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REPORT TITLE

TRAFFIC IMPACT ASSESSMENT FOR THE BOTHAS HILL CONVENIENCE CENTRE

REPORT TYPE

TRAFFIC IMPACT ASSESSMENT

REVISION

0

DATE

13 JUNE 2021

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Document control		
Report title		**Traffic Impact Assessment for The Proposed Convenience Centre in Bothas Hill**
Project number		**10249/ Bothas Hill Convenience Centre**
Rev	**Date**	**Revision details**
0	13 June 2021	Final for submission
Current revision		**0**
Approval		
Approver Name		Faisal Barakzai
Title		BSc Eng (Civil), Pr Eng: 20190818
Signature		

VERIFICATION FOR A TRAFFIC IMPACT ASSESSMENT

Bothas Hill Convenience Centre Development

The undersigned has been appointed as the registered professional for this Traffic Impact Assessment and has applied due diligence to the content of this report and endeavoured to ensure that the TIA is free of techinical errors and takes full responsibility for its contents.

I also undertake to attend any forum where the TIA is in dispute to report on matters that relate to the TIA. I understand and agree that the municipality shall not be liable to compensate me in this regards.

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TRAFFIC IMPACT ASSESSMENT CHECKLIST

Before a full review is concluded, the report will be checked for completeness. If the report is missing any of the items listed below, it will be returned for revision without reviewing the document. If any content is not applicable this must be indicated (with reasons) such under the section/s of the report

ETA REF. No: Date of Application: **June 2021**

Development Address: **49 – 51 Old Main Road, Bothas Hill**

Development Description: **Convenience Centre Development**

Traffic Professional: **Emaan Traffic Engineers (Pty) Ltd**

Content	Yes	No	N/A	Comment
1. Traffic Impact Assessment Cover	✓			
2. Letter signed by ECSA registered professional	✓			
3. Development Particulars				
3.1 Development description and reference name	✓			
3.2 Location Plan	✓			
3.3 Land use right existing and applied, including type and extent of rights, list of land uses under proposed zoning including town planning controls	✓			
4. Study Area				
4.1 Study area plan or map indicated	✓			
5. Background Information				
5.1 Listed information – transport facilities and planning	✓			
5.2 Relevant information provided by municipalities e.g. Framework plans, road classification, traffic models, etc.	✓			
5.3 Schematic Diagrams	✓			
6. Site Investigation				
6.1 Documented and photographic record (e.g. road conditions, geometric, operations, transport facilities, etc)	✓			
7. Traffic Demand Estimation				
7.1 Carried out for worst case trip demand land use under proposed change in land use or extent as stipulated in the town planning application	✓			
7.2 Assessment years	✓			
7.3 Assessment hours	✓			
7.4 Traffic counts not more than 2 years old – Date and Time	✓			
7.5 Traffic growth rates	✓			
7.6 Trip generation rates	✓			
7.7 Modal split	✓			
8. Trip Distribution and Traffic Assignment				
8.1 Manual trip distribution and assignment	✓			
8.2 Simulation software used for trip distribution and assignment – Software files must be provided	✓			
8.3 Supporting information documented for traffic distribution and assignment	✓			

Content	Yes	No	N/A	Comment
8.4 Trip Distribution and Traffic Assignment Diagrams	✓			
9. Total Traffic Demand – All aspects including diagrams	✓			
10. Demand Side Mitigation	✓			
11. Proposed Improvements				
11.1 New roads or widening or intersection improvements – TRL drawing and fatal flaw implementation screening checklist	✓			
11.2 Traffic signals must meet ETA's Urban Traffic Control warrant and requirements. In addition, a roundabout assessment comparison must be carried out			✓	
11.3 Traffic Management Plans			✓	
12. Traffic Impact Assessment Scenarios				
12.1 Assessment based on worst case land use scenario			✓	
12.2 Design Year Horizon Assessment				
12.2.1 "Without" proposed mitigating measures (with and without development)	✓			
12.2.2 "With" proposed mitigating measures (with and without development)	✓			
12.3 Planning Year Horizon Assessment	✓			
12.3.1 With proposed mitigation measures	✓			
13. Site Impact Assessment (If applicable)	✓			
14. Transport Requirements and Cost				
14.1 Any change to transport master planning			✓	
14.2 Transport / Road services cost contribution			✓	
14.3 Improvement costs estimates or municipal tariff as applicable			✓	
14.4 Recommendations	✓			
14.5 Traffic Road Layout Plans	✓			
14.6 Eng. Drawing, Cost Estimates, Financial Guarantees, and Undertakings for new or existing road improvements	✓			
15. Recommendations				
15.1 The change in land use for which approval is required	✓			
15.2 Proposed type and location of all erf accesses	✓			
15.3 The improvements, changes and mitigation measures that are required, subject thereto that these improvements or measures may be amended in subsequent investigations.	✓			
15.4 Elements of the transport / road network master plan that should be implemented in support of the development.	✓			
15.5 Traffic management measures aimed at protecting residential or other sensitive areas.	✓			
16. Appendix				
16.1 Relevant Traffic Impact Assessment Correspondence. E.g. Traffic counts, Analysis Details, Maps, Plans, etc.	✓			

Date: **13 June 2021**

Signature

Name: **Faisal Barakzai**

Professional Registration Details:

Pr.Eng. 20190818

Table of Contents

Tables

Figures

1. Introduction

Emaan Traffic Engineers (Pty) Ltd was appointed to undertake a Traffic Impact Assessment (TIA) for the proposed Convenience Centre in Bothas Hill, eThekwini Municipality. Figure 1 below shows the Site Location.

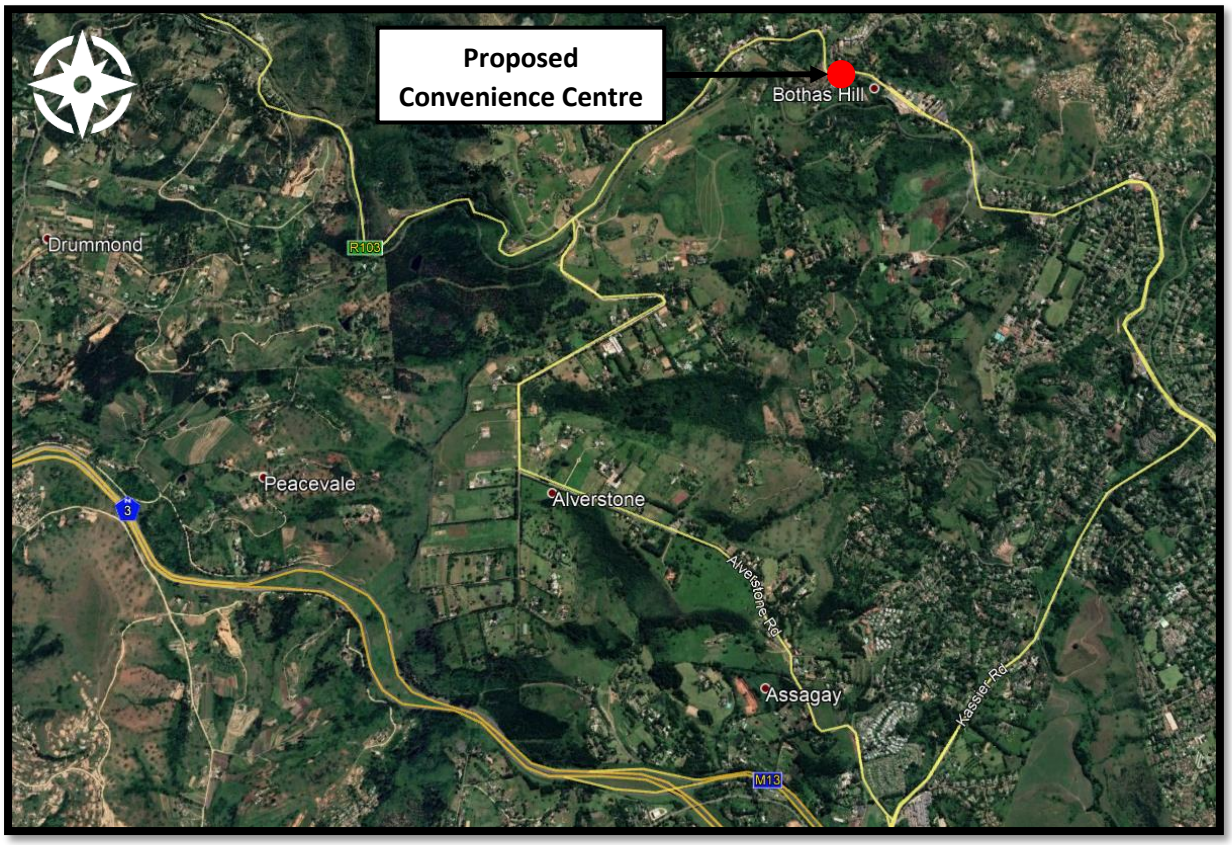


Figure 1: Site Location

2. Key Information

An overview of the key application details, site and development details is provided in Table 1 below.

Items	Details
Client Name	Brian Mthembu from Mondli Consulting
Current Zoning (Refer to Appendix B)	Activity Node
Application Type	Consolidation and Special Consent Application (Take away) of Erf 1/363 and R/363 Bothas Hill. (Activity Node has free entry use for a petrol filling station and shops, special content required for take away)
Site Address	49 – 51 Old Main Road, Bothas Hill
Site Area	11 104m^2 (after consolidation)
Intended Development	• Petrol Filling Station • Retail – 730m^2 GLA (Convenience Store 260m^2 + Shops 470m^2) • Fast Food Restaurant – 200m^2 GLA

Table 1: Overview of Site and Development Details

3. Study Area and Access Locations

The proposed development site is situated on Erf 1/363 and Erf R/363 in Bothas Hill, eThekwini Municipality. The site is located off Old Main Road opposite Rob Roy Crescent. The proposed development is surrounded by a mix of residential, retail and industrial land uses.

The site proposes to have a KZN DoT Type B3 single access on Old Main Road (Class 3) opposite Rob Roy Crescent, therefore forming the 4th leg to this intersection. (No access off a lower order/class available).

Old Main Road has a speed limit of 60km/h. The required shoulder sight distance for a 60km/h road for trucks with trailers is 230m as per UTG 5. This is achievable from proposed position of the site access as long as there are no obstructions to the in either direction of the access within the road reserve of Old Main Road.

The figure bellows shows the road reserve of Old Main Road and achievable sight distance within the road reserve.

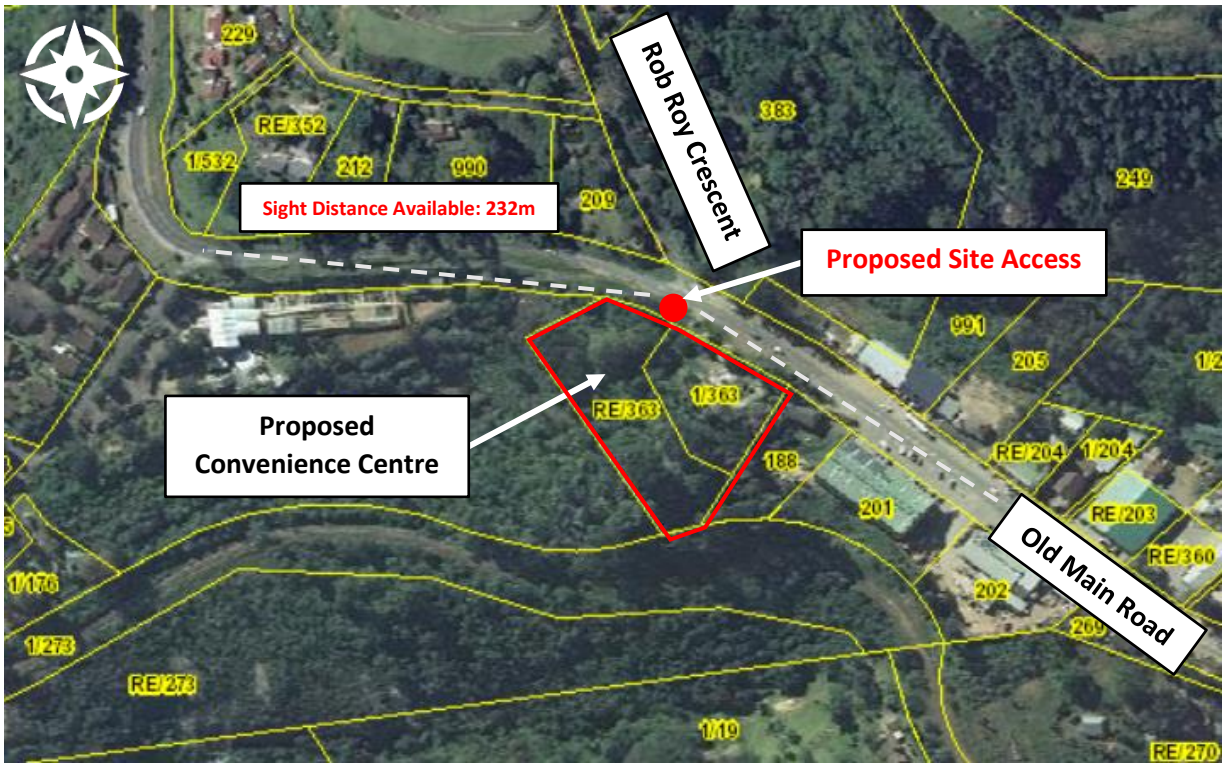


Figure 2: Locality Plan

4. Road Network

4.1 Old Main Road (R103)

Road Element	Description
Road Width	8.0m
Number of lanes	2
Jurisdiction	KwaZulu Natal Department of Transport
Class	3
Sidewalks	No
Speed Limit	60km/h
Location Category	Urban
Traffic Calming Measures	None
Required Shoulder Sight Distance	230m for trucks with trailers
Available Shoulder Sight Distance	232m

4.2 Rob Roy Crescent

Road Element	Description
Road Width	4.0m
Number of lanes	2
Jurisdiction	eThekwini Municipality
Class	5
Sidewalks	No
Speed Limit	40km/h
Location Category	Urban
Traffic Calming Measures	None

4.3 Benares Road

Road Element	Description
Road Width	4.0m
Number of lanes	2
Jurisdiction	eThekwini Municipality
Class	5
Sidewalks	No
Speed Limit	40km/h
Location Category	Urban
Traffic Calming Measures	None

5. Background Information

5.1 Existing Pedestrians and Public Transport

During the site visit some pedestrian activity was observed along Old Main Road in the vicinity of the proposed development.

Old Main Road is a minibus taxi route and there is an existing public transport layby along Old Main Road, west of the proposed site access, in the immediate vicinity of the proposed development.

5.2 Existing Road Safety

Sight distance conditions along all the roads in the vicinity of the proposed development are acceptable.

Traffic generally travels at acceptable speeds on the surrounding road network in the vicinity of the proposed development due to shorter lane widths and speed humps.

6. Existing Traffic Conditions

6.1 Traffic Counts

The existing traffic volumes on the surrounding road network immediately surrounding the site were obtained from classified traffic counts undertaken by Bala Survey and Research at the following intersections on Friday afternoon, 14 May 2021 and Saturday morning, 15 May 2021:

- Old Main Road / Rob Roy Crescent
- Old Main Road / Benares Road

The traffic counts were undertaken from 12:00 to 18:00 on Friday afternoon and from 08:00 to 14:00 on Saturday morning, recording all movements by vehicle type. An analysis of the traffic counts revealed that the Saturday AM peak hour on this road network occurred from 09:45 to 10:45 and the Friday PM peak hour occurred from 15:45 to 16:45, both of which are typical peak commuter periods for a commuter Saturday morning and Friday afternoon in an urban area.

It is noted that a 15% increase in trips were applied to the base 2021 counts to account for the reduction in traffic due to the current Covid-19 pandemic.

The results and analysis of the traffic counts are contained in the Appendix C to this report. The increased 2021 Saturday AM and Friday PM peak hour traffic volumes on the surrounding road network are shown on Figure 3 below.

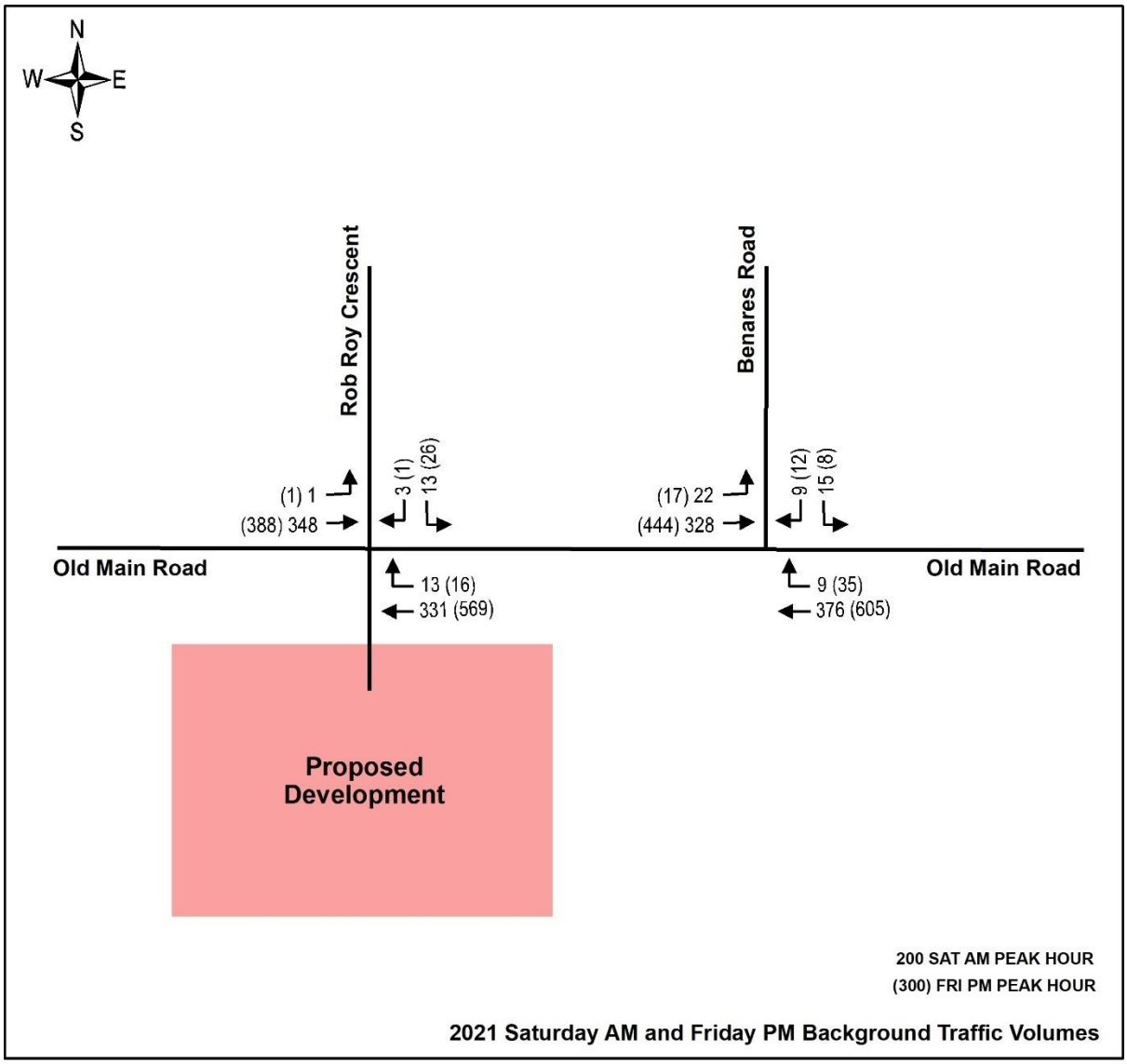


Figure 3: Existing Saturday AM and Friday PM Traffic Volumes

7. Planning Year Traffic Volumes

7.1 Assessment Years

The maximum potential trip generation of the proposed site during the peak periods will be less than 1 000 veh/h and therefore a design horizon year of 5 years (2026) needs to be assessed in terms of the eTA Manual for Traffic Impact Assessments and Site Traffic Assessments (July 2015).

7.2 Traffic Growth Rates

In order to assess the 5-year design horizon the existing background peak hour traffic needs to be factored up by a specified growth rate from 2021 to 2026. The Bothas Hill area has the potential to develop further, therefore increasing the traffic volumes in this area in the future.

Due to this a 2.5% per annum growth rate as indicated in the eTA Manual for Traffic Impact Assessments and Site Traffic Assessments (July 2015) is considered reasonable for the roads expected to be affected by the traffic generated by the proposed site.

The existing traffic volumes were thus factored up by a compound growth rate of 2.5% to a 2026 5-year design horizon. The 2026 5-year design horizon background traffic is shown below in Figure 4.

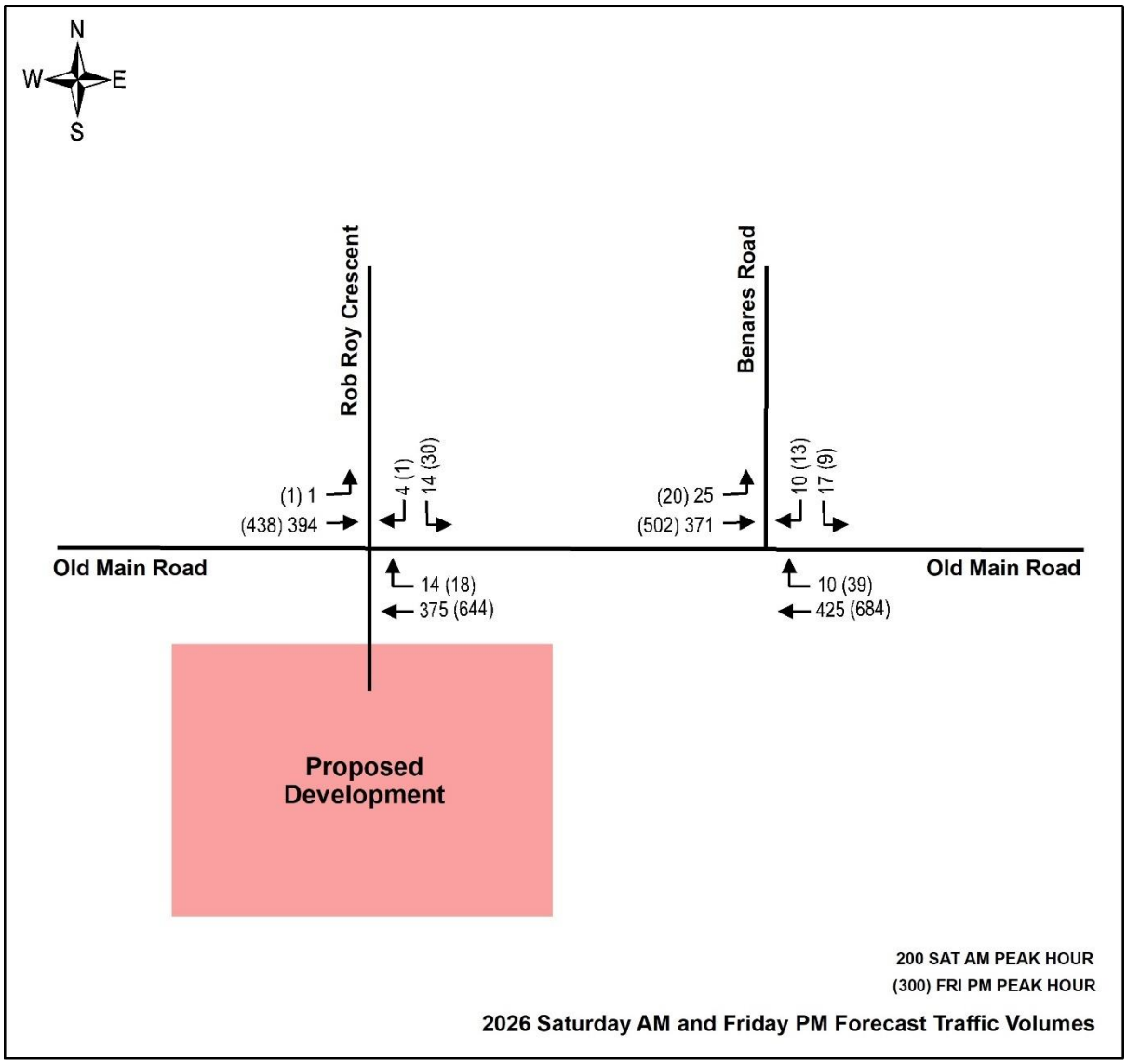


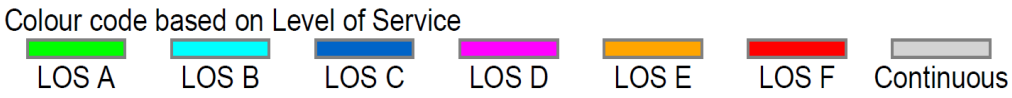
Figure 4: 2026 Background Traffic Volumes

7.3 Traffic Impact Analysis

The SIDRA computer software package was used to analyse the traffic conditions at the intersections within the study area. The underlying objective of intersection analysis is to quantify the performance of an intersection regarding specified traffic volumes and environmental conditions. This traffic operational performance can be measured in terms of 'Level of Service' (LOS).

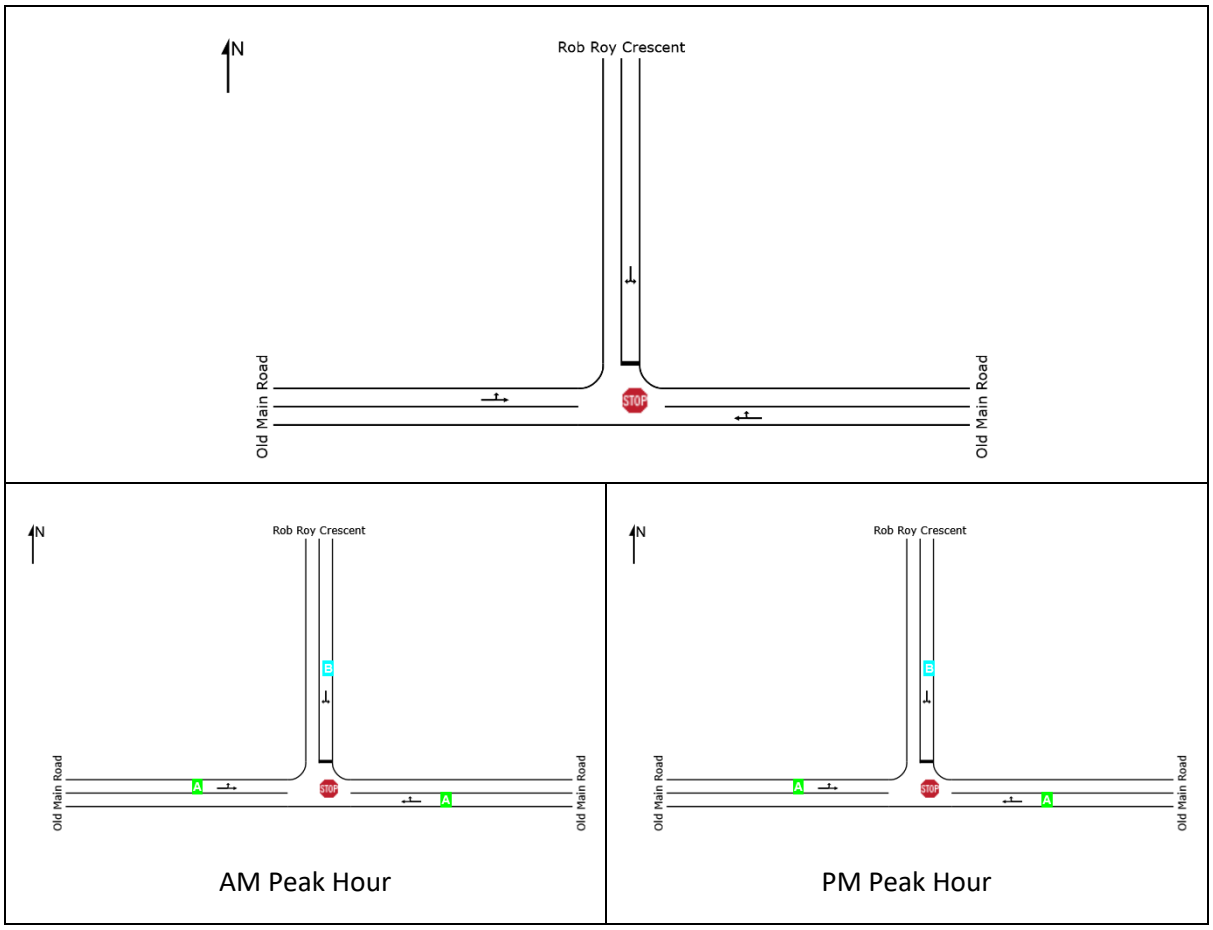
Six levels of service exist, ranging from A to F. LOS A represents the best operating conditions (free-flow conditions and no delay or congestion) whereas LOS F represents the worst, (breakdown conditions with congestion and very high delays). LOS D is deemed the minimum acceptable level of service.

The legend hereafter is used to depict the LOS of each movement at the intersections.



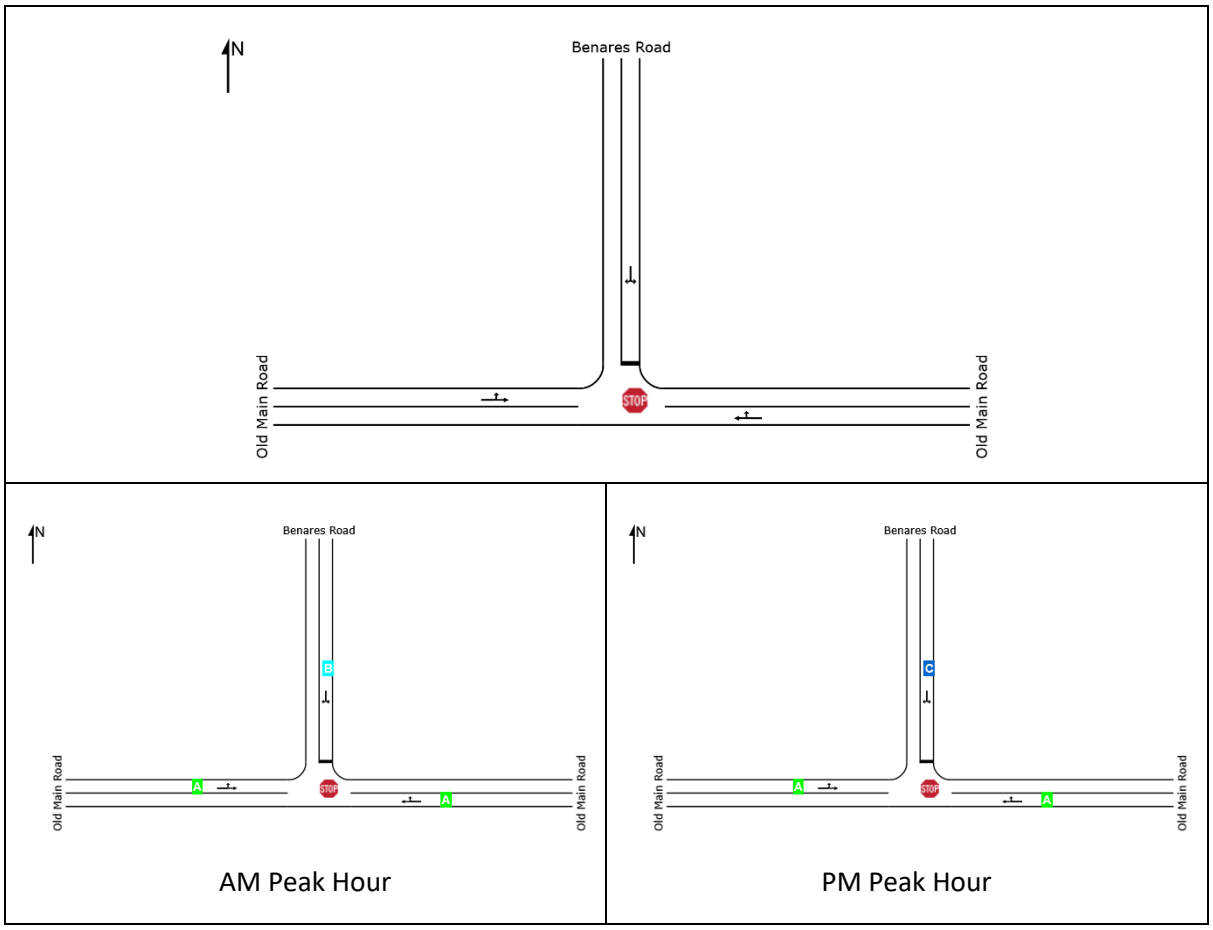
The results of these analyses are presented below with the details contained in the Appendix D to this report.

7.4 Old Main Road / Rob Roy Crescent Intersection



The SIDRA analysis indicates that the intersection operates at a good Level of Service during the AM peak hour and the PM peak hour.

7.5 Old Main Road / Benares Road



The SIDRA analysis indicates that the intersection operates at an acceptable Level of Service during the AM peak hour and the PM peak hour.

8. Traffic Demand Estimation

8.1 Development Particulars

The total proposed intended development is as follows:

- Petrol Filling Station
- Retail – 730m^2 GLA (Convenience Store 260m^2 + Shops 470m^2)
- Fast Food Restaurant – 200m^2 GLA

The Site Development Plan is shown in Appendix A.

8.2 Trip Generation Rates and Modal Splits

The trip generation rates for the above mentioned land uses as contained in the eTA Manual for Traffic Impact Assessments and Site Traffic Assessments (July 2015) have been used to calculate the maximum potential traffic that could be generated by the proposed development.

The trip generation rates and directional splits for a petrol filling station, retail and a fast food restaurant are shown below.

Petrol Filling Station:

- Saturday AM Peak Hour: 4% of traffic on adjacent streets with a 50:50 (In: Out) directional split
- Friday PM Peak Hour: 4% of traffic on adjacent streets with a 50:50 (In: Out) directional split

Of the above, 16% are deemed to be new trips on the surrounding road network and the balance will pass by trips already travelling along Old Main Road.

Retail (730m^2):

- Saturday AM Peak Hour: 4.50 veh/h two-way per 100m^2 with a 50:50 (In: Out) directional split
- Friday PM Peak Hour: 3.40 veh/h two-way per 100m^2 with a 50:50 (In: Out) directional split

For a shopping centre, a Retail Size Adjustment Factor must be multiplied to the Trip Generation Rates to compensate for the size of the shops. The Retail Size Adjustment Factor for the shops was calculated to be 5.96.

The adjusted trip generation rates for the shops are as follows:

- Saturday AM Peak Hour: 26.84 veh/h two-way per 100m^2 with a 50:50 (In: Out) directional split
- Friday PM Peak Hour: 20.28 veh/h two-way per 100m^2 with a 50:50 (In: Out) directional split

Fast Food Restaurant:

- Saturday AM Peak Hour: 45.00 veh/h two-way per 100m^2 with a 55:45 (In: Out) directional split
- Friday PM Peak Hour: 50.00 veh/h two-way per 100m^2 with a 55:45 (In: Out) directional split

8.3 Trip Generation

Based on the above trip generation rates and directional splits, the maximum potential trip generation for the Saturday AM and Friday PM periods are calculated in Table 2 below:

Landuse	Traffic Vols (veh/h) / GLA (m^2)	Trip Gen Rate		Total Two-way Trips	AM Peak Hour		PM Peak Hour	
					IN	OUT	IN	OUT
Petrol Filling Station	769	AM	4%	31	15	15	22	22
	1082	PM	4%	43				
Retail	730	AM	26.84	196	98	98	74	74
		PM	20.28	148				
Fast Food Restaurant	200	AM	45.00	90	50	41	55	45
		PM	50.00	100				
				TOTAL	**163**	**154**	**151**	**141**

Table 2: Maximum Potential Trip Generation by Peak Hour

8.4 Pass-by Trips and Diverted Trips

The eTA Manual for Traffic Impact Assessments and Site Traffic Assessments (July 2015) indicates that a petrol filling station attracts pass-by trips and retail and fast food restaurants attract pass-by and diverted trips.

Pass-by trips are trips that are already on the road network directly adjacent to the points of access to the site where the traffic can turn directly into or out of the site. These trips are not new trips on the adjacent road network. Only the traffic patterns of these trips will be altered due to the presence of the new development.

Diverted trips are trips already on the road network but not directly adjacent to the access to the site. These trips are similar to the pass-by trips, except that they have to deviate to other roads to obtain access to the proposed development. Diverted trips will tend to return to their original route and continue to the original destinations after visiting the development. The diverted trips will thus only be new trips on certain segments of the road network, but not on the streets from which they are diverted.

In accordance with the eTA Manual for Traffic Impact Assessments and Site Traffic Assessments (July 2015) the following pass-by and diverted trips will be attracted for each of the land uses:

<u>Petrol Filling Station:</u>

- Of the total trip generation of a petrol filling station, 84% will be pass-by trips in the Saturday AM peak hour and 84% will be pass-by trips in the Friday PM peak hour.
- A petrol filling station will generate no diverted trips

Retail (730m^2):

- Of the total trip generation of a retail component with a floor area of 730m^2, 35% will be pass-by trips in the Saturday AM peak hour and 38% will be pass-by trips in the Friday PM peak hour.
- Of the total trip generation of a retail component, 38% will be diverted trips in the Saturday AM peak hour and 29% will be diverted trips in the Friday PM peak hour.

Fast Food Restaurant:

- Of the total trip generation of a fast food restaurant, there will be no pass-by trips in the Saturday AM peak hour and 52% will be pass-by trips in the Friday PM peak hour.
- Of the total trip generation of a fast food restaurant, there will be no diverted trips in the Saturday AM peak hour and 25% will be diverted trips in the Friday PM peak hour.

In the eTA Manual for Traffic Impact Assessments and Site Traffic Assessments (July 2015) it is noted however, that neither the pass-by nor the diverted trips can be greater than 20% of the background traffic on the road network. Therefore, in the case of the diverted trips 20% of the background traffic will be used for the affected movements.

The pass-by and diverted trips generated by the proposed development are shown in Figure 5 and Figure 6, respectfully.

Figure 5: Pass-by Trips

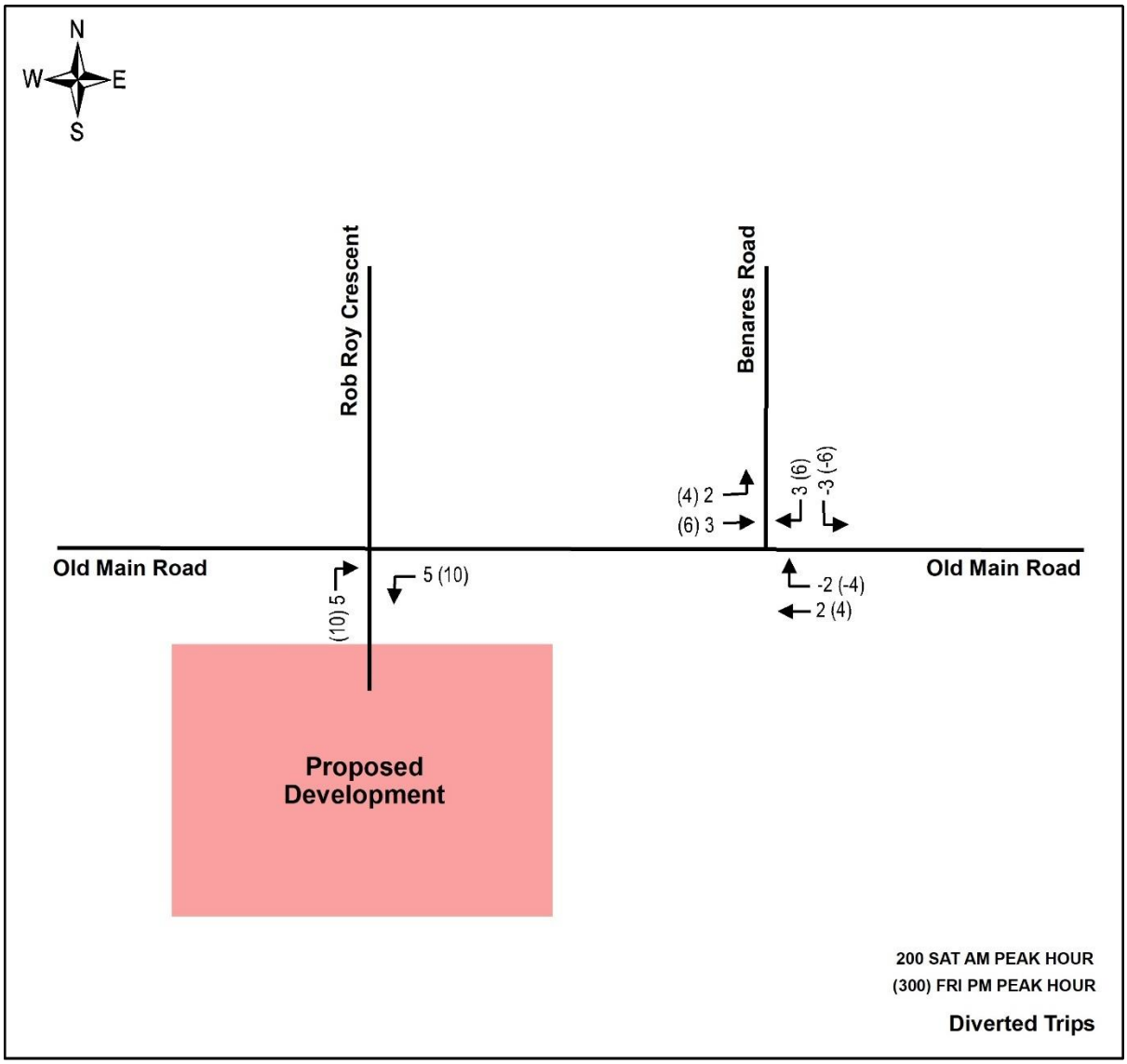


Figure 6: Diverted Trips

8.5 Trip Distribution and Assignment

The new traffic generated by the proposed development was distributed based on the distribution pattern as the 2021 background traffic flows and local knowledge. The resulting trip distribution pattern during the AM peak and the PM peak hour is shown in Figure 7 below.

Based on the trip distribution pattern, the new trips expected to be generated by the proposed development in have been assigned onto the surrounding road network as shown in Figure 8 below.

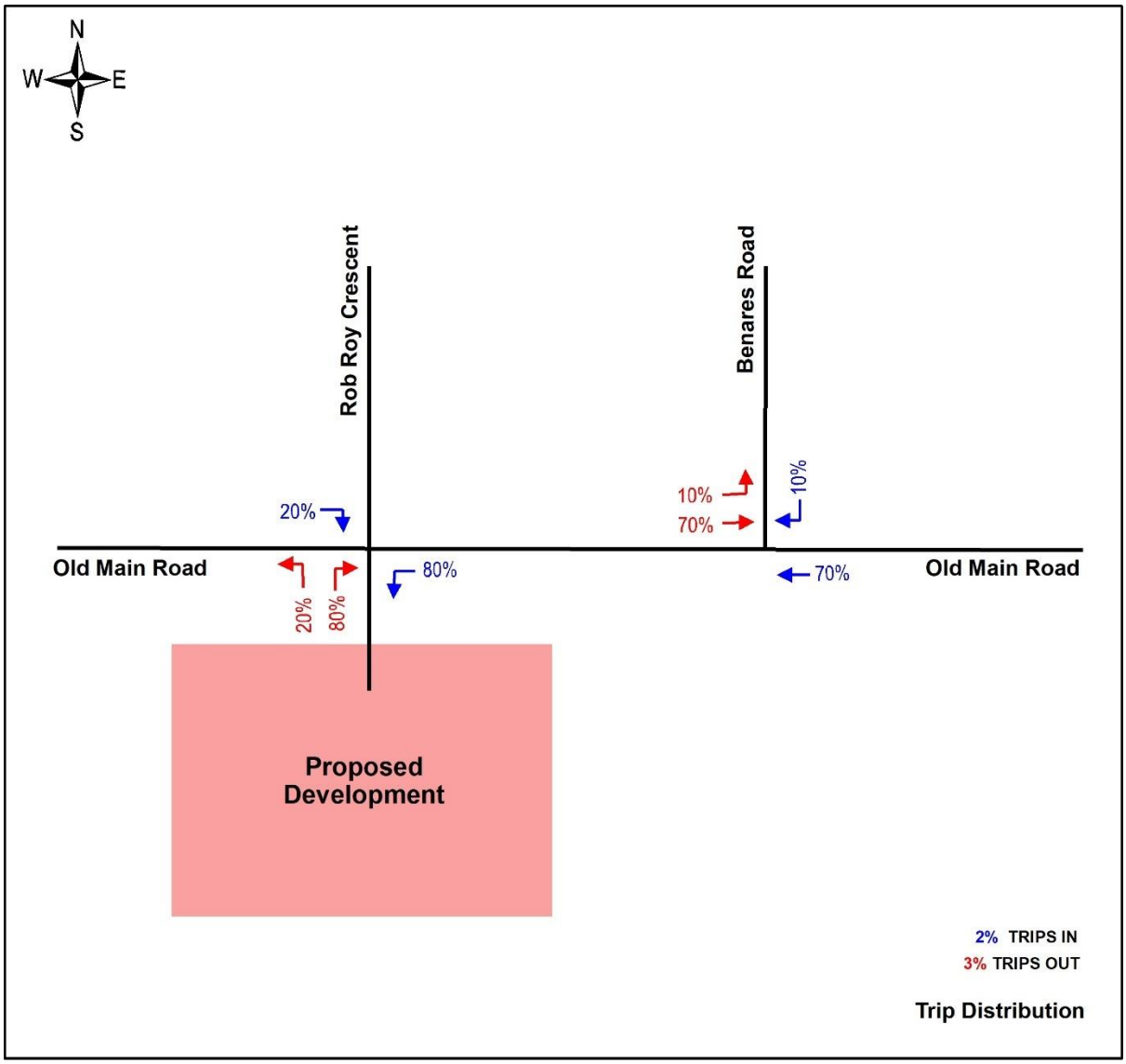


Figure 7: Trip Distribution

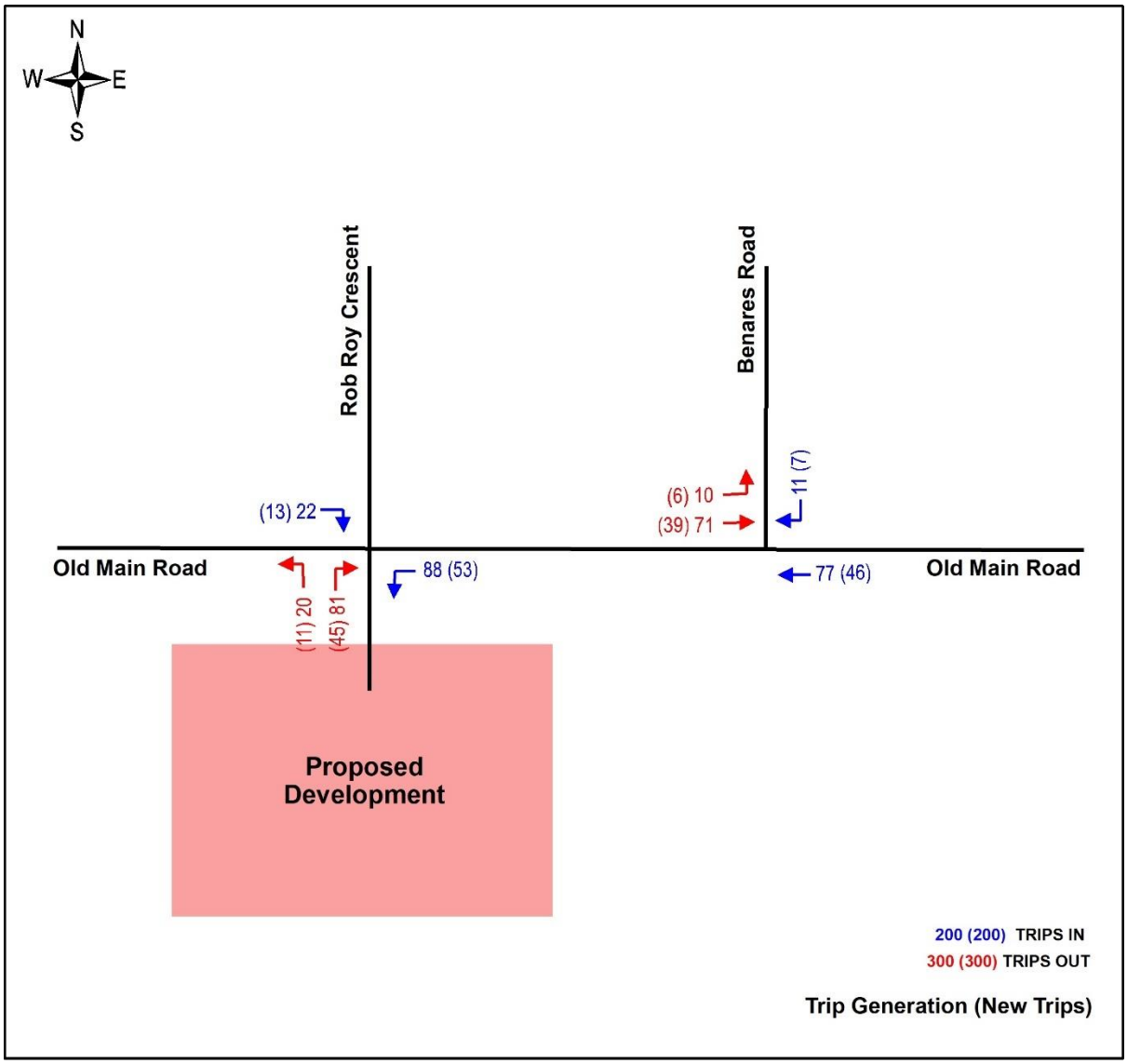


Figure 8: Trip Generation (New Trips)

9. Planning Year Traffic Analysis

The planning year traffic analysis (2026) will be carried out by adding the 5-year background traffic volumes and the total development generated traffic volumes.

The 2026 design year background traffic volumes with the total development generated traffic volumes is shown in Figure 9 below.

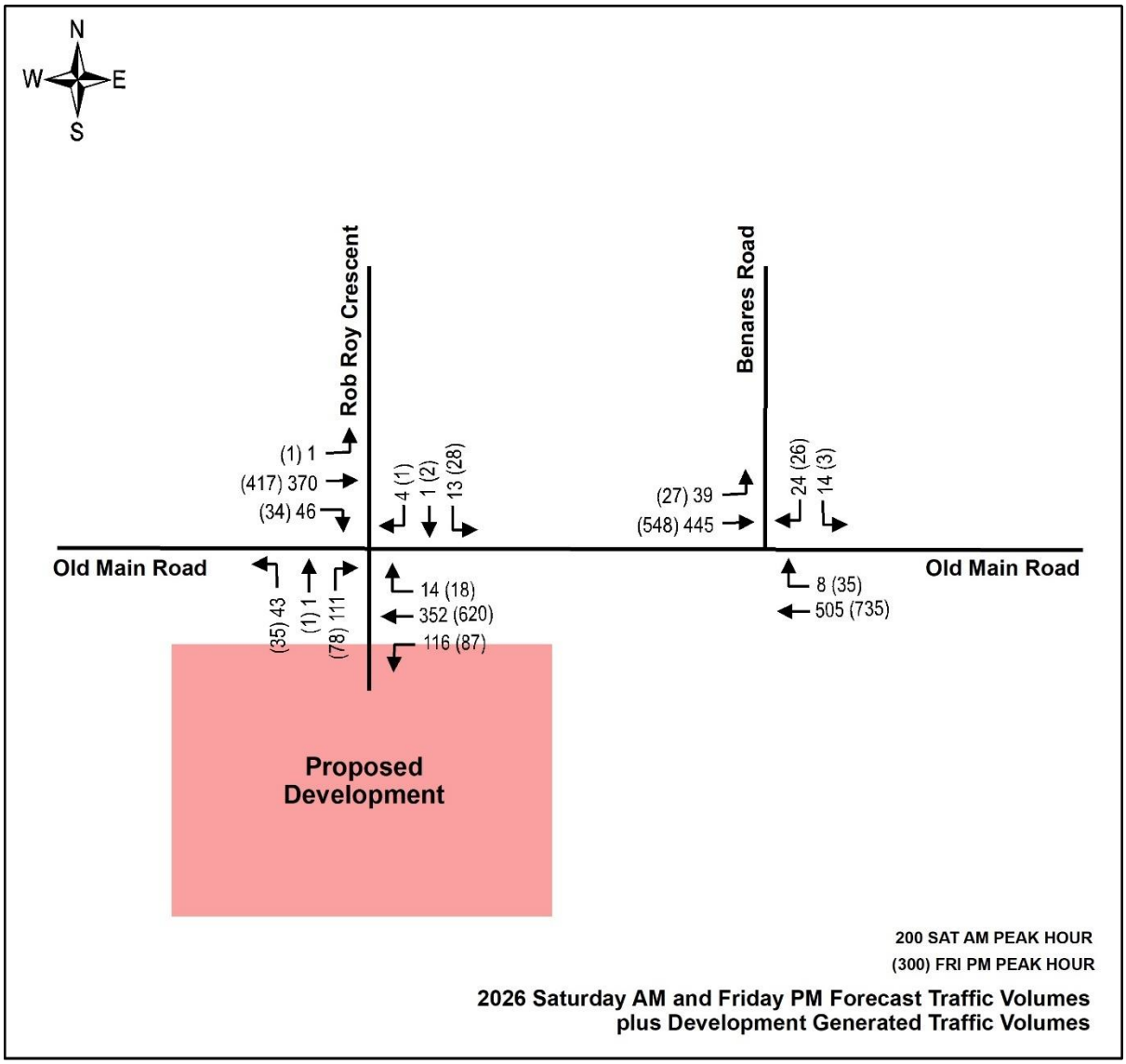
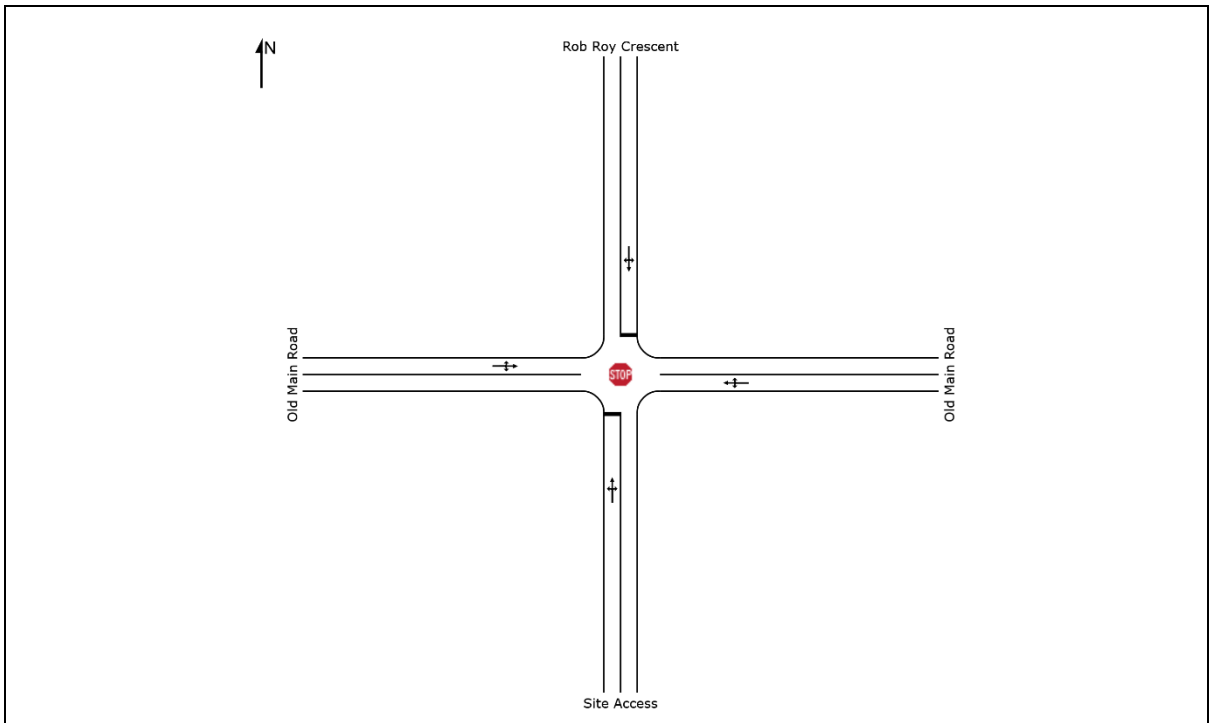
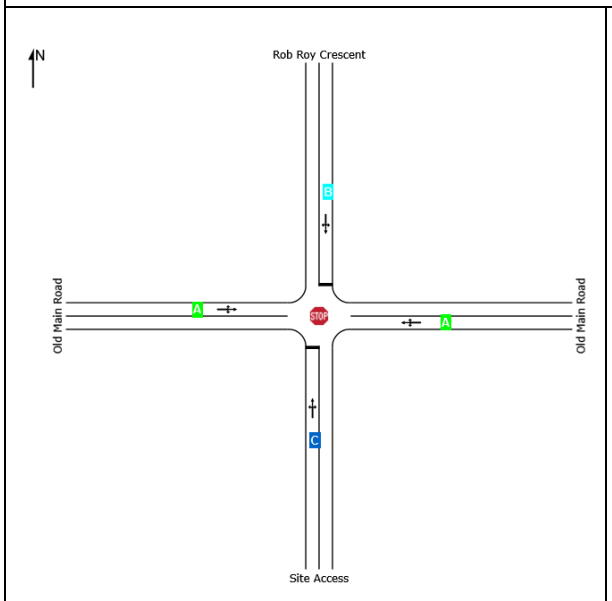


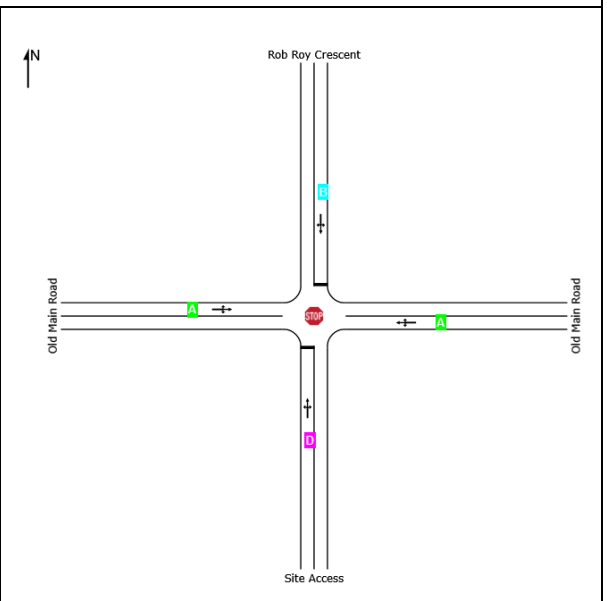
Figure 9: Planning Year Traffic Volumes with Development Generated Traffic

9.1 Old Main Road / Rob Roy Crescent / Site Access Intersection





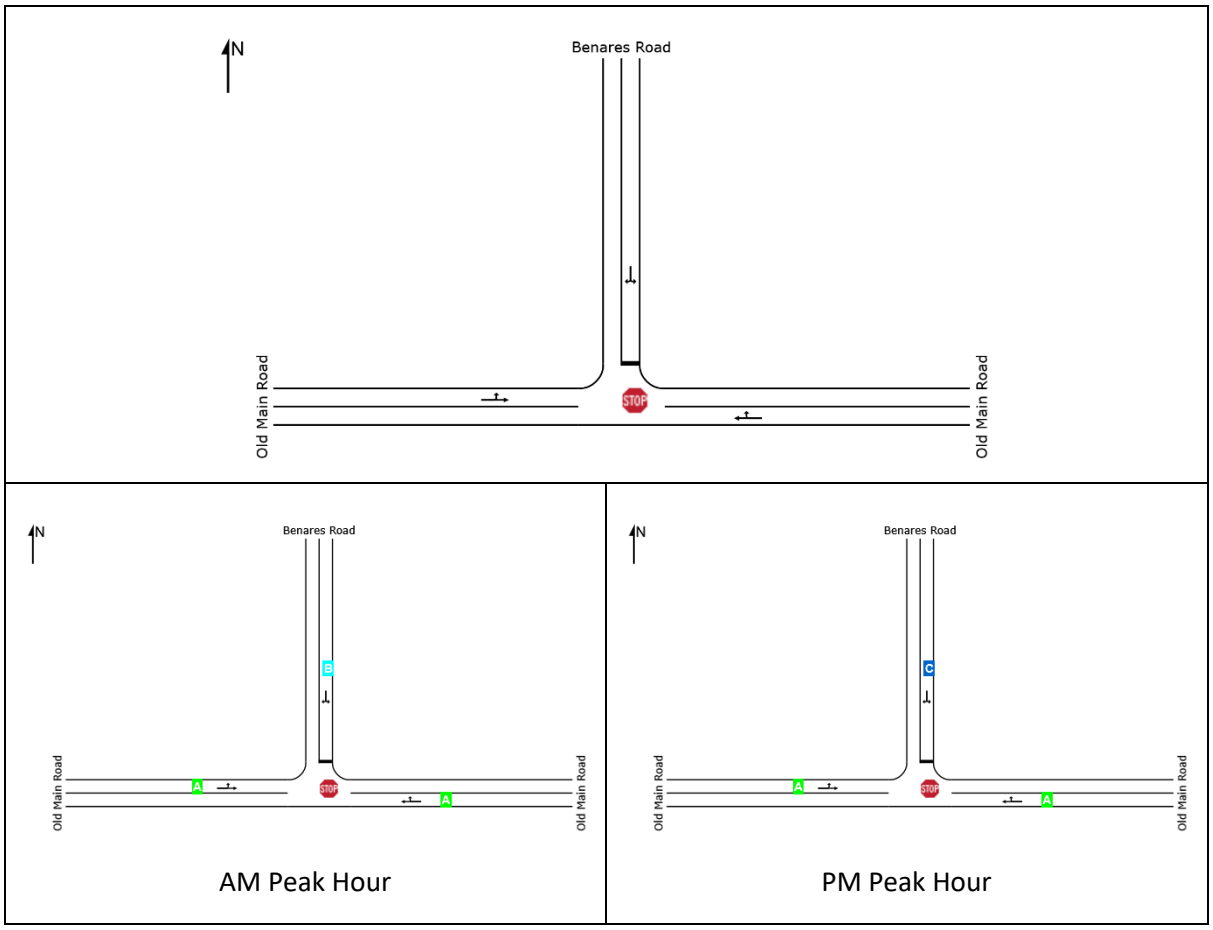
AM Peak Hour



PM Peak Hour

The SIDRA analysis indicates that the intersection operates at an acceptable Level of Service during the AM peak hour and the PM peak hour.

9.2 Old Main Road / Benares Road Intersection



The SIDRA analysis indicates that the intersection operates at an acceptable Level of Service during the AM peak hour and the PM peak hour.

10. Pedestrians and Public Transport

During the site visit some pedestrian activity was observed along Old Main Road in the vicinity of the site of the proposed development. Currently there are no sidewalks along Old Main Road. It is recommended that sidewalks be implemented along the site frontage along Old Main Road to cater for any pedestrian activity that will be generated by the proposed development.

The proposed development is expected to generate some public transport passengers. The existing public transport layby along Old Main Road will be sufficient to cater for any public transport passengers that will be generated by the proposed development.

11. Road Safety

No adverse road safety conditions are expected to occur due to the increase in traffic generated by the proposed development. Traffic generally travels at acceptable speeds on the surrounding road network in the vicinity of the proposed development.

The site access of the proposed development will be off Old Main Road. The shoulder sight distance for a 60km/h road for trucks with trailers is 230m. This is achievable from the site access as long as there are no obstructions within the old main road reserve in the view in the in either direction of the access.

12. Internal circulation

12.1 Parking

The requirements for parking for the land uses that are intended to be developed in the proposed development are shown in Table 3 below:

Landuse	GLA / Working Bays	Total Required Parking Bays	
Convenience Shop	260m^2	6 bays / 100m^2	16
Fast Food Restaurant	200m^2	10 bays / 100m^2	20
Shops	470m^2	5 bays / 100m^2	24
Car Wash (within a Petrol Filling Station)	2 working bays	4 bays / working bay	8
		TOTAL PARKING BAYS REQUIRED	68

Table 3: Parking Requirements

Bays required: 68 vehicle bays – 70 bays provided
3 Disabled bays - provided
2 (9m x 3m) delivery bays - provided
1 (17m x 4.3m) Oil tanker bay - provided

A Site Development Plan of the parking layout in shown in Appendix.

12.2 Access

The proposed access will be a KZN DoT Type B3.

The site proposes to have a single access on Old Main Road (Class 3) opposite Rob Roy Crescent, therefore forming the 4th leg to this intersection. (No access off a lower order/class available).

Old Main Road has a speed limit of 60km/h. The required shoulder sight distance for a 60km/h road for trucks with trailers is 230m as per UTG 5. This is achievable from proposed position of the site access as long as there are no obstructions to the in either direction of the access within the road reserve of Old Main Road.

The entrance and exit to the site will have a single lane in each direction. The access width will be 8m. Internal circulating lanes will be a minimum of 3m in each direction.

TRL provided in the appendix.

12.3 Vehicle Tracking

Vehicle tracking was conducted for all movements as follows:

1. Oil tanker tracking in and out of the site in forward gear. No reversing required on site.
2. Light vehicle tracking in and out of the site to both the retail and fuel pumps
3. Light vehicle tracking around the take away drive through.

TRL provided in the appendix.

13. Conclusions and Recommendations

Emaan Traffic Engineers (Pty) Ltd was appointed to undertake a Traffic Impact Assessment (TIA) for the proposed Convenience Centre in Bothas Hill, eThekwini Municipality. The proposed development is to consist of:

- Petrol Filling Station
- Retail – 730m^2 GLA
- Fast Food Restaurant – 200m^2 GLA

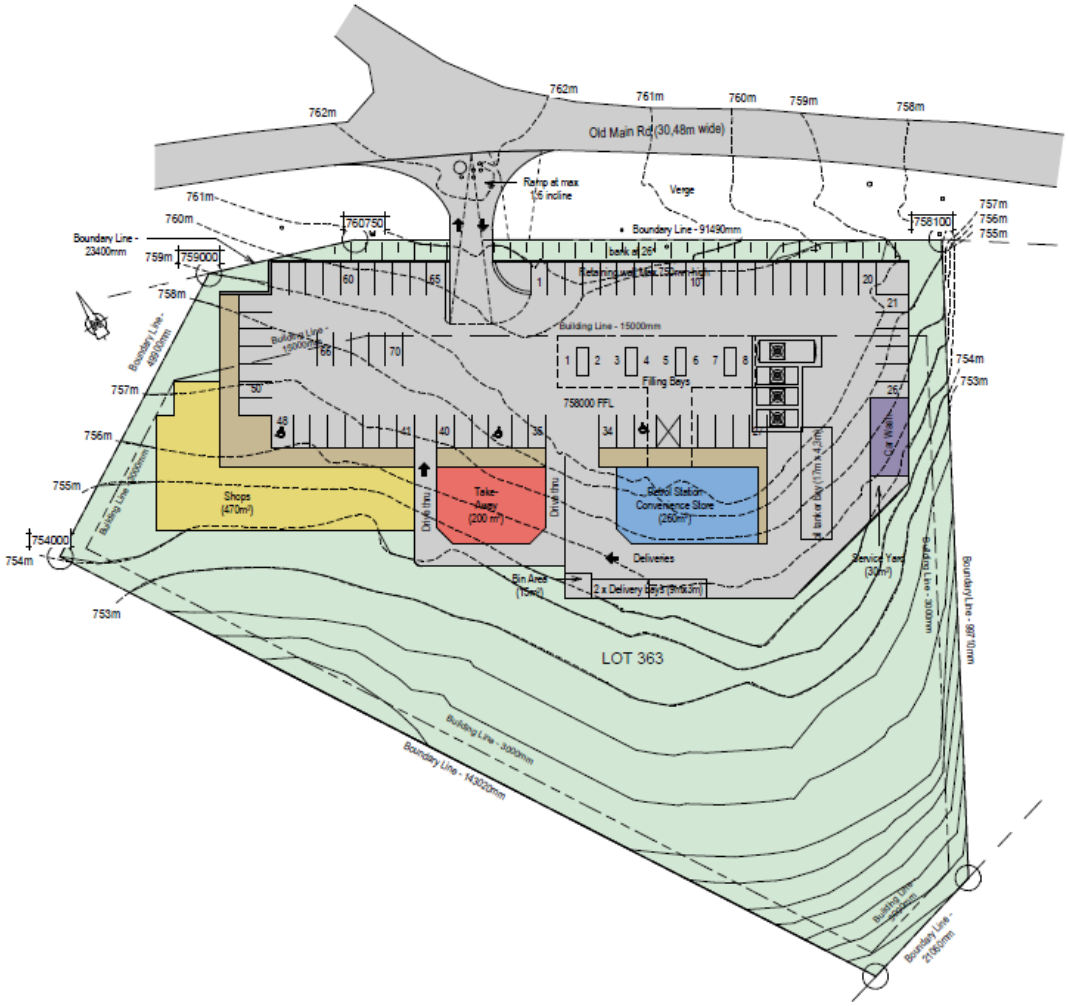
The following conclusions can be drawn, and recommendations made from the above traffic impact assessment:

- The 2026 forecast traffic conditions are good, and all critical intersections operate at acceptable levels of service in the peak hours.
- The proposed development will generate a total of 317 veh/h equivalent car unit (ecu) two-way trips in the AM peak hour and 291 veh/h equivalent car unit (ecu) two-way trips in the PM peak hour.
- Of this total traffic, 95 veh/h equivalent car unit (ecu) two-way trips in the AM peak hour and 150 veh/h equivalent car unit (ecu) two-way trips in the PM peak hour were pass by trips and 11 veh/h equivalent car unit (ecu) two-way trips in the AM peak hour and 19 veh/h equivalent car unit (ecu) two-way trips in the PM peak hour were diverted trips.
- The proposed access to site will be a KZN DoT Type B3 forming a 4-way intersection with Old Main Road/Rob Roy Crescent.
- A 15m building line applied from the R102 – relaxed to 7.5m for internal roads and parking.
- The planning year horizon analysed the local traffic volumes in the year 2026 (5-year planning horizon). The background traffic was grown accumulatively at a growth rate of 2.5% for 5 years and added to the development generated traffic. The results indicated that none of the intersections that were analysed in this TIA will require any upgrades to accommodate the increase in traffic volumes.
- It is recommended that sidewalks be implemented along the site frontage along Old Main Road to cater for any pedestrian activity that will be generated by the proposed development.
- It is recommended that the bush in the road verge from the site access up till 230m west of the site access be cleared.

The proposed development can therefore be supported from a traffic and transportation perspective.

Appendix

Appendix A
Site Development Plan



Development Schedule

Zoning : Activity Node
Site Area : 11 104m²

Height restrictions	: 3 Storeys
Allowable FAR (0,5)	: 5552 m²
Allowable COV (50%)	: 5552 m²
Front Building Line	: 15 m
Side Building Line	: 3 m
Rear Building Line	: 3 m

Areas:

Car Wash	: 72 m²
Take-away (Drive Thru)	: 200 m²
Petol Station & Convenience Store	: 260 m²
Shops	: 470 m²
Total	: 1072 m²

Parkings:

Parkings Provided	: 70 bays
Convenience Store (6/100m²)	: 16 bays
Take-away (10/100m²)	: 20 bays
Car Wash (4/wash bay)	: 8 bays
Shops (5/100m²)	: 24 bays
Total Parkings Req'd	: 68 bays
Disabled Parkings Provided	: 3 bays
Deliver Bays (9m x 3m)	: 2 bays
Oil tanker Bay (17m x 4,3m)	: 1 bay

THREE DEGREES
ARCHITECTS & INTERIORS
Suite 8a, Abrey Eco Park, 5 Abrey Rd, Kloof
T: 083 324 7643 / F: 086 610 3692
E: info@3degrees.co.za / W: www.3degrees.co.za
SACAP Reg No.: PSAT 20681

Project description

Proposed SDP at 49-51 Old Main Rd, Bothas Hill, on
LOT 363 Bothas Hill

Project number: 21/08	Date: 10-06-21	Scale 1 : 500	Drawn by: EA	NOT FOR CONSTRUCTION	
A2		drg no SMA-363-SDP-1	Rev		

Appendix B
Zoning Certificate

Sustainable Development & City Enterprises
Development Planning, Environment & Management Unit

166 K E Masinga Road
Durban, 4001

www.durban.gov.za

Enquiries: T.Mbatha
Ref : Erf 363 Bothas Hill

26 August 2020

Re: Erf 363 Bothas Hill (11104m^2) approx
Address: 49-51 Old Main Road, Bothas Hill

This is to certify that the above property is zoned **Activity Node** in terms of the Outer West Scheme.

Development on the above property is in terms of the attached extract from the Outer West Scheme.

Disclaimer
The controls given above are those specific to the land use zone in which the property falls. How ever attention is drawn to the Town Planning Scheme Regulations where, in certain cases, additional requirements can be called for the discretion of the Head: Development Planning and Management and no information recorded above can be taken as comprehensive. Specific detailed information can only be given in respect of an application after it has been lodged showing the detailed proposals of the development.

Yours Faithfully

X
TMbatha

For: REGIONAL CO-ORDINATOR: LAND USE MANAGEMENT
DEVELOPMENT PLANNING, ENVIRONMENT AND MANAGEMENT
HILLCREST AREA OFFICE
ETHEKWINI MUNICIPALITY

SECTION 7: DEVELOPMENT FACILITATION TABLES

ZONE:ACTIVITY NODE

SCHEME INTENTION: The Old Main Road Activity Spine ("the spine") consists broadly of all lots (erven) with a direct frontage to Old Main Road, which are zoned as either Activity Node or Activity Spine, as shown on the official Town Planning Scheme Map of the Municipality. The purpose of this zone will be to accommodate Bothas Hill as a predominantly low density, peri-urban residential village providing also for appropriate business activities and community facilities, primarily serving the needs of the local communities, and also providing a range of recreation and tourism activities, facilities and opportunities of regional significance, consistent with the overall function and character of the town.
MAP COLOUR REFERENCE: Cross-hatch red

PRIMARY	SPECIAL CONSENT	PRECLUDED	
• Arts and Crafts Workshop • Chalet Development • Conservation area • Dwelling House • Educational Establishment • Flat • Flea Market • Fuelling and Service Station • Government/Municipal • Hotel • Institution • Laundry • Multiple Unit Development • Museum • Office • Office – Medical • Place of Public Entertainment • Place of Public Worship • Shop	• Agricultural Activity • Agricultural Land • Betting Depot • BTTS • Convention Centre • Crèche • Funeral Parlour • Garden Nursery • Health & Beauty Clinic • Health Studio • Industry – Light • Motor Garage • Parkade • Restaurant / Fast Food Outlet • Special Building • Warehouse	• Adult Premises • Airport • Animal facility • Boarding House • Builder's Yard • Car Wash • Container Depot • Correctional Facility • Cemetery/crematorium • Direct Access Service Centre • Display Area • Escort Agency • Industry – Extractive • Industry – General • Industry – Noxious • Landfill • Mobile Home Park and Camping Ground	• Mortuary • Motor Display Area • Motor Vehicle Test Centre • Motor Workshop • Nature Reserve • Night Club • Pet Grooming Parlour • Recycling Centre • Reform School • Refuse Disposal • Restricted Building • Retirement Centre • Riding Stables • Scrap Yard • Transport Depot • Truck Stop • Utilities Facility • Veterinary Clinic • Zoological Garden

ADDITIONAL CONTROLS

1. BTTS shall mean Base Telecommunications Transmission Station.
2. Accommodation for motor vehicles to be provided on the erf as per Section 8
3. Subject to the provision of a sewerage disposal system to the satisfaction of the Municipality
4. FAR & Coverage may be increased by Special Consent to 0.75 and 75% respectively.
5. Residential developments, other than licensed hotels, to be in compliance with the controls of the Intermediate Residential 1 zone.
6. The spine shall perform a key role in the functioning of Bothas Hill as abovementioned, and shall accordingly perform the following primary functions in an interactive and appropriately, balanced manner, with conflicts between land uses being minimised and appropriately managed where such conflicts are necessarily unavoidable:
   § Transport, including local and through traffic, and both private and public sector;
   § Community facilities;
   § Business activities: and
   § Residential development.
   The development of the spine shall conform to the following objectives, in line with Bothas Hill's overall function and character:
   § Retain the peri-urban residential amenity and character of Bothas Hill;
   § Protect and enhance the natural and aesthetic environment;
   § Promote and encourage appropriate tourism and recreation related development
   § Provide economic opportunities for residents of Bothas Hill and environs;
   § Maximize convenience of access and visibility to passing trade;
   § Facilitate the upgrading and or redevelopment of problem areas;
   § Facilitate the optimal development of specific opportunity areas;
   § Reinforce and support existing business and tourism/recreation activities;
   § Encourage an appropriate variety of land uses and facilities;
   § Ensure adequate linkages to the spine from adjoining areas.

DEVELOPMENT PARAMETERS

SPACE ABOUT BUILDINGS		DWELLING UNITS PER HECTARE	MINIMUM ERF SIZE	HEIGHT IN STOREYS	COVERAGE	FLOOR AREA RATIO
BUILDING LINE: FRONT	BUILDING LINE: SIDE AND REAR					
7.5 m	3 m/ 4.5 m for Multi-Unit Development	10	900 m²	3	50%	0.50

Appendix C
Traffic Counts

Bala
Survey & Research CC
(Reg no. 2006/000232/23)

4 LEYTON, 11 WYNNFORD PLACE
MORNINGSIDE, DURBAN 4001
P O Box 1429, WANDSBECK, 3631
email : sekake@balasurvey.co.za
Tel: (031) 303 6274
Fax: (086) 759 2904

Your Ref:
Our Ref :

15 May 2021

To Whom It May Concern

TRAFFIC SURVEYS

This letter serves to confirm that, Bala Survey & Research undertook traffic survey at the following locations on Friday, 14 May 2021 and Saturday 15 May 2021:

1. Old Main Road / Rob Roy Crescent Intersection
2. Old Main Road / Benares Road Intersection

Should you require any further information regarding the above, please do not hesitate to contact the undersigned.

Yours faithfully
Bala Survey & Research

Sekake Moshesh

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND ROB ROY ROAD

DATE: PEAK HOUR COUNT ON SATURDAY 15 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	NORTH															TOTAL
NAME	ROB ROY ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
08:00 - 08:15	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
08:15 - 08:30	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
08:30 - 08:45	3	0	0	0	3	0	0	0	0	0	2	0	0	0	2	5
08:45 - 09:00	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
09:00 - 09:15	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
09:15 - 09:30	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
09:30 - 09:45	4	0	0	0	4	0	0	0	0	0	1	0	0	0	1	5
09:45 - 10:00	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
10:00 - 10:15	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	3
10:15 - 10:30	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
10:30 - 10:45	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	4
10:45 - 11:00	3	0	0	0	3	0	0	0	0	0	1	0	0	0	1	4
11:00 - 11:15	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	6
11:15 - 11:30	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
11:30 - 11:45	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
11:45 - 12:00	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
12:00 - 12:15	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	6
12:15 - 12:30	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
12:30 - 12:45	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	6
12:45 - 13:00	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
13:00 - 13:15	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
13:15 - 13:30	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
13:30 - 13:45	4	0	0	0	4	0	0	0	0	0	1	0	0	0	1	5
13:45 - 14:00	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
TOTAL	**92**	**0**	**0**	**0**	**92**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**11**	**103**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND ROB ROY ROAD

DATE: PEAK HOUR COUNT ON FRIDAY 14 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	NORTH															TOTAL
NAME	ROB ROY ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
12:00 - 12:15	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
12:15 - 12:30	3	0	0	0	3	0	0	0	0	0	1	0	1	0	2	5
12:30 - 12:45	3	0	0	0	3	0	0	0	0	0	1	0	1	0	2	5
12:45 - 13:00	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
13:00 - 13:15	4	0	0	0	4	0	0	0	0	0	2	0	0	0	2	6
13:15 - 13:30	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
13:30 - 13:45	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
13:45 - 14:00	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
14:00 - 14:15	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
14:15 - 14:30	3	0	1	0	4	0	0	0	0	0	1	0	0	0	1	5
14:30 - 14:45	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
14:45 - 15:00	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
15:00 - 15:15	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
15:15 - 15:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
15:30 - 15:45	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
15:45 - 16:00	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
16:00 - 16:15	9	0	0	1	10	0	0	0	0	0	0	0	0	0	0	10
16:15 - 16:30	6	0	0	0	6	0	0	0	0	0	1	0	0	0	1	7
16:30 - 16:45	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
16:45 - 17:00	4	0	0	0	4	0	0	0	0	0	2	0	0	0	2	6
17:00 - 17:15	4	1	0	0	5	0	0	0	0	0	1	0	0	0	1	6
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
17:30 - 17:45	4	0	0	0	4	0	0	0	0	0	1	0	0	0	1	5
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**84**	**1**	**1**	**1**	**87**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**2**	**0**	**13**	**100**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND ROB ROY ROAD

DATE: PEAK HOUR COUNT ON SATURDAY 15 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	SOUTH															TOTAL
NAME																
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
08:00 - 08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 - 08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 - 08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 - 09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 - 09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 - 09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 - 09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND ROB ROY ROAD

DATE: PEAK HOUR COUNT ON FRIDAY 14 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	SOUTH															TOTAL
NAME																
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND ROB ROY ROAD

DATE: PEAK HOUR COUNT ON SATURDAY 15 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	EAST															TOTAL
NAME	OLD MAIN ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
08:00 - 08:15	0	0	0	0	0	45	12	0	1	58	1	0	0	0	1	59
08:15 - 08:30	0	0	0	0	0	25	10	2	0	37	1	0	0	0	1	38
08:30 - 08:45	0	0	0	0	0	42	7	3	0	52	5	0	0	0	5	57
08:45 - 09:00	0	0	0	0	0	28	8	2	0	38	2	0	0	0	2	40
09:00 - 09:15	0	0	0	0	0	45	5	2	0	52	3	0	0	0	3	55
09:15 - 09:30	0	0	0	0	0	55	8	2	0	65	0	0	0	0	0	65
09:30 - 09:45	0	0	0	0	0	44	3	2	0	49	3	0	0	0	3	52
09:45 - 10:00	0	0	0	0	0	63	8	2	0	73	2	0	0	0	2	75
10:00 - 10:15	0	0	0	0	0	51	6	2	0	59	4	0	0	0	4	63
10:15 - 10:30	0	0	0	0	0	83	8	3	0	94	1	0	0	0	1	95
10:30 - 10:45	0	0	0	0	0	55	3	4	0	62	4	0	0	0	4	66
10:45 - 11:00	0	0	0	0	0	62	1	2	0	65	2	0	0	0	2	67
11:00 - 11:15	0	0	0	0	0	72	5	2	1	80	8	0	0	0	8	88
11:15 - 11:30	0	0	0	0	0	68	10	2	1	81	2	0	0	0	2	83
11:30 - 11:45	0	0	0	0	0	56	5	1	0	62	6	0	0	0	6	68
11:45 - 12:00	0	0	0	0	0	68	9	1	2	80	9	0	0	0	9	89
12:00 - 12:15	0	0	0	0	0	73	5	2	1	81	9	0	0	0	9	90
12:15 - 12:30	0	0	0	0	0	75	8	0	0	83	11	0	0	0	11	94
12:30 - 12:45	0	0	0	0	0	68	5	2	0	75	4	0	0	0	4	79
12:45 - 13:00	0	0	0	0	0	88	10	0	1	99	4	0	0	0	4	103
13:00 - 13:15	0	0	0	0	0	65	9	1	0	75	2	0	0	0	2	77
13:15 - 13:30	0	0	0	0	0	100	7	2	0	109	2	0	0	0	2	111
13:30 - 13:45	0	0	0	0	0	71	10	0	2	83	8	0	0	0	8	91
13:45 - 14:00	0	0	0	0	0	70	6	0	2	78	10	0	0	0	10	88
TOTAL	**0**	**0**	**0**	**0**	**0**	**1472**	**168**	**39**	**11**	**1690**	**103**	**0**	**0**	**0**	**103**	**1793**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND ROB ROY ROAD

DATE: PEAK HOUR COUNT ON FRIDAY 14 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	EAST															TOTAL
NAME	OLD MAIN ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
12:00 - 12:15	0	0	0	0	0	53	6	2	0	61	1	0	1	0	2	63
12:15 - 12:30	0	0	0	0	0	56	8	7	1	72	6	0	0	0	6	78
12:30 - 12:45	0	0	0	0	0	54	5	0	0	59	2	0	1	0	3	62
12:45 - 13:00	0	0	0	0	0	49	5	1	0	55	4	0	0	0	4	59
13:00 - 13:15	0	0	0	0	0	53	8	1	0	62	4	0	0	0	4	66
13:15 - 13:30	0	0	0	0	0	51	8	2	0	61	5	0	0	0	5	66
13:30 - 13:45	0	0	0	0	0	69	6	2	0	77	8	0	0	0	8	85
13:45 - 14:00	0	0	0	0	0	74	9	1	2	86	5	0	0	0	5	91
14:00 - 14:15	0	0	0	0	0	71	13	3	1	88	6	0	0	0	6	94
14:15 - 14:30	0	0	0	0	0	47	11	0	1	59	6	0	0	0	6	65
14:30 - 14:45	0	0	0	0	0	57	8	3	0	68	3	0	0	0	3	71
14:45 - 15:00	0	0	0	0	0	63	16	4	1	84	2	0	0	0	2	86
15:00 - 15:15	0	0	0	0	0	75	13	1	0	89	5	0	0	0	5	94
15:15 - 15:30	0	0	0	0	0	52	14	2	4	72	3	0	0	0	3	75
15:30 - 15:45	0	0	0	0	0	82	20	5	0	107	3	0	0	0	3	110
15:45 - 16:00	0	0	0	0	0	100	21	1	2	124	6	0	0	1	7	131
16:00 - 16:15	0	0	0	0	0	93	20	2	0	115	3	0	0	0	3	118
16:15 - 16:30	0	0	0	0	0	93	32	1	3	129	1	0	0	0	1	130
16:30 - 16:45	0	0	0	0	0	98	29	0	0	127	3	0	0	0	3	130
16:45 - 17:00	0	0	0	0	0	78	24	0	1	103	3	0	0	0	3	106
17:00 - 17:15	0	0	0	0	0	98	30	2	1	131	5	0	0	0	5	136
17:15 - 17:30	0	0	0	0	0	88	23	2	1	114	4	0	0	0	4	118
17:30 - 17:45	0	0	0	0	0	88	32	1	2	123	6	0	0	0	6	129
17:45 - 18:00	0	0	0	0	0	90	25	1	2	118	5	0	0	0	5	123
TOTAL	**0**	**0**	**0**	**0**	**0**	**1732**	**386**	**44**	**22**	**2184**	**99**	**0**	**2**	**1**	**102**	**2286**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND ROB ROY ROAD

DATE: PEAK HOUR COUNT ON SATURDAY 15 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	WEST															TOTAL
NAME	OLD MAIN ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
08:00 - 08:15	0	0	0	0	0	45	8	0	0	53	0	0	0	0	0	53
08:15 - 08:30	0	0	0	0	0	57	10	0	1	68	0	0	0	0	0	68
08:30 - 08:45	0	0	0	0	0	66	12	0	1	79	0	0	0	0	0	79
08:45 - 09:00	0	0	0	0	0	41	10	2	0	53	0	0	0	0	0	53
09:00 - 09:15	3	0	0	0	3	78	7	0	1	86	0	0	0	0	0	89
09:15 - 09:30	0	0	0	0	0	58	9	1	0	68	0	0	0	0	0	68
09:30 - 09:45	1	0	0	0	1	65	8	1	1	75	0	0	0	0	0	76
09:45 - 10:00	0	0	0	0	0	71	8	1	0	80	0	0	0	0	0	80
10:00 - 10:15	0	0	0	0	0	48	8	3	1	60	0	0	0	0	0	60
10:15 - 10:30	1	0	0	0	1	53	7	1	0	61	0	0	0	0	0	62
10:30 - 10:45	0	0	0	0	0	86	13	2	1	102	0	0	0	0	0	102
10:45 - 11:00	0	0	0	0	0	47	8	3	0	58	0	0	0	0	0	58
11:00 - 11:15	0	0	0	0	0	61	7	1	0	69	0	0	0	0	0	69
11:15 - 11:30	1	0	0	0	1	74	8	2	0	84	0	0	0	0	0	85
11:30 - 11:45	2	0	0	0	2	76	6	3	0	85	0	0	0	0	0	87
11:45 - 12:00	1	0	0	0	1	59	4	1	1	65	0	0	0	0	0	66
12:00 - 12:15	0	0	0	0	0	79	10	2	1	92	0	0	0	0	0	92
12:15 - 12:30	4	0	0	0	4	56	5	0	0	61	0	0	0	0	0	65
12:30 - 12:45	2	0	0	0	2	72	10	1	0	83	0	0	0	0	0	85
12:45 - 13:00	0	0	0	0	0	62	7	2	2	73	0	0	0	0	0	73
13:00 - 13:15	2	0	0	0	2	83	6	0	0	89	0	0	0	0	0	91
13:15 - 13:30	0	0	0	0	0	78	7	3	0	88	0	0	0	0	0	88
13:30 - 13:45	0	0	0	0	0	42	10	1	0	53	0	0	0	0	0	53
13:45 - 14:00	1	0	0	0	1	53	8	0	0	61	0	0	0	0	0	62
TOTAL	**18**	**0**	**0**	**0**	**18**	**1510**	**196**	**30**	**10**	**1746**	**0**	**0**	**0**	**0**	**0**	**1764**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND ROB ROY ROAD

DATE: PEAK HOUR COUNT ON FRIDAY 14 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	WEST															TOTAL
NAME	OLD MAIN ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
12:00 - 12:15	1	0	0	0	1	59	11	1	2	73	0	0	0	0	0	74
12:15 - 12:30	1	0	0	0	1	50	13	2	0	65	0	0	0	0	0	66
12:30 - 12:45	0	0	0	0	0	44	4	0	0	48	0	0	0	0	0	48
12:45 - 13:00	0	0	0	0	0	47	7	2	0	56	0	0	0	0	0	56
13:00 - 13:15	2	0	0	0	2	65	11	3	0	79	0	0	0	0	0	81
13:15 - 13:30	1	0	0	0	1	59	10	3	1	73	0	0	0	0	0	74
13:30 - 13:45	1	0	0	0	1	70	11	1	0	82	0	0	0	0	0	83
13:45 - 14:00	2	0	0	0	2	69	8	4	0	81	0	0	0	0	0	83
14:00 - 14:15	0	0	0	0	0	72	17	2	0	91	0	0	0	0	0	91
14:15 - 14:30	1	0	0	0	1	74	13	3	0	90	0	0	0	0	0	91
14:30 - 14:45	0	0	0	0	0	75	11	3	1	90	0	0	0	0	0	90
14:45 - 15:00	0	0	0	0	0	56	14	2	1	73	0	0	0	0	0	73
15:00 - 15:15	0	0	0	0	0	79	13	0	1	93	0	0	0	0	0	93
15:15 - 15:30	0	0	0	0	0	53	22	3	0	78	0	0	0	0	0	78
15:30 - 15:45	0	0	0	0	0	80	20	2	0	102	0	0	0	0	0	102
15:45 - 16:00	1	0	0	0	1	59	18	3	1	81	0	0	0	0	0	82
16:00 - 16:15	0	0	0	0	0	49	19	1	2	71	0	0	0	0	0	71
16:15 - 16:30	0	0	0	0	0	77	32	3	1	113	0	0	0	0	0	113
16:30 - 16:45	0	0	0	0	0	51	19	1	1	72	0	0	0	0	0	72
16:45 - 17:00	0	0	0	0	0	54	23	3	0	80	0	0	0	0	0	80
17:00 - 17:15	1	0	0	0	1	57	24	2	1	84	0	0	0	0	0	85
17:15 - 17:30	2	0	0	0	2	41	21	0	0	62	0	0	0	0	0	64
17:30 - 17:45	0	0	0	0	0	55	20	1	1	77	0	0	0	0	0	77
17:45 - 18:00	0	0	0	0	0	25	16	2	0	43	0	0	0	0	0	43
TOTAL	**13**	**0**	**0**	**0**	**13**	**1420**	**377**	**47**	**13**	**1857**	**0**	**0**	**0**	**0**	**0**	**1870**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND BENARES ROAD

DATE: PEAK HOUR COUNT ON SATURDAY 15 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	NORTH															TOTAL
NAME	BENARES ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
08:00 - 08:15	4	0	1	0	5	0	0	0	0	0	5	0	0	0	5	10
08:15 - 08:30	7	1	1	0	9	0	0	0	0	0	3	0	0	0	3	12
08:30 - 08:45	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	6
08:45 - 09:00	5	0	0	0	5	0	0	0	0	0	3	0	0	0	3	8
09:00 - 09:15	2	2	0	0	4	0	0	0	0	0	5	0	0	0	5	9
09:15 - 09:30	6	0	0	0	6	0	0	0	0	0	1	0	0	0	1	7
09:30 - 09:45	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	5
09:45 - 10:00	2	1	0	0	3	0	0	0	0	0	2	0	0	0	2	5
10:00 - 10:15	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	6
10:15 - 10:30	2	1	0	0	3	0	0	0	0	0	3	0	0	0	3	6
10:30 - 10:45	1	1	0	0	2	0	0	0	0	0	2	0	0	0	2	4
10:45 - 11:00	4	0	0	0	4	0	0	0	0	0	4	0	0	0	4	8
11:00 - 11:15	0	1	0	0	1	0	0	0	0	0	5	0	0	0	5	6
11:15 - 11:30	4	0	0	0	4	0	0	0	0	0	1	0	1	0	2	6
11:30 - 11:45	4	0	0	0	4	0	0	0	0	0	2	0	1	0	3	7
11:45 - 12:00	1	0	1	0	2	0	0	0	0	0	4	0	1	0	5	7
12:00 - 12:15	8	1	0	0	9	0	0	0	0	0	2	0	0	0	2	11
12:15 - 12:30	3	0	0	0	3	0	0	0	0	0	2	0	0	0	2	5
12:30 - 12:45	0	1	0	0	1	0	0	0	0	0	5	0	0	0	5	6
12:45 - 13:00	1	0	1	0	2	0	0	0	0	0	2	0	0	0	2	4
13:00 - 13:15	1	0	0	0	1	0	0	0	0	0	8	0	0	0	8	9
13:15 - 13:30	4	1	0	0	5	0	0	0	0	0	4	0	0	0	4	9
13:30 - 13:45	6	0	0	0	6	0	0	0	0	0	2	2	0	0	4	10
13:45 - 14:00	2	1	0	0	3	0	0	0	0	0	4	0	1	0	5	8
TOTAL	**79**	**11**	**4**	**0**	**94**	**0**	**0**	**0**	**0**	**0**	**74**	**2**	**4**	**0**	**80**	**174**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND BENARES ROAD

DATE: PEAK HOUR COUNT ON FRIDAY 14 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	NORTH															TOTAL
NAME	BENARES ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
12:00 - 12:15	1	0	1	0	2	0	0	0	0	0	2	0	1	0	3	5
12:15 - 12:30	1	0	0	0	1	0	0	0	0	0	3	0	0	0	3	4
12:30 - 12:45	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
12:45 - 13:00	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	4
13:00 - 13:15	3	1	0	0	4	0	0	0	0	0	2	0	0	0	2	6
13:15 - 13:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
13:30 - 13:45	3	0	0	0	3	0	0	0	0	0	3	0	0	0	3	6
13:45 - 14:00	1	0	0	0	1	0	0	0	0	0	2	0	0	0	2	3
14:00 - 14:15	3	1	0	0	4	0	0	0	0	0	2	0	1	0	3	7
14:15 - 14:30	8	0	0	0	8	0	0	0	0	0	3	0	0	0	3	11
14:30 - 14:45	1	1	0	0	2	0	0	0	0	0	2	0	1	0	3	5
14:45 - 15:00	4	0	0	0	4	0	0	0	0	0	1	0	0	0	1	5
15:00 - 15:15	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	4
15:15 - 15:30	3	0	0	0	3	0	0	0	0	0	1	0	0	0	1	4
15:30 - 15:45	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	6
15:45 - 16:00	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	3
16:00 - 16:15	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2	4
16:15 - 16:30	2	0	0	0	2	0	0	0	0	0	2	0	1	0	3	5
16:30 - 16:45	1	0	0	0	1	0	0	0	0	0	4	0	0	0	4	5
16:45 - 17:00	3	1	0	0	4	0	0	0	0	0	5	0	0	0	5	9
17:00 - 17:15	4	0	0	0	4	0	0	0	0	0	4	0	0	0	4	8
17:15 - 17:30	5	1	0	0	6	0	0	0	0	0	2	0	0	0	2	8
17:30 - 17:45	4	0	0	0	4	0	0	0	0	0	6	0	0	0	6	10
17:45 - 18:00	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	3
TOTAL	**67**	**5**	**1**	**0**	**73**	**0**	**0**	**0**	**0**	**0**	**52**	**0**	**4**	**0**	**56**	**129**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND BENARES ROAD

DATE: PEAK HOUR COUNT ON SATURDAY 15 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	SOUTH															TOTAL
NAME																
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
08:00 - 08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 - 08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 - 08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 - 09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 - 09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 - 09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 - 09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND BENARES ROAD

DATE: PEAK HOUR COUNT ON FRIDAY 14 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	SOUTH															TOTAL
NAME																
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND BENARES ROAD

DATE: PEAK HOUR COUNT ON SATURDAY 15 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	EAST															TOTAL
NAME	OLD MAIN ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
08:00 - 08:15	0	0	0	0	0	35	11	0	1	47	2	3	0	0	5	52
08:15 - 08:30	0	0	0	0	0	25	11	1	0	37	4	0	0	0	4	41
08:30 - 08:45	0	0	0	0	0	52	7	3	0	62	2	0	0	0	2	64
08:45 - 09:00	0	0	0	0	0	34	10	1	0	45	2	0	0	0	2	47
09:00 - 09:15	0	0	0	0	0	56	7	3	0	66	2	0	0	0	2	68
09:15 - 09:30	0	0	0	0	0	50	8	2	0	60	0	0	0	0	0	60
09:30 - 09:45	0	0	0	0	0	67	2	3	0	72	0	0	0	0	0	72
09:45 - 10:00	0	0	0	0	0	65	7	2	0	74	2	0	0	0	2	76
10:00 - 10:15	0	0	0	0	0	78	4	2	0	84	1	0	0	0	1	85
10:15 - 10:30	0	0	0	0	0	59	10	5	0	74	1	0	0	0	1	75
10:30 - 10:45	0	0	0	0	0	87	4	4	0	95	3	0	1	0	4	99
10:45 - 11:00	0	0	0	0	0	61	1	0	0	62	7	0	0	0	7	69
11:00 - 11:15	0	0	0	0	0	88	8	2	1	99	2	1	0	0	3	102
11:15 - 11:30	0	0	0	0	0	81	7	1	1	90	5	0	0	0	5	95
11:30 - 11:45	0	0	0	0	0	66	6	2	0	74	1	0	0	0	1	75
11:45 - 12:00	0	0	0	0	0	90	6	2	2	100	2	1	0	0	3	103
12:00 - 12:15	0	0	0	0	0	95	7	1	1	104	3	0	0	0	3	107
12:15 - 12:30	0	0	0	0	0	70	6	1	0	77	1	0	2	0	3	80
12:30 - 12:45	0	0	0	0	0	83	7	2	0	92	3	1	1	0	5	97
12:45 - 13:00	0	0	0	0	0	83	9	2	1	95	7	0	0	0	7	102
13:00 - 13:15	0	0	0	0	0	65	8	1	0	74	2	1	0	0	3	77
13:15 - 13:30	0	0	0	0	0	99	7	1	1	108	0	1	0	0	1	109
13:30 - 13:45	0	0	0	0	0	59	9	0	1	69	8	0	0	0	8	77
13:45 - 14:00	0	0	0	0	0	66	6	0	2	74	5	1	0	0	6	80
TOTAL	**0**	**0**	**0**	**0**	**0**	**1614**	**168**	**41**	**11**	**1834**	**65**	**9**	**4**	**0**	**78**	**1912**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND BENARES ROAD

DATE: PEAK HOUR COUNT ON FRIDAY 14 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	EAST															TOTAL
NAME	OLD MAIN ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
12:00 - 12:15	0	0	0	0	0	45	8	4	0	57	2	0	0	0	2	59
12:15 - 12:30	0	0	0	0	0	61	7	9	1	78	2	1	1	0	4	82
12:30 - 12:45	0	0	0	0	0	72	10	2	0	84	0	1	0	0	1	85
12:45 - 13:00	0	0	0	0	0	66	4	1	0	71	3	0	0	0	3	74
13:00 - 13:15	0	0	0	0	0	73	9	4	0	86	1	0	0	0	1	87
13:15 - 13:30	0	0	0	0	0	63	9	6	0	78	3	0	0	0	3	81
13:30 - 13:45	0	0	0	0	0	82	7	3	0	92	4	1	0	0	5	97
13:45 - 14:00	0	0	0	0	0	80	8	2	2	92	0	0	0	0	0	92
14:00 - 14:15	0	0	0	0	0	68	12	3	1	84	2	0	0	0	2	86
14:15 - 14:30	0	0	0	0	0	64	14	3	1	82	4	1	0	0	5	87
14:30 - 14:45	0	0	0	0	0	79	15	3	0	97	3	1	0	0	4	101
14:45 - 15:00	0	0	0	0	0	76	14	6	1	97	2	0	0	0	2	99
15:00 - 15:15	0	0	0	0	0	73	13	4	0	90	6	1	0	0	7	97
15:15 - 15:30	0	0	0	0	0	69	19	3	4	95	2	0	0	0	2	97
15:30 - 15:45	0	0	0	0	0	87	17	5	0	109	5	1	0	0	6	115
15:45 - 16:00	0	0	0	0	0	111	25	4	3	143	7	1	0	0	8	151
16:00 - 16:15	0	0	0	0	0	111	16	1	0	128	4	2	0	0	6	134
16:15 - 16:30	0	0	0	0	0	94	29	1	3	127	6	1	0	0	7	134
16:30 - 16:45	0	0	0	0	0	100	27	1	0	128	6	3	0	0	9	137
16:45 - 17:00	0	0	0	0	0	73	23	0	3	99	4	3	1	0	8	107
17:00 - 17:15	0	0	0	0	0	97	32	2	0	131	9	3	0	0	12	143
17:15 - 17:30	0	0	0	0	0	93	23	2	1	119	5	1	0	0	6	125
17:30 - 17:45	0	0	0	0	0	92	34	1	2	129	8	3	0	0	11	140
17:45 - 18:00	0	0	0	0	0	79	27	1	2	109	4	0	0	0	4	113
TOTAL	**0**	**0**	**0**	**0**	**0**	**1908**	**402**	**71**	**24**	**2405**	**92**	**24**	**2**	**0**	**118**	**2523**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND BENARES ROAD

DATE: PEAK HOUR COUNT ON SATURDAY 15 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	WEST															TOTAL
NAME	OLD MAIN ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
08:00 - 08:15	8	0	0	0	8	45	7	0	0	52	0	0	0	0	0	60
08:15 - 08:30	3	0	0	0	3	43	11	0	1	55	0	0	0	0	0	58
08:30 - 08:45	4	0	0	0	4	63	14	0	1	78	0	0	0	0	0	82
08:45 - 09:00	0	0	0	0	0	37	10	2	0	49	0	0	0	0	0	49
09:00 - 09:15	1	0	0	0	1	75	7	0	1	83	0	0	0	0	0	84
09:15 - 09:30	1	0	0	0	1	57	5	3	0	65	0	0	0	0	0	66
09:30 - 09:45	2	0	0	0	2	67	7	0	0	74	0	0	0	0	0	76
09:45 - 10:00	5	1	0	0	6	73	6	3	1	83	0	0	0	0	0	89
10:00 - 10:15	3	0	0	0	3	43	6	3	1	53	0	0	0	0	0	56
10:15 - 10:30	6	0	0	0	6	67	10	0	0	77	0	0	0	0	0	83
10:30 - 10:45	3	0	1	0	4	60	9	2	1	72	0	0	0	0	0	76
10:45 - 11:00	3	0	0	0	3	71	12	1	0	84	0	0	0	0	0	87
11:00 - 11:15	1	0	0	0	1	66	6	1	0	73	0	0	0	0	0	74
11:15 - 11:30	2	0	0	0	2	78	10	2	0	90	0	0	0	0	0	92
11:30 - 11:45	5	0	0	0	5	73	7	3	0	83	0	0	0	0	0	88
11:45 - 12:00	4	0	1	0	5	68	6	2	1	77	0	0	0	0	0	82
12:00 - 12:15	3	0	0	0	3	83	8	1	1	93	0	0	0	0	0	96
12:15 - 12:30	4	0	0	0	4	57	6	2	0	65	0	0	0	0	0	69
12:30 - 12:45	0	0	0	0	0	63	8	2	0	73	0	0	0	0	0	73
12:45 - 13:00	3	0	1	0	4	75	9	3	1	88	0	0	0	0	0	92
13:00 - 13:15	3	0	2	0	5	99	8	0	0	107	0	0	0	0	0	112
13:15 - 13:30	4	0	0	0	4	76	7	2	0	85	0	0	0	0	0	89
13:30 - 13:45	1	0	0	0	1	57	7	3	0	67	0	0	0	0	0	68
13:45 - 14:00	5	0	0	0	5	40	8	0	0	48	0	0	0	0	0	53
TOTAL	**74**	**1**	**5**	**0**	**80**	**1536**	**194**	**35**	**9**	**1774**	**0**	**0**	**0**	**0**	**0**	**1854**

TRAFFIC SURVEY

CLIENT:

SITE: INTERSECTION OF OLD MAIN ROAD AND BENARES ROAD

DATE: PEAK HOUR COUNT ON FRIDAY 14 MAY 2021

UNITS: CLASSIFIED

APPROACH FROM	WEST															TOTAL
NAME	OLD MAIN ROAD															
MOVEMENT	LEFT TURN					STRAIGHT					RIGHT TURN					ALL
TIME	C	T	H	B	TOTAL	C	T	H	B	TOTAL	C	T	H	B	TOTAL	MOVEMENTS
12:00 - 12:15	1	0	0	0	1	64	11	1	2	78	0	0	0	0	0	79
12:15 - 12:30	0	0	0	0	0	56	10	3	0	69	0	0	0	0	0	69
12:30 - 12:45	1	0	0	0	1	62	9	4	0	75	0	0	0	0	0	76
12:45 - 13:00	2	0	0	0	2	52	7	5	0	64	0	0	0	0	0	66
13:00 - 13:15	0	0	1	0	1	73	11	3	0	87	0	0	0	0	0	88
13:15 - 13:30	2	0	0	0	2	73	10	6	1	90	0	0	0	0	0	92
13:30 - 13:45	3	0	0	0	3	69	11	4	0	84	0	0	0	0	0	87
13:45 - 14:00	5	0	1	0	6	76	7	6	0	89	0	0	0	0	0	95
14:00 - 14:15	3	0	0	0	3	72	15	2	0	89	0	0	0	0	0	92
14:15 - 14:30	2	0	0	0	2	71	15	4	0	90	0	0	0	0	0	92
14:30 - 14:45	2	0	0	0	2	94	11	7	1	113	0	0	0	0	0	115
14:45 - 15:00	3	1	0	0	4	51	12	3	1	67	0	0	0	0	0	71
15:00 - 15:15	3	0	1	0	4	77	10	2	1	90	0	0	0	0	0	94
15:15 - 15:30	0	0	0	0	0	54	23	3	0	80	0	0	0	0	0	80
15:30 - 15:45	0	0	0	0	0	70	18	2	0	90	0	0	0	0	0	90
15:45 - 16:00	5	0	0	0	5	68	19	6	0	93	0	0	0	0	0	98
16:00 - 16:15	2	0	0	0	2	70	20	4	3	97	0	0	0	0	0	99
16:15 - 16:30	2	0	0	0	2	75	24	3	1	103	0	0	0	0	0	105
16:30 - 16:45	5	0	1	0	6	62	30	0	1	93	0	0	0	0	0	99
16:45 - 17:00	5	0	0	0	5	68	19	3	0	90	0	0	0	0	0	95
17:00 - 17:15	6	0	1	0	7	66	25	2	1	94	0	0	0	0	0	101
17:15 - 17:30	4	0	0	0	4	45	24	1	0	70	0	0	0	0	0	74
17:30 - 17:45	6	0	1	0	7	47	19	0	1	67	0	0	0	0	0	74
17:45 - 18:00	1	0	0	0	1	28	19	2	0	49	0	0	0	0	0	50
TOTAL	**63**	**1**	**6**	**0**	**70**	**1543**	**379**	**76**	**13**	**2011**	**0**	**0**	**0**	**0**	**0**	**2081**

Appendix D
SIDRA Outputs

5 YEAR SCENARIO WITHOUT DEVELOPMENT GENERATED TRAFFIC

MOVEMENT SUMMARY

Site: [Old Main Road / Rob Roy Crescent - AM]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Old Main Road											
5	T1	375	0.0	0.204	0.1	LOS A	0.1	1.0	0.05	0.02	59.6
6	R2	14	0.0	0.204	7.2	LOS A	0.1	1.0	0.05	0.02	57.4
Approach		389	0.0	0.204	0.4	NA	0.1	1.0	0.05	0.02	59.5
North: Rob Roy Crescent											
7	L2	14	0.0	0.023	9.8	LOS A	0.1	0.6	0.46	0.88	50.7
9	R2	4	0.0	0.023	12.7	LOS B	0.1	0.6	0.46	0.88	50.2
Approach		18	0.0	0.023	10.4	LOS B	0.1	0.6	0.46	0.88	50.6
West: Old Main Road											
10	L2	1	0.0	0.203	5.6	LOS A	0.0	0.0	0.00	0.00	58.3
11	T1	394	0.0	0.203	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		395	0.0	0.203	0.0	NA	0.0	0.0	0.00	0.00	59.9
All Vehicles		802	0.0	0.204	0.4	NA	0.1	1.0	0.03	0.03	59.5

MOVEMENT SUMMARY

Site: [Old Main Road / Rob Roy Crescent - PM]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Old Main Road											
5	T1	644	0.0	0.346	0.1	LOS A	0.3	1.8	0.04	0.02	59.7
6	R2	18	0.0	0.346	8.0	LOS A	0.3	1.8	0.04	0.02	57.4
Approach		662	0.0	0.346	0.3	NA	0.3	1.8	0.04	0.02	59.6
North: Rob Roy Crescent											
7	L2	30	0.0	0.037	10.1	LOS B	0.1	0.9	0.47	0.88	50.8
9	R2	1	0.0	0.037	18.6	LOS C	0.1	0.9	0.47	0.88	50.3
Approach		31	0.0	0.037	10.3	LOS B	0.1	0.9	0.47	0.88	50.8
West: Old Main Road											
10	L2	1	0.0	0.225	5.6	LOS A	0.0	0.0	0.00	0.00	58.3
11	T1	438	0.0	0.225	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		439	0.0	0.225	0.0	NA	0.0	0.0	0.00	0.00	59.9
All Vehicles		1132	0.0	0.346	0.5	NA	0.3	1.8	0.04	0.03	59.4

MOVEMENT SUMMARY

Site: [Old Main Road / Benares Road - AM]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Old Main Road											
5	T1	425	0.0	0.226	0.1	LOS A	0.1	0.7	0.03	0.01	59.7
6	R2	10	0.0	0.226	7.3	LOS A	0.1	0.7	0.03	0.01	57.5
Approach		435	0.0	0.226	0.2	NA	0.1	0.7	0.03	0.01	59.7
North: Benares Road											
7	L2	17	0.0	0.040	9.6	LOS A	0.1	0.9	0.48	0.90	50.3
9	R2	10	0.0	0.040	13.2	LOS B	0.1	0.9	0.48	0.90	49.8
Approach		27	0.0	0.040	11.0	LOS B	0.1	0.9	0.48	0.90	50.1
West: Old Main Road											
10	L2	25	0.0	0.204	5.6	LOS A	0.0	0.0	0.00	0.04	58.0
11	T1	371	0.0	0.204	0.0	LOS A	0.0	0.0	0.00	0.04	59.6
Approach		396	0.0	0.204	0.4	NA	0.0	0.0	0.00	0.04	59.5
All Vehicles		858	0.0	0.226	0.6	NA	0.1	0.9	0.03	0.05	59.2

MOVEMENT SUMMARY

Site: [Old Main Road / Benares Road - PM]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Old Main Road											
5	T1	684	0.0	0.389	0.4	LOS A	0.7	5.0	0.10	0.04	59.2
6	R2	39	0.0	0.389	9.0	LOS A	0.7	5.0	0.10	0.04	57.0
Approach		723	0.0	0.389	0.8	NA	0.7	5.0	0.10	0.04	59.0
North: Benares Road											
7	L2	9	0.0	0.071	10.5	LOS B	0.2	1.5	0.71	0.95	46.5
9	R2	13	0.0	0.071	22.1	LOS C	0.2	1.5	0.71	0.95	46.1
Approach		22	0.0	0.071	17.4	LOS C	0.2	1.5	0.71	0.95	46.2
West: Old Main Road											
10	L2	20	0.0	0.268	5.6	LOS A	0.0	0.0	0.00	0.02	58.1
11	T1	502	0.0	0.268	0.0	LOS A	0.0	0.0	0.00	0.02	59.7
Approach		522	0.0	0.268	0.2	NA	0.0	0.0	0.00	0.02	59.7
All Vehicles		1267	0.0	0.389	0.9	NA	0.7	5.0	0.07	0.05	59.0

5 YEAR SCENARIO WITH DEVELOPMENT GENERATED TRAFFIC

MOVEMENT SUMMARY

Site: [Old Main Road / Rob Roy Crescent / Site Access - AM]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Site Access											
1	L2	43	0.0	0.377	11.3	LOS B	1.6	11.4	0.67	1.04	46.7
2	T1	1	0.0	0.377	17.1	LOS C	1.6	11.4	0.67	1.04	46.4
3	R2	111	0.0	0.377	19.1	LOS C	1.6	11.4	0.67	1.04	46.3
Approach		155	0.0	0.377	16.9	LOS C	1.6	11.4	0.67	1.04	46.4
East: Old Main Road											
4	L2	116	0.0	0.254	5.8	LOS A	0.2	1.4	0.05	0.15	56.8
5	T1	352	0.0	0.254	0.1	LOS A	0.2	1.4	0.05	0.15	58.3
6	R2	14	0.0	0.254	7.2	LOS A	0.2	1.4	0.05	0.15	56.2
Approach		482	0.0	0.254	1.7	NA	0.2	1.4	0.05	0.15	57.9
North: Rob Roy Crescent											
7	L2	13	0.0	0.027	9.6	LOS A	0.1	0.7	0.48	0.88	50.2
8	T1	1	0.0	0.027	15.3	LOS C	0.1	0.7	0.48	0.88	49.9
9	R2	4	0.0	0.027	15.3	LOS C	0.1	0.7	0.48	0.88	49.7
Approach		18	0.0	0.027	11.2	LOS B	0.1	0.7	0.48	0.88	50.1
West: Old Main Road											
10	L2	1	0.0	0.232	7.8	LOS A	0.5	3.6	0.16	0.07	57.1
11	T1	370	0.0	0.232	0.4	LOS A	0.5	3.6	0.16	0.07	58.7
12	R2	46	0.0	0.232	7.8	LOS A	0.5	3.6	0.16	0.07	56.5
Approach		417	0.0	0.232	1.3	NA	0.5	3.6	0.16	0.07	58.5
All Vehicles		1072	0.0	0.377	3.9	NA	1.6	11.4	0.19	0.26	56.0

MOVEMENT SUMMARY

Site: [Old Main Road / Rob Roy Crescent / Site Access - PM]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Site Access											
1	L2	35	0.0	0.476	16.5	LOS C	1.9	13.3	0.85	1.10	41.4
2	T1	1	0.0	0.476	27.5	LOS D	1.9	13.3	0.85	1.10	41.2
3	R2	78	0.0	0.476	32.0	LOS D	1.9	13.3	0.85	1.10	41.1
Approach		114	0.0	0.476	27.2	LOS D	1.9	13.3	0.85	1.10	41.2
East: Old Main Road											
4	L2	87	0.0	0.380	6.1	LOS A	0.4	2.6	0.06	0.08	57.4
5	T1	620	0.0	0.380	0.1	LOS A	0.4	2.6	0.06	0.08	59.0
6	R2	18	0.0	0.380	8.0	LOS A	0.4	2.6	0.06	0.08	56.8
Approach		725	0.0	0.380	1.0	NA	0.4	2.6	0.06	0.08	58.7
North: Rob Roy Crescent											
7	L2	28	0.0	0.044	9.9	LOS A	0.2	1.1	0.50	0.89	50.2
8	T1	2	0.0	0.044	22.8	LOS C	0.2	1.1	0.50	0.89	50.0
9	R2	1	0.0	0.044	23.5	LOS C	0.2	1.1	0.50	0.89	49.8
Approach		31	0.0	0.044	11.2	LOS B	0.2	1.1	0.50	0.89	50.2
West: Old Main Road											
10	L2	1	0.0	0.257	10.1	LOS B	0.6	4.3	0.16	0.05	57.0
11	T1	417	0.0	0.257	0.7	LOS A	0.6	4.3	0.16	0.05	58.6
12	R2	34	0.0	0.257	10.0	LOS B	0.6	4.3	0.16	0.05	56.4
Approach		452	0.0	0.257	1.4	NA	0.6	4.3	0.16	0.05	58.4
All Vehicles		1322	0.0	0.476	3.7	NA	1.9	13.3	0.17	0.18	56.3

MOVEMENT SUMMARY

Site: [Old Main Road / Benares Road - AM]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Old Main Road											
5	T1	505	0.0	0.266	0.1	LOS A	0.1	0.7	0.03	0.01	59.8
6	R2	8	0.0	0.266	8.0	LOS A	0.1	0.7	0.03	0.01	57.6
Approach		513	0.0	0.266	0.2	NA	0.1	0.7	0.03	0.01	59.8
North: Benares Road											
7	L2	14	0.0	0.083	10.2	LOS B	0.3	1.9	0.61	0.96	48.6
9	R2	24	0.0	0.083	15.8	LOS C	0.3	1.9	0.61	0.96	48.2
Approach		38	0.0	0.083	13.7	LOS B	0.3	1.9	0.61	0.96	48.3
West: Old Main Road											
10	L2	39	0.0	0.249	5.6	LOS A	0.0	0.0	0.00	0.05	57.9
11	T1	445	0.0	0.249	0.0	LOS A	0.0	0.0	0.00	0.05	59.5
Approach		484	0.0	0.249	0.5	NA	0.0	0.0	0.00	0.05	59.4
All Vehicles		1035	0.0	0.266	0.8	NA	0.3	1.9	0.03	0.06	59.1

MOVEMENT SUMMARY

Site: [Old Main Road / Benares Road - PM]

New Site
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Old Main Road											
5	T1	735	0.0	0.413	0.4	LOS A	0.7	5.1	0.10	0.03	59.2
6	R2	35	0.0	0.413	9.7	LOS A	0.7	5.1	0.10	0.03	57.0
Approach		770	0.0	0.413	0.8	NA	0.7	5.1	0.10	0.03	59.1
North: Benares Road											
7	L2	3	0.0	0.149	10.9	LOS B	0.4	3.0	0.84	0.99	42.8
9	R2	26	0.0	0.149	25.9	LOS D	0.4	3.0	0.84	0.99	42.4
Approach		29	0.0	0.149	24.3	LOS C	0.4	3.0	0.84	0.99	42.5
West: Old Main Road											
10	L2	27	0.0	0.296	5.6	LOS A	0.0	0.0	0.00	0.03	58.1
11	T1	548	0.0	0.296	0.0	LOS A	0.0	0.0	0.00	0.03	59.7
Approach		575	0.0	0.296	0.3	NA	0.0	0.0	0.00	0.03	59.6
All Vehicles		1374	0.0	0.413	1.1	NA	0.7	5.1	0.07	0.05	58.8

Appendix E
TRL

EMAAN

TRAFFIC ENGINEERS

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EMAAN TRAFFIC ENGINEERS (PTY) LTD