONA Rd	S	Wed	18:10	13/06/12	30	T	70	3	T	935	33	-114	W	SL	-	22	M	-
128	CENTENARY Dr	WEEROONA Rd	S	Sat	12:00	16/06/12	30	T	70	3	T	868	101	-114	W	NL	-	43	M	-
128	CENTENARY Dr	WEEROONA Rd	S	Sat	16:00	04/08/12	30	T	70	3	T	878	51	-114	D	NL	-	26	M	-
128	CENTENARY Dr	WEEROONA Rd	S	Sat	11:30	09/02/13	30	T	70	3	T	914	88	-114	D	NL	-	44	M	DO
128	CENTENARY Dr	WEEROONA Rd	S	Mon	12:00	22/04/13	62	T	70	3	T	868	101	-114	D	NL	-	62	M	DO
128	CENTENARY Dr	WEEROONA Rd	S	Tue	8:00	21/05/13	74	T	70	3	T	978	34	-114	D	NL	-	43	M	-

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129	BURRAGORANG Rd	CAWDOR Rd	E	Mon	8:55	22/03/10	21	X	80	2	N	224	-	-90	W	NL	C	37	F	-
129	BURRAGORANG Rd	CAWDOR Rd	E	Sun	14:10	01/04/12	30	X	80	2	N	102	-	-90	D	NL	-	44	F	-
129	BURRAGORANG Rd	CAWDOR Rd	E	Mon	14:30	30/04/12	21	X	80	2	N	102	-	-90	D	NL	MC	54	F	-
129	BURRAGORANG Rd	CAWDOR Rd	E	Sat	17:30	08/06/13	21	X	80	2	N	120	-	-90	D	SL	T	36	F	-
130	BURRAGORANG Rd	CAWDOR Rd	W	Sat	14:10	06/03/10	21	X	80	2	N	96	-	-46	D	NL	C	71	F	-
130	BURRAGORANG Rd	CAWDOR Rd	W	Mon	15:00	26/09/11	21	X	80	2	N	123	-	-46	D	NL	T	27	M	-
130	BURRAGORANG Rd	CAWDOR Rd	W	Sat	12:15	19/10/13	10	X	80	2	N	85	-	-46	D	NL	T	27	M	-
131	HUME Hwy	BIGGE St	E	Fri	22:07	09/01/09	21	T	70	3	T	241	70	-89	D	SL	C	49	M	-
131	HUME Hwy	BIGGE St	E	Sun	13:25	19/04/09	21	T	70	3	T	471	183	-89	W	NL	T	17	M	-
131	HUME Hwy	BIGGE St	E	Sat	16:55	16/05/09	21	T	70	3	T	640	220	-89	D	NL	C	18	F	-
131	HUME Hwy	BIGGE St	E	Tue	14:45	23/06/09	21	T	70	3	T	496	207	-89	D	NL	C	47	M	-
131	HUME Hwy	BIGGE St	E	Tue	5:56	29/09/09	30	T	70	3	T	567	196	-89	D	NL	-	46	M	-
131	HUME Hwy	BIGGE St	E	Fri	14:34	11/12/09	35	T	70	3	T	496	207	-89	D	NL	-	28	M	-
131	HUME Hwy	BIGGE St	E	Thu	21:00	11/03/10	21	T	70	3	T	277	86	-89	D	SL	C	25	F	-
131	HUME Hwy	BIGGE St	E	Thu	8:20	01/04/10	30	T	70	3	T	345	147	-89	D	NL	-	21	F	DO
131	HUME Hwy	BIGGE St	E	Wed	8:15	12/05/10	30	T	70	3	T	345	147	-89	D	NL	-	26	M	-
131	HUME Hwy	BIGGE St	E	Wed	10:56	19/05/10	21	T	70	3	T	418	200	-89	D	NL	T	52	M	-
131	HUME Hwy	BIGGE St	E	Mon	11:30	21/06/10	21	T	70	3	T	419	180	-89	D	NL	T	53	M	-
131	HUME Hwy	BIGGE St	E	Tue	9:50	06/07/10	30	T	70	3	T	433	240	-89	D	NL	-	48	M	DO
131	HUME Hwy	BIGGE St	E	Sun	15:00	18/07/10	21	T	70	3	T	567	196	-89	D	NL	C	70	M	-
131	HUME Hwy	BIGGE St	E	Wed	14:55	20/10/10	21	T	70	3	T	496	207	-89	D	NL	C	42	F	-
131	HUME Hwy	BIGGE St	E	Tue	17:30	07/12/10	30	T	70	3	T	660	177	-89	D	NL	-	34	F	-
131	HUME Hwy	BIGGE St	E	Thu	20:52	13/01/11	21	T	70	3	T	387	117	-89	D	SL	C	19	M	-
131	HUME Hwy	BIGGE St	E	Tue	14:00	29/03/11	30	T	70	3	T	496	207	-89	D	NL	-	19	M	-
131	HUME Hwy	BIGGE St	E	Wed	12:30	06/04/11	21	T	70	3	T	441	196	-89	W	NL	C	48	M	DO
131	HUME Hwy	BIGGE St	E	Sat	21:55	14/05/11	21	T	70	3	T	277	86	-89	D	SL	C	Unk	U	-
131	HUME Hwy	BIGGE St	E	Sun	13:10	22/05/11	30	T	70	3	T	471	183	-89	D	NL	-	28	M	DO

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131	HUME Hwy	BIGGE St	E	Wed	14:45	23/11/11	30	T	70	3	T	496	207	-89	W	NL	-	18	F	-
131	HUME Hwy	BIGGE St	E	Mon	14:40	12/03/12	21	T	70	3	T	496	207	-89	D	NL	C	37	M	-
131	HUME Hwy	BIGGE St	E	Sun	9:00	29/04/12	30	T	70	3	T	433	240	-89	D	NL	-	39	M	-
131	HUME Hwy	BIGGE St	E	Sat	13:00	12/05/12	21	T	70	3	T	471	183	-89	D	NL	C	29	M	-
131	HUME Hwy	BIGGE St	E	Wed	15:49	19/09/12	30	T	70	3	T	567	196	-89	D	NL	-	19	F	-
131	HUME Hwy	BIGGE St	E	Tue	15:00	01/01/13	30	T	70	3	T	567	196	-89	D	NL	-	60	M	-
131	HUME Hwy	BIGGE St	E	Fri	12:15	11/01/13	30	T	70	3	T	441	196	-89	D	NL	-	18	M	-
131	HUME Hwy	BIGGE St	E	Wed	9:20	24/04/13	21	T	70	3	T	433	240	-89	D	SL	C	56	F	-
131	HUME Hwy	BIGGE St	E	Sat	1:10	27/04/13	21	T	70	3	T	92	24	-89	D	SL	C	20	M	-
131	HUME Hwy	BIGGE St	E	Mon	6:00	28/10/13	30	T	70	3	T	117	47	-89	D	NL	-	42	F	-
132	CAMPBELLTOWN Rd	INGLEBURN GARD Dr	N	Sun	18:20	04/08/13	21	T	80	1	T	495	16	90	D	SL	MC	24	F	-
133	CUMBERLAND Hwy	BRIENS Rd	E	Mon	18:14	09/03/09	36	T	70	3	T	847	106	-81	D	NL	-	Unk	U	-
133	CUMBERLAND Hwy	BRIENS Rd	E	Fri	6:55	16/10/09	21	T	70	3	T	173	43	-81	D	NL	C	23	M	-
133	CUMBERLAND Hwy	BRIENS Rd	E	Wed	23:23	10/11/10	85	T	70	3	T	344	43	-81	D	SL	-	21	M	DO
133	OLD WINDSOR Rd	CUMBERLAND Hwy	E	Mon	8:40	10/12/12	30	T	70	3	T	564	123	-81	D	NL	-	31	M	-
133	CUMBERLAND Hwy	BRIENS Rd	E	Mon	22:00	24/06/13	21	T	70	3	T	349	53	-81	W	SL	C	18	F	-
134	CUMBERLAND Hwy	DUNMORE St	N	Fri	9:54	20/03/09	30	X	70	3	T	421	47	-15	D	NL	-	31	M	-
134	CUMBERLAND Hwy	DUNMORE St	N	Mon	10:15	01/06/09	30	X	70	3	T	365	46	-15	D	NL	-	63	M	-
134	CUMBERLAND Hwy	DUNMORE St	N	Thu	13:25	03/09/09	30	X	70	3	T	364	46	-15	W	SL	-	46	M	-
134	CUMBERLAND Hwy	DUNMORE St	N	Sun	17:10	21/02/10	10	X	70	3	T	504	42	-15	D	NL	C	36	M	-
134	CUMBERLAND Hwy	DUNMORE St	N	Wed	23:05	12/01/11	73	X	70	3	T	151	11	-15	D	SL	-	39	F	DI
134	CUMBERLAND Hwy	DUNMORE St	N	Tue	10:00	01/03/11	30	X	70	3	T	365	46	-15	D	NL	-	18	M	-
134	CUMBERLAND Hwy	DUNMORE St	N	Thu	6:40	31/05/12	30	X	70	3	T	151	10	-15	D	NL	-	21	M	-
134	CUMBERLAND Hwy	DUNMORE St	N	Wed	17:00	23/01/13	30	X	70	3	T	504	42	-15	D	NL	-	22	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Wed	13:00	18/02/09	35	X	70	4	T	436	58	-43	D	NL	-	44	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Thu	13:00	17/12/09	30	X	70	4	T	436	58	-43	D	NL	-	63	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Mon	14:19	25/01/10	30	X	70	4	T	453	64	-43	D	NL	-	47	M	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
135	CUMBERLAND Hwy	DUNMORE St	S	Wed	20:15	18/08/10	30	X	70	4	T	343	66	-43	D	SL	-	19	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Mon	7:38	06/09/10	10	X	70	4	T	573	28	-43	D	NL	C	36	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Thu	10:00	27/10/11	30	X	70	4	T	480	55	-43	W	NL	-	37	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Thu	13:55	09/02/12	30	X	70	4	T	436	58	-43	W	NL	-	30	F	-
135	CUMBERLAND Hwy	DUNMORE St	S	Thu	5:40	31/05/12	30	X	70	4	T	85	6	-43	D	NL	-	32	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Sun	18:00	09/09/12	21	X	70	4	T	587	101	-43	D	SL	C	19	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Thu	20:23	01/11/12	21	X	70	4	T	343	66	-43	D	SL	MC	34	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Thu	14:00	16/05/13	30	X	70	4	T	453	64	-43	W	NL	-	41	M	DI
135	CUMBERLAND Hwy	DUNMORE St	S	Fri	11:30	17/05/13	30	X	70	4	T	407	55	-43	D	NL	-	43	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Sat	14:10	06/07/13	21	X	70	4	T	453	64	-43	D	NL	C	20	M	-
135	CUMBERLAND Hwy	DUNMORE St	S	Sat	14:05	21/09/13	21	X	70	4	T	453	64	-43	D	NL	C	50	F	-
136	ERSKINE PARK Rd	SWALLOW Dr	N	Wed	16:10	04/08/10	30	T	70	2	T	444	130	47	D	NL	-	44	M	-
136	SWALLOW Dr	ERSKINE PARK Rd	N	Mon	8:30	07/03/11	30	T	70	2	T	278	35	47	D	NL	-	25	M	-
136	SWALLOW Dr	ERSKINE PARK Rd	N	Mon	19:30	04/07/11	30	T	70	2	T	396	110	47	D	SL	-	54	F	-
136	ERSKINE PARK Rd	SWALLOW Dr	N	Fri	10:10	08/07/11	13	T	70	2	T	257	68	47	D	NL	C	30	M	DO
136	ERSKINE PARK Rd	SWALLOW Dr	N	Tue	9:54	12/06/12	30	T	70	2	T	331	90	47	W	NL	-	33	M	-
136	ERSKINE PARK Rd	SWALLOW Dr	N	Sat	16:00	10/11/12	13	T	70	2	T	444	130	47	D	NL	C	29	F	-
136	ERSKINE PARK Rd	SWALLOW Dr	N	Sat	10:15	20/07/13	21	T	70	2	T	257	68	47	D	NL	C	25	F	DO
136	ERSKINE PARK Rd	SWALLOW Dr	N	Sun	0:06	20/10/13	21	T	70	2	T	93	13	47	D	SL	C	18	F	-
136	ERSKINE PARK Rd	SWALLOW Dr	N	Thu	22:10	05/12/13	21	T	70	2	T	167	39	47	D	SL	MC	33	F	-
137	GREAT WESTERN Hwy	FRENCH St	E	Wed	15:00	14/01/09	30	X	70	3	T	309	74	-65	D	NL	-	22	M	-
137	GREAT WESTERN Hwy	OCONNELL St	E	Wed	9:10	10/03/10	21	X	70	3	T	374	172	-65	D	NL	C	19	F	-
137	GREAT WESTERN Hwy	FRENCH St	E	Sat	17:10	24/07/10	30	X	70	3	T	327	49	-65	D	SL	-	49	F	DO
137	GREAT WESTERN Hwy	FRENCH St	E	Mon	7:10	16/08/10	10	X	70	3	T	139	33	-65	D	NL	C	50	F	-
137	GREAT WESTERN Hwy	OCONNELL St	E	Tue	9:00	07/09/10	21	X	70	3	T	374	172	-65	D	NL	C	24	F	-
137	GREAT WESTERN Hwy	FRENCH St	E	Mon	16:30	06/12/10	35	X	70	3	T	337	71	-65	D	NL	-	21	F	-
137	GREAT WESTERN Hwy	OCONNELL St	E	Mon	10:30	14/02/11	21	X	70	3	T	366	141	-65	D	NL	C	17	F	-

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137	GREAT WESTERN Hwy	FRENCH St	E	Thu	7:30	31/03/11	30	X	70	3	T	139	33	-65	D	NL	-	30	F	-
137	GREAT WESTERN Hwy	OCONNELL St	E	Fri	16:40	03/02/12	30	X	70	3	T	337	71	-65	D	NL	-	44	F	-
137	GREAT WESTERN Hwy	FRENCH St	E	Tue	14:00	27/11/12	30	X	70	3	T	325	105	-65	D	NL	-	20	M	-
138	GREAT WESTERN Hwy	OCONNELL St	W	Mon	10:50	19/04/10	71	X	70	3	T	203	12	124	D	NL	-	29	F	-
139	GREAT WESTERN Hwy	GIPPS St	E	Wed	16:10	26/05/10	30	T	80	3	T	479	51	-75	W	NL	-	29	F	-
139	GREAT WESTERN Hwy	GIPPS St	E	Sun	16:15	31/10/10	30	T	80	3	T	479	51	-75	D	NL	-	43	M	-
140	GREAT WESTERN Hwy	MARSDEN Rd	E	Mon	15:50	20/04/09	21	X	80	3	T	386	91	-67	W	NL	C	26	F	-
140	GREAT WESTERN Hwy	MARSDEN Rd	E	Wed	19:25	28/10/09	21	X	80	3	T	320	79	-67	D	NL	C	25	F	-
140	GREAT WESTERN Hwy	MARSDEN Rd	E	Tue	18:00	06/04/10	21	X	80	3	T	439	84	-67	W	SL	C	33	F	-
140	GREAT WESTERN Hwy	MARSDEN Rd	E	Fri	14:24	10/12/10	10	X	80	3	T	358	70	-67	D	NL	C	47	M	-
140	GREAT WESTERN Hwy	MARSDEN Rd	E	Sun	18:32	16/10/11	81	X	80	3	T	439	84	-67	D	SL	-	43	M	-
140	GREAT WESTERN Hwy	MARSDEN Rd	E	Mon	6:10	23/04/12	21	X	80	3	T	99	39	-67	D	SL	C	50	M	-
140	GREAT WESTERN Hwy	SYDNEY St	E	Sun	16:30	24/06/12	10	X	80	3	T	430	96	-67	D	NL	C	18	M	-
141	GREAT WESTERN Hwy	SYDNEY St	W	Thu	17:05	20/08/09	10	X	80	3	T	366	48	-96	D	SL	C	26	F	-
141	GREAT WESTERN Hwy	MARSDEN Rd	W	Sat	12:15	05/09/09	30	X	80	3	T	317	35	-96	D	NL	-	19	M	-
141	GREAT WESTERN Hwy	SYDNEY St	W	Tue	11:35	26/01/10	21	X	80	3	T	283	31	-96	D	NL	C	20	F	-
141	GREAT WESTERN Hwy	MARSDEN Rd	W	Sun	5:15	31/01/10	10	X	80	3	T	69	4	-96	D	SL	C	61	M	-
141	GREAT WESTERN Hwy	MARSDEN Rd	W	Wed	21:40	24/02/10	30	X	80	3	T	153	21	-96	D	SL	-	18	M	-
141	GREAT WESTERN Hwy	SYDNEY St	W	Thu	17:55	06/05/10	21	X	80	3	T	366	48	-96	D	SL	C	62	M	-
141	GREAT WESTERN Hwy	MARSDEN Rd	W	Sat	17:20	21/08/10	30	X	80	3	T	366	48	-96	D	NL	-	22	M	-
141	GREAT WESTERN Hwy	MARSDEN Rd	W	Wed	13:25	11/05/11	30	X	80	3	T	326	32	-96	D	NL	-	25	F	-
141	GREAT WESTERN Hwy	MARSDEN Rd	W	Tue	14:30	10/04/12	34	X	80	3	T	324	32	-96	D	NL	-	35	M	-
141	GREAT WESTERN Hwy	MARSDEN Rd	W	Wed	8:10	12/12/12	35	X	80	3	T	327	15	-96	D	NL	-	54	M	-
141	GREAT WESTERN Hwy	MARSDEN Rd	W	Tue	13:22	19/11/13	71	X	80	3	T	326	32	-96	D	NL	-	Unk	U	DO
142	GREAT WESTERN Hwy	ARCHBOLD Rd	E	Tue	13:26	20/04/10	21	X	80	3	T	339	66	-103	D	NL	C	41	F	-
142	GREAT WESTERN Hwy	GEORGE St	E	Mon	17:50	02/08/10	30	X	80	3	T	503	52	-103	W	SL	-	30	M	-
142	GREAT WESTERN Hwy	GEORGE St	E	Tue	13:53	19/04/11	30	X	80	3	T	339	66	-103	D	NL	-	42	M	-

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142	GREAT WESTERN Hwy	GEORGE St	E	Fri	22:10	15/07/11	30	X	80	3	T	134	20	-103	W	SL	-	19	M	-
142	GREAT WESTERN Hwy	GEORGE St	E	Mon	18:20	22/08/11	30	X	80	3	T	511	51	-103	D	SL	-	23	F	OD
142	GREAT WESTERN Hwy	GEORGE St	E	Wed	6:50	07/12/11	30	X	80	3	T	87	12	-103	D	NL	-	16	M	-
142	GREAT WESTERN Hwy	GEORGE St	E	Mon	19:20	23/01/12	30	X	80	3	T	337	56	-103	D	NL	-	50	M	-
142	GREAT WESTERN Hwy	ARCHBOLD Rd	E	Mon	20:30	19/03/12	30	X	80	3	T	196	39	-103	W	SL	-	Unk	U	-
142	GREAT WESTERN Hwy	ARCHBOLD Rd	E	Mon	18:10	04/02/13	30	X	80	3	T	511	51	-103	D	NL	-	50	M	-
142	GREAT WESTERN Hwy	GEROGE St	E	Thu	18:45	26/09/13	30	X	80	3	T	511	51	-103	D	SL	-	37	M	DO
143	GREAT WESTERN Hwy	ARCHBOLD Rd	W	Tue	9:30	03/03/09	30	X	80	3	T	407	40	-97	D	NL	-	26	F	-
143	GREAT WESTERN Hwy	ARCHBOLD Rd	W	Tue	7:20	10/03/09	10	X	80	3	T	381	29	-97	D	NL	C	25	M	-
143	GREAT WESTERN Hwy	GEORGE St	W	Fri	17:05	05/03/10	30	X	80	3	T	365	91	-97	W	SL	-	46	M	-
143	GREAT WESTERN Hwy	ARCHBOLD Rd	W	Wed	15:38	21/04/10	10	X	80	3	T	348	61	-97	D	NL	MC	28	M	-
143	GREAT WESTERN Hwy	ARCHBOLD Rd	W	Thu	17:45	13/05/10	30	X	80	3	T	365	91	-97	D	SL	-	29	M	-
143	GREAT WESTERN Hwy	GEORGE St	W	Fri	17:10	22/10/10	73	X	80	3	T	365	91	-97	W	NL	-	20	M	-
143	GREAT WESTERN Hwy	ARCHBOLD Rd	W	Sat	0:55	12/11/11	30	X	80	3	T	61	22	-97	D	SL	-	36	M	-
143	GREAT WESTERN Hwy	ARCHBOLD Rd	W	Wed	5:25	14/11/12	30	X	80	3	T	100	8	-97	W	SL	-	53	M	-
143	GREAT WESTERN Hwy	GEORGE St	W	Fri	6:40	03/05/13	21	X	80	3	T	257	16	-97	D	NL	C	50	F	-
144	THE NORTHERN Rd	MAXWELL St	N	Fri	12:00	09/10/09	30	X	70	2	T	403	183	27	D	NL	-	24	M	-
144	THE NORTHERN Rd	MAXWELL St	N	Sat	11:20	01/05/10	30	X	70	2	T	361	208	27	W	NL	-	19	F	-
144	THE NORTHERN Rd	BRINGELLY Rd	N	Wed	17:05	10/11/10	32	X	70	2	T	650	216	27	W	NL	-	19	M	-
144	THE NORTHERN Rd	BRINGELLY Rd	N	Thu	9:15	10/02/11	21	X	70	2	T	407	390	27	D	NL	C	33	F	-
144	THE NORTHERN Rd	BRINGELLY Rd	N	Mon	10:10	07/03/11	21	X	70	2	T	365	294	27	D	NL	MC	20	M	DO
144	THE NORTHERN Rd	MAXWELL St	N	Thu	7:30	18/08/11	30	X	70	2	T	349	142	27	D	NL	-	41	M	-
144	THE NORTHERN Rd	MAXWELL St	N	Sat	14:40	21/01/12	30	X	70	2	T	425	187	27	D	NL	-	36	M	DI
144	THE NORTHERN Rd	MAXWELL St	N	Fri	16:00	20/04/12	30	X	70	2	T	576	253	27	D	NL	-	27	F	-
144	THE NORTHERN Rd	MAXWELL St	N	Sun	11:30	27/05/12	30	X	70	2	T	361	208	27	D	NL	-	44	F	-
144	THE NORTHERN Rd	MAXWELL St	N	Sat	13:00	09/03/13	30	X	70	2	T	424	193	27	D	NL	-	17	M	-
144	THE NORTHERN Rd	BRINGELLY Rd	N	Thu	6:30	21/03/13	21	X	70	2	T	273	48	27	D	SL	C	52	F	DO

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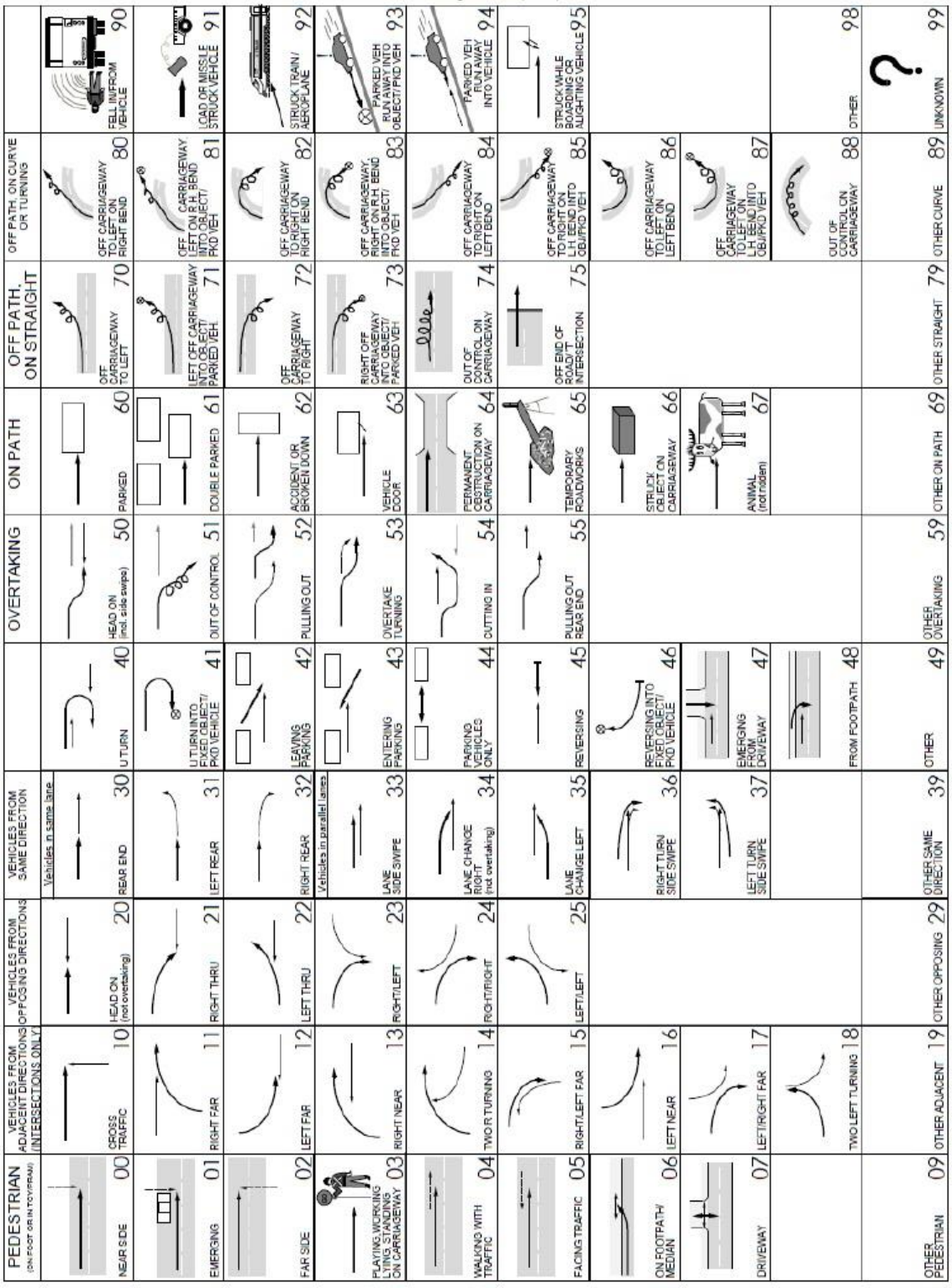
144	THE NORTHERN Rd	MAXWELL St	N	Thu	19:19	11/07/13	20	X	70	2	T	430	195	27	D	SL	-	44	M	F
144	THE NORTHERN RO Rd	PARKER St	N	Mon	17:40	05/08/13	21	X	70	2	T	650	216	27	D	SL	C	19	M	-
144	THE NORTHERN Rd	MAXWELL St	N	Sun	11:46	22/09/13	21	X	70	2	T	361	208	27	D	NL	C	32	M	-
144	THE NORTHERN Rd	BRINGELLY Rd	N	Thu	18:30	21/11/13	30	X	70	2	T	627	231	27	D	NL	-	17	M	-
145	PARKER St	BRINGELLY Rd	S	Mon	13:06	16/02/09	30	X	70	2	T	508	76	-17	W	NL	-	23	M	-
145	THE NORTHERN Rd	MAXWELL St	S	Wed	19:58	18/03/09	21	X	70	2	T	506	81	-17	D	SL	C	37	F	-
145	THE NORTHERN Rd	MAXWELL St	S	Thu	20:00	21/05/09	21	X	70	2	T	305	56	-17	W	SL	C	20	M	-
145	THE NORTHERN Rd	MAXWELL St	S	Tue	13:45	07/07/09	30	X	70	2	T	508	76	-17	D	NL	-	Unk	U	-
145	THE NORTHERN Rd	BRINGELLY Rd	S	Tue	17:18	06/07/10	20	X	70	2	T	594	78	-17	W	SL	-	20	M	-
145	THE NORTHERN Rd	MAXWELL St	S	Thu	20:20	05/08/10	45	X	70	2	T	305	56	-17	D	SL	-	30	F	-
145	THE NORTHERN Rd	BRINGELLY Rd	S	Wed	10:30	15/09/10	21	X	70	2	T	574	45	-17	D	NL	C	21	M	-
145	THE NORTHERN Rd	BRINGELLY Rd	S	Mon	7:20	22/11/10	33	X	70	2	T	400	18	-17	D	NL	-	38	F	DI
145	THE NORTHERN Rd	MAXWELL St	S	Thu	14:40	07/07/11	30	X	70	2	T	512	70	-17	D	NL	-	39	M	-
145	PARKER St	MAXWELL St	S	Wed	18:25	22/02/12	30	X	70	2	T	580	77	-17	D	NL	-	22	M	-
145	THE NORTHERN Rd	MAXWELL St	S	Thu	16:30	01/03/12	21	X	70	2	T	612	69	-17	W	NL	T	22	F	-
145	THE NORTHERN Rd	MAXWELL St	S	Fri	12:00	13/09/13	32	X	70	2	T	515	65	-17	D	NL	-	Unk	U	-
146	PARKER St	DERBY St	N	Sat	12:10	24/01/09	21	X	70	3	T	336	120	-80	D	NL	T	78	M	-
146	PARKER St	DERBY St	N	Tue	18:20	17/03/09	2	X	70	3	T	417	73	-80	D	NL	-	18	F	-
146	PARKER St	DERBY St	N	Wed	13:45	01/12/10	45	X	70	3	T	342	112	-80	D	NL	-	35	M	-
146	PARKER St	DERBY St	N	Tue	22:00	07/12/10	10	X	70	3	T	135	51	-80	D	SL	C	19	M	-
146	PARKER St	DERBY St	N	Sun	20:44	27/03/11	21	X	70	3	T	213	49	-80	W	SL	C	20	M	-
146	PARKER St	DERBY St	N	Fri	18:40	24/06/11	21	X	70	3	T	417	73	-80	D	SL	MC	19	F	-
146	PARKER St	DERBY St	N	Wed	17:10	25/01/12	94	X	70	3	T	428	89	-80	W	NL	-			-
147	PARKER St	DERBY St	S	Mon	15:15	15/03/10	10	X	70	3	T	325	122	-83	D	NL	C	18	M	-
147	PARKER St	DERBY St	S	Mon	13:50	10/05/10	21	X	70	3	T	299	141	-83	D	NL	C	32	M	-
147	PARKER St	DERBY St	S	Wed	15:45	20/10/10	30	X	70	3	T	325	122	-83	D	NL	-	22	M	DO
147	PARKER St	DARBY St	S	Fri	15:00	21/10/11	30	X	70	3	T	325	122	-83	D	SL	-	18	F	-

App. No.	Street 1	Street 2	Dir. of Travel	Day of Crash	Time of Crash	Date of Crash	Rum No.	Intersection Type	Speed Zone	No. Opp. Lanes	Phasing	Opp. TV	Right Turn TV	Aval. SD vs Req. Gap SD	Weather	Lighting	Opp. Vehicle Type	Age of At Fault Driver	Gender of At Fault Driver	Fatigue \ Distractions
147	PARKER St	DERBY St	S	Sun	19:30	27/11/11	10	X	70	3	T	304	90	-83	D	SL	C	25	M	DI
147	PARKER St	DERBY St	S	Tue	14:20	10/07/12	30	X	70	3	T	302	120	-83	D	NL	-	64	F	-
147	PARKER St	DERBY St	S	Sun	16:30	10/02/13	30	X	70	3	T	364	136	-83	W	NL	-	21	M	-
147	PARKER St	DERBY St	S	Fri	8:30	22/02/13	21	X	70	3	T	308	62	-83	D	NL	C	47	F	-
147	PARKER St	DERBY St	S	Thu	9:40	19/09/13	21	X	70	3	T	388	106	-83	D	NL	C	74	M	-
147	PARKER St	DERBY St	S	Thu	17:21	07/11/13	21	X	70	3	T	353	118	-83	D	NL	C	35	M	-

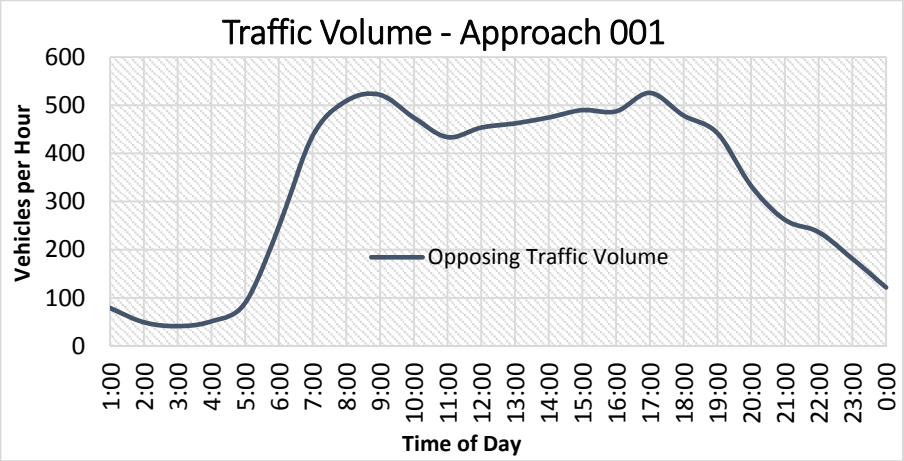
Appendix C – Road User Movement Code

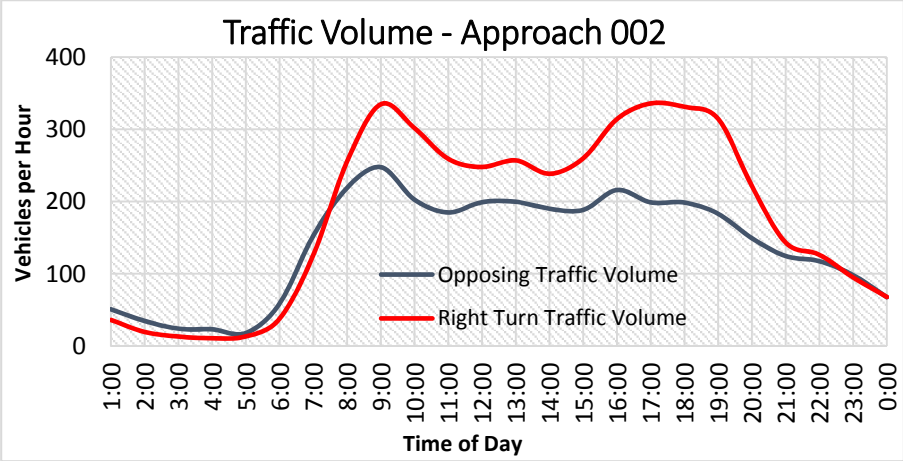
ROAD USER MOVEMENT (R.U.M.) CODE

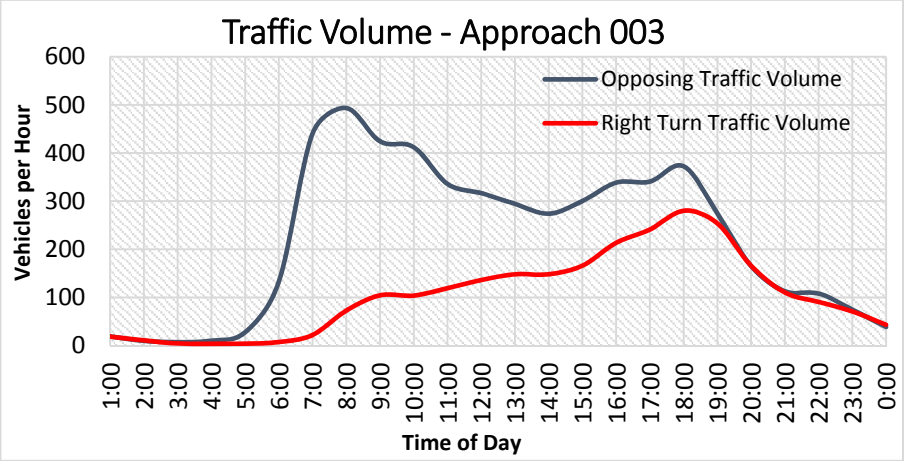
This is recorded for the first impact according to the table below
Note: The 'key' vehicle is represented by the dark arrow:⟶ and is the first vehicle listed for each accident in the accident description list (ADL).

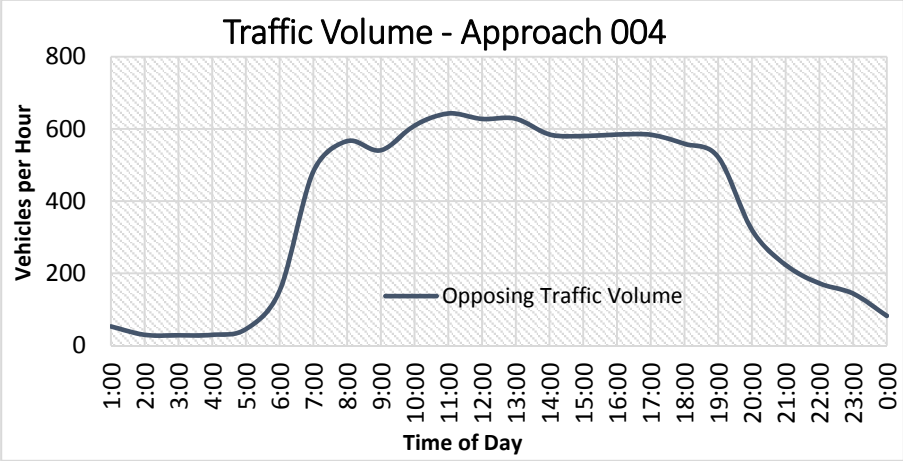


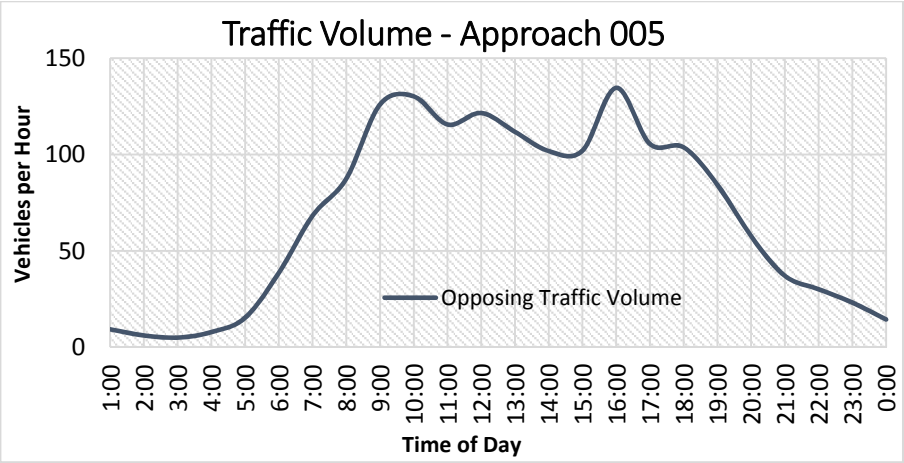
Appendix D – Traffic Volume Data

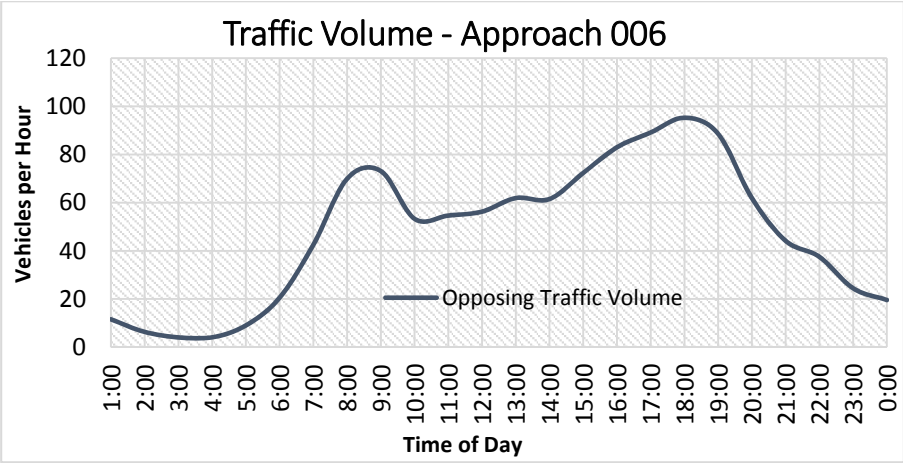


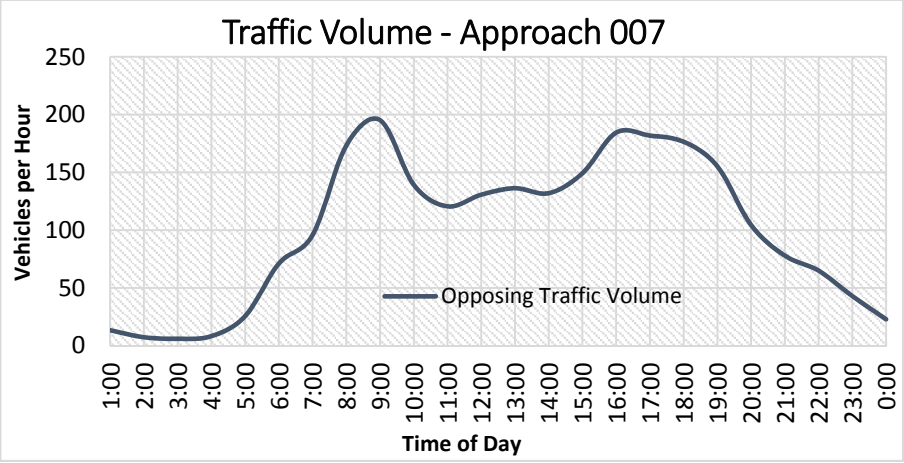


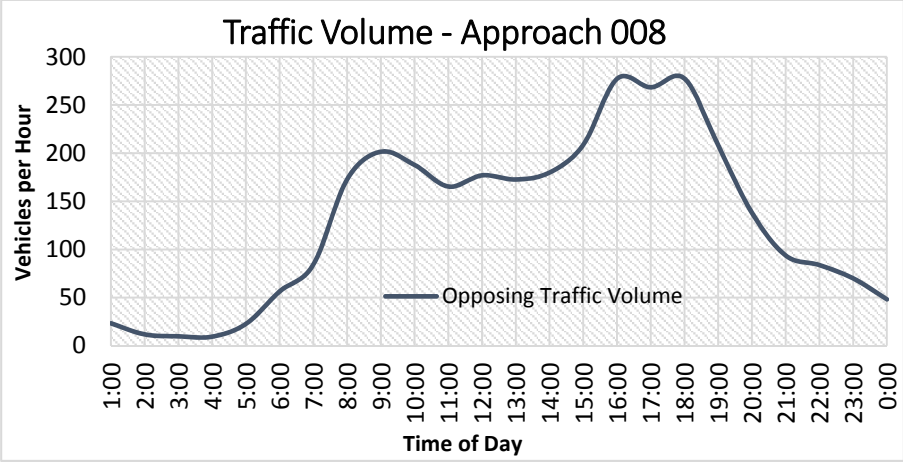


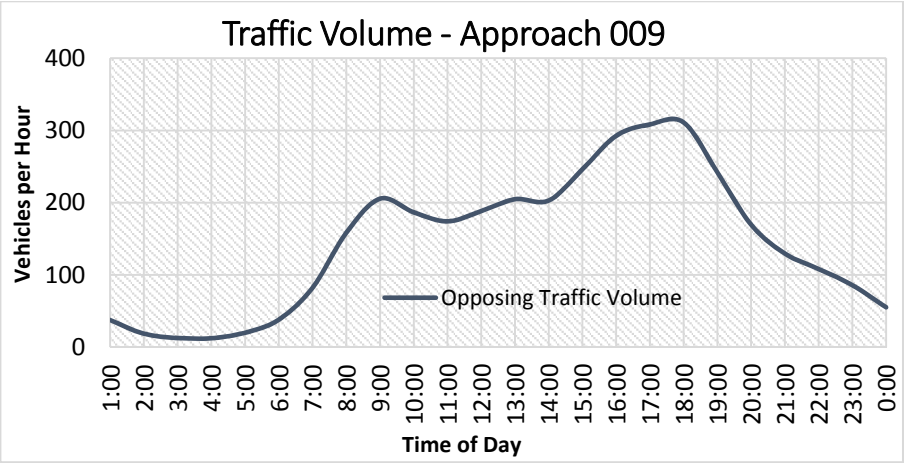


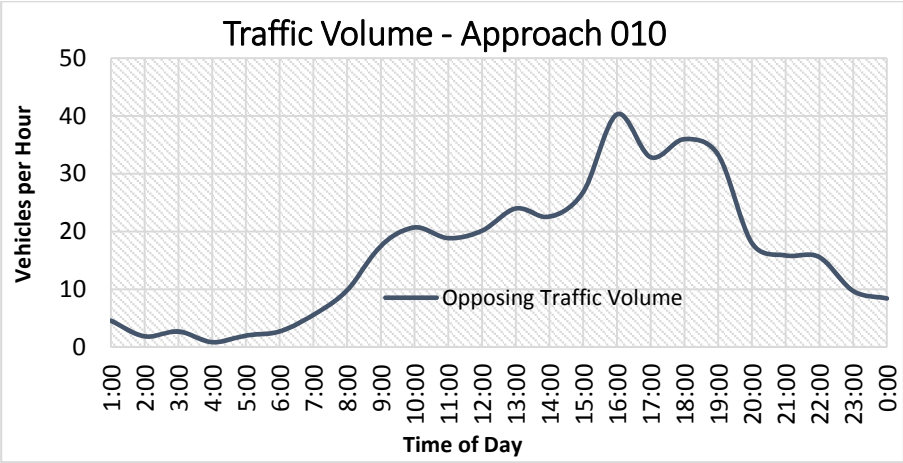

Traffic Volume - Approach 005
Vehicles per Hour
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

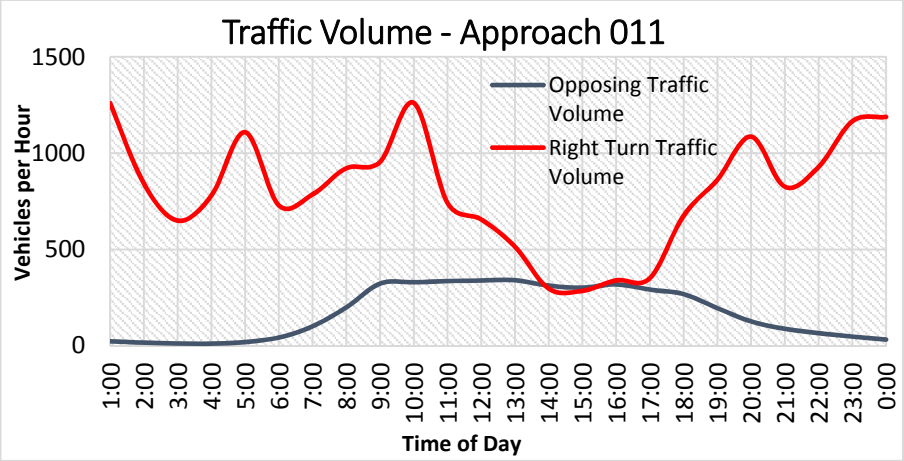

Traffic Volume - Approach 006
Vehicles per Hour
120
100
80
60
40
20
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

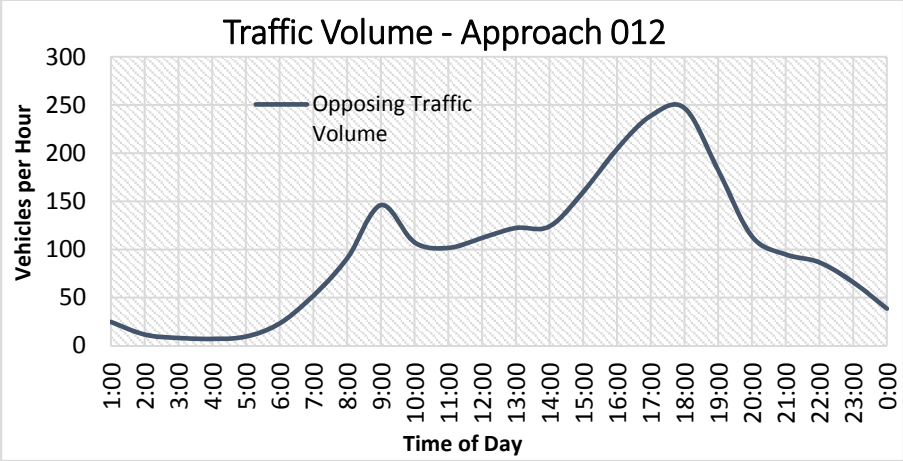

Traffic Volume - Approach 007
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

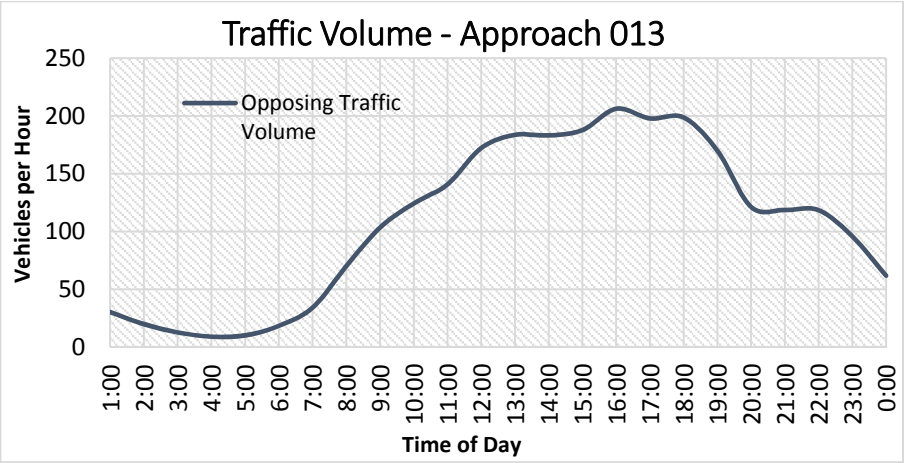

Traffic Volume - Approach 008
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

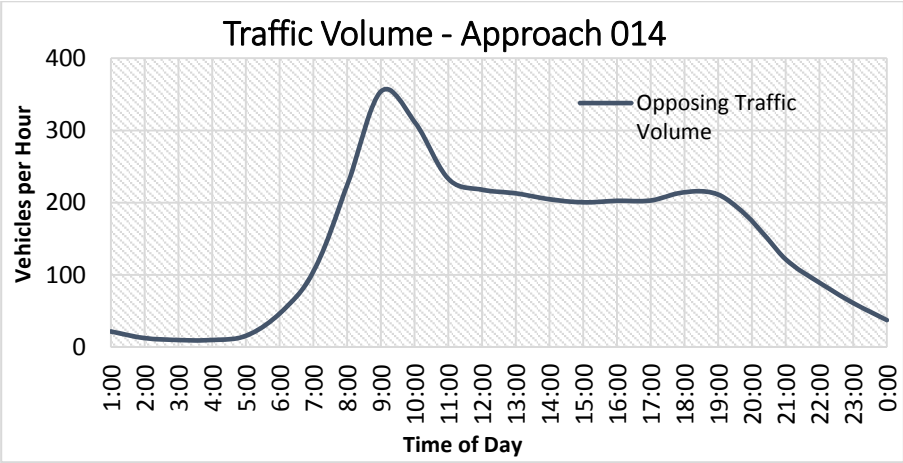

Traffic Volume - Approach 009
Vehicles per Hour
400
300
200
100
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

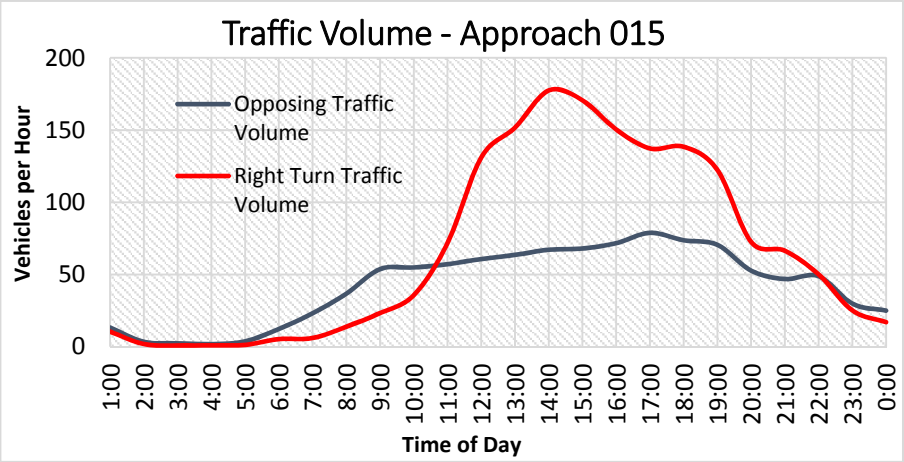

Traffic Volume - Approach 010
Vehicles per Hour
50
40
30
20
10
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

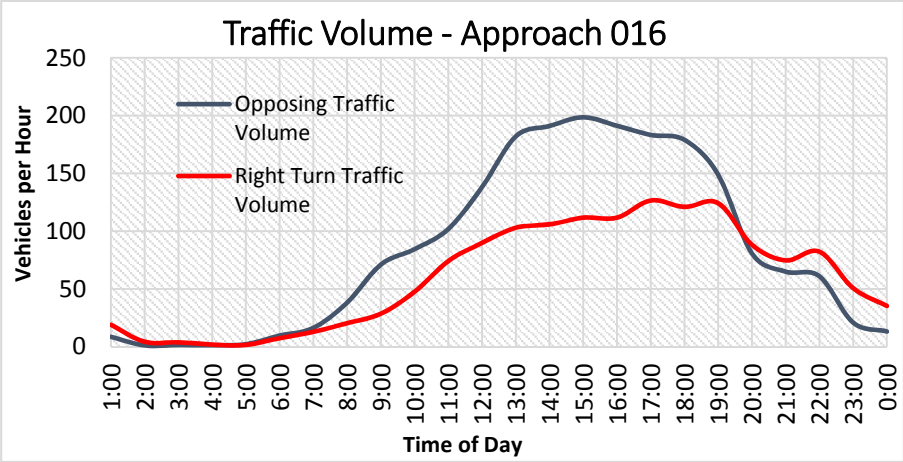

Traffic Volume - Approach 011
Vehicles per Hour
1500
1000
500
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

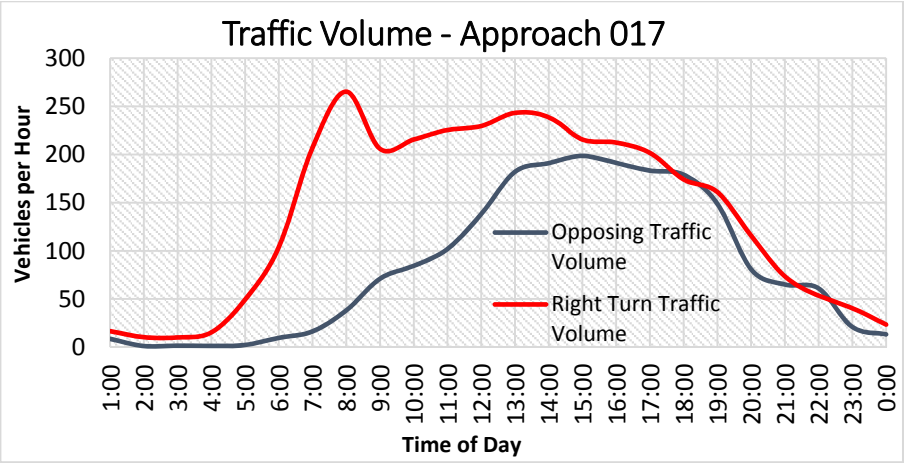

Traffic Volume - Approach 012
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

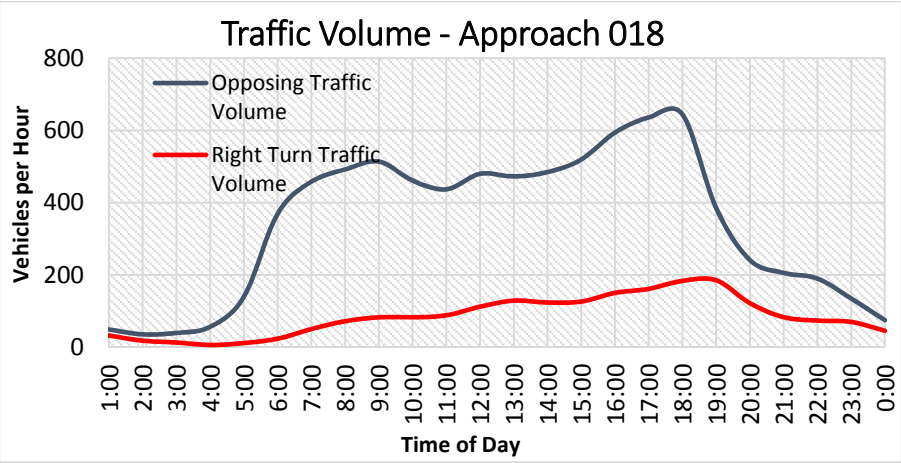

Traffic Volume - Approach 013
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

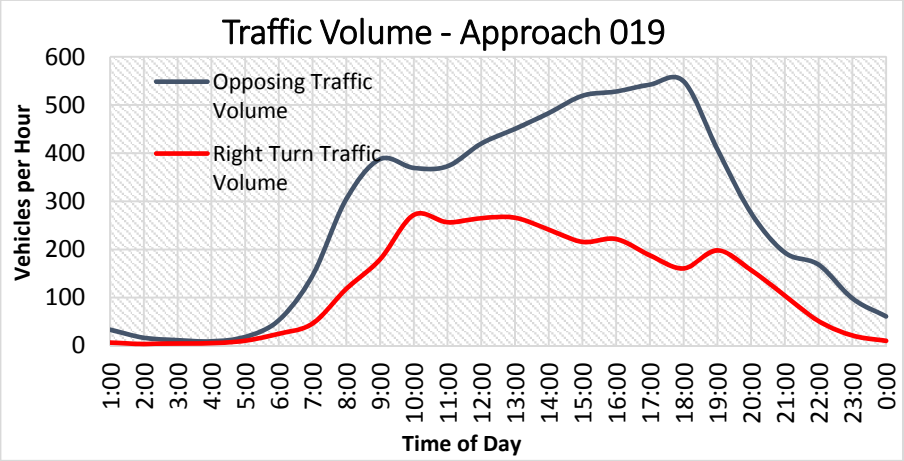

Traffic Volume - Approach 014
Vehicles per Hour
400
300
200
100
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

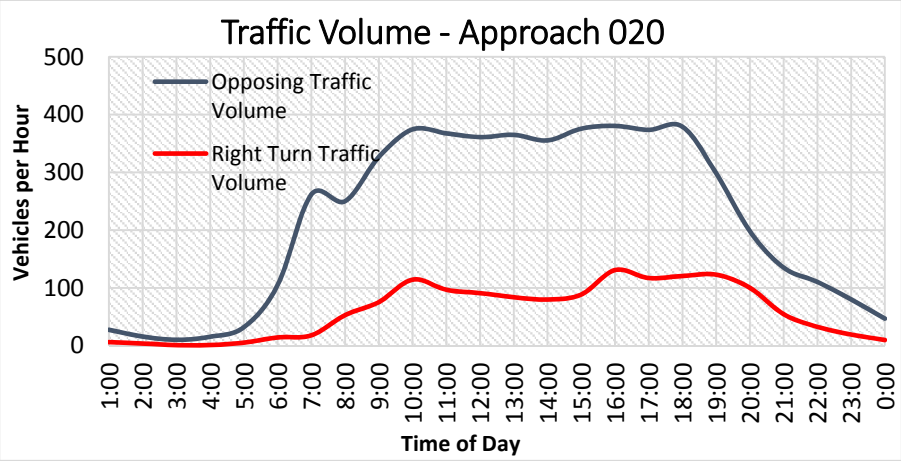

Traffic Volume - Approach 015
Vehicles per Hour
200
150
100
50
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

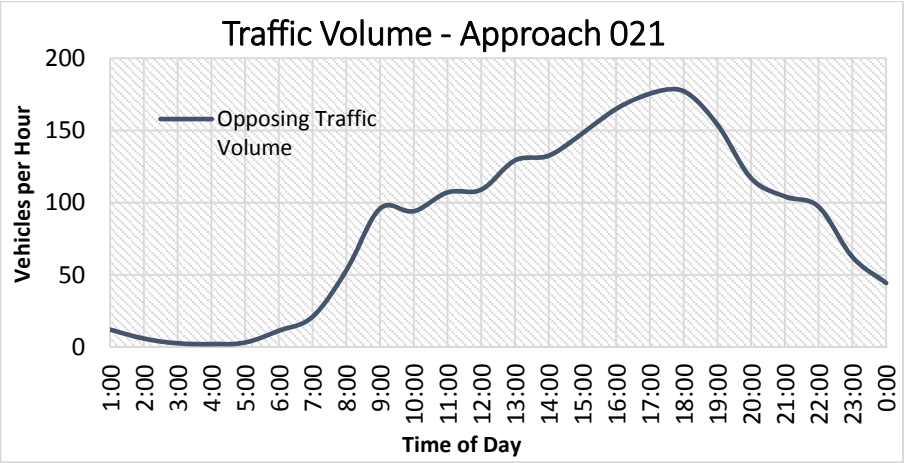

Traffic Volume - Approach 016
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

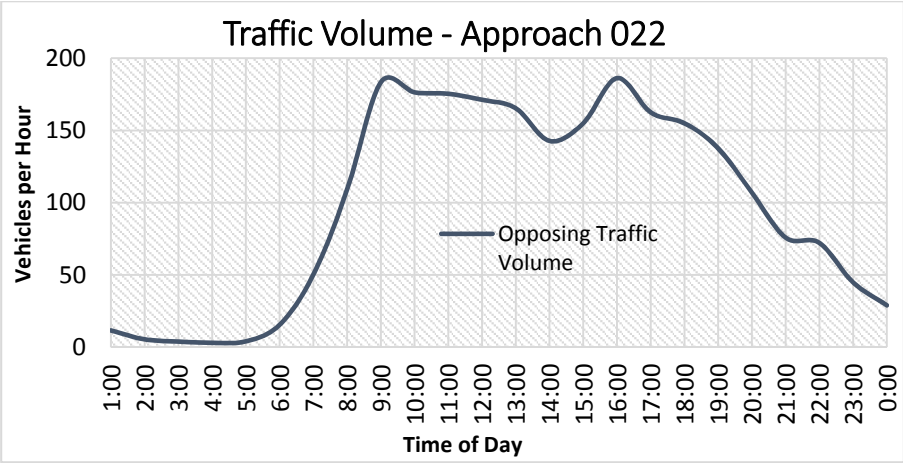

Traffic Volume - Approach 017
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

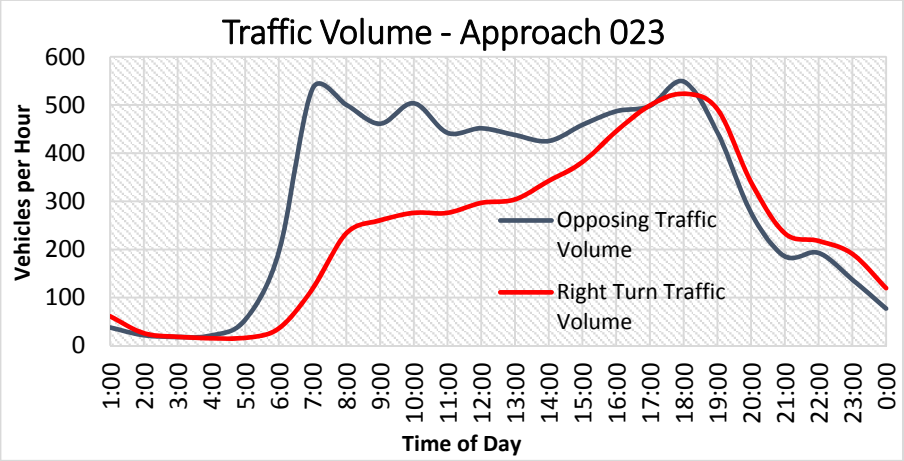

Traffic Volume - Approach 018
Vehicles per Hour
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

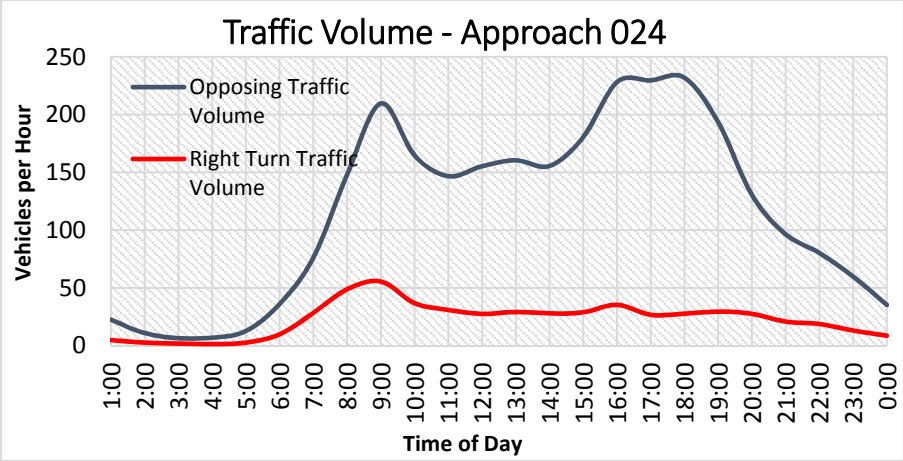

Traffic Volume - Approach 019
Vehicles per Hour
600
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

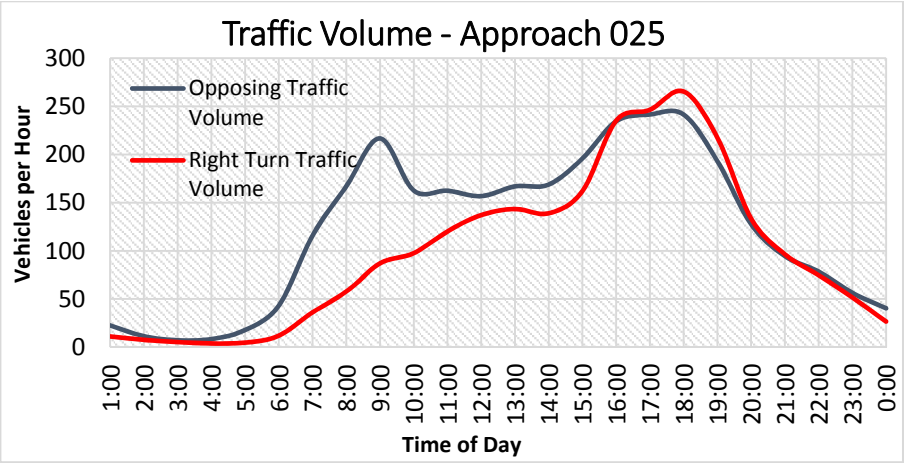

Traffic Volume - Approach 020
Vehicles per Hour
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

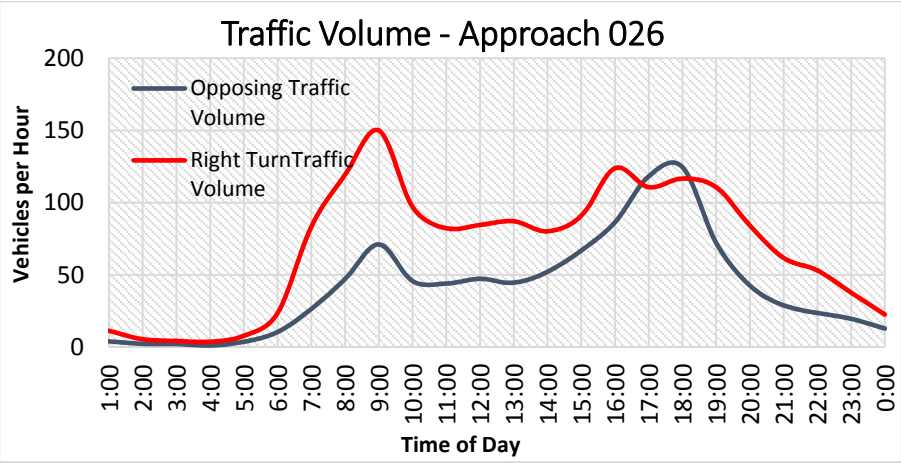

Traffic Volume - Approach 021
Vehicles per Hour
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

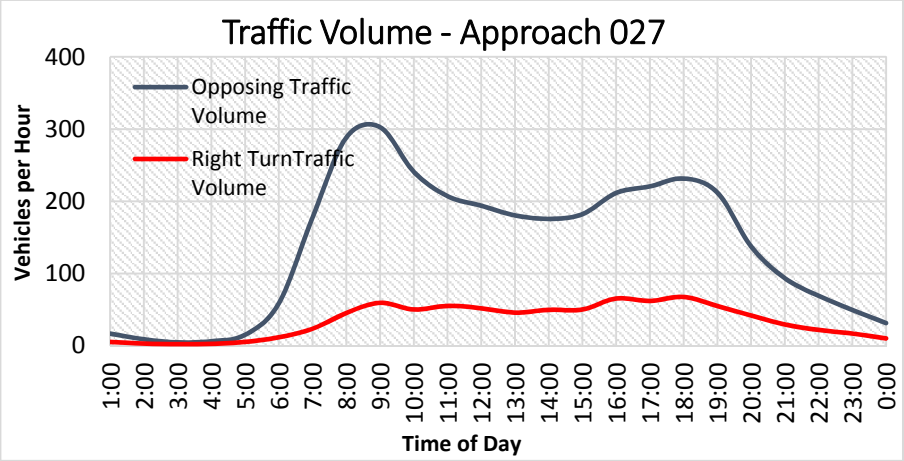

Traffic Volume - Approach 022
Vehicles per Hour
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

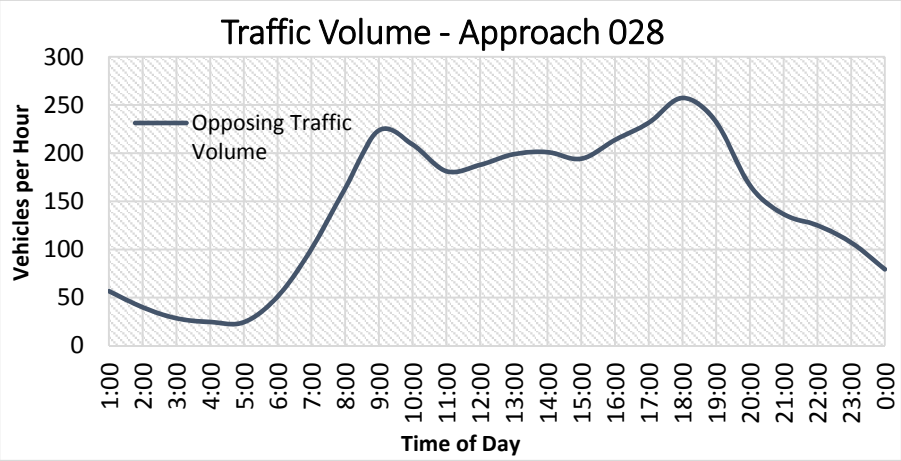

Traffic Volume - Approach 023
Vehicles per Hour
600
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 024
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 025
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 026
Vehicles per Hour
200
150
100
50
0
Opposing Traffic Volume
Right TurnTraffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 027
Vehicles per Hour
400
300
200
100
0
Opposing Traffic Volume
Right TurnTraffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 028
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
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16:00
17:00
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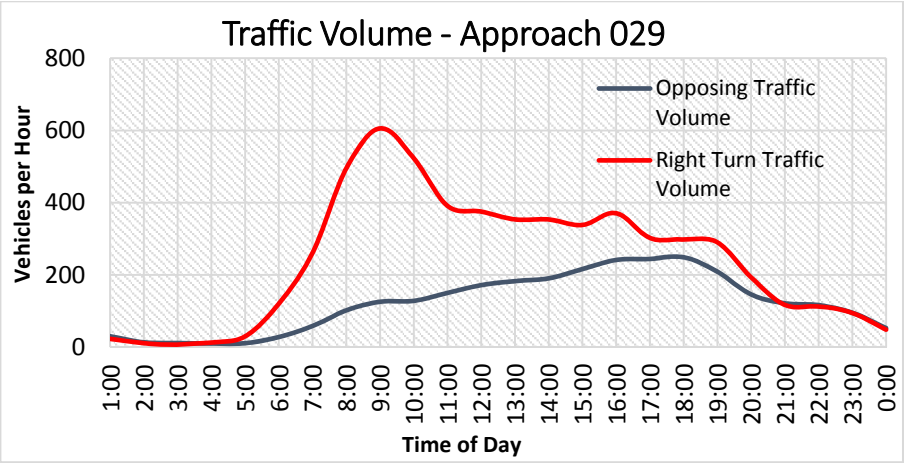
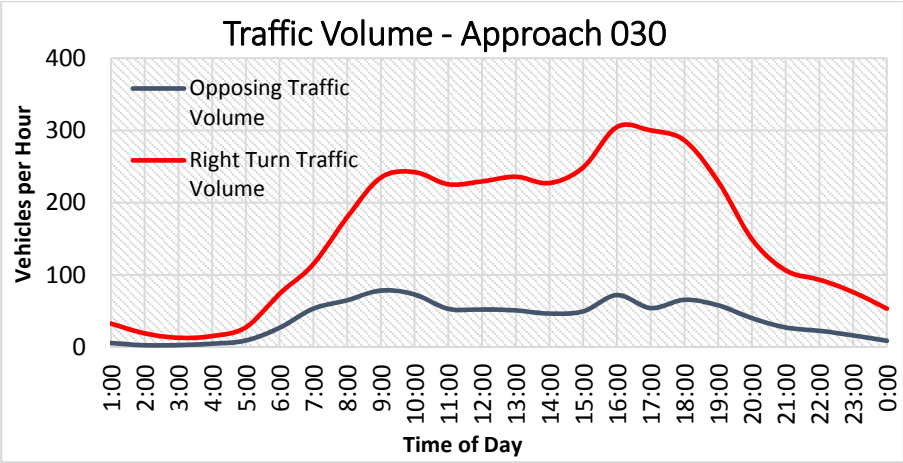
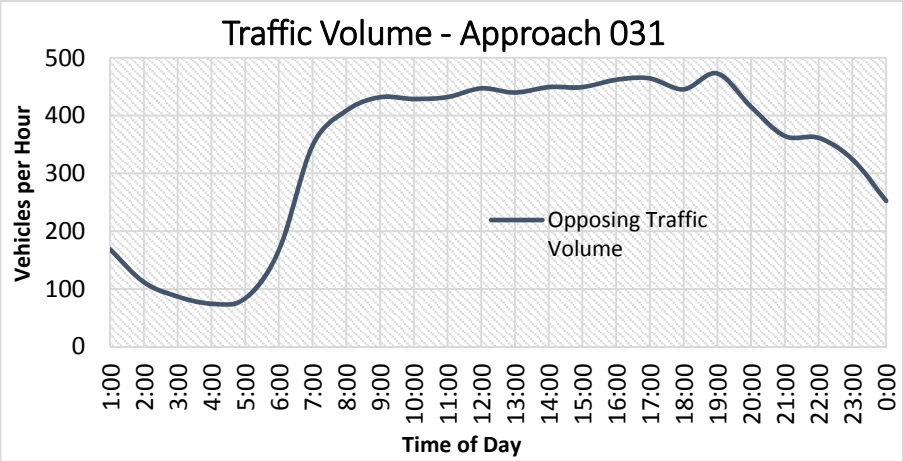
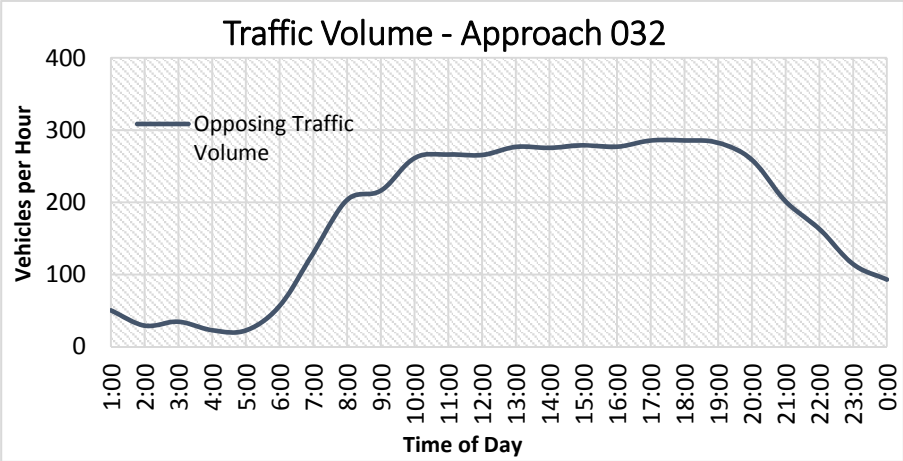
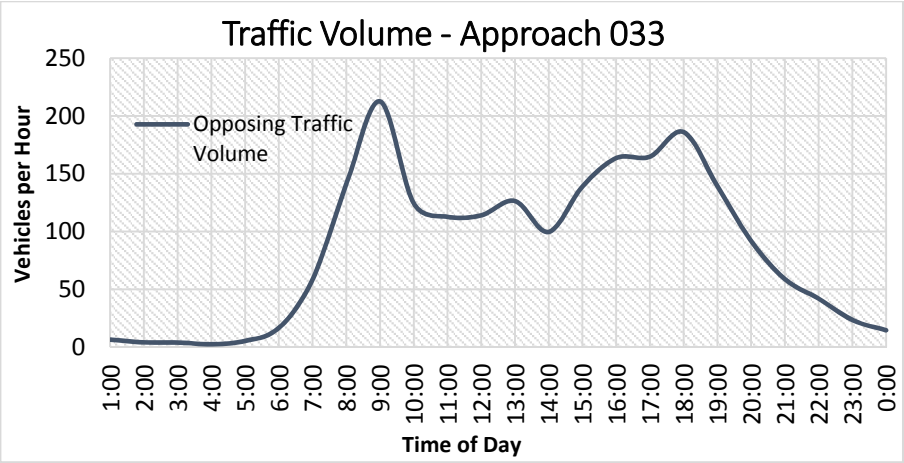
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

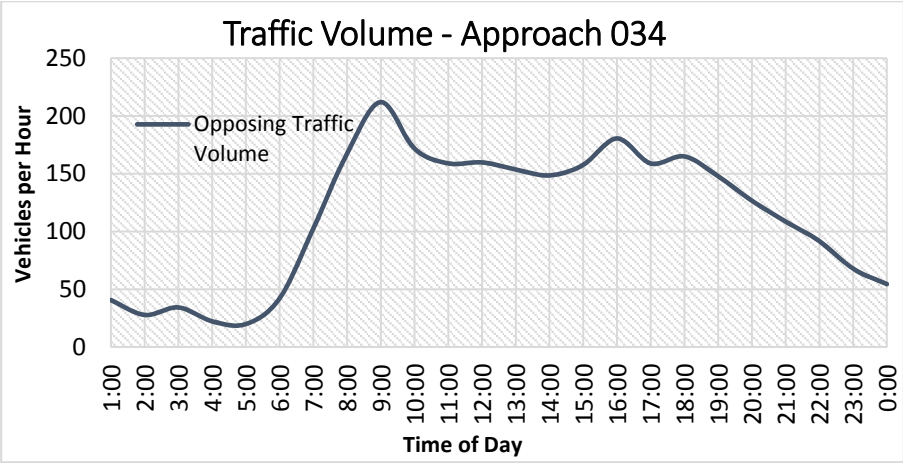

Traffic Volume - Approach 029
Vehicles per Hour
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

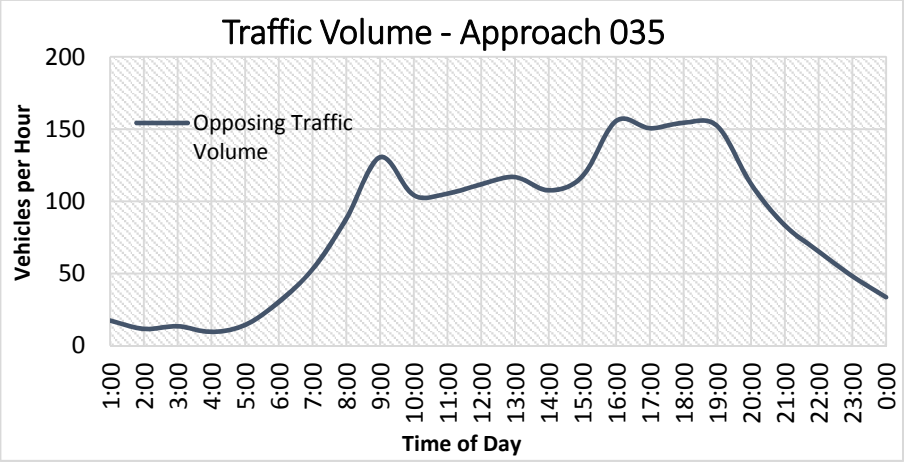

Traffic Volume - Approach 030
Vehicles per Hour
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

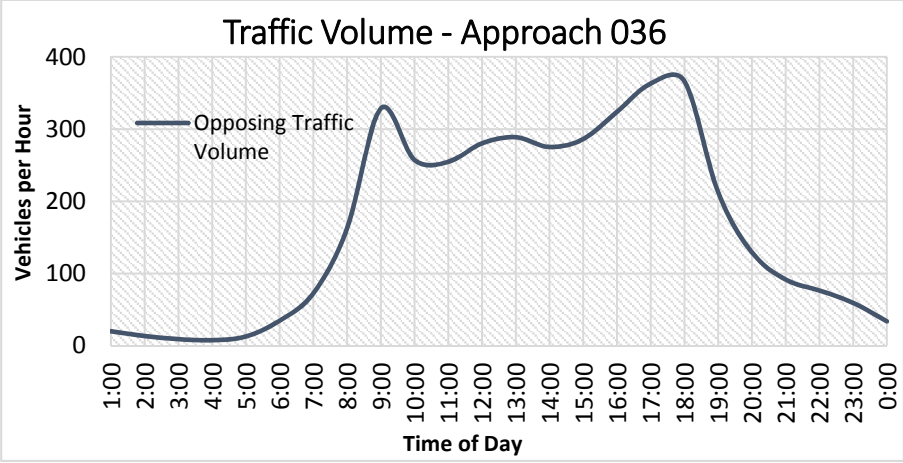

Traffic Volume - Approach 031
Vehicles per Hour
500
400
300
200
100
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

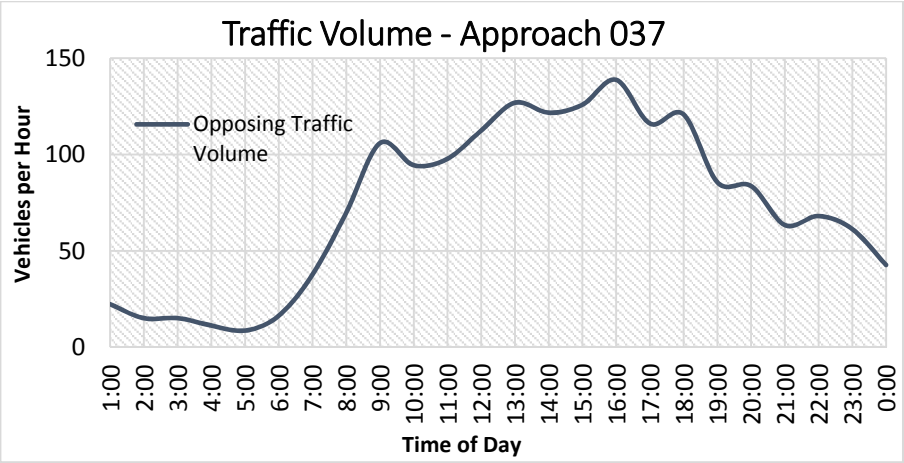

Traffic Volume - Approach 032
Vehicles per Hour
400
300
200
100
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

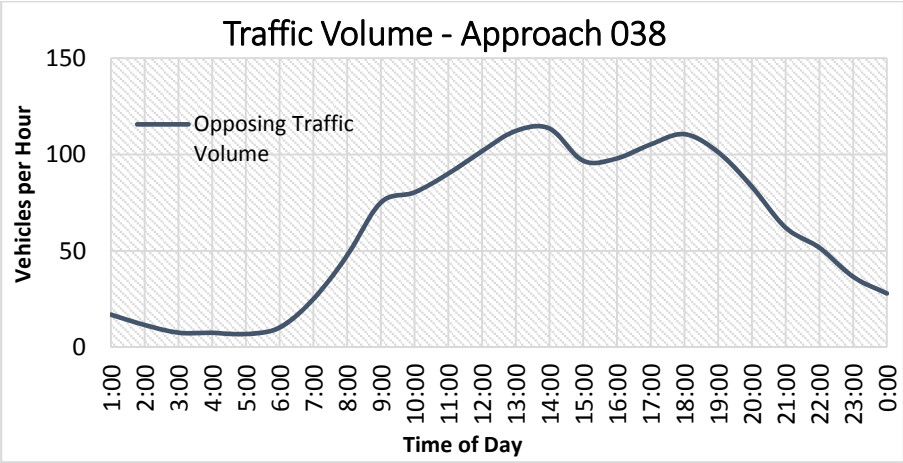

Traffic Volume - Approach 033
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

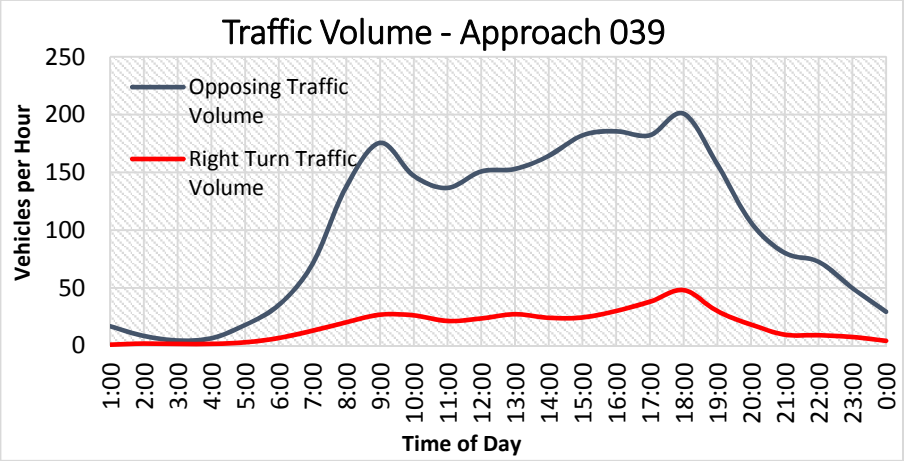

Traffic Volume - Approach 034
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

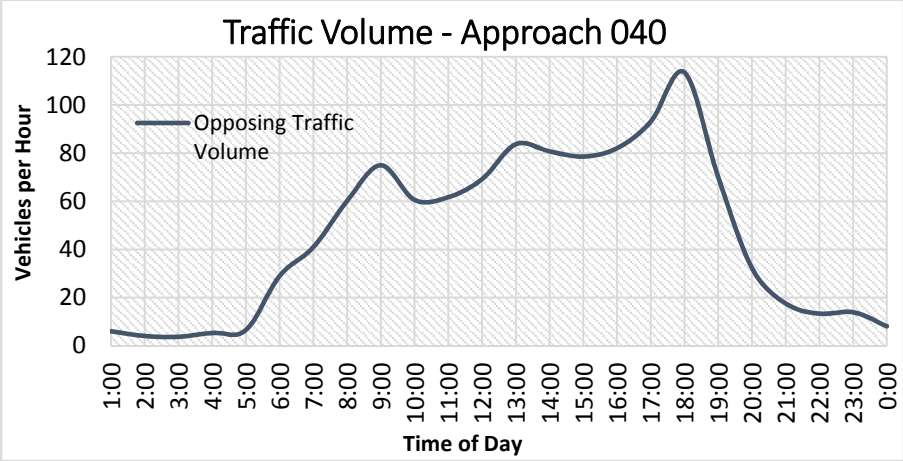

Traffic Volume - Approach 035
Vehicles per Hour
200
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

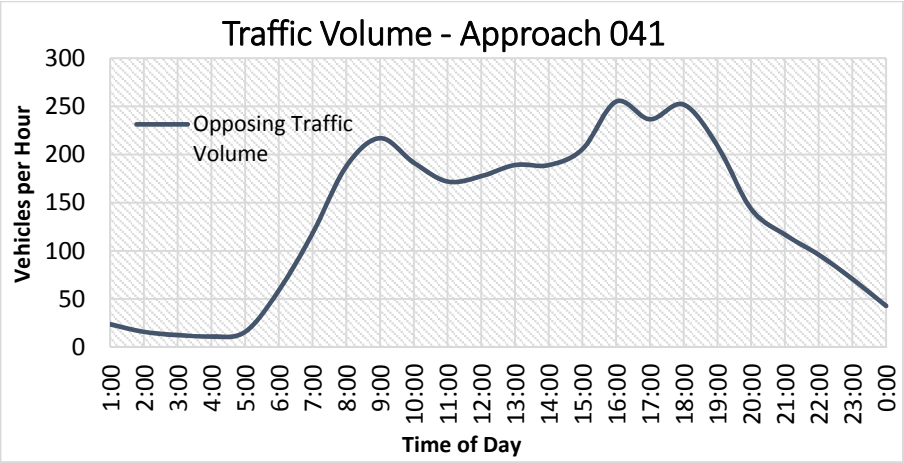

Traffic Volume - Approach 036
Vehicles per Hour
400
300
200
100
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

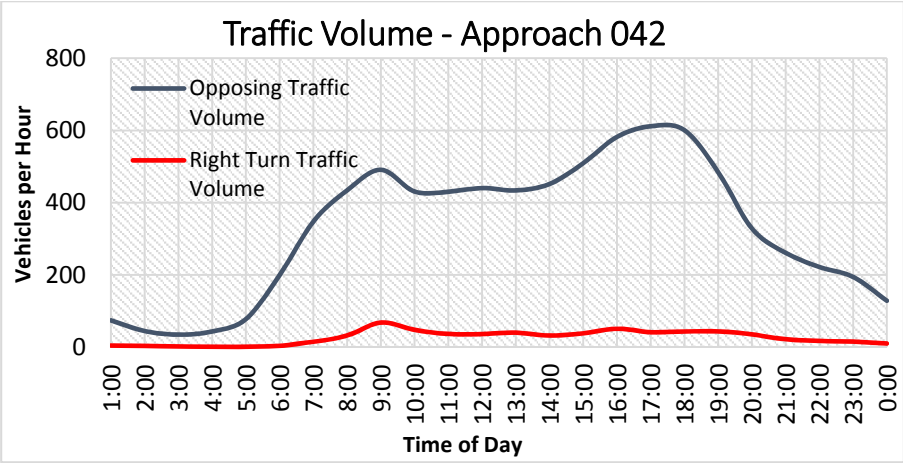

Traffic Volume - Approach 037
Vehicles per Hour
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

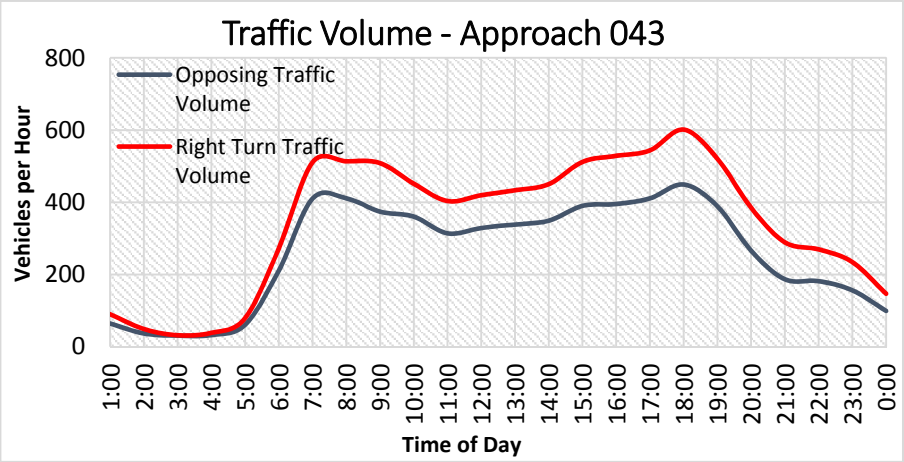

Traffic Volume - Approach 038
Vehicles per Hour
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

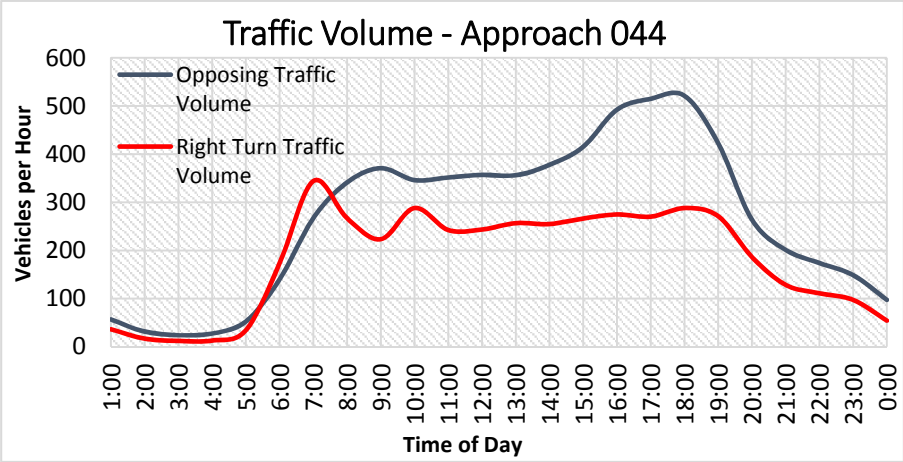

Traffic Volume - Approach 039
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

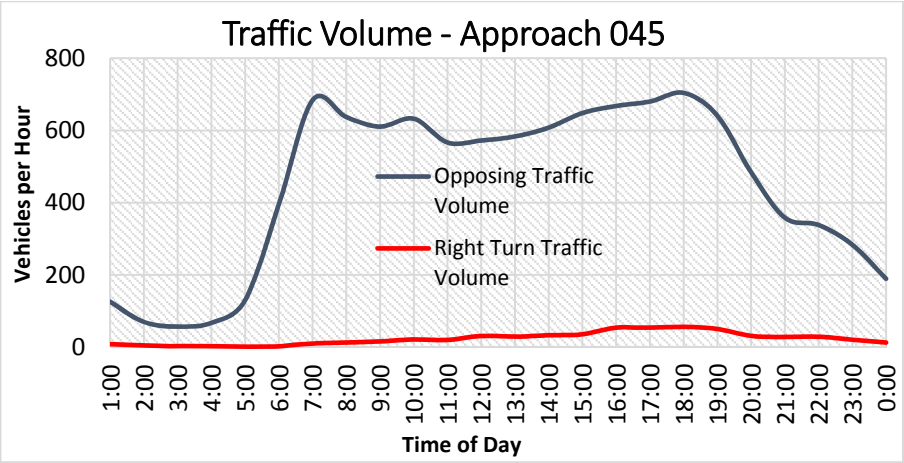

Traffic Volume - Approach 040
Vehicles per Hour
120
100
80
60
40
20
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

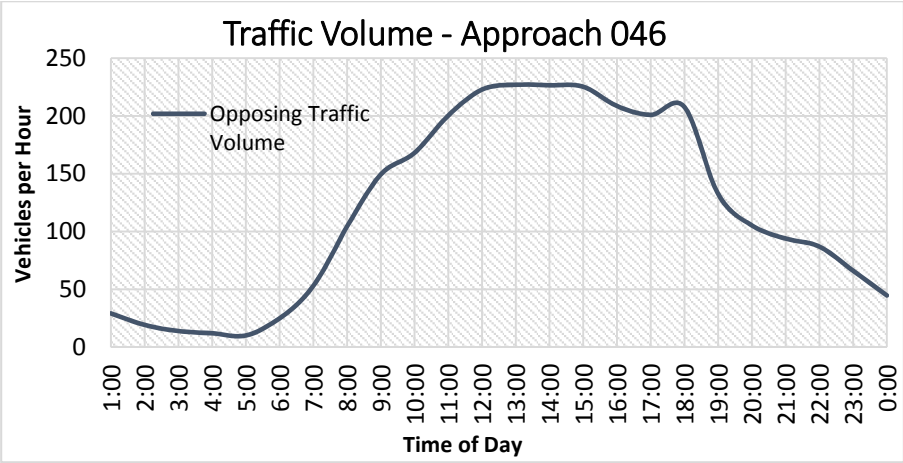

Traffic Volume - Approach 041
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

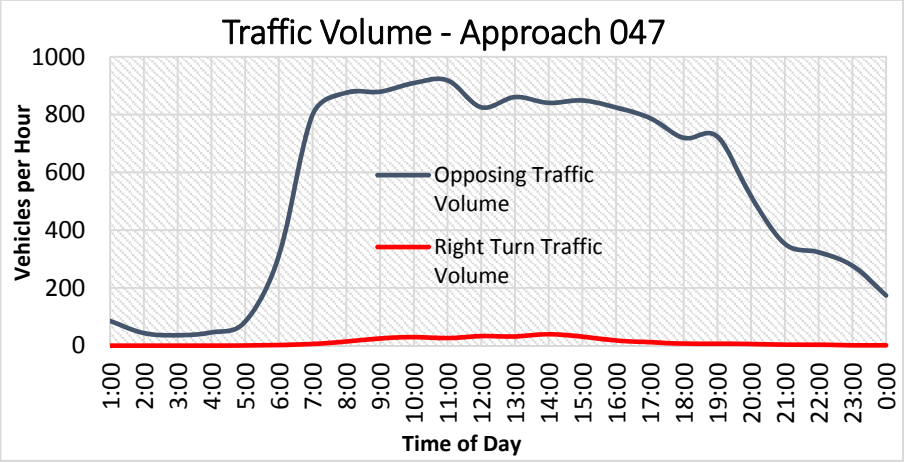

Traffic Volume - Approach 042
Vehicles per Hour
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

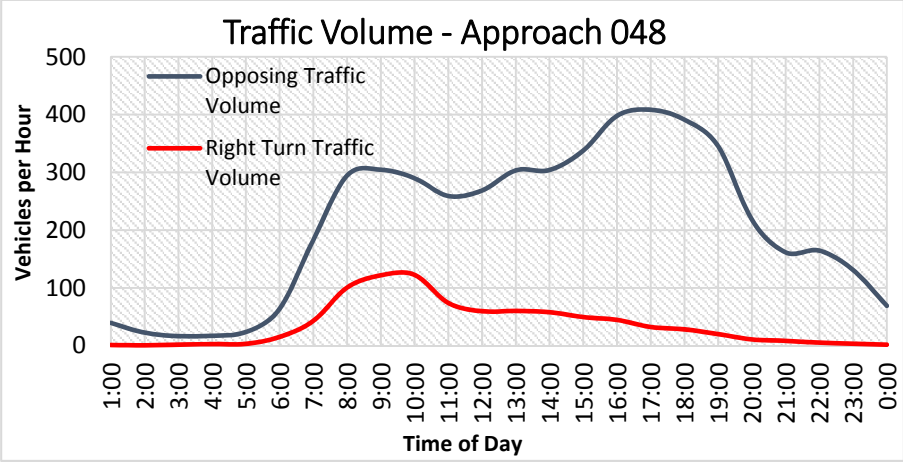

Traffic Volume - Approach 043
Vehicles per Hour
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

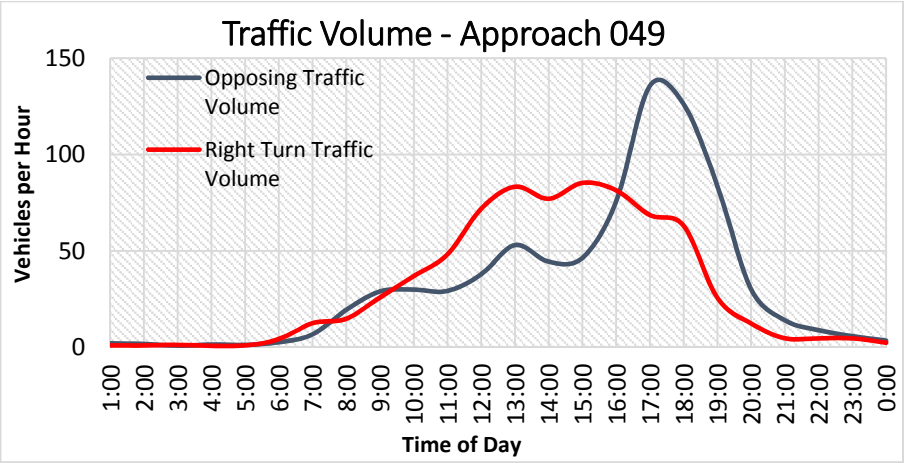

Traffic Volume - Approach 044
Vehicles per Hour
600
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

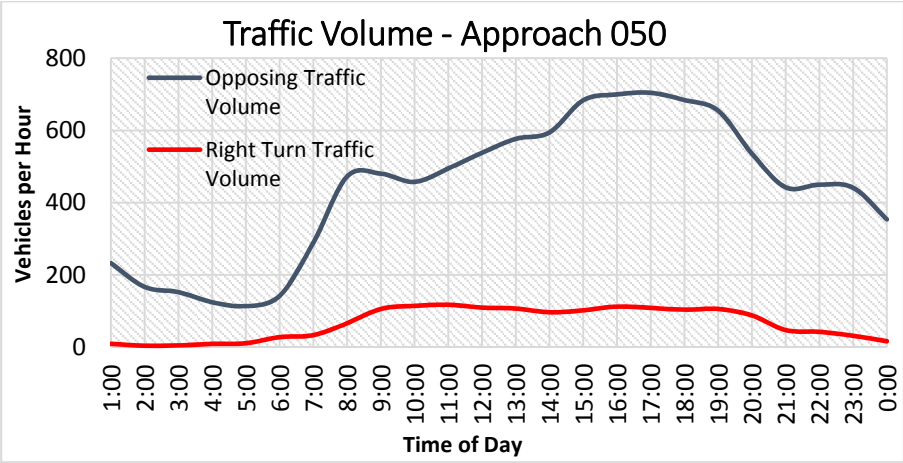

Traffic Volume - Approach 045
Vehicles per Hour
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 046
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 047
Vehicles per Hour
1000
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 048
Vehicles per Hour
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 049
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
150
100
50
0
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 050
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
800
600
400
200
0
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
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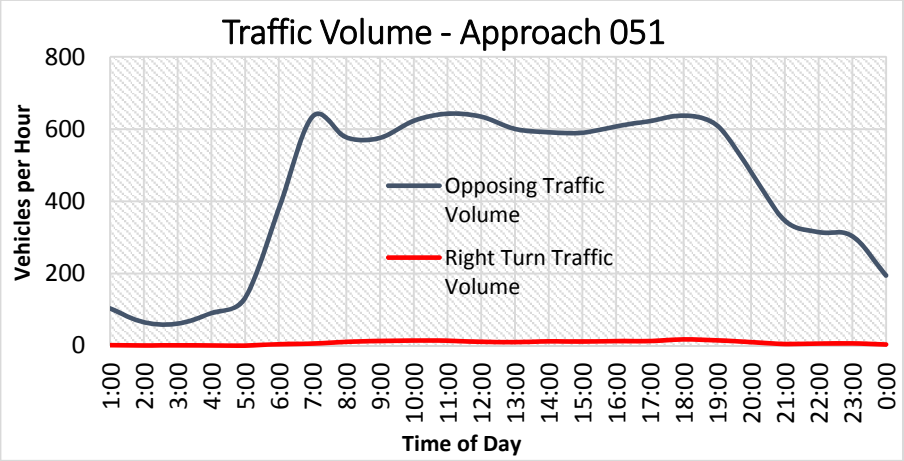
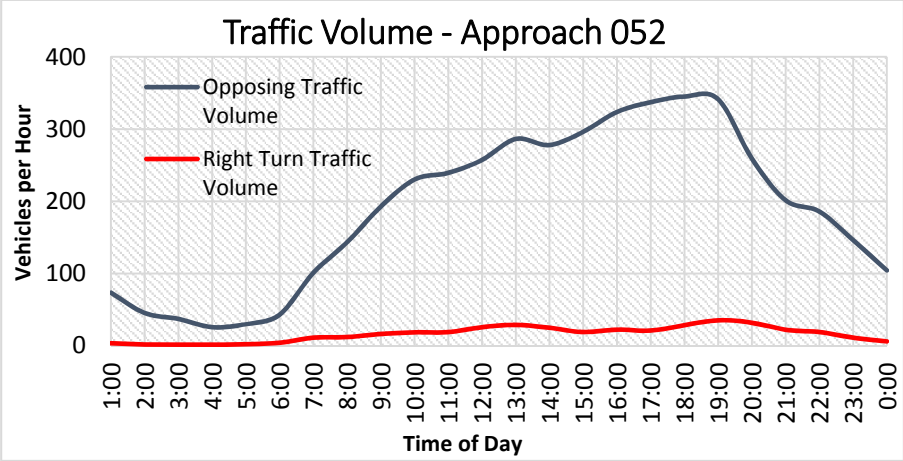
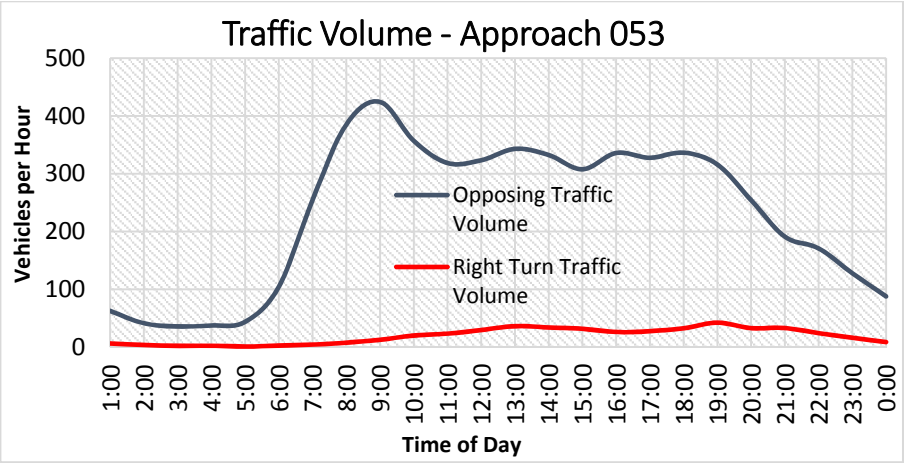
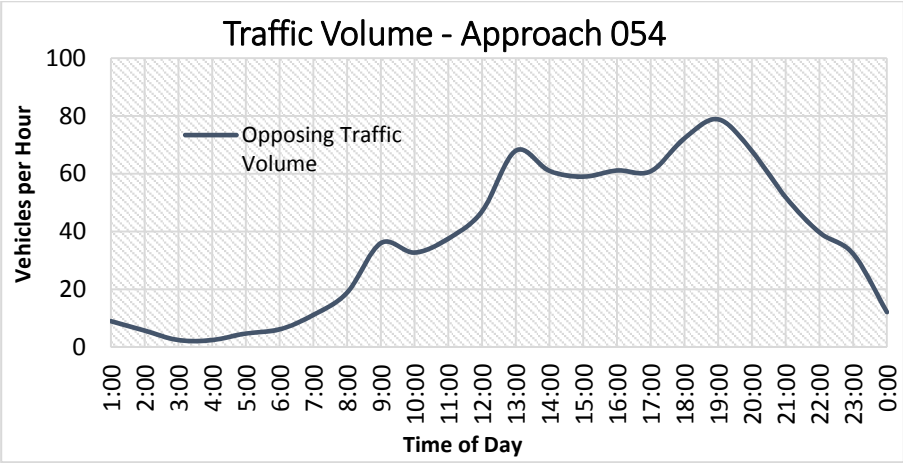
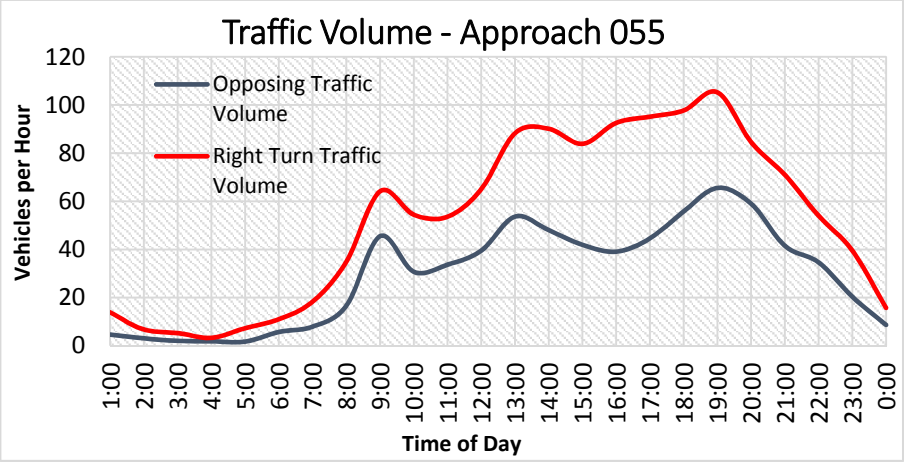
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

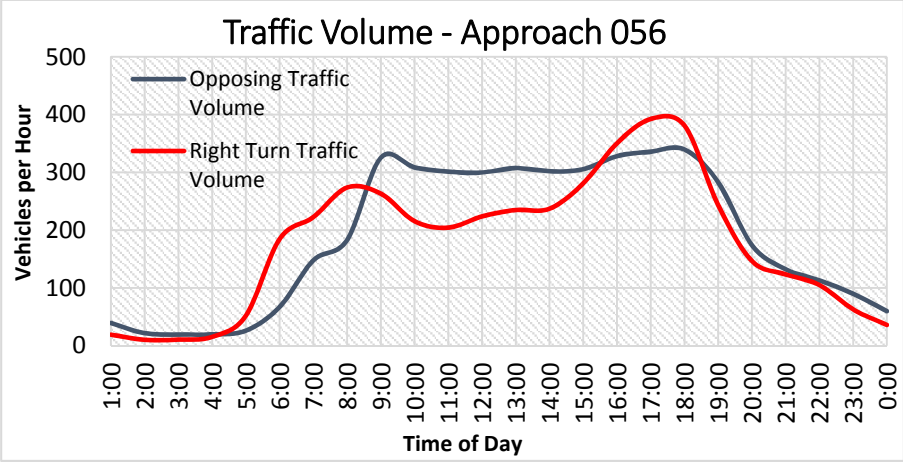

Traffic Volume - Approach 051
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
800
600
400
200
0
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

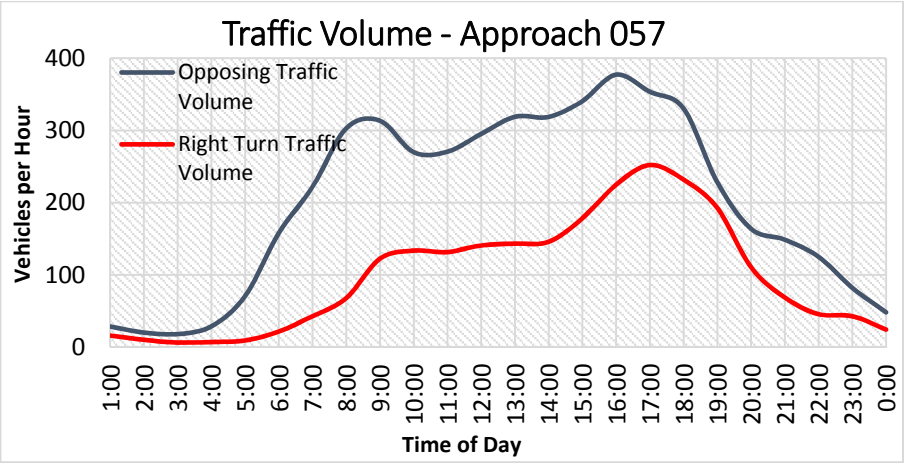

Traffic Volume - Approach 052
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
400
300
200
100
0
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

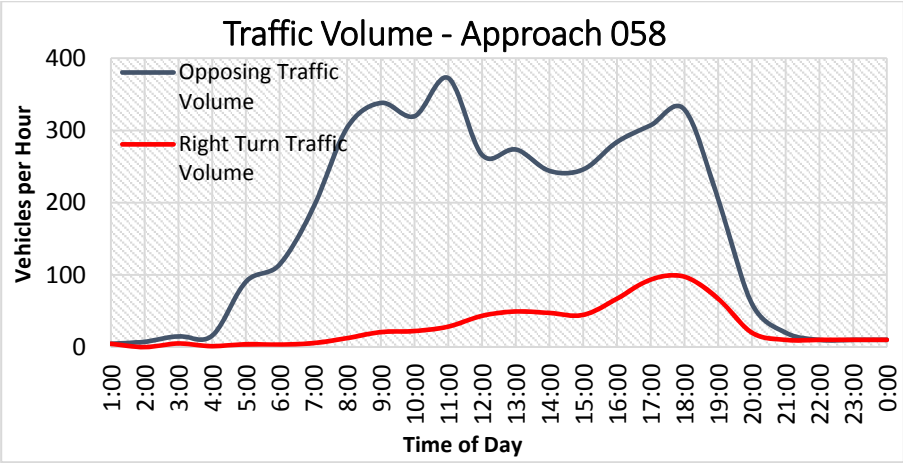

Traffic Volume - Approach 053
Vehicles per Hour
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

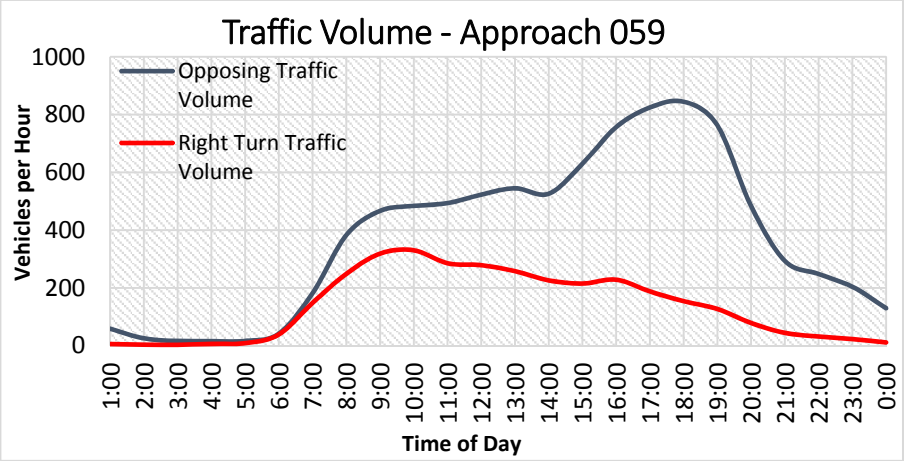

Traffic Volume - Approach 054
Vehicles per Hour
100
80
60
40
20
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 055
Vehicles per Hour
120
100
80
60
40
20
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 056
Vehicles per Hour
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 057
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
0
100
200
300
400
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 058
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
0
100
200
300
400
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 059
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
0
200
400
600
800
1000
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
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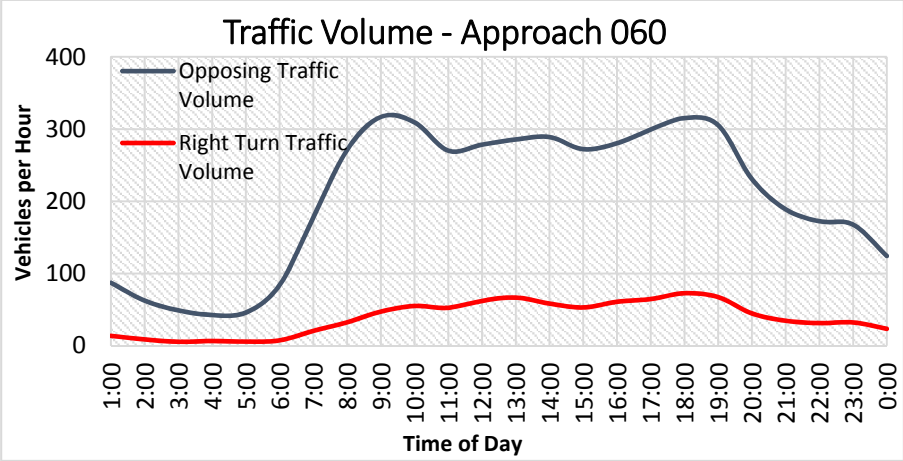
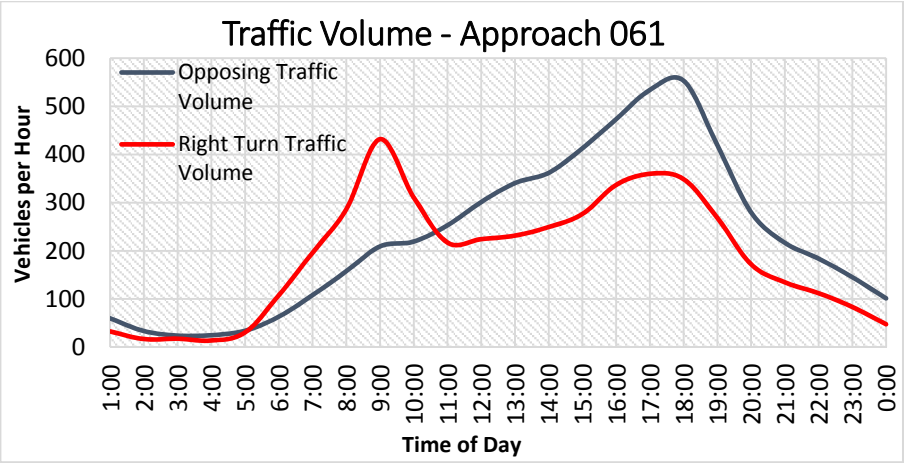
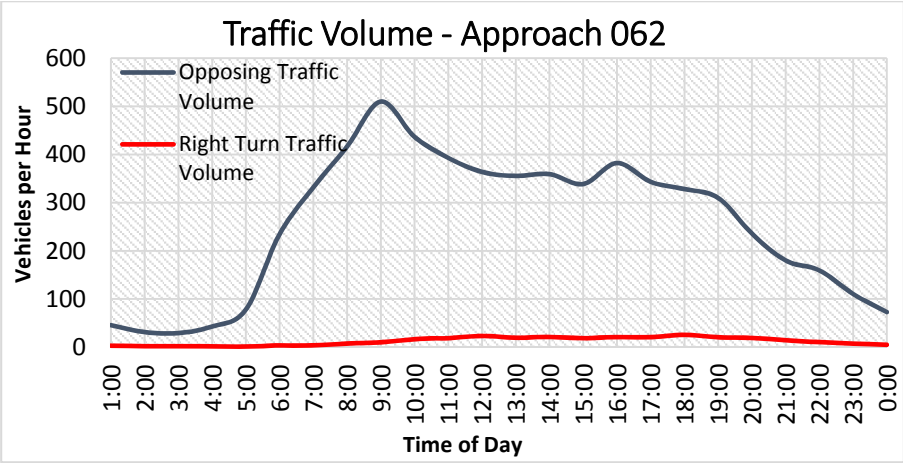
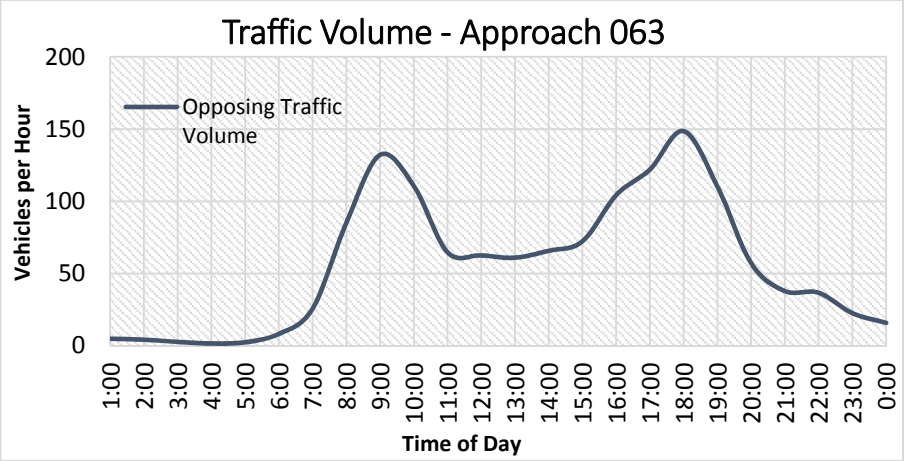
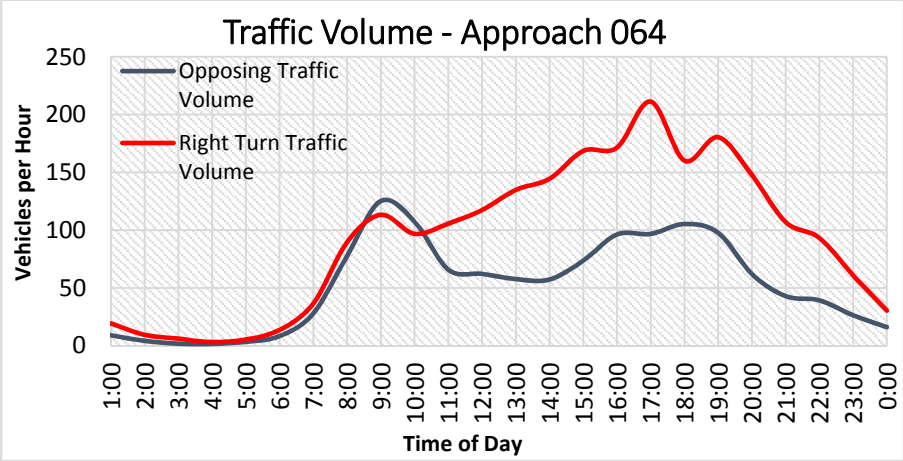
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

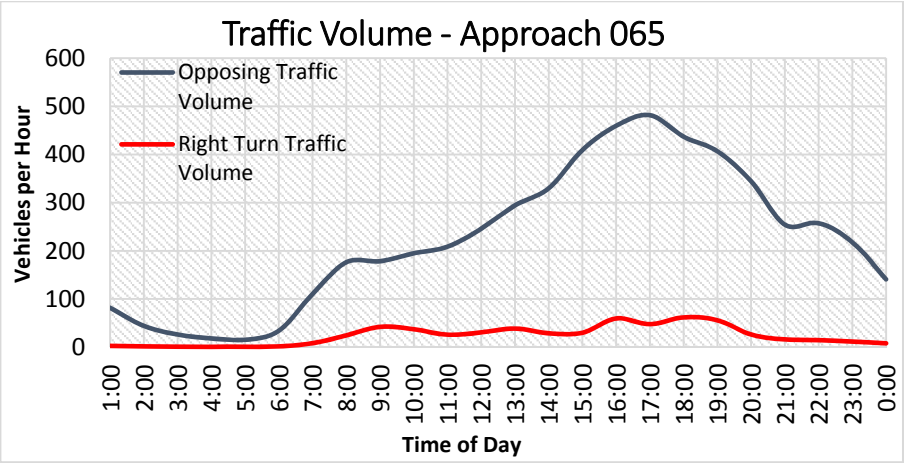

Traffic Volume - Approach 060
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
0
100
200
300
400
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

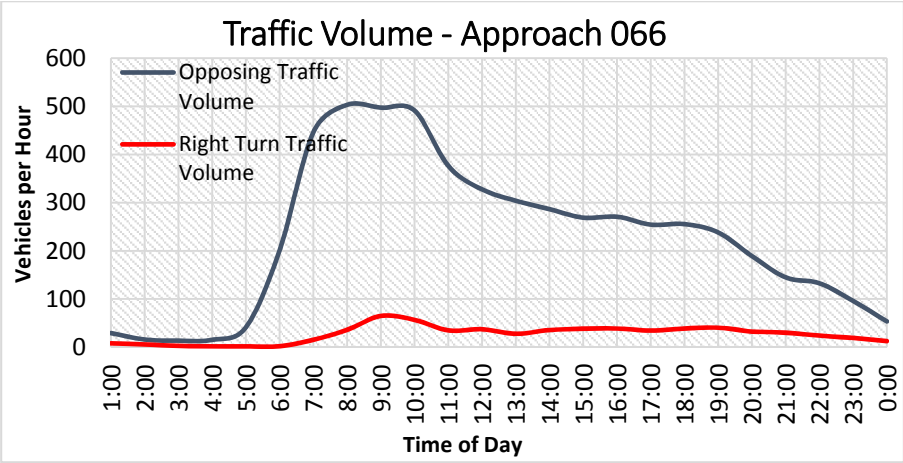

Traffic Volume - Approach 061
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
600
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

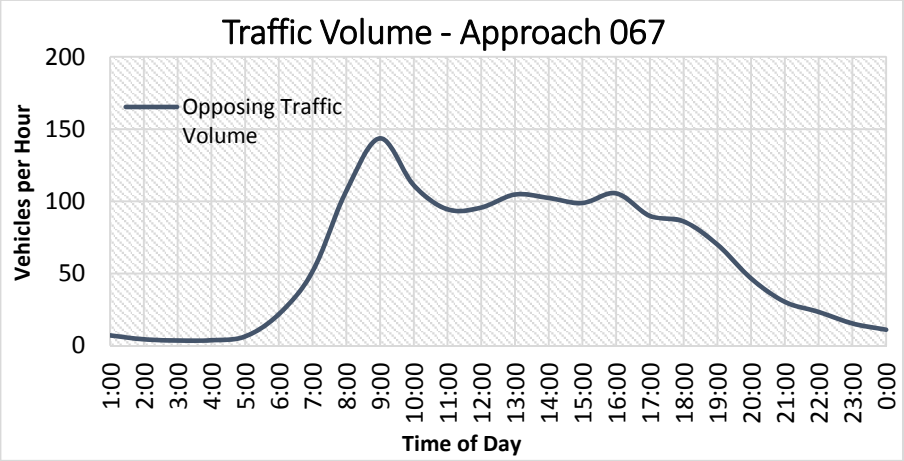

Traffic Volume - Approach 062
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
600
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

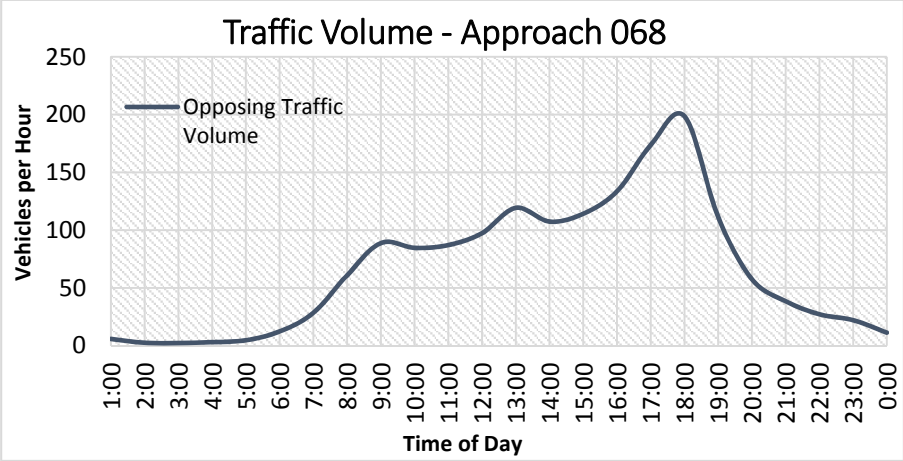

Traffic Volume - Approach 063
Opposing Traffic Volume
Vehicles per Hour
200
150
100
50
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

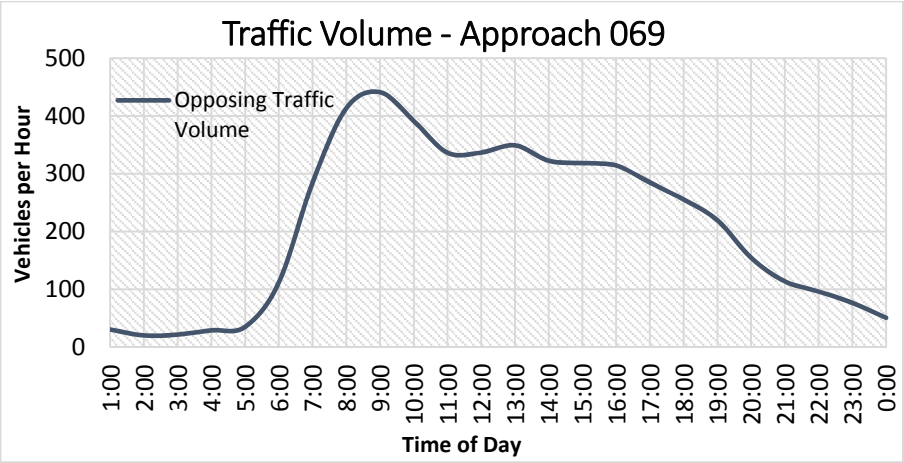

Traffic Volume - Approach 064
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
250
200
150
100
50
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 065
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
600
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 066
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
600
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 067
Opposing Traffic Volume
Vehicles per Hour
200
150
100
50
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 068
Opposing Traffic Volume
Vehicles per Hour
250
200
150
100
50
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 069
Opposing Traffic Volume
Vehicles per Hour
0
100
200
300
400
500
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
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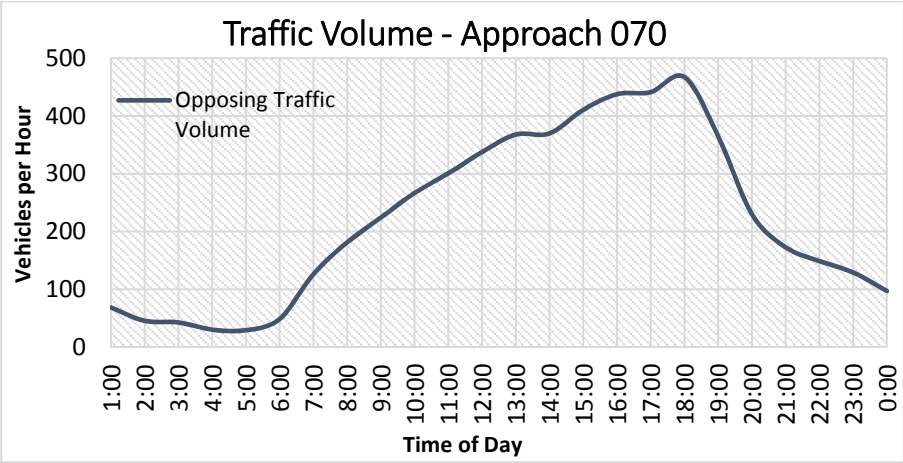
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 070
Opposing Traffic Volume
Vehicles per Hour
0
100
200
300
400
500
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
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16:00
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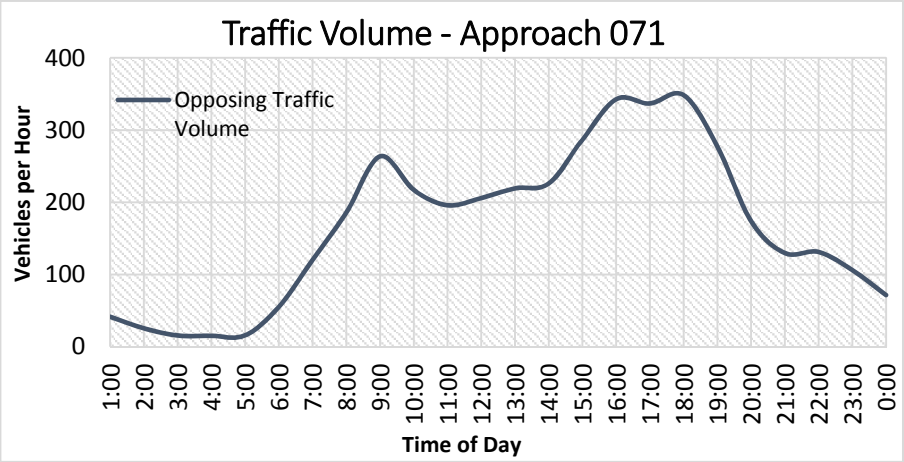
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 071
Opposing Traffic Volume
Vehicles per Hour
0
100
200
300
400
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
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16:00
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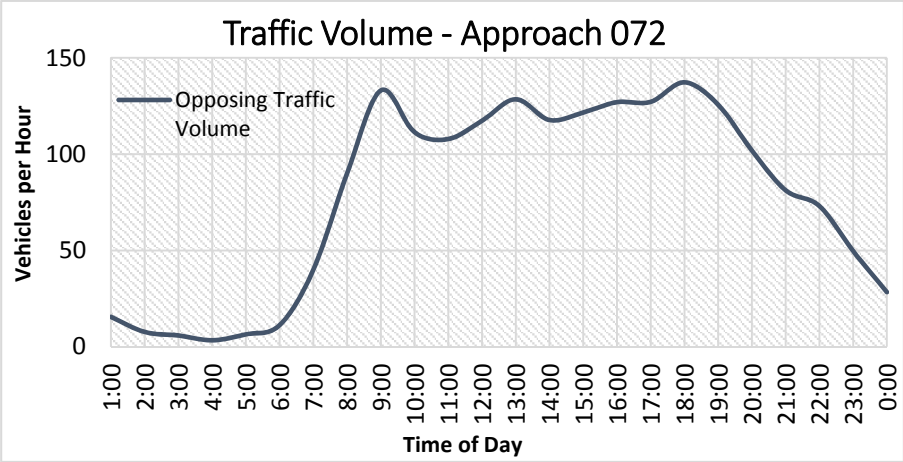
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 072
Opposing Traffic Volume
Vehicles per Hour
0
50
100
150
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
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16:00
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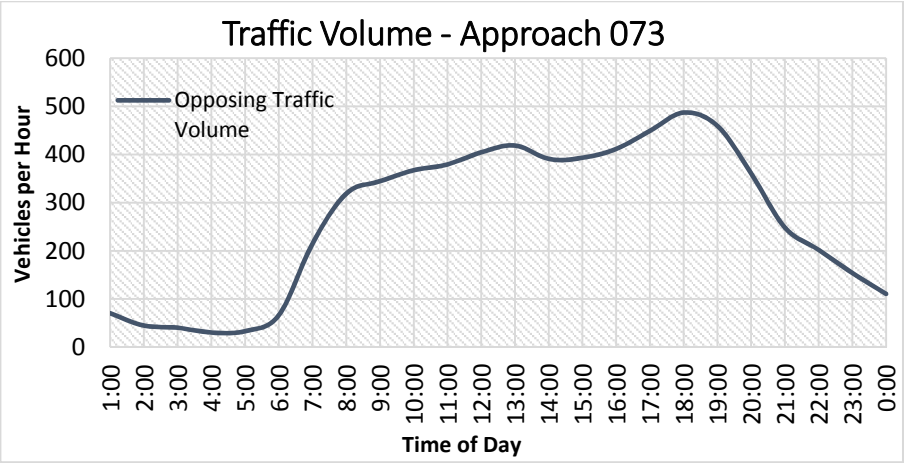
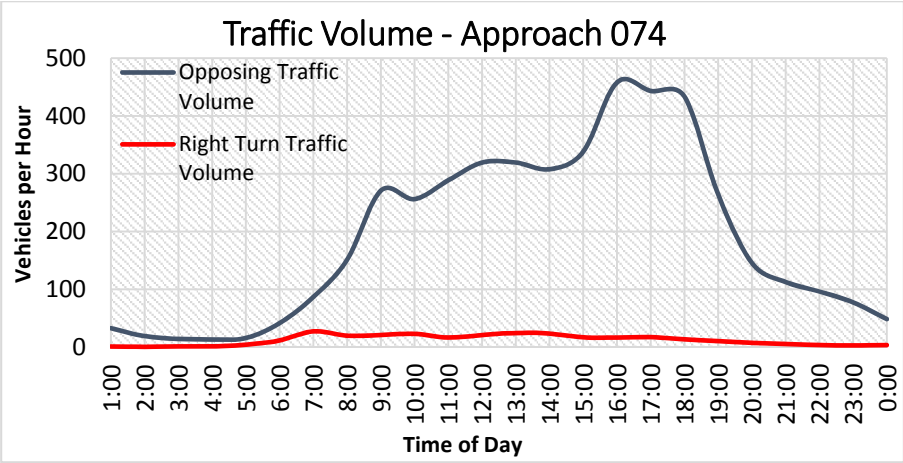
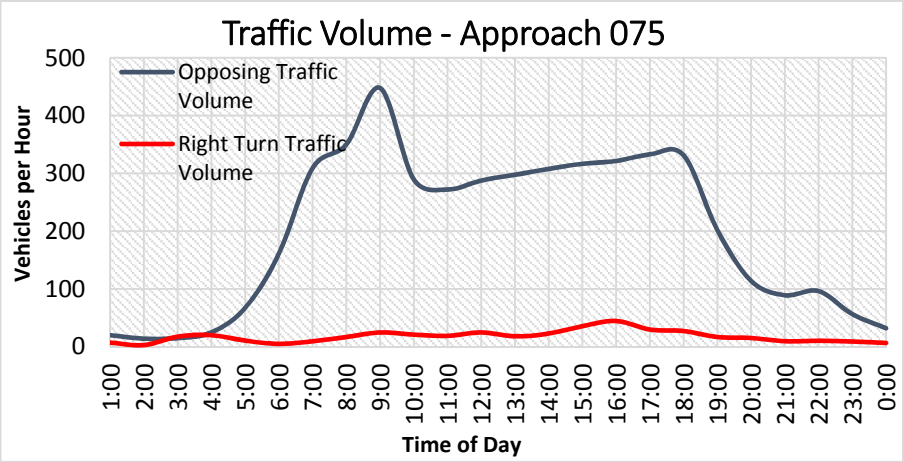
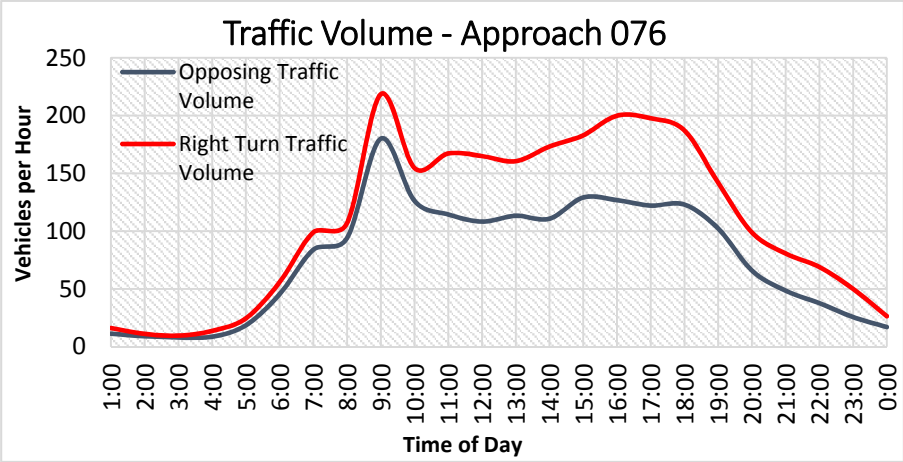
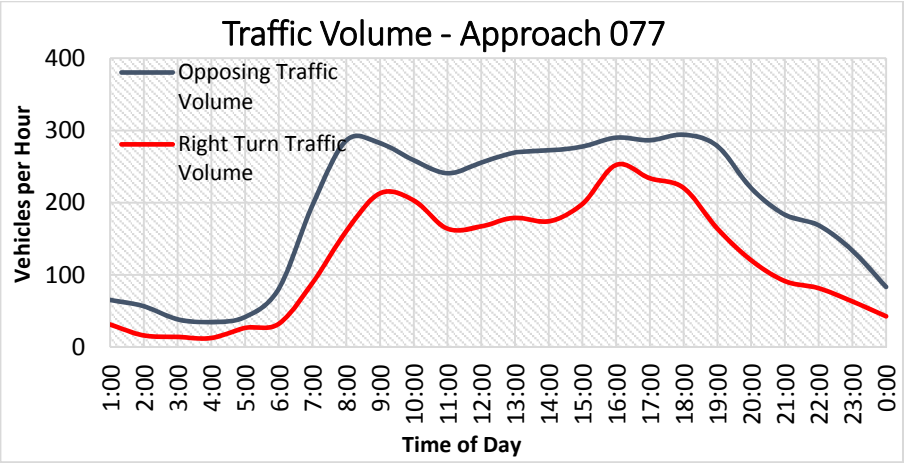
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 073
Opposing Traffic Volume
Vehicles per Hour
600
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 074
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 075
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 076
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
250
200
150
100
50
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 077
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
Time of Day
0
100
200
300
400
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
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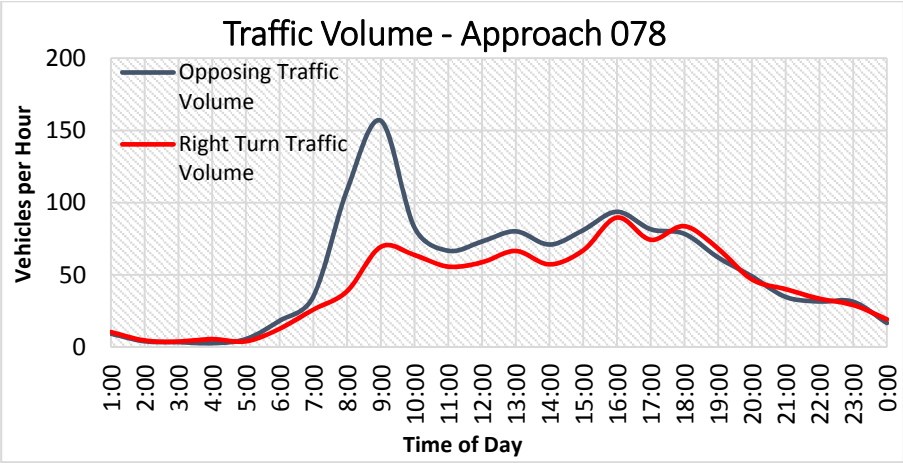
0:00


Traffic Volume - Approach 078
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
Time of Day
0
50
100
150
200
1:00
2:00
3:00
4:00
5:00
6:00
7:00
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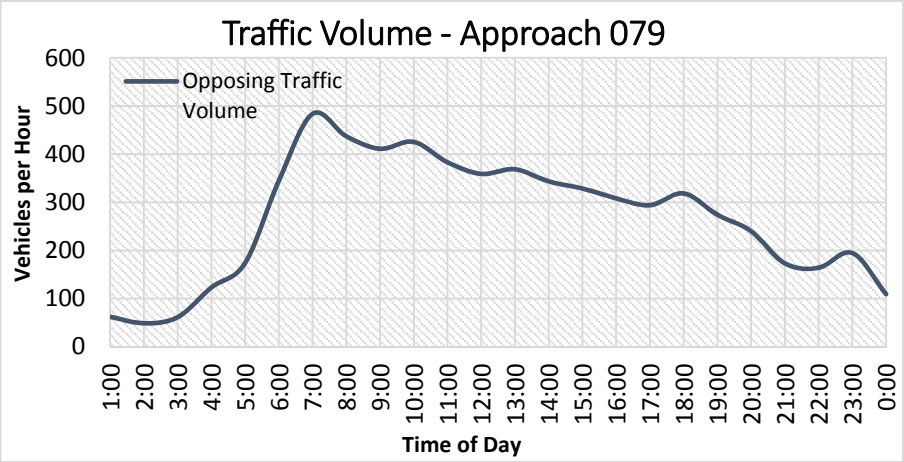
23:00
0:00


Traffic Volume - Approach 079
Opposing Traffic Volume
Vehicles per Hour
Time of Day
0
100
200
300
400
500
600
1:00
2:00
3:00
4:00
5:00
6:00
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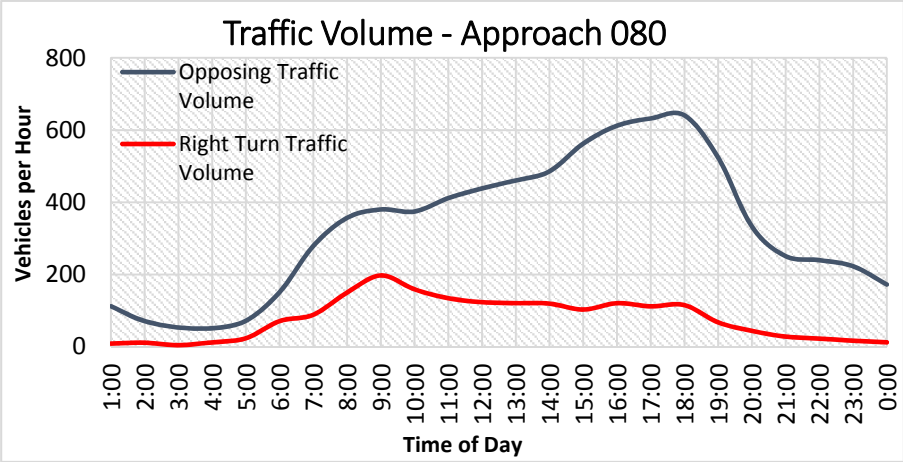
23:00
0:00


Traffic Volume - Approach 080
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
Time of Day
0
200
400
600
800
1:00
2:00
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4:00
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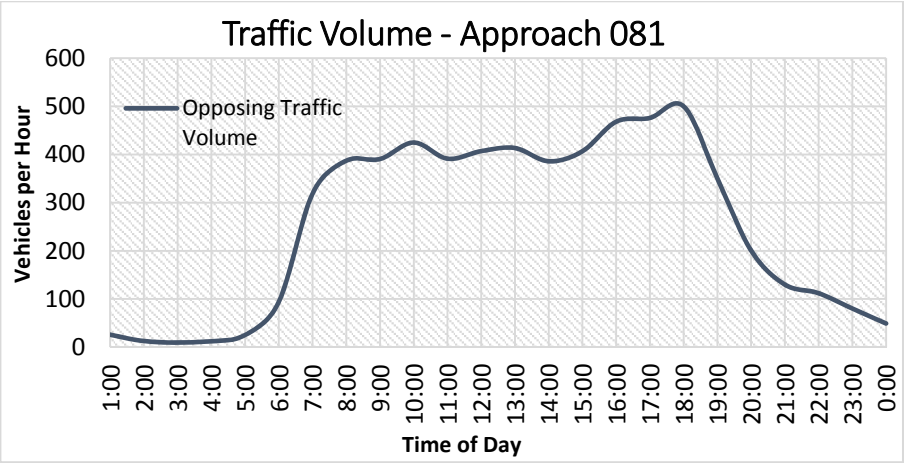
23:00
0:00


Traffic Volume - Approach 081
Vehicles per Hour
600
500
400
300
200
100
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
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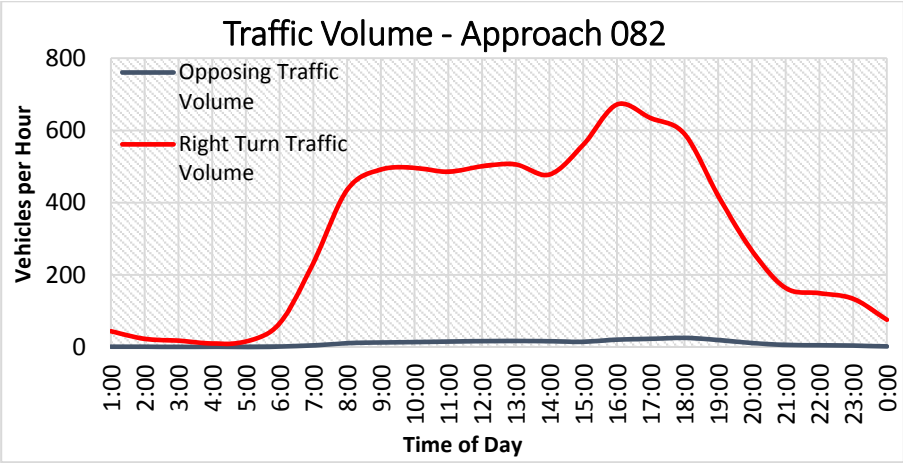
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 082
Vehicles per Hour
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
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7:00
8:00
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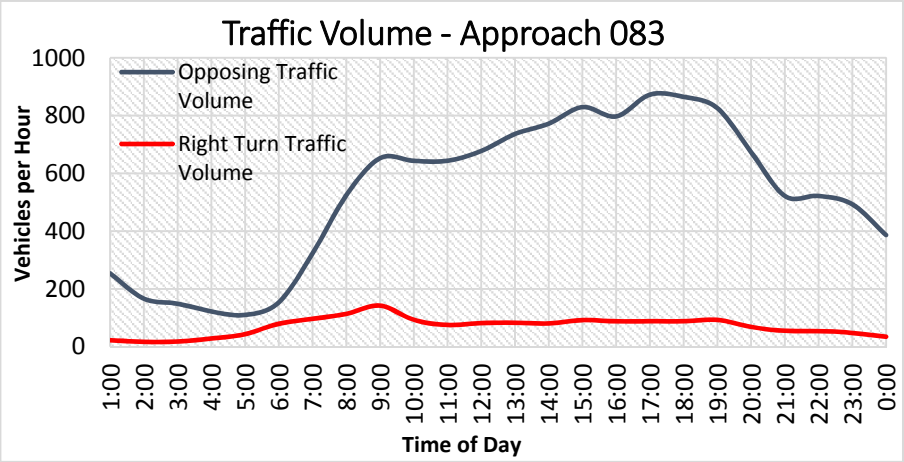
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 083
Vehicles per Hour
1000
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
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18:00
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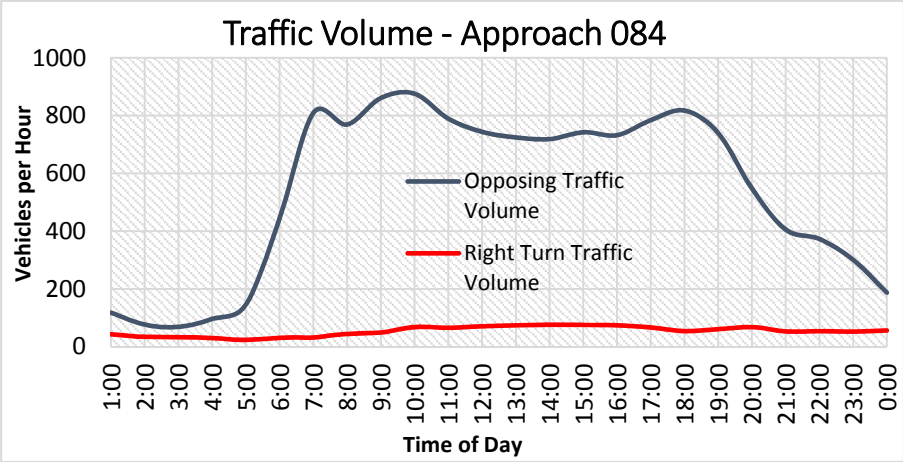
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 084
Vehicles per Hour
1000
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
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12:00
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16:00
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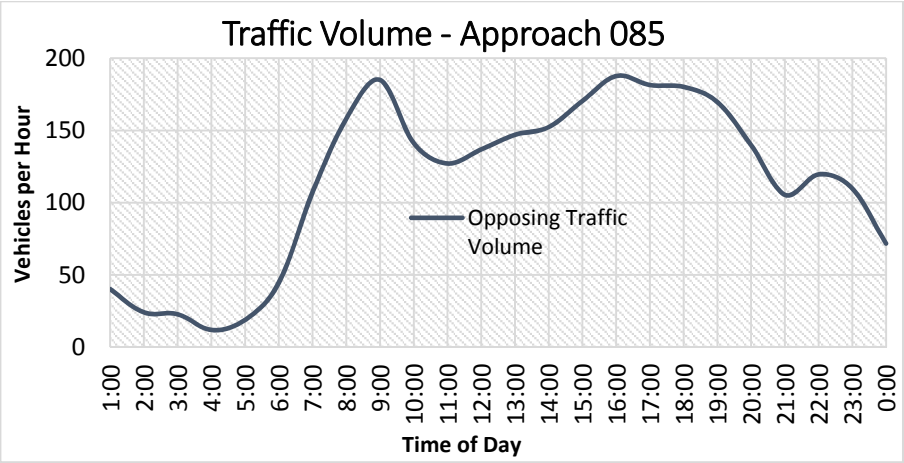
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 085
Vehicles per Hour
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
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18:00
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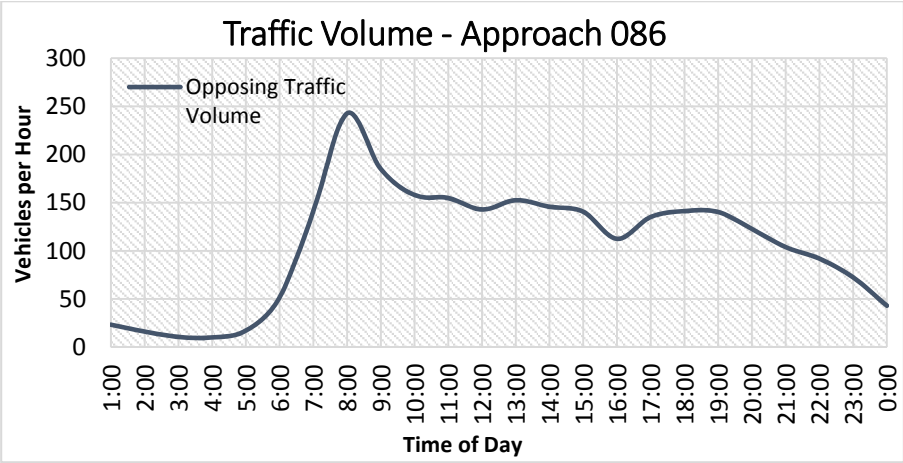
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 086
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
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20:00
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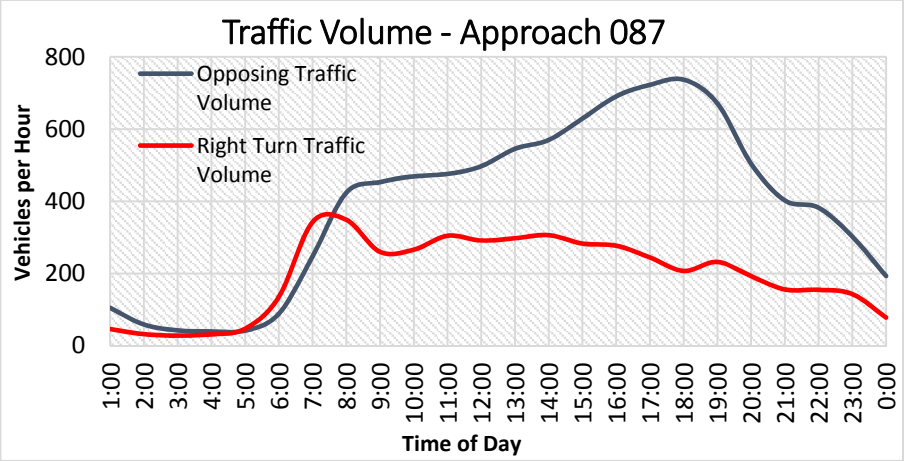
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 087
Vehicles per Hour
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
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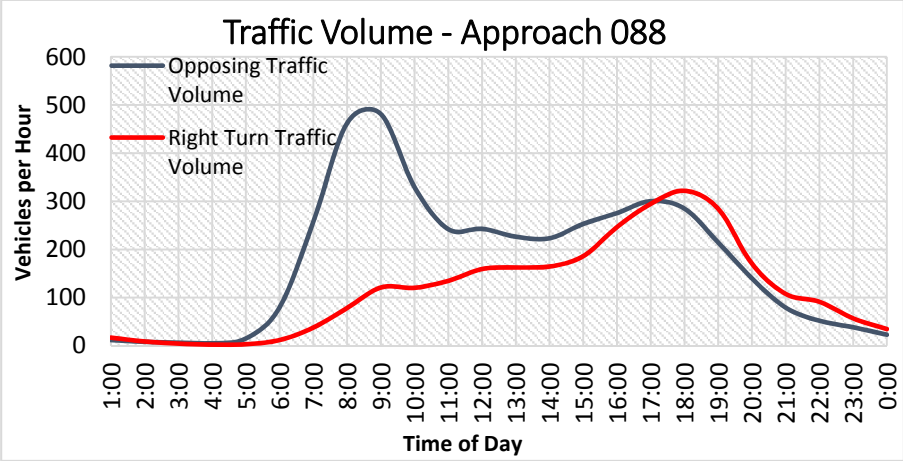
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 088
Vehicles per Hour
600
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
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6:00
7:00
8:00
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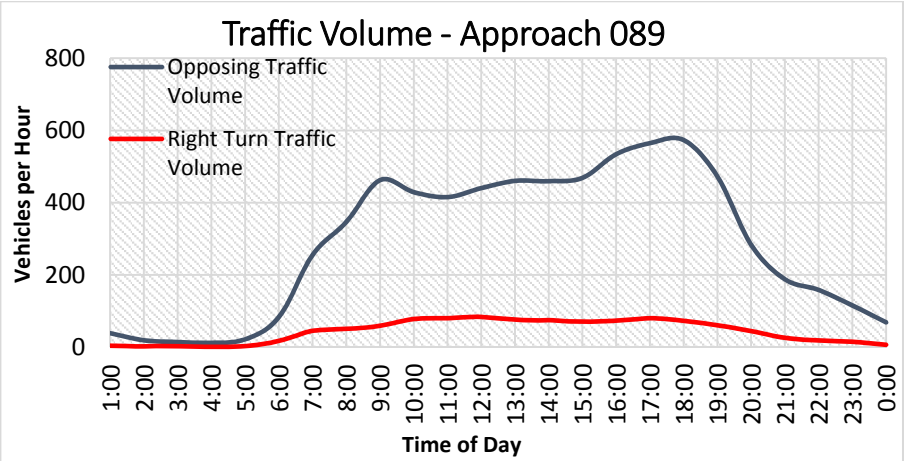
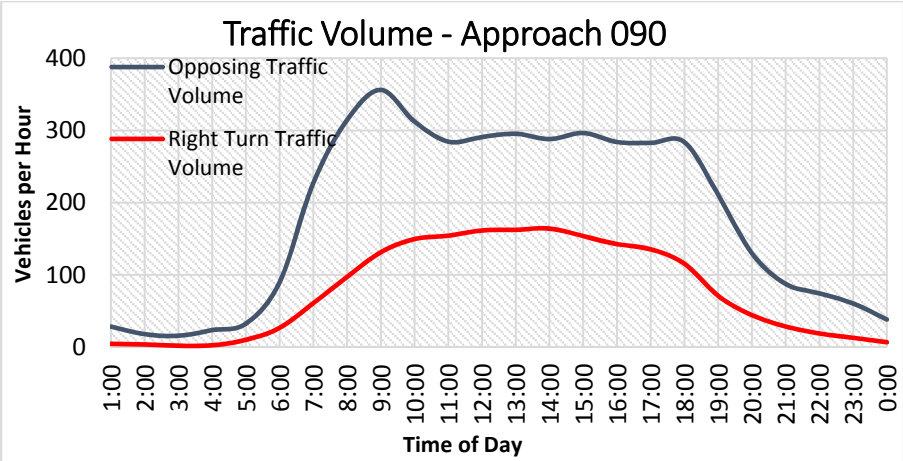
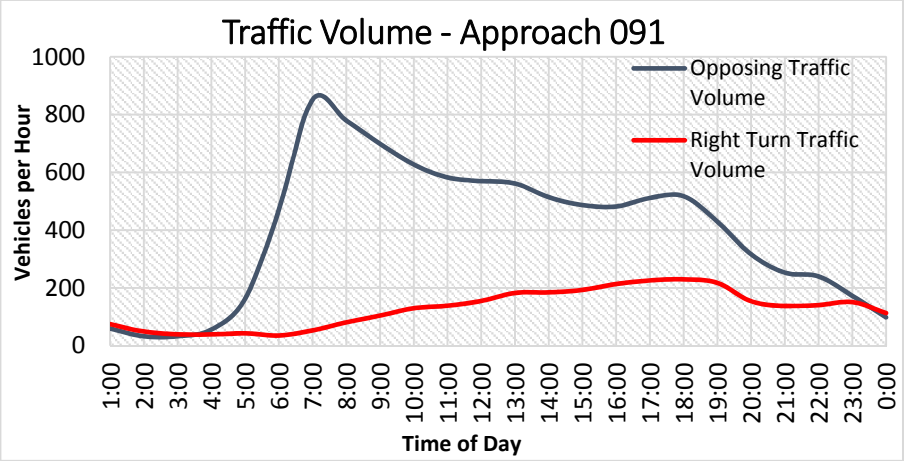
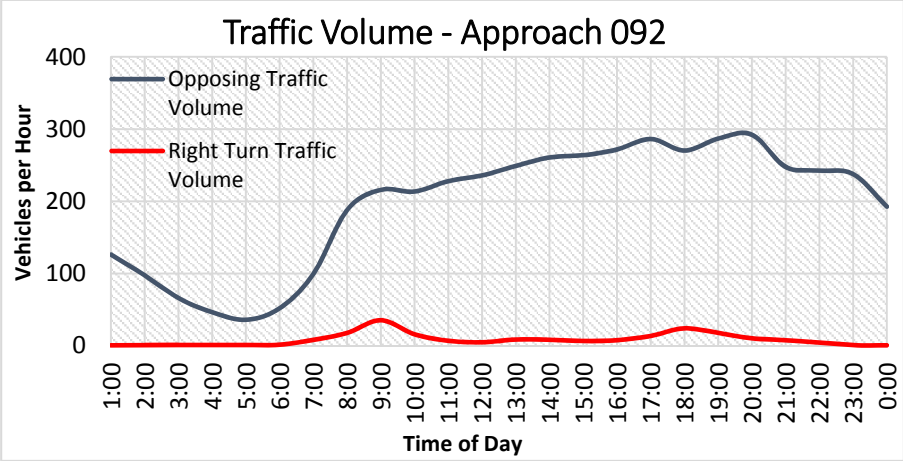
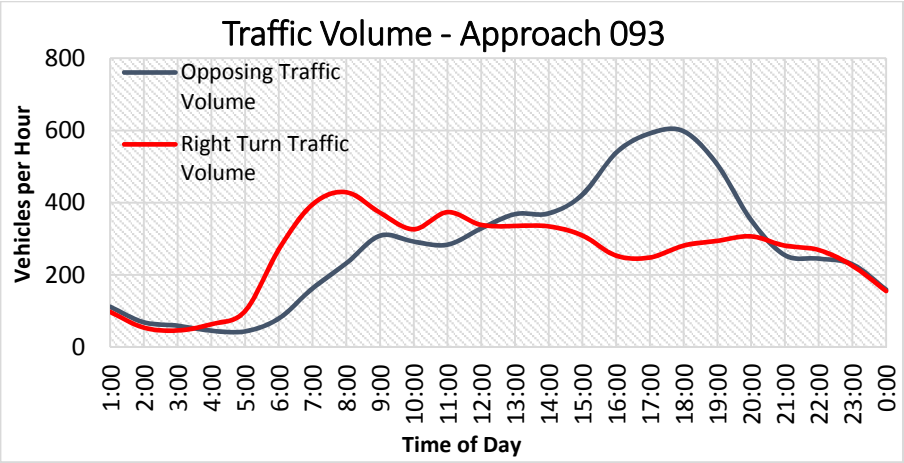
22:00
23:00
0:00
Time of Day

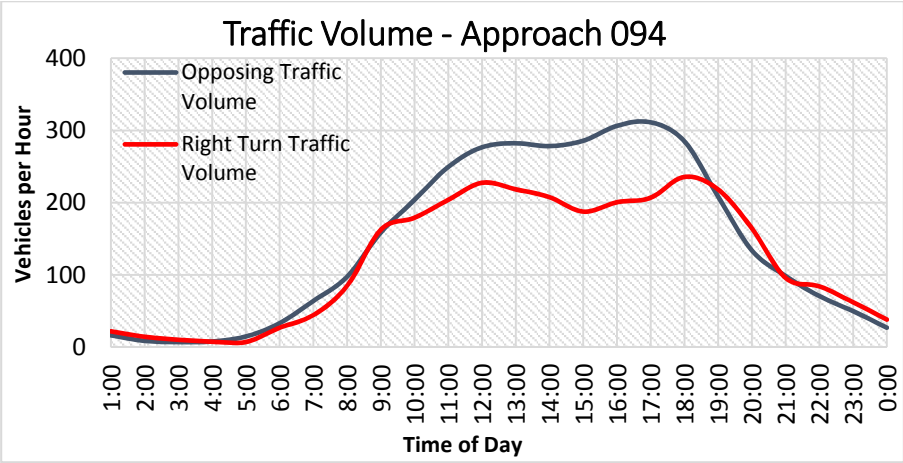

Traffic Volume - Approach 089
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
800
600
400
200
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

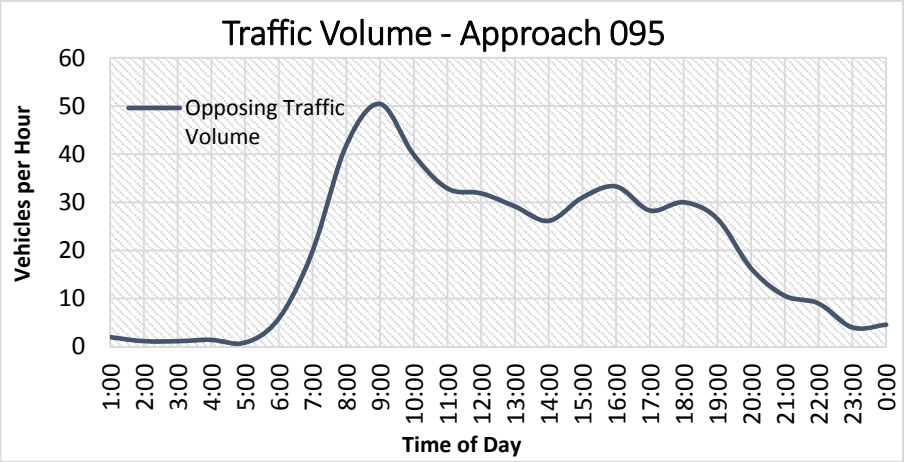

Traffic Volume - Approach 090
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

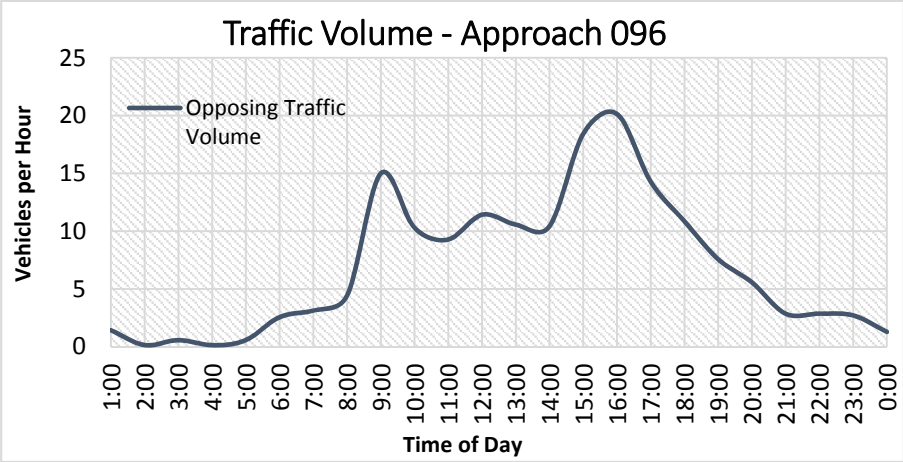

Traffic Volume - Approach 091
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
1000
800
600
400
200
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

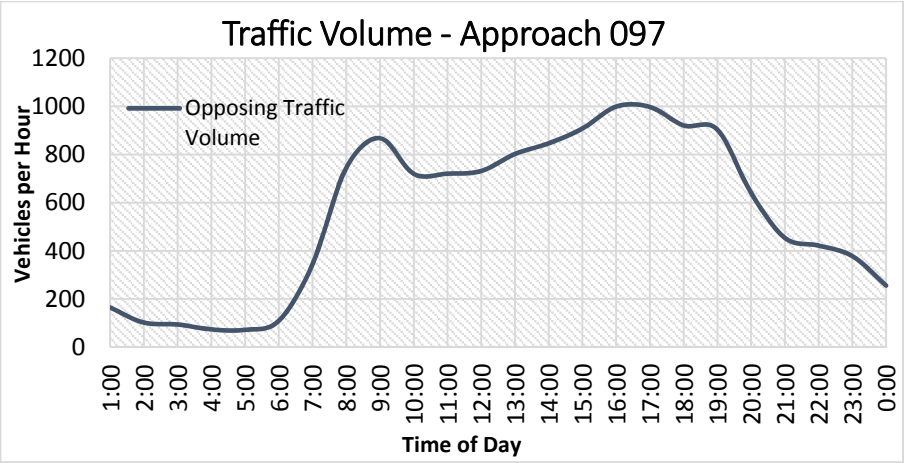

Traffic Volume - Approach 092
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

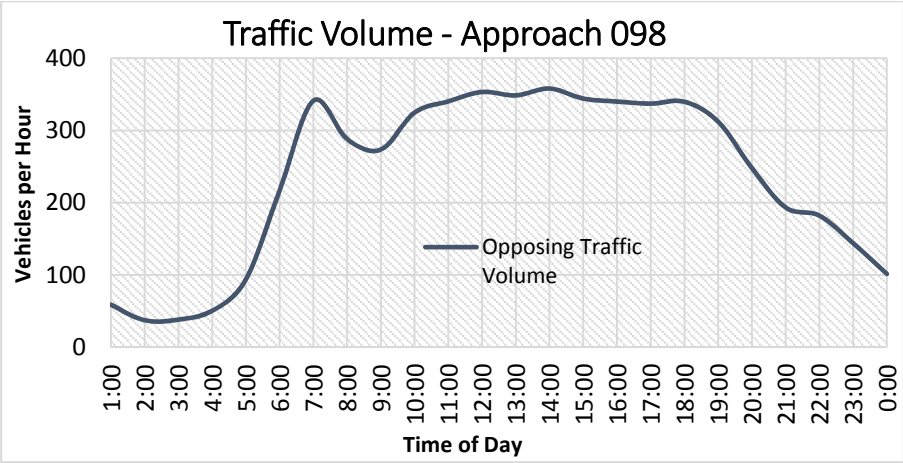

Traffic Volume - Approach 093
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
800
600
400
200
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

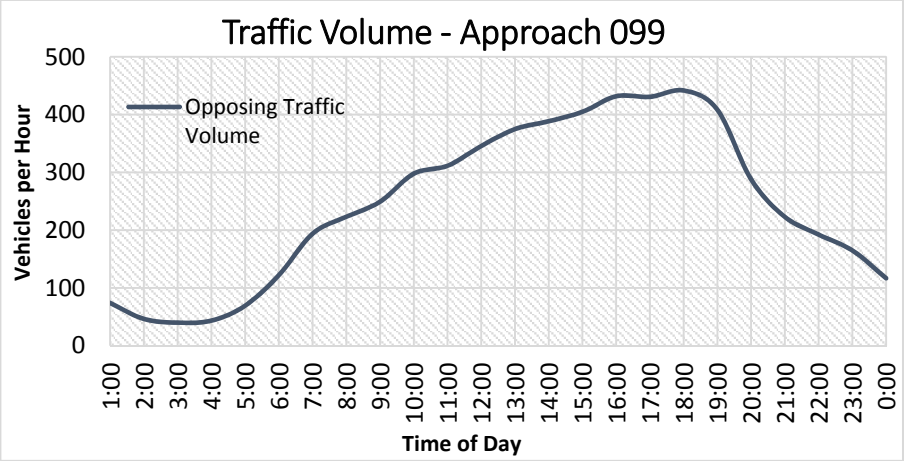

Traffic Volume - Approach 094
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

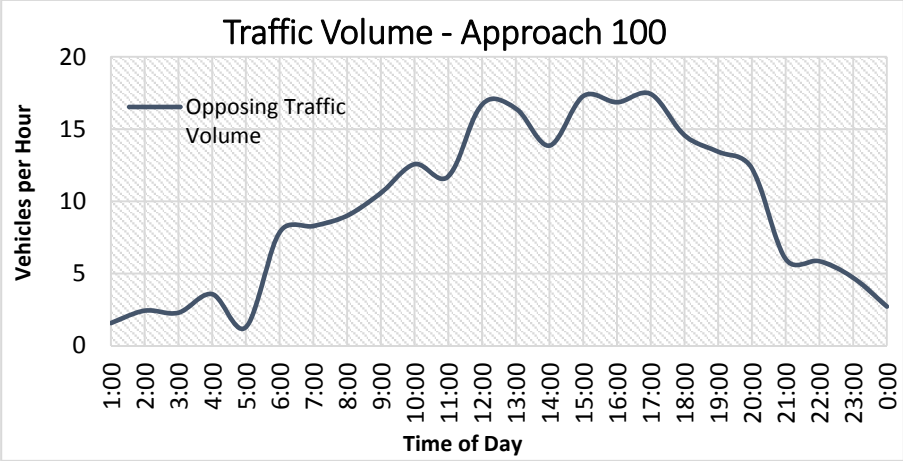

Traffic Volume - Approach 095
Opposing Traffic Volume
Vehicles per Hour
60
50
40
30
20
10
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

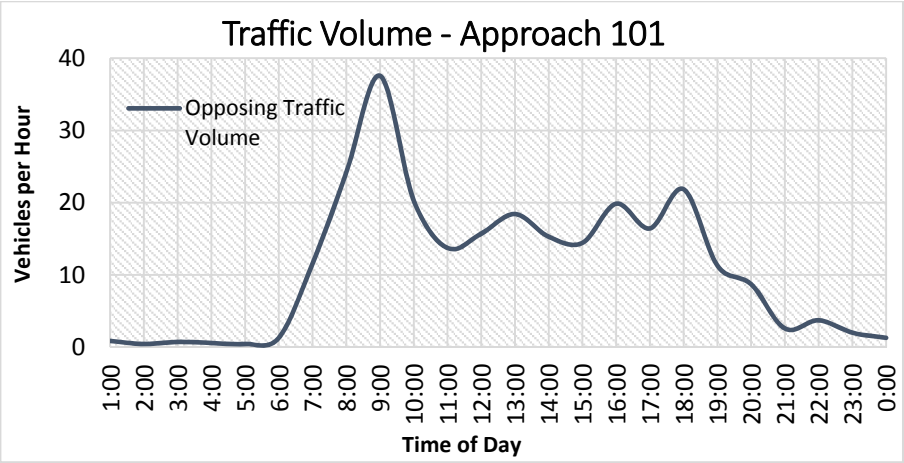

Traffic Volume - Approach 096
Opposing Traffic Volume
Vehicles per Hour
25
20
15
10
5
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

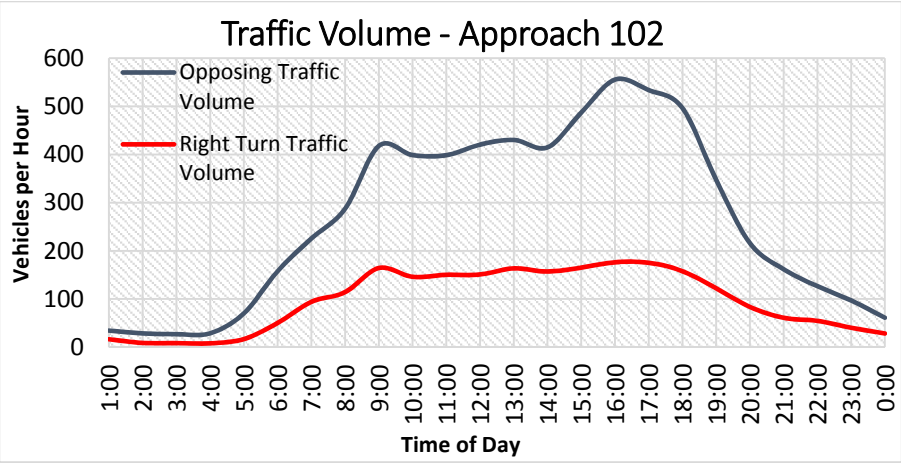

Traffic Volume - Approach 097
Vehicles per Hour
1200
1000
800
600
400
200
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

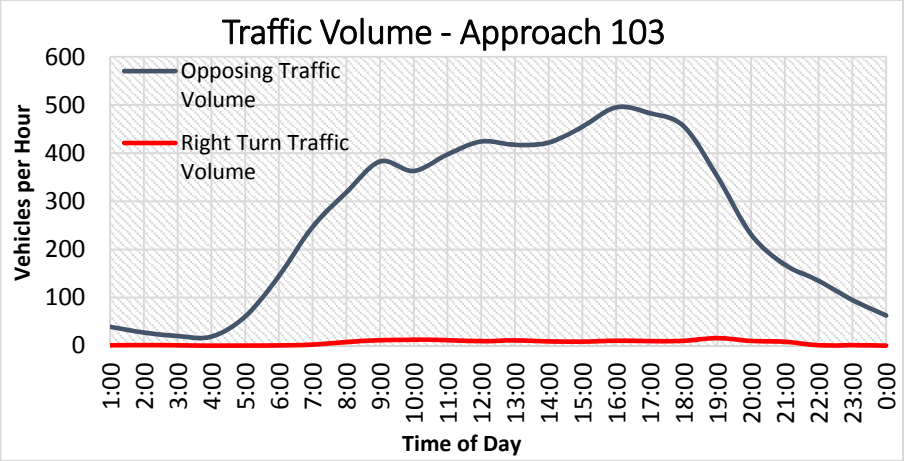

Traffic Volume - Approach 098
Vehicles per Hour
400
300
200
100
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

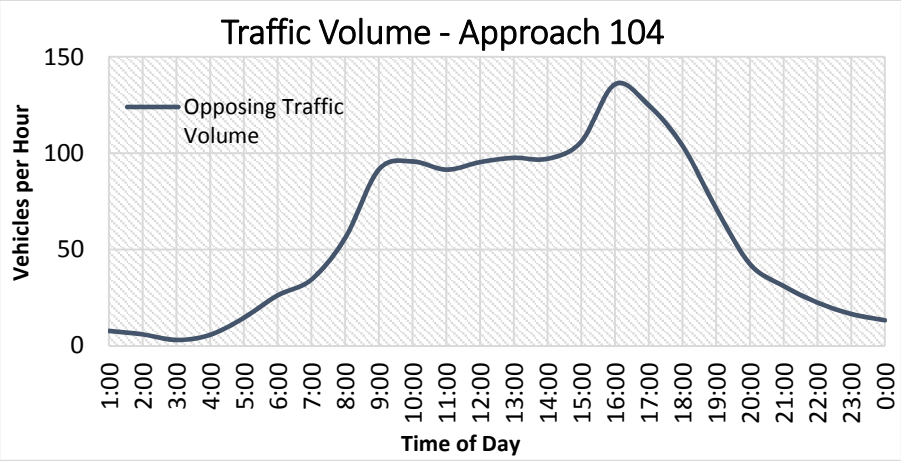

Traffic Volume - Approach 099
Vehicles per Hour
500
400
300
200
100
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

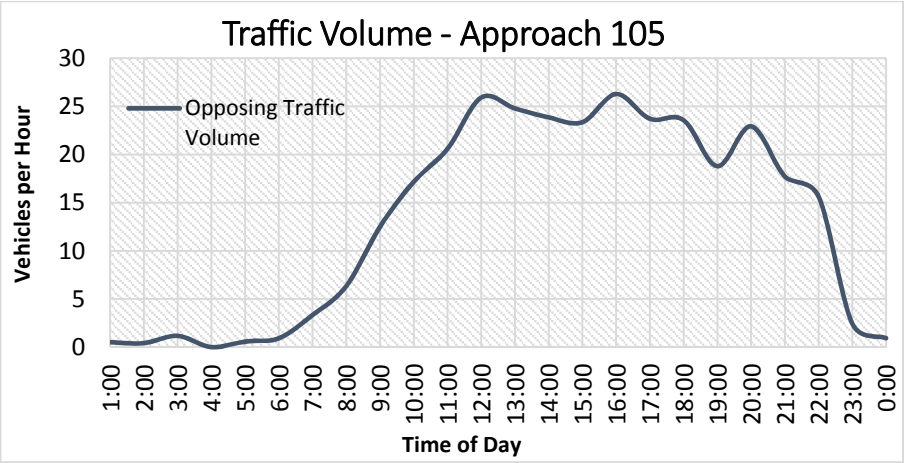

Traffic Volume - Approach 100
Vehicles per Hour
20
15
10
5
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

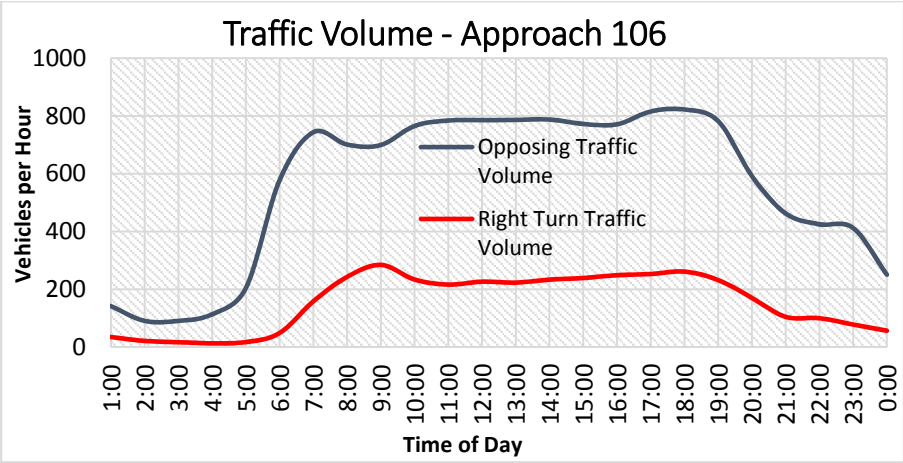

Traffic Volume - Approach 101
Vehicles per Hour
Opposing Traffic Volume
Time of Day

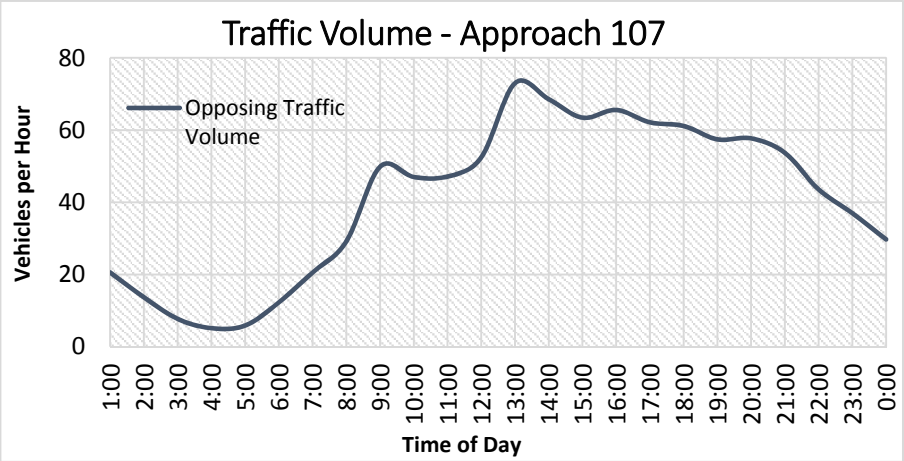

Traffic Volume - Approach 102
Vehicles per Hour
Opposing Traffic Volume
Right Turn Traffic Volume
Time of Day

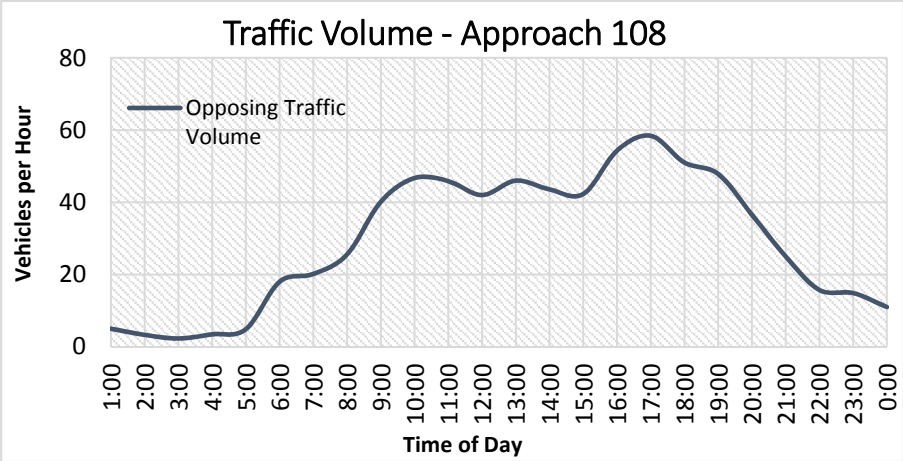

Traffic Volume - Approach 103
Vehicles per Hour
Opposing Traffic Volume
Right Turn Traffic Volume
Time of Day

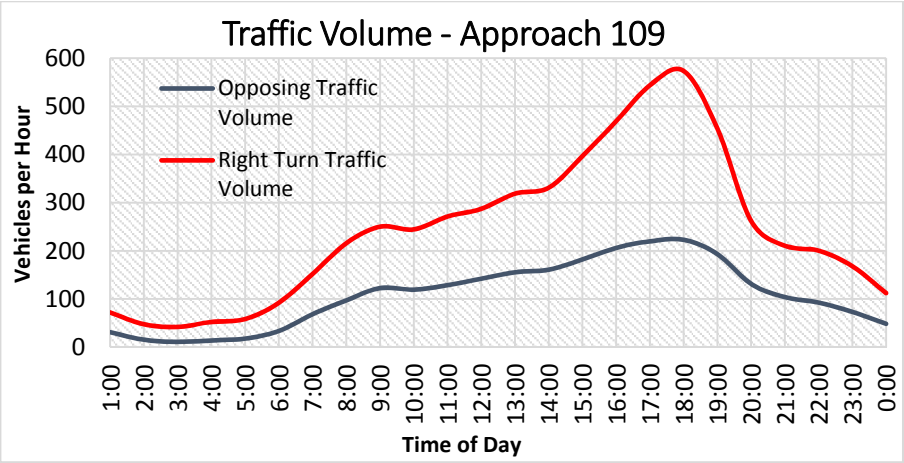

Traffic Volume - Approach 104
Vehicles per Hour
Opposing Traffic Volume
Time of Day

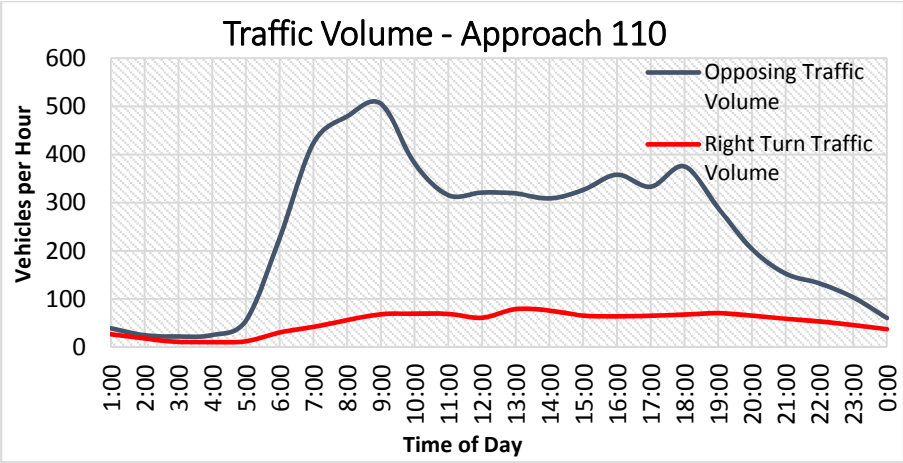

Traffic Volume - Approach 105
Vehicles per Hour
30
25
20
15
10
5
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

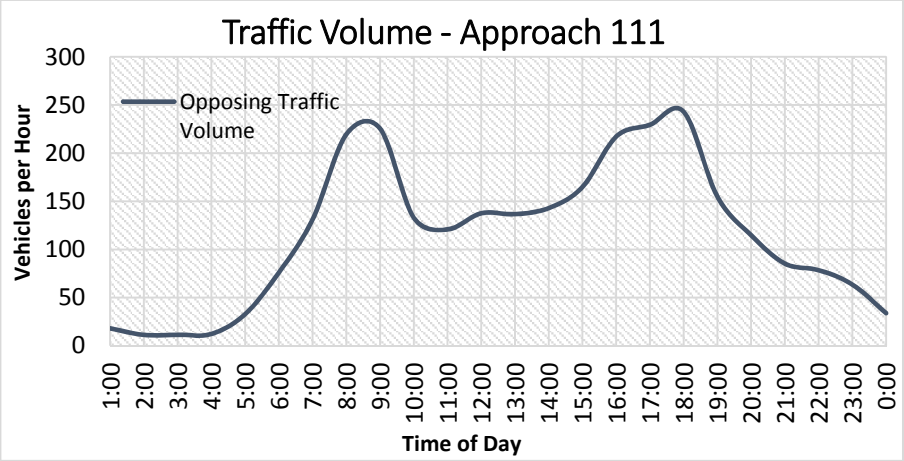

Traffic Volume - Approach 106
Vehicles per Hour
1000
800
600
400
200
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

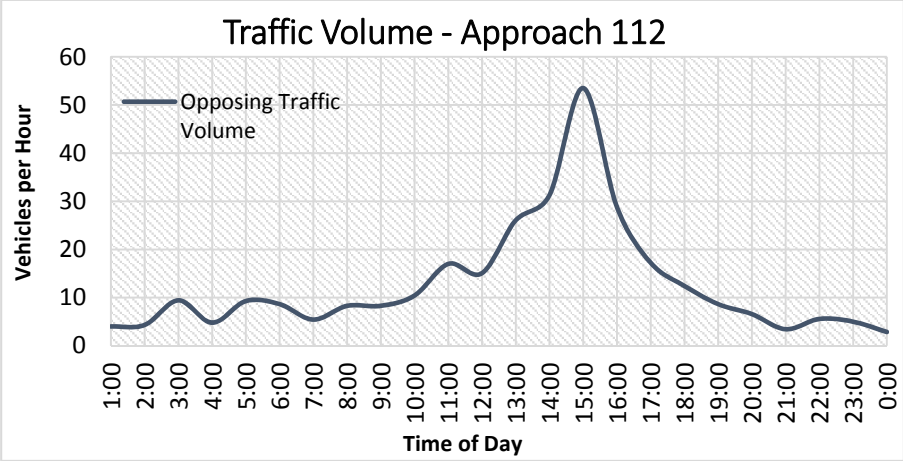

Traffic Volume - Approach 107
Vehicles per Hour
80
60
40
20
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

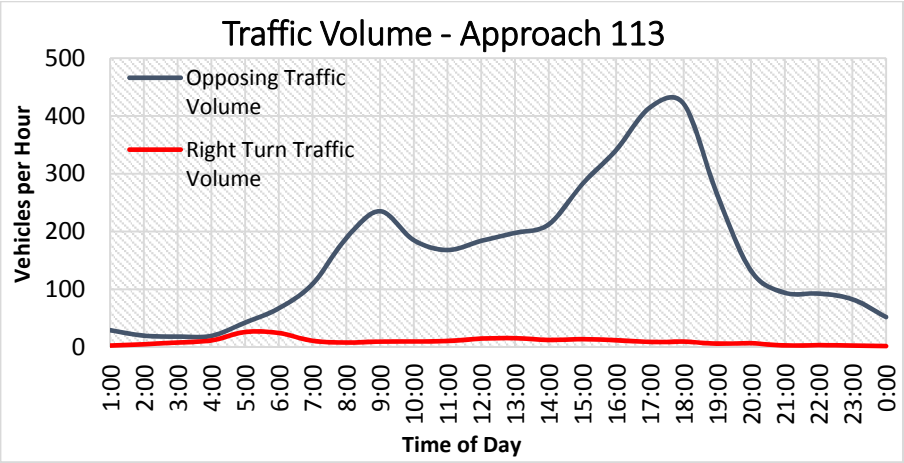

Traffic Volume - Approach 108
Vehicles per Hour
80
60
40
20
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day

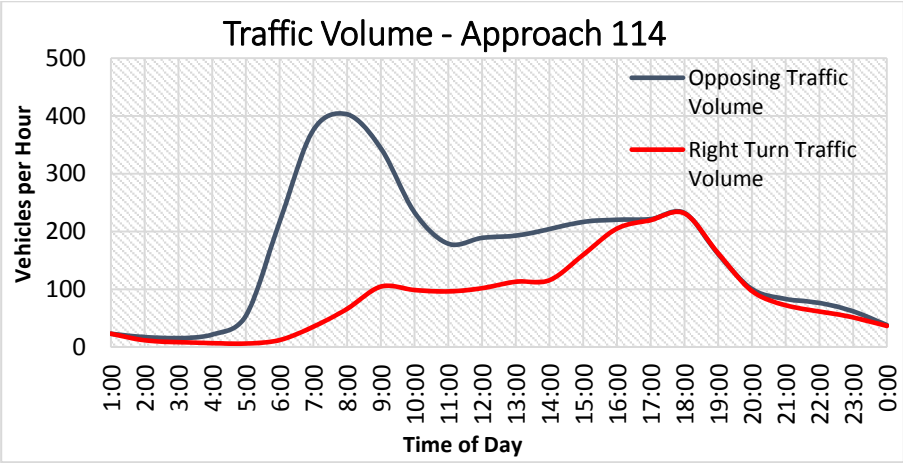

Traffic Volume - Approach 109
Vehicles per Hour
600
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

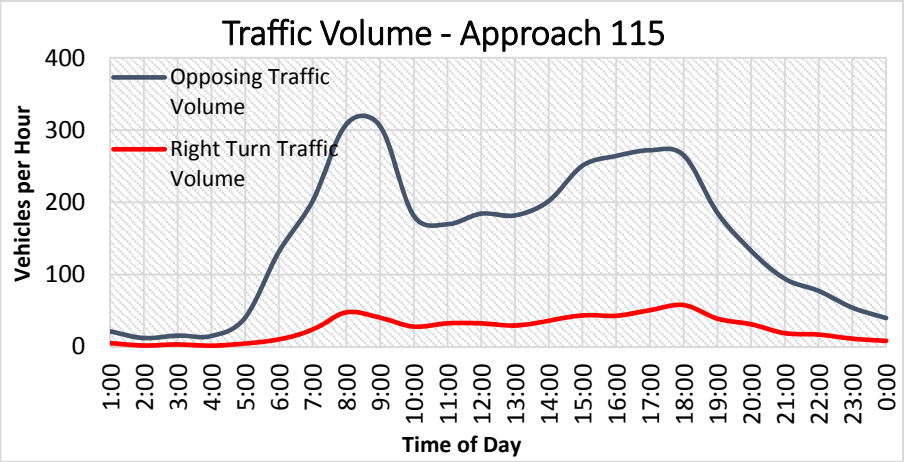

Traffic Volume - Approach 110
Vehicles per Hour
600
500
400
300
200
100
0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

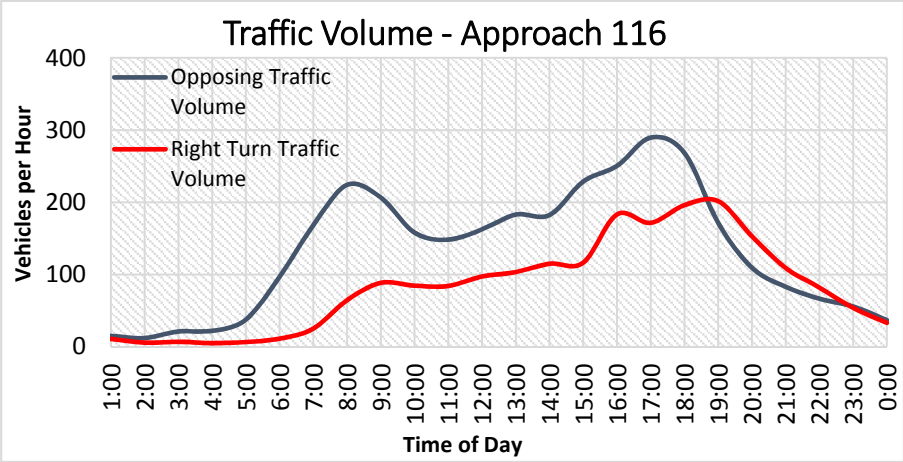

Traffic Volume - Approach 111
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

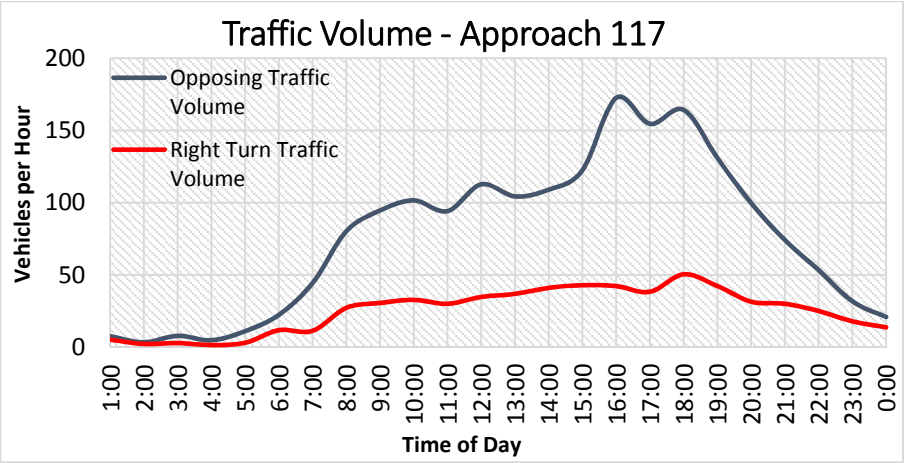

Traffic Volume - Approach 112
Vehicles per Hour
60
50
40
30
20
10
0
Opposing Traffic Volume
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

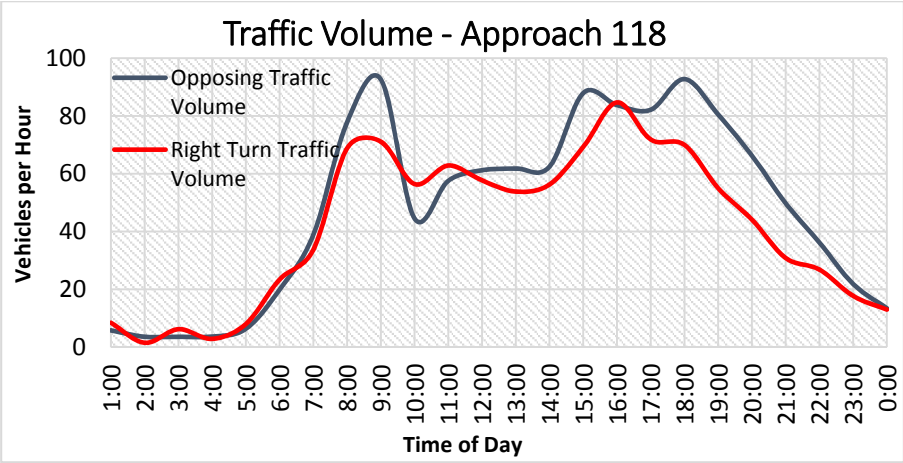

Traffic Volume - Approach 113
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

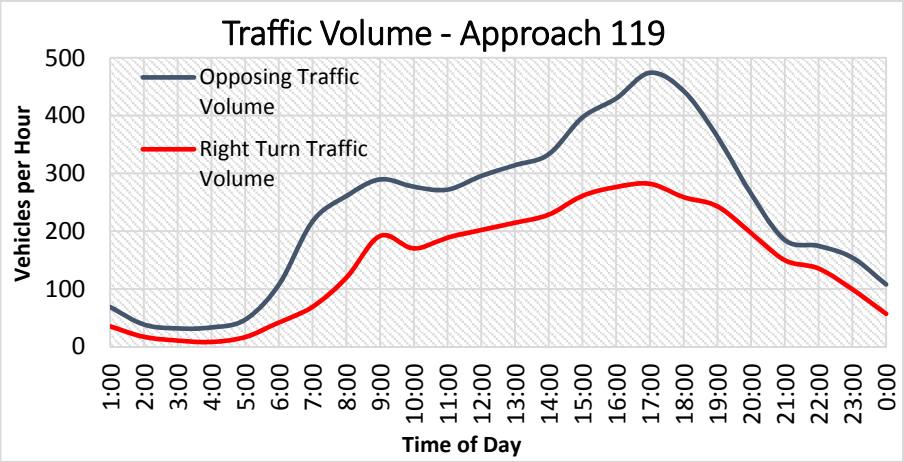

Traffic Volume - Approach 114
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

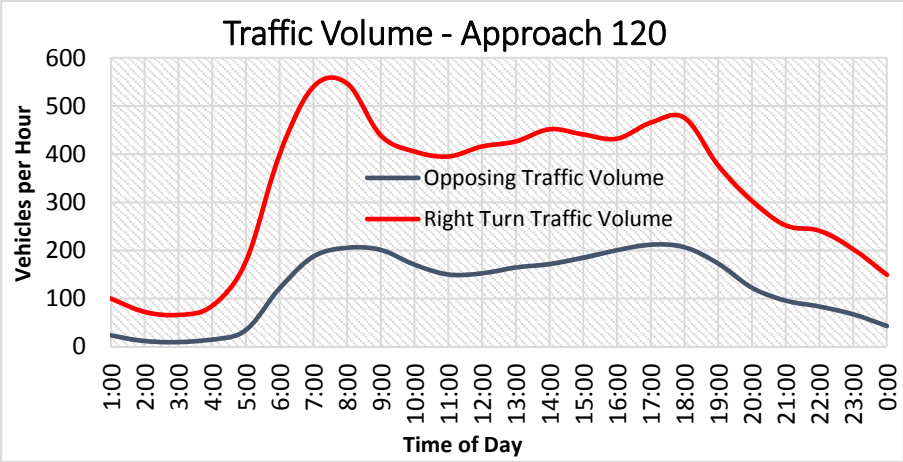

Traffic Volume - Approach 115
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

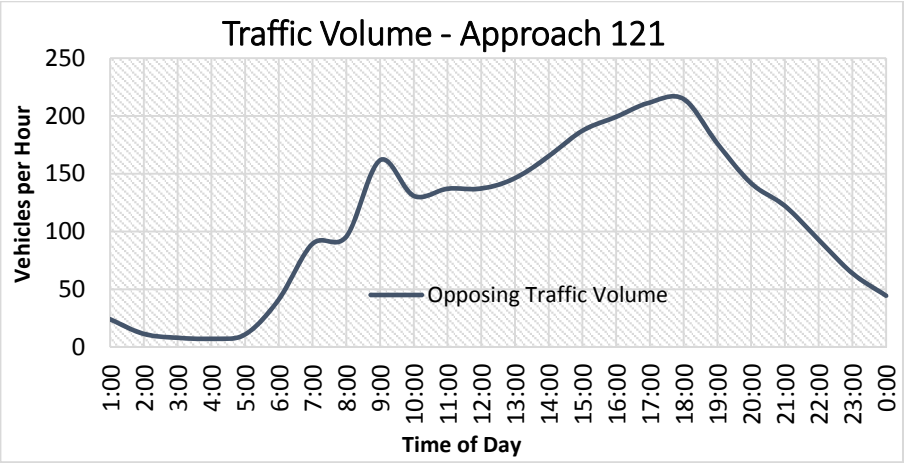

Traffic Volume - Approach 116
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

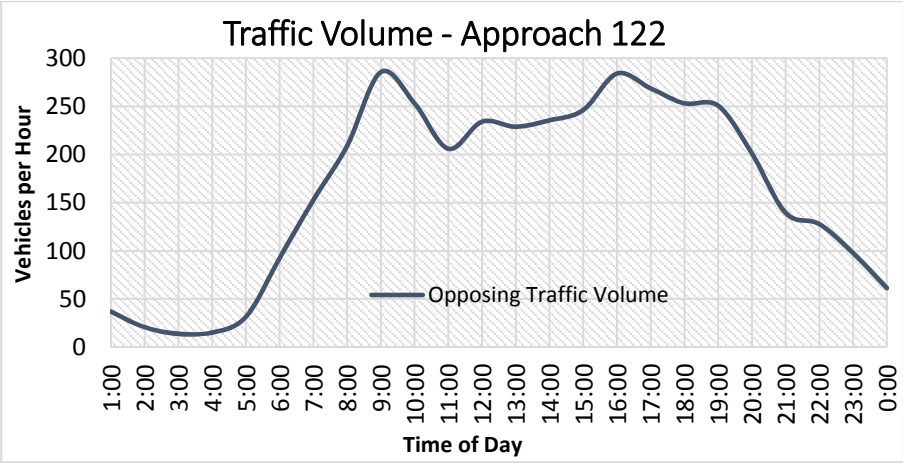

Traffic Volume - Approach 117
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
200
150
100
50
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day

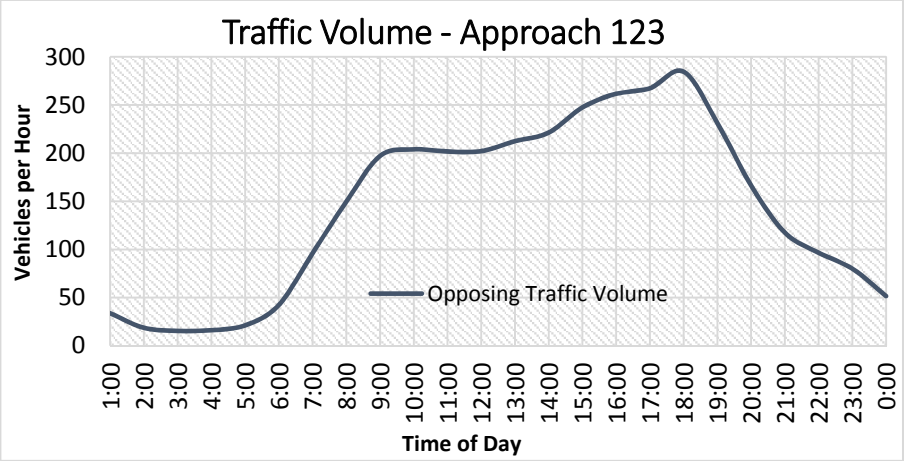

Traffic Volume - Approach 118
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
100
80
60
40
20
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 119
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 120
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
600
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 121
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 122
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 123
Vehicles per Hour
300
250
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
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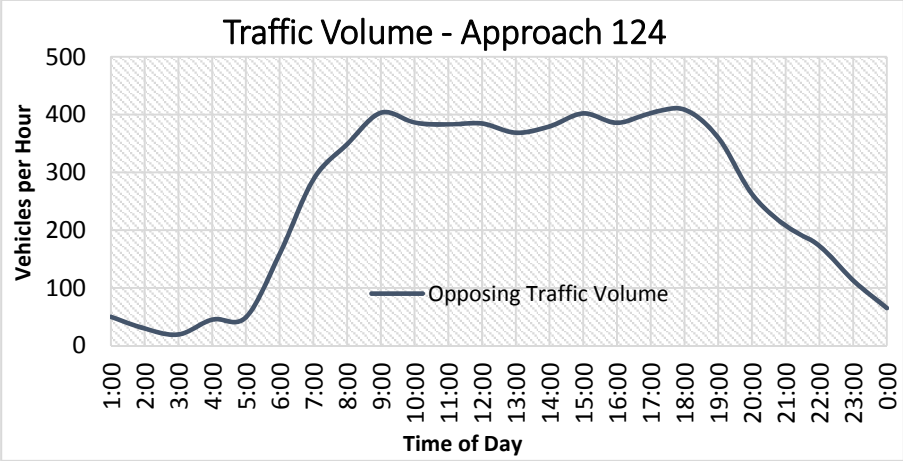
23:00
0:00
Time of Day


Traffic Volume - Approach 124
Vehicles per Hour
500
400
300
200
100
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
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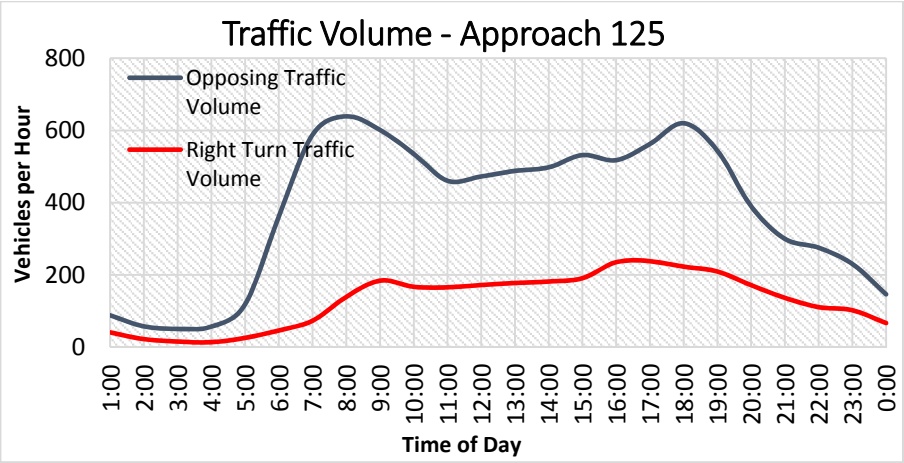
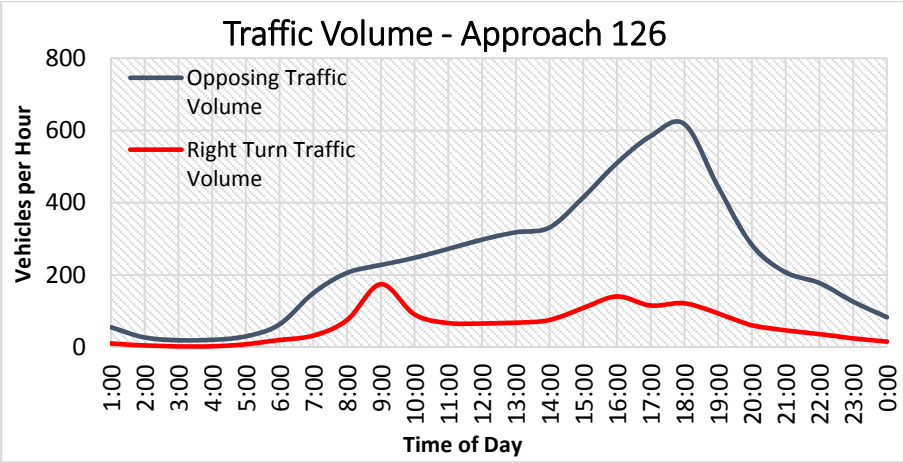
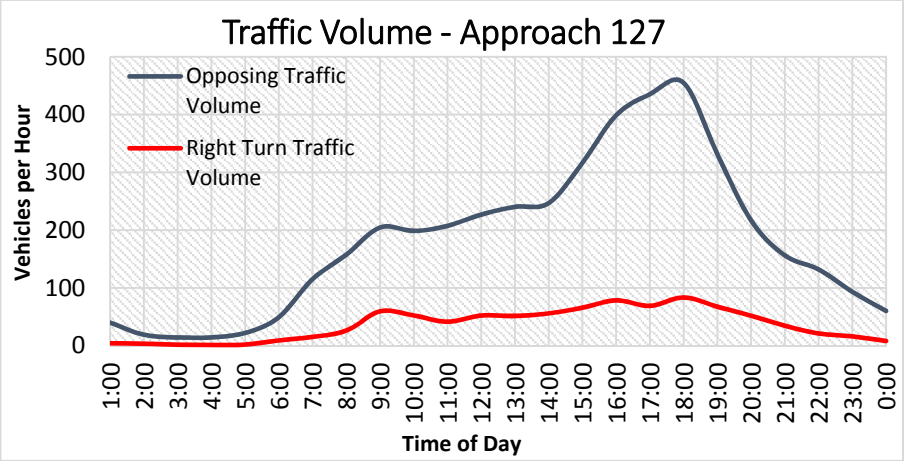
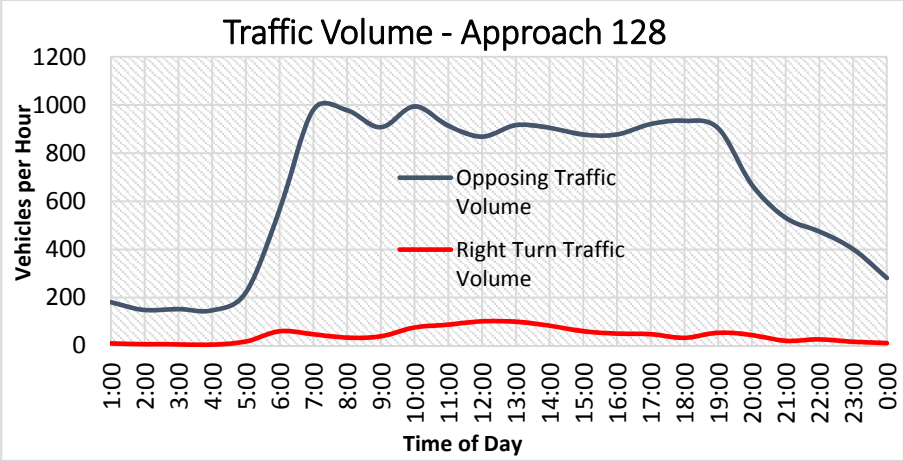
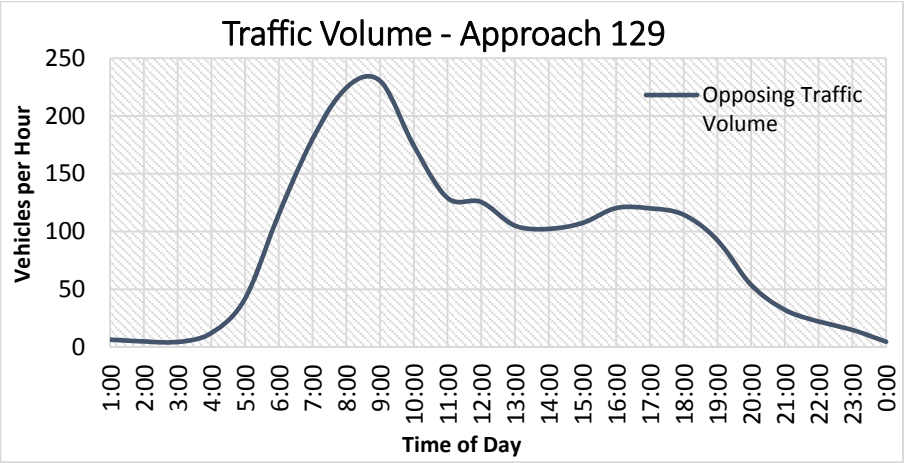
20:00
21:00
22:00
23:00
0:00
Time of Day


Traffic Volume - Approach 125
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
800
600
400
200
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 126
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
800
600
400
200
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 127
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
500
400
300
200
100
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 128
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
1200
1000
800
600
400
200
0
1:00 2:00 3:00 4:00 5:00 6:00 7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 0:00
Time of Day


Traffic Volume - Approach 129
Vehicles per Hour
250
200
150
100
50
0
Opposing Traffic Volume
1:00
2:00
3:00
4:00
5:00
6:00
7:00
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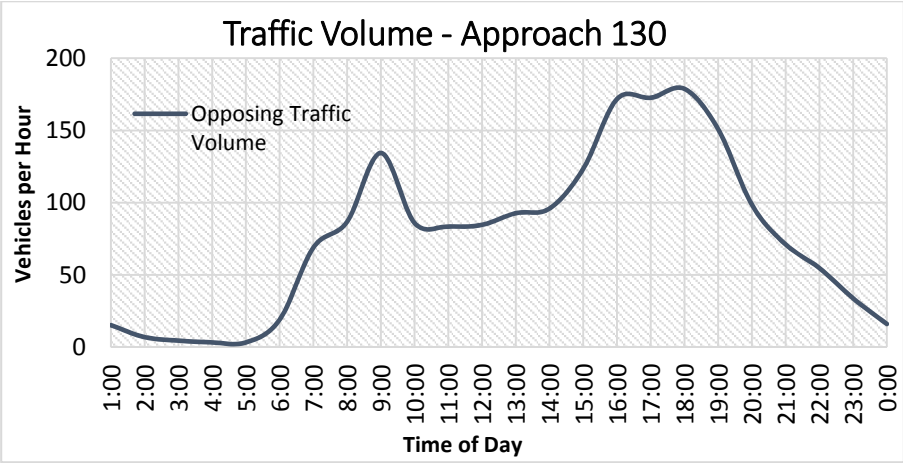
0:00
Time of Day


Traffic Volume - Approach 130
Vehicles per Hour
200
150
100
50
0
Opposing Traffic Volume
1:00
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6:00
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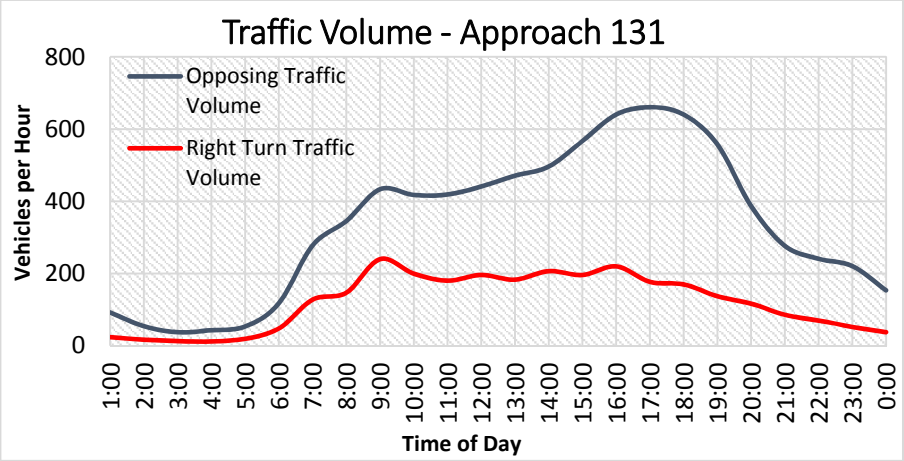
Time of Day


Traffic Volume - Approach 131
Vehicles per Hour
800
600
400
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0
Opposing Traffic Volume
Right Turn Traffic Volume
1:00
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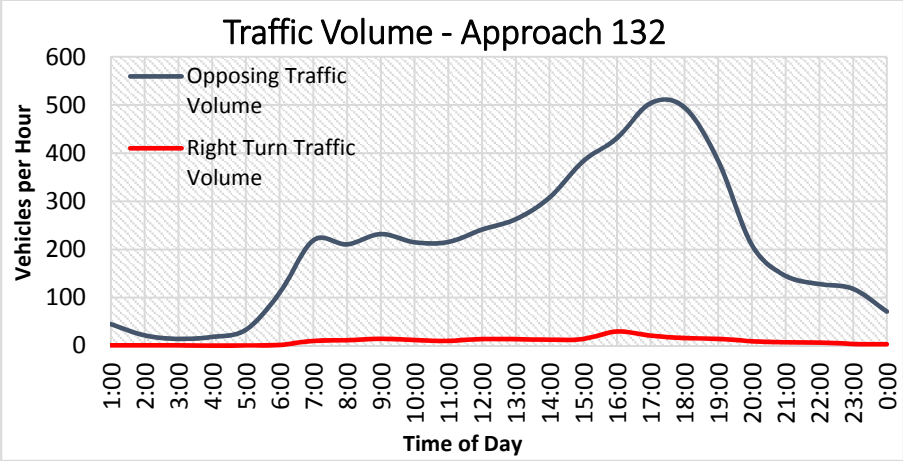
Time of Day


Traffic Volume - Approach 132
Vehicles per Hour
600
500
400
300
200
100
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Opposing Traffic Volume
Right Turn Traffic Volume
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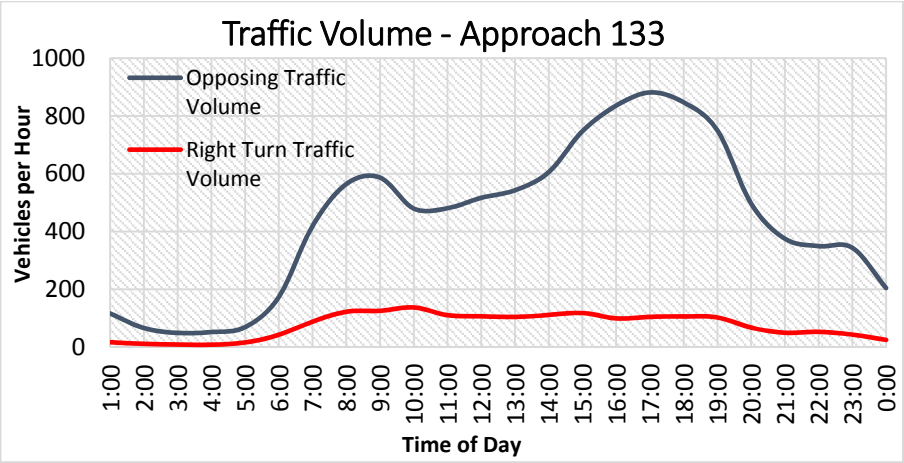
Time of Day


Traffic Volume - Approach 133
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
1000
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1:00
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4:00
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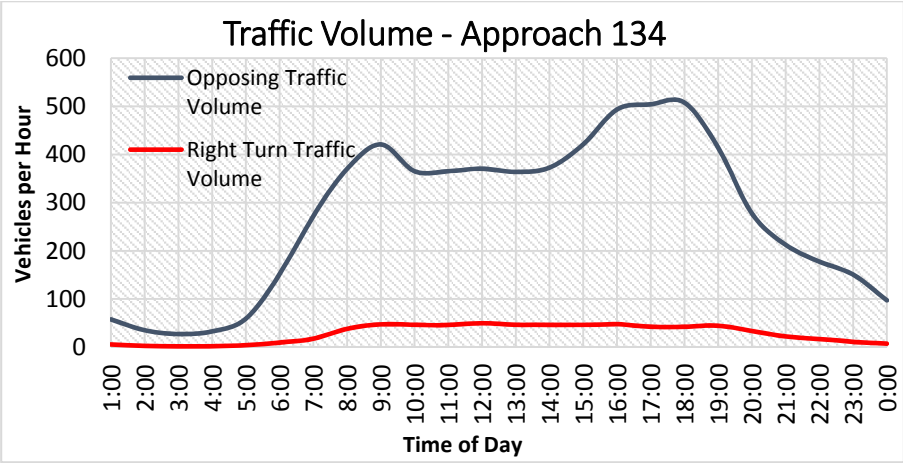
Time of Day


Traffic Volume - Approach 134
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
600
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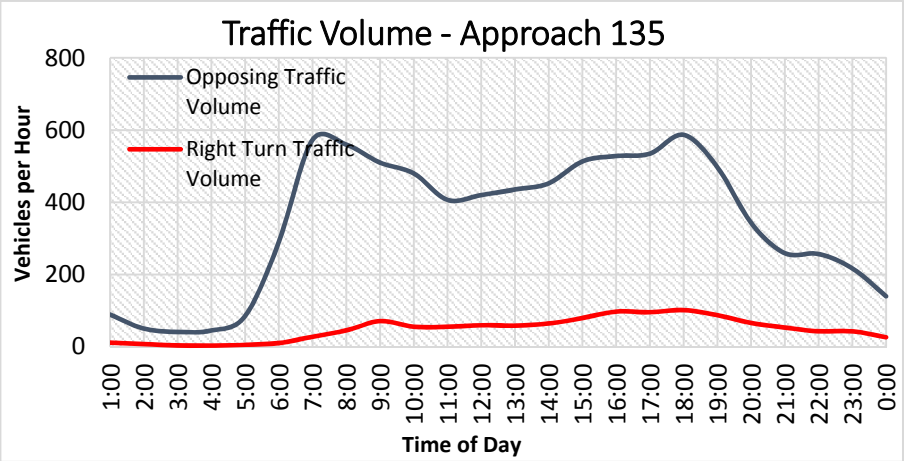
Time of Day


Traffic Volume - Approach 135
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
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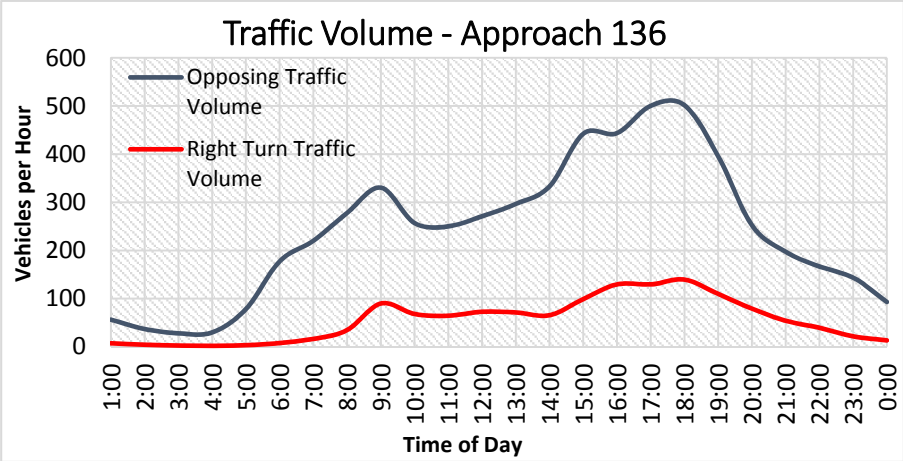
Time of Day


Traffic Volume - Approach 136
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
600
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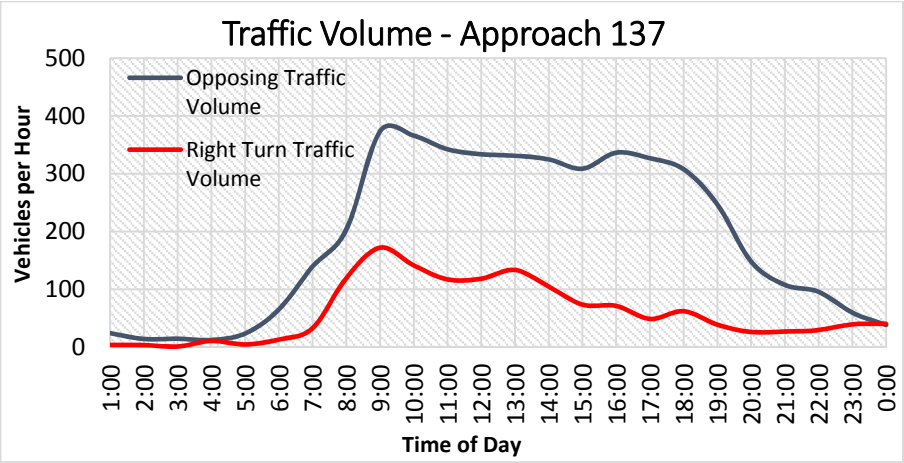
Time of Day


Traffic Volume - Approach 137
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
0
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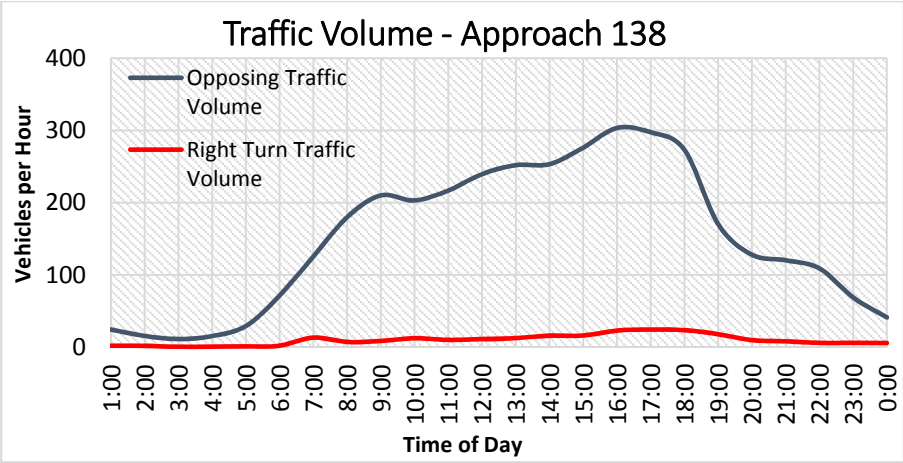
Time of Day


Traffic Volume - Approach 138
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
0
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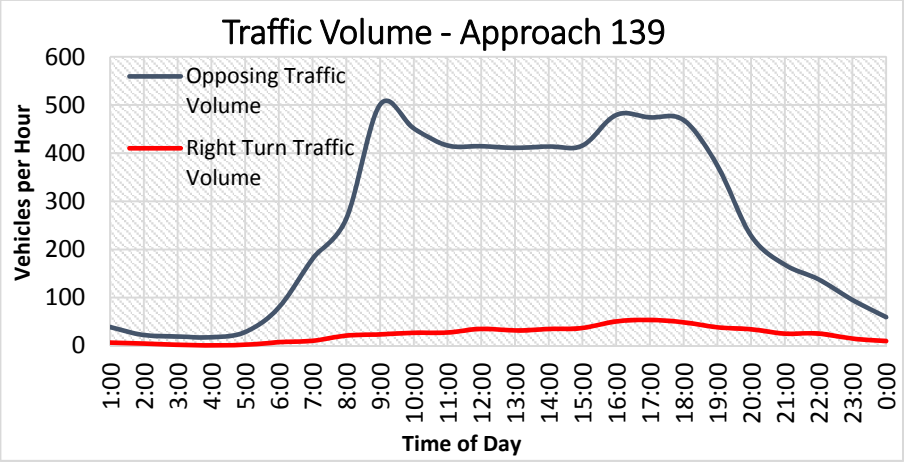
Time of Day


Traffic Volume - Approach 139
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
0
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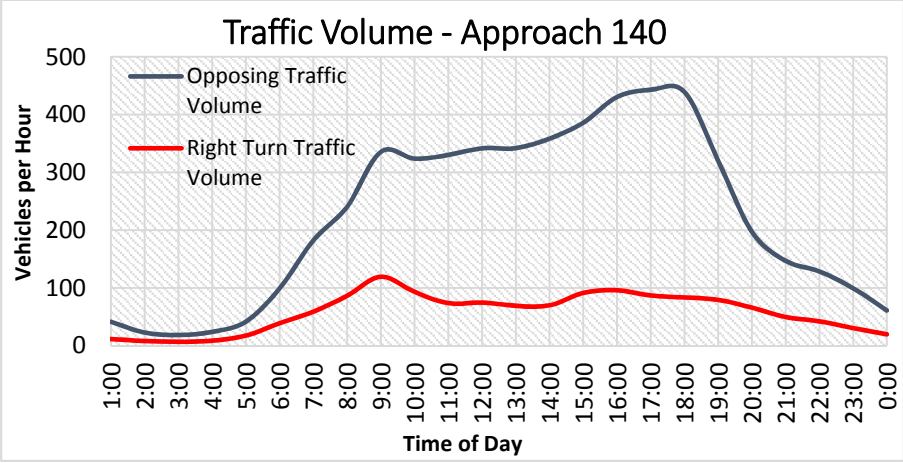
Time of Day


Traffic Volume - Approach 140
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
0
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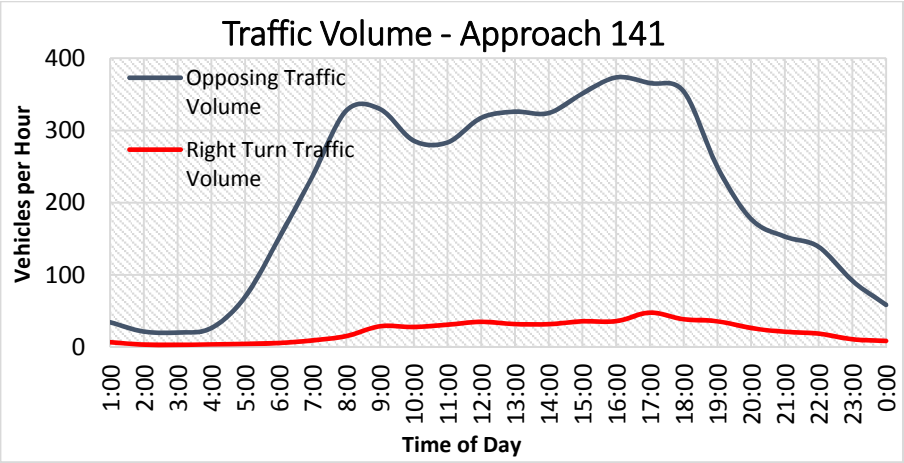
Time of Day


Traffic Volume - Approach 141
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
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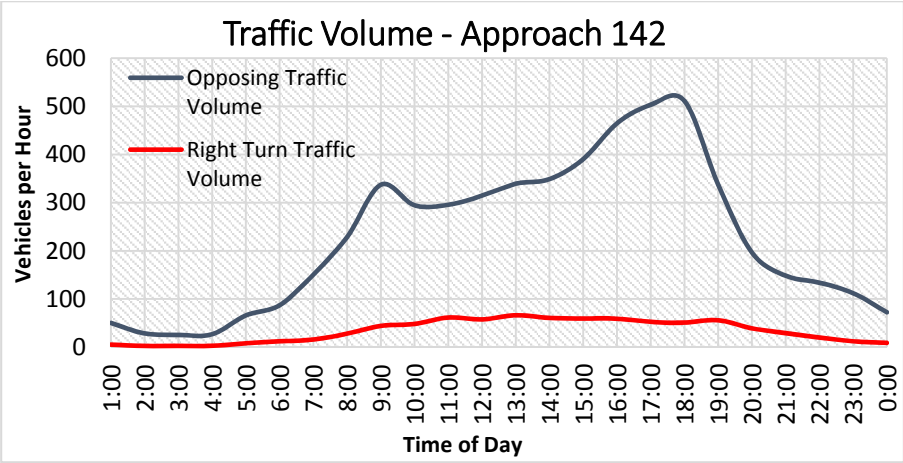
Time of Day


Traffic Volume - Approach 142
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
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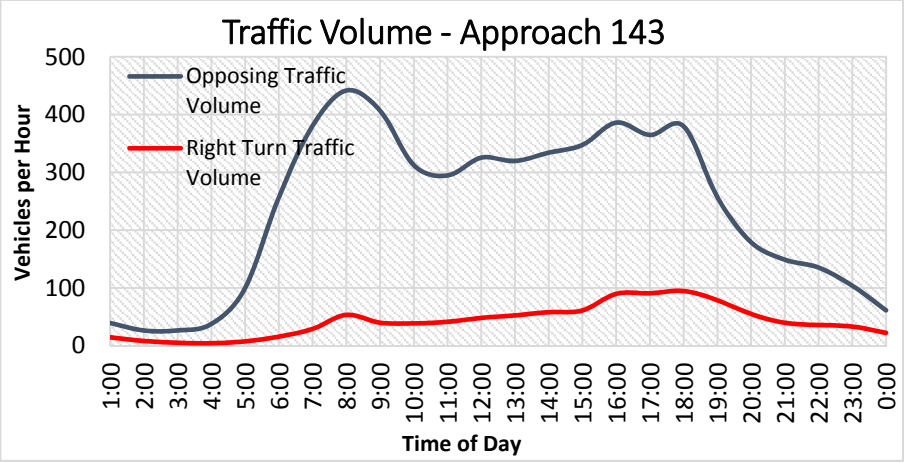
Time of Day


Traffic Volume - Approach 143
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
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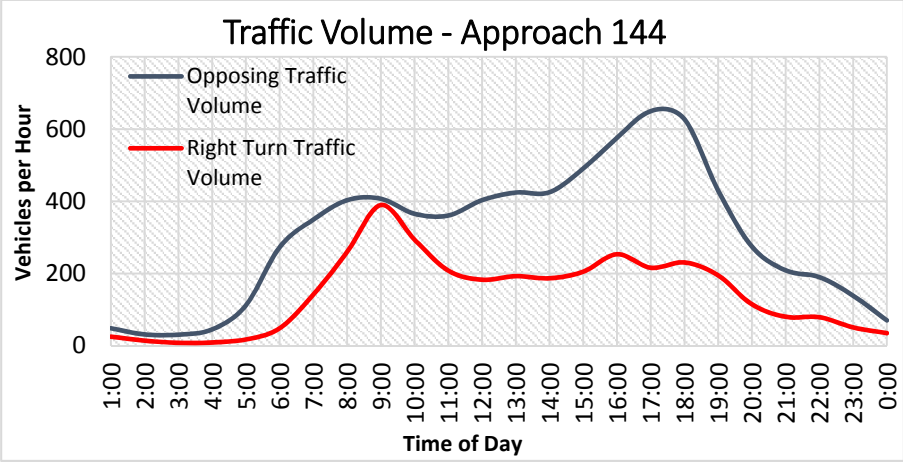
Time of Day


Traffic Volume - Approach 144
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
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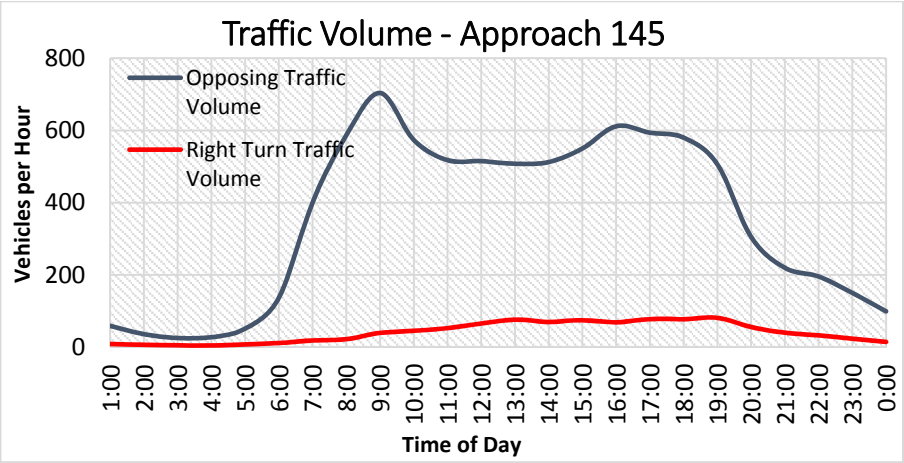
Time of Day


Traffic Volume - Approach 145
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
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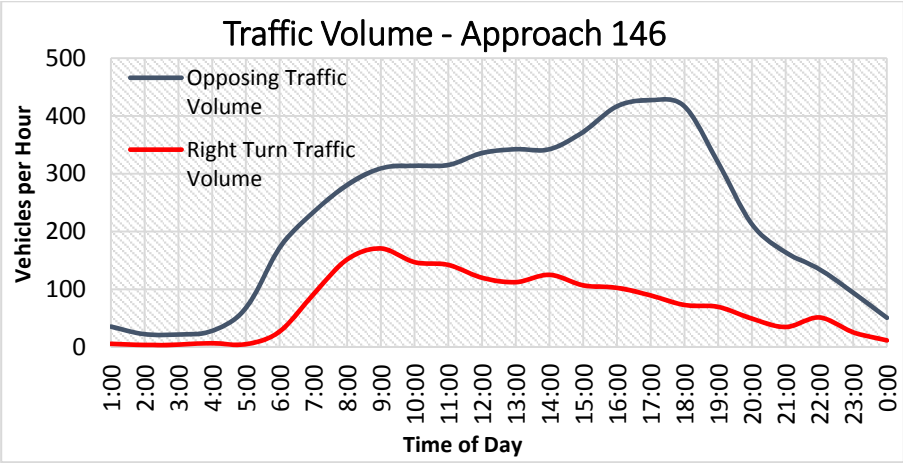
Time of Day


Traffic Volume - Approach 146
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
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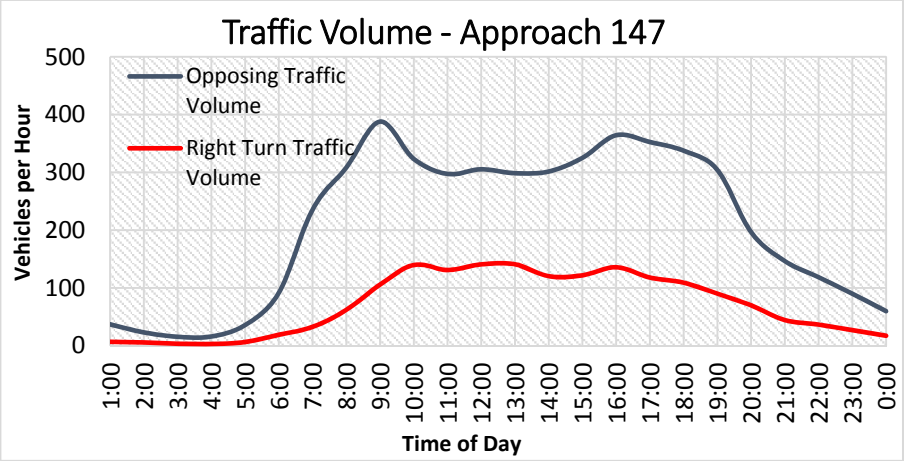
Time of Day


Traffic Volume - Approach 147
Opposing Traffic Volume
Right Turn Traffic Volume
Vehicles per Hour
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Time of Day