



# TRAFFIC IMPACT ASSESSMENT FOR THE PROPOSED EXTENSION OF THE WOODBURN SQUARE SHOPPING CENTRE LOCATED IN PIETERMARITZBURG, KWAZULU-NATAL

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**Submission Details:**

Date: May 2023  
Rev: 1  
Report No: 241



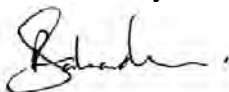
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The undersigned has been appointed as the registered professional for this Traffic Impact Assessment and has applied due diligence to the content of this report and endeavoured to ensure that the TIA is free of technical errors and takes full responsibility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

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Yours faithfully

A handwritten signature in black ink, appearing to read 'Rishaal Sahadew', with a horizontal line underneath.

Rishaal Sahadew (Pr Tech)  
JINYELA

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## LIST OF ACRONYMS

TIA	Traffic Impact Assessment
veh/h	Vehicles per hour
LoS	Level of Service

# 1. DEVELOPMENT PARTICULARS

The developer, KZN Natal Rugby Union, intends to extend the existing Woodburn Square Shopping Centre located in Pietermaritzburg in KwaZulu-Natal. Accordingly, Jinyela (Pty) Ltd has been appointed to undertake a Traffic Impact Assessment (TIA) in support of the proposed development on the site.

The purpose of this TIA is as follows:

- Determine the volume of additional traffic that will be generated by the proposed development.
- Analyse the impact of the additional traffic on the surrounding road network.
- If required, propose road network improvements to mitigate any congestion and road safety problems that may arise from the development generated traffic.
- Propose recommendations on access requirements.

## 1.1 The Development Proposal

The application site is shown on the locality map in **Figure 1** hereafter. The proposed development will consist of the following land-uses:

- 11 019m<sup>2</sup> of Commercial Space
- A 346m<sup>2</sup> fast-food restaurant

The site consists of a single property known as ERF 10278 located in Pietermaritzburg, in KwaZulu Natal. There are no restrictive conditions of title which would prevent the establishment of the proposed development on the property.

## 1.2 The Access and Internal Circulation

The Woodburn Square Shopping Centre currently has a single existing access point located on Woodhouse Road which will be retained as is during the proposed expansion to the centre. As part of the proposed extension, two new access points will be constructed on Boshoff Street. The first new access will be constructed just west of the Boshoff Street and Woodhouse Road intersection. This new access will be a full directional access that leads directly into the primary parking area.

The second new access will be constructed further west along Boshoff Street and will be restricted to left-in and left-out movements only. This second new access will predominantly provide access to delivery vehicles and will also allow quick access to the rugby training fields.

The proposed internal circulation for the extension is sensible as it permits the seamless movement of vehicles and pedestrian across the facility. The proposed

extension will also allow vehicles and pedestrians to freely traverse between the existing shopping centre and the new proposed section of the mall.

Figure 1: Locality Map

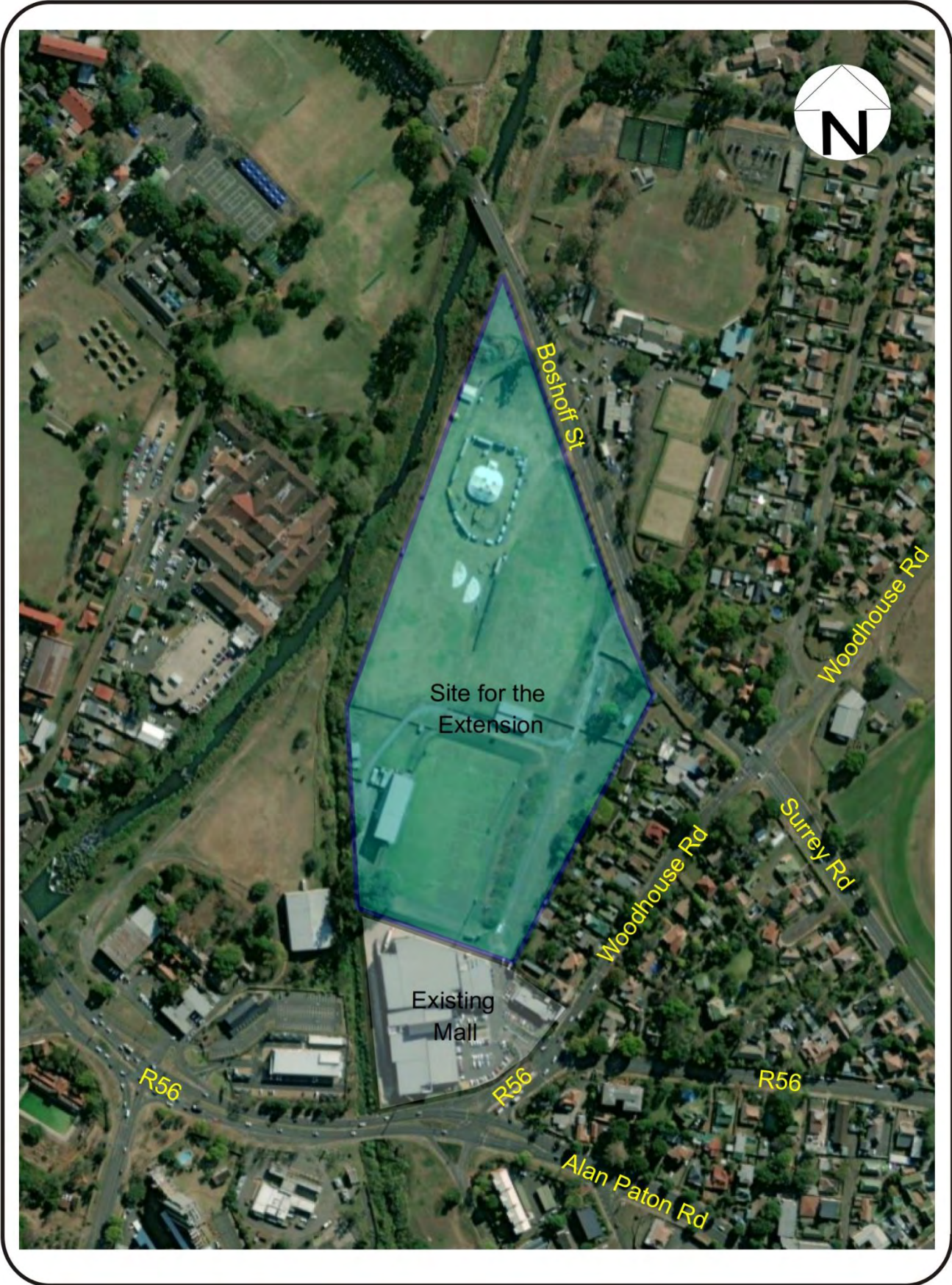


Figure 2: Site Layout



LEGEND

NOTES

NOTES



Drawing Title  
 WOODBURN SQUARE  
 EXTENSION SITE LAYOUT

Scale:		
Sketch No.	Rev.	
Design:	Design: R. SAHADEW	
Checked: R. SAHADEW	Date:	Sheet
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## 2. PRIMARY STUDY AREA

The primary study area for this development will include the following roads and intersections:

- Chief Albert Luthuli, Alan Paton Avenue & Leinster Road Intersection
- Woodhouse Road and Woodburn Square Access Intersection
- Woodhouse Road, Boshoff Street & Surrey Road Intersection

## 3. BACKGROUND INFORMATION

This chapter provides an overview of the immediate surrounding road network, transport facilities and other land developments that are relevant to this particular TIA.

### 3.1 Existing Road Network

The surrounding road network comprises of the R56, Alan Paton Avenue, Woodhouse Road, Boshoff Street and Surrey Road. All of these road fall under the jurisdiction of the Msunduzi Municipality. These roads are described in detail in the sections that follow hereafter.

#### 3.1.1 Chief Albert Luthuli

Chief Albert Luthuli	
Road Authority	Msunduzi Municipality
Road Width	Approximately 20m
Number of Lanes	2 Lanes in each direction
Carriageways	Dual Carriageway
Class of Road	RCAM R3
Sidewalks	Yes
Surface	Asphalt
Surface Condition	Good
Speed Humps	No
Streetlights	Yes
Speed Limit	60km/hr

### 3.1.2 Alan Paton Avenue

Alan Paton Avenue	
Road Authority	Msunduzi Municipality
Road Width	Approximately 20m
Number of Lanes	2 Lanes in each direction
Carriageways	Dual Carriageway
Class of Road	RCAM R3
Sidewalks	Yes
Surface	Asphalt
Surface Condition	Good
Speed Humps	No
Streetlights	Yes
Speed Limit	60km/hr

### 3.1.3 Woodhouse Road

Woodhouse Road	
Road Authority	Msunduzi Municipality
Road Width	Approximately 9m
Number of Lanes	1 Lane in each direction
Carriageways	1 Carriageway
Class of Road	RCAM U4
Sidewalks	Yes
Surface	Asphalt
Surface Condition	Good
Speed Humps	Yes
Streetlights	Yes
Speed Limit	60km/hr

### 3.1.4 Boshoff Street

<b>Boshoff Street</b>	
Road Authority	Msunduzi Municipality
Road Width	Approximately 20m
Number of Lanes	2 Lanes in each direction
Carriageways	1 Carriageway
Class of Road	RCAM R3
Sidewalks	Yes
Surface	Asphalt
Surface Condition	Good
Speed Humps	No
Streetlights	Yes
Speed Limit	60km/hr

### 3.1.5 Surrey Road

<b>Surrey Road</b>	
Road Authority	Msunduzi Municipality
Road Width	Approximately 15m
Number of Lanes	2 Lanes in each direction
Carriageways	1 Carriageway
Class of Road	RCAM R3
Sidewalks	Yes
Surface	Asphalt
Surface Condition	Good to Fair
Speed Humps	No
Streetlights	Yes
Speed Limit	60km/hr

## **3.2 Public Transport, Pedestrian and Cycling Networks**

### **3.2.1 Public Transport**

It was observed from the site visit and from the traffic counts that a fair volume of public transport vehicles travel on the surrounding road network throughout the day. Public transport laybys are located on Surrey Road and on the Chief Albert Luthuli.

### **3.2.2 Pedestrian Network**

During the site visit, pedestrian activity was noted in the vicinity of the site on the surrounding road network. It was observed that these pedestrians are adequately accommodated by the grass verges and sidewalks on the surrounding road network.

### **3.2.3 Cycling Network**

During the site visit, no cyclists nor any formal cycling facilities were observed in the vicinity of the site.

## **3.3 Planned Changes to the Transport Network and Facilities**

There are currently no planned upgrades to the road network surrounding the site.

## **4. OTHER PLANNING AUTHORITIES**

It is intention of the development team to submit this TIA to the following road authorities:

- Msunduzi Municipality

## 5. TRAFFIC DEMAND ESTIMATION

### 5.1 Assessment Years

In terms of the TMH 16 COTO Manual for Traffic Impact Assessments and Site Traffic Assessments, developments must be assessed for a design horizon 5 years (2028). The road network must be assessed without and then with the additional traffic generated by the proposed site. As such, the traffic demand of this proposed development will be assessed for a 5-year design horizon i.e. 2028.

### 5.2 Assessment Hours

TMH 16 states that the traffic assessment must be undertaken during the hours which the **combined** background traffic volumes and development traffic volumes result in the highest traffic demand that will be imposed onto the road network. The worst-case scenario for this development, in terms of peak hour traffic generation, will coincide with the typical peak hours for a commercial centre. As stated in the TIA guidelines, commercial centres generate peak hour traffic during the Friday PM and Saturday peak hours. Therefore, these peaks hours were analysed in this traffic study.

### 5.3 Background Traffic Demand Estimation

#### 5.3.1 Traffic Counts

The traffic counts were undertaken by DC Traffic Data (Pty) Ltd from 15h00 to 18h00 on Friday 03 June 2022 and 09h00 to 13h00 on Saturday 04 June 2022, recording all movements by vehicle type in 15-minute intervals. The details of the traffic counts undertaken for this particular study are as follows:

DETAILS OF TRAFFIC COUNTS	
<b>Date of Counts</b>	03 & 04 June 2022
<b>Day of the Week</b>	Friday & Saturday
<b>Day Class</b> (eg, normal, abnormal, exceptional)	Normal
<b>Time of Day</b>	15h00 to 18h00 & 09h00 to 13h00
<b>Congestion Levels noted during count</b>	No Congestion
<b>Name of person that supervised the count</b>	Mr Trevelyan Moodley
<b>Name of Intersection</b>	1. R56 & Alan Paton Avenue & Leinster Road Intersection 2. R56 & Woodhouse Road & Woodburn Square Access Intersection 3. Woodhouse Road & Boshoff Street & Surrey Road Intersection

It was established from the analysis of the existing traffic counts that the peak hours on the surrounding road network occur at the following times:

- **Friday PM Peak Hour:** 16h00 to 17h00
- **Saturday Peak Hour :** 12h00 to 13h00

The existing peak hour traffic volumes, which are also referred to as the base year background traffic volumes, are shown on **Figure 3** hereafter. The detailed classified traffic counts that were used in this study are attached in **Appendix A** of this report.

### 5.3.2 Traffic Growth Rates

For the purpose of assessing the 5-year design horizon, the existing background traffic volumes were grown by an appropriate growth rate to determine the equivalent 2028 background traffic volumes. The area in the vicinity of the proposed development is considered to be a low growth area from a traffic perspective. As such, a 3% per annum growth rate compounded annually is considered reasonable for this traffic impact assessment. The forecasted background traffic volumes for the 5-year design horizon is shown on **Figure 4** hereafter.

Figure 3: 2023 Background Traffic Volumes

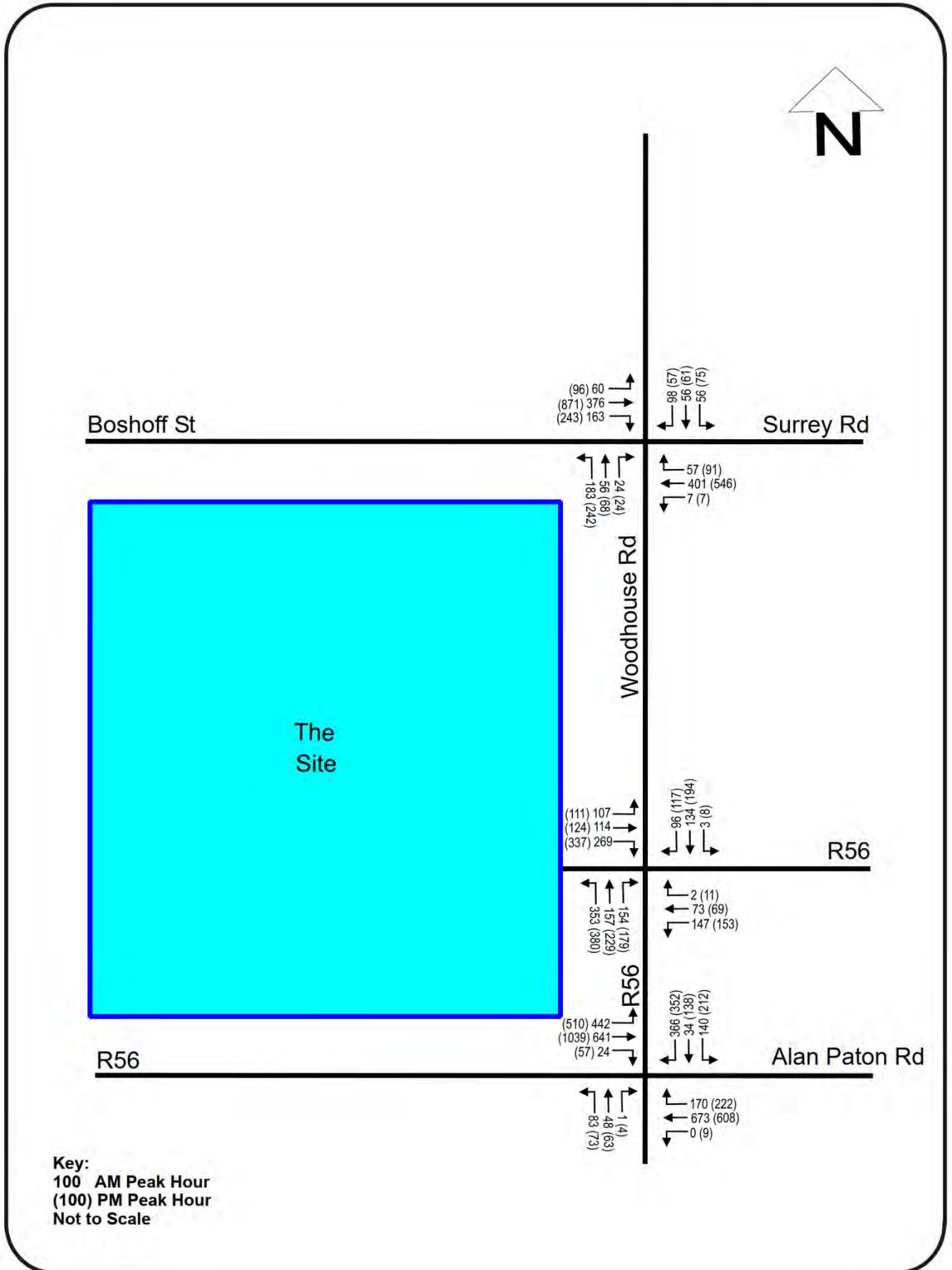
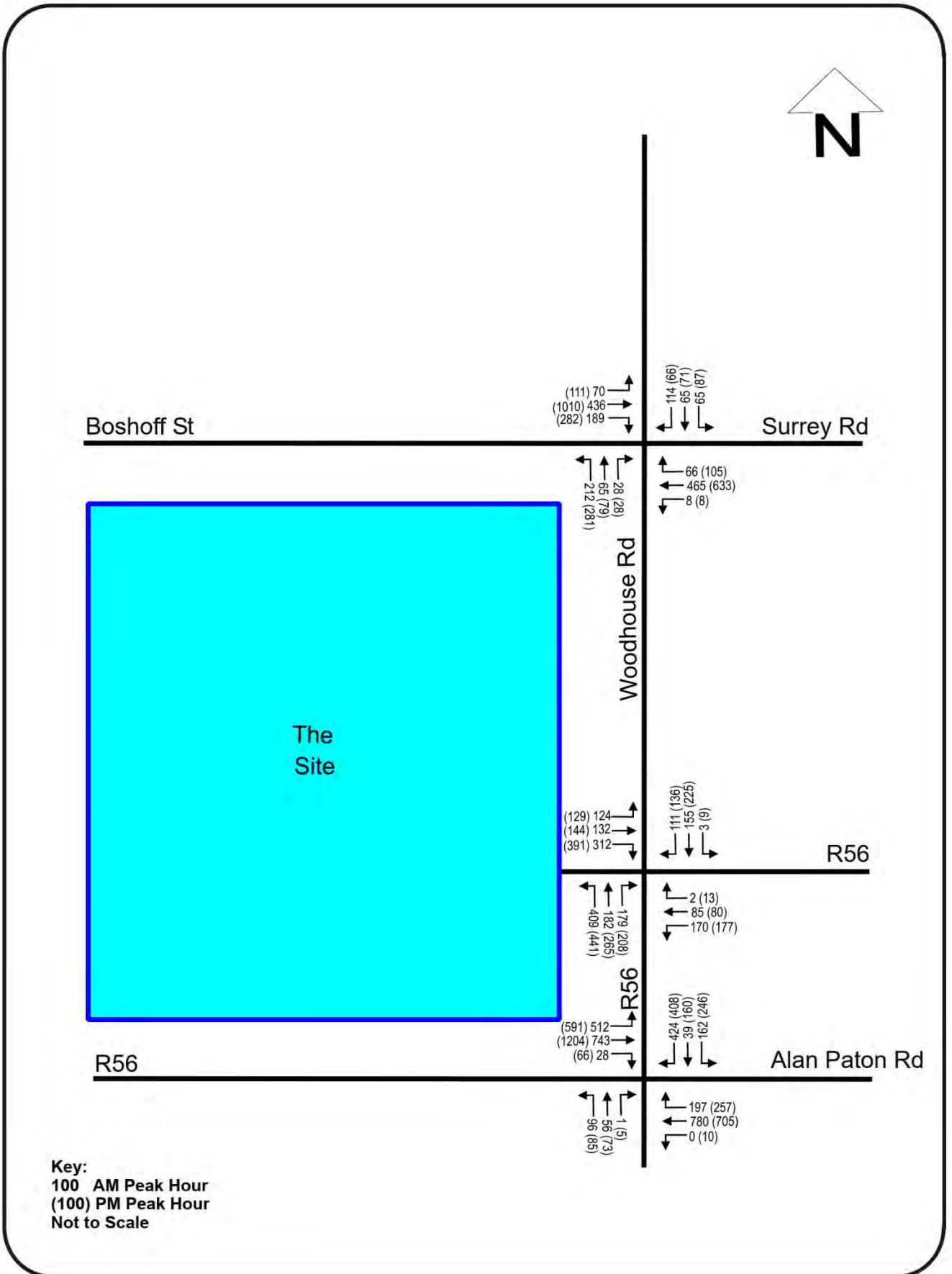


Figure 4: 2028 Forecasted Background Traffic Volumes





### 5.3.3 Existing Exercised Land Use Rights

The proposed Woodburn Square extension will occupy a portion of the existing rugby stadium. The construction of the new portion of the shopping centre will include the demolition of the existing rugby stadium seating stand/recreational building and rugby field that is currently owned by the KwaZulu-Natal Natal Rugby Union. The practice fields will remain in place as is. These currently rugby fields generate negligible traffic during the development peak hours and thus has been left out of the analysis within this report.

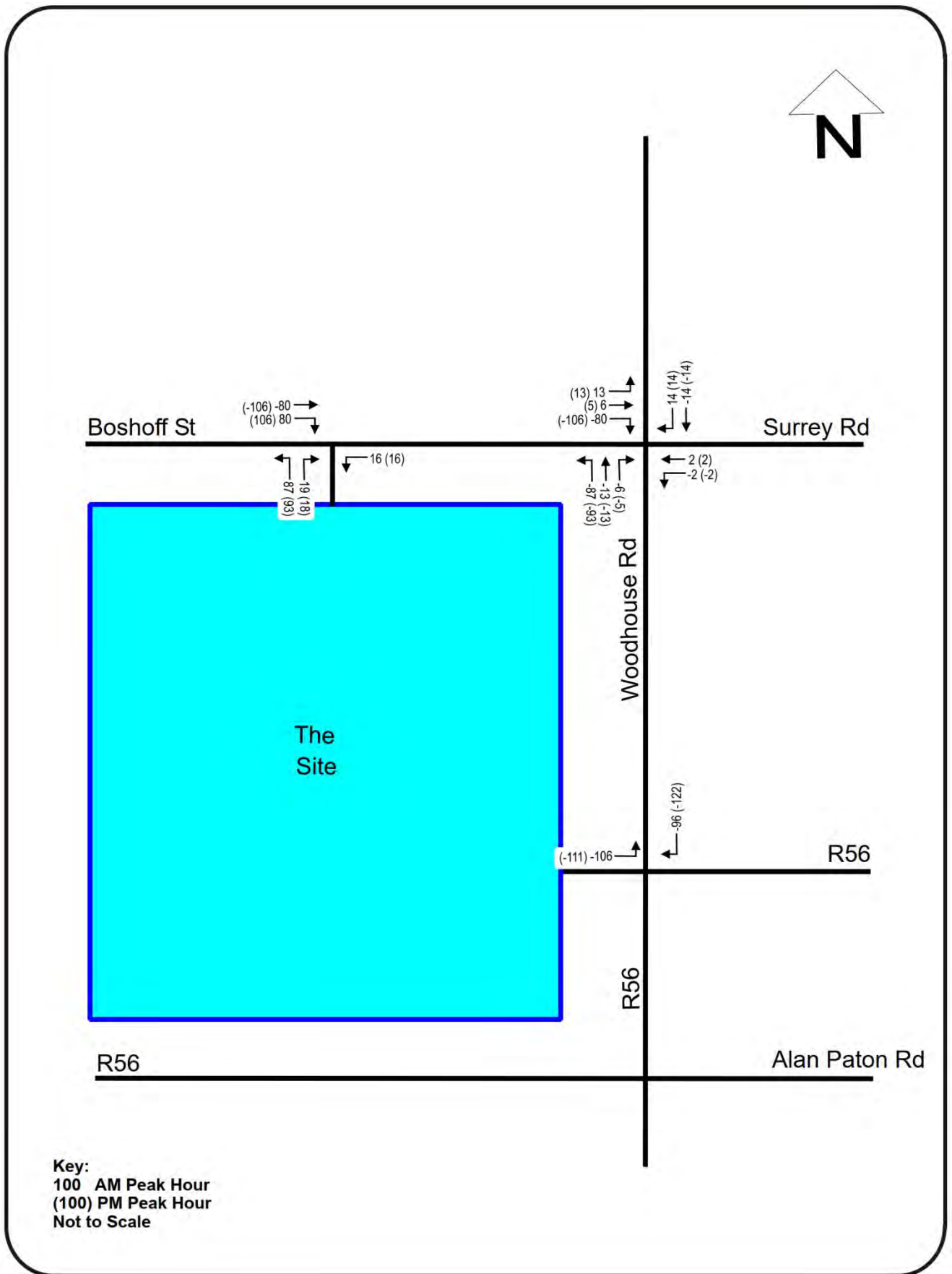
### 5.3.4 Trip Generation by Other Developments

There are no other known **approved** developments in the area nor developments that are imminent in the near future that are likely to result in a substantial increase in the traffic demand within the primary study area that could influence the analysis, conclusions and the recommendations of this TIA. Therefore, no other development generated traffic volumes were considered in this TIA.

### 5.3.5 Redistribution of the Background Traffic Volumes

As a result of the two new proposed access points, some of the existing traffic will redistribute to the new access points, especially vehicles currently entering the study area from Boshoff Street and Surrey Road. As such, some of the background traffic volumes for the existing shopping centre was redistributed for the purpose of this traffic assessment. These redistributed traffic volumes are shown in **Figure 5** hereafter.

Figure 5: Redistributed Background Traffic Volumes



## 5.4 Trip Generation

### 5.4.1 Trip Generation Rates

The TMH 17 South African Trip Data Manual was used to calculate the maximum potential traffic that will be generated by the proposed development. The TMH 17 Manual provides the following Friday PM and Saturday peak hour trip generation rates and directional splits for the land uses that will be included in the proposed development.

#### **Shopping Centre**

- Saturday peak hour – 4,5 veh/h two-way per 100m<sup>2</sup> of retail floor area with a 50:50 directional splits
- Friday PM peak hour – 3,4 veh/h two-way per 100m<sup>2</sup> of retail floor area with a 50:50 directional splits

For the Saturday peak hour and Friday PM peak hour, the guidelines recommend that 12% and 13% of the total development generated traffic will be pass-by traffic respectively. The remaining traffic will comprise of primary and diverted trips.

#### **Fast-Food Restaurant**

- Friday PM peak hour – 50,00 veh/h two-way per 100m<sup>2</sup> of GLA with a 50:50 directional split.

For the Friday PM peak hour, the guidelines recommend that 52% of the total development generated traffic will be pass-by traffic. The remaining traffic will comprise of primary and diverted trips.

The manual provides no trip generation rates for a Fast-Food Restaurant for the Saturday peak hour. The trip generation rates for the weekday midday peak hour were thus used as the Saturday peak hour occurs during the midday peak hour.

- Saturday peak hour – 30,00 veh/h two-way per 100m<sup>2</sup> of GLA with a 50:50 directional split.

The above trip generation rates and directional splits will be used to calculate the traffic generated by the proposed development.

### 5.4.2 Trip Generation Adjustment Factors

Based on the TMH 17 South African Trip Data Manual, trip generation adjustment factors can be applied to the trip generation calculations for a development to factor in the following aspects of the development:

- $P_m$  = Reduction Factor for a mixed-use development
- $P_v$  = Reduction Factor for a vehicle ownership
- $P_t$  = Reduction Factor for a transit nodes or corridors

All three of the above reduction factors were used in this TIA.

The trip generation adjustment factors which were applied to the development generated traffic are shown below.

TRIP GENERATION ADJUSTMENT FACTORS								
Commercial Shopping Centre	Enter PM Reduction Factor	0,1	Enter PV Reduction Factor	0,2	Enter PT Reduction Factor	0,15	PC Combined Reduction Factor =	0,612
Fast Food	Enter PM Reduction Factor	0,1	Enter PV Reduction Factor	0,2	Enter PT Reduction Factor	0,15	PC Combined Reduction Factor =	0,612

### 5.4.3 Trip Generation Calculations

Based on the discussions of the afore-mentioned sections of this chapter, the maximum potential trips that will be generated by the proposed development during the Friday PM and Saturday peak hour are calculated hereafter in Table 1. These calculations include a size adjustment factor for the commercial component of the development.

The development generated traffic according to peak hour, trip type and directional split is shown in Table 2 hereafter.

Table 1: Trip Generation Calculations

Woodburn Extension																
FRIDAY PM PEAK HOUR																
	Land Use Code (TMH 17)	Land UseType	Unit	GLA Area (m <sup>2</sup> )	Trip Generation Rate	Size Adjustment Factor	Source Document	Unit m <sup>2</sup>	Peak Total 2 way (cars/h)	Combined Reduction Factor	PHF	Total Discounted Trip	Split (%)		In	Out
													In (%)	Out (%)		
Woodburn Square	820	Commercial	GLA	11 019	3,4	1,843	TMH 17	100	690	0,612	N/A	423	50	50	211	211
	933	Fast Food Drive Thru	GLA	346	50	N/A	TMH 17	100	173	0,612	N/A	106	55	45	58	48
<b>TOTAL TRAFFIC</b>														<b>270</b>	<b>259</b>	
SATURDAY PEAK HOUR																
	Land Use Code (TMH 17)	Land UseType	Unit	GLA Area (m <sup>2</sup> )	Trip Generation Rate	Size Adjustment Factor	Source Document	Unit m <sup>2</sup>	Peak Total 2 way (cars/h)	Combined Reduction Factor	PHF	Total Discounted Trip Generation	Split (%)		In	Out
													In (%)	Out (%)		
Woodburn Square	820	Commercial	GLA	11 019	4,5	1,843	TMH 17	100	914	0,612	N/A	559	50	50	280	280
	933	Fast Food Drive Thru	GLA	346	30	N/A	TMH 17	100	104	0,612	N/A	64	50	50	32	32
<b>TOTAL TRAFFIC</b>														<b>311</b>	<b>311</b>	

**Table 2: Development Generated Traffic According to the Peak Hour, Trip Type and Direction**

PEAK PERIOD	SATURDAY PEAK HOUR (veh/h)		FRIDAY PM PEAK HOUR (veh/h)	
	IN	OUT	IN	OUT
Primary + Diverted	277	277	213	207
Pass-by	34	34	57	52
<b>TOTAL</b>	<b>311</b>	<b>311</b>	<b>270</b>	<b>259</b>
<b>TOTAL 2-WAY</b>	<b>622</b>		<b>529</b>	

#### 5.4.4 Trip Distribution

The traffic volumes that will be generated by the proposed development are expected to have a similar distribution pattern to the existing traffic volumes passing the proposed development. The trip distribution pattern used for this study is shown on **Figure 6**.

#### 5.4.5 Traffic Assignment

Based on the trip distribution mentioned above, the development generated traffic volumes were assigned onto the surrounding road network. The primary and diverted trips entering and leaving the site during the Saturday and Friday PM peak hours are shown on **Figure 7**. The pass-by trips traffic entering and leaving the site are shown on **Figure 8**.

The total development generated traffic volumes (primary, diverted and pass-by trips combined) expected to enter and exit the site during the Saturday and Friday PM peak hours are shown on **Figure 9**.

Thereafter, the total development generated traffic volumes were combined with the 2028 forecasted background traffic volumes, as shown in **Figure 4**, and the redistributed traffic, shown in **Figure 5**, to determine the combined impact on the surrounding road network. The combined traffic volumes are shown in **Figure 10** hereafter.

Figure 6: Trip Distribution

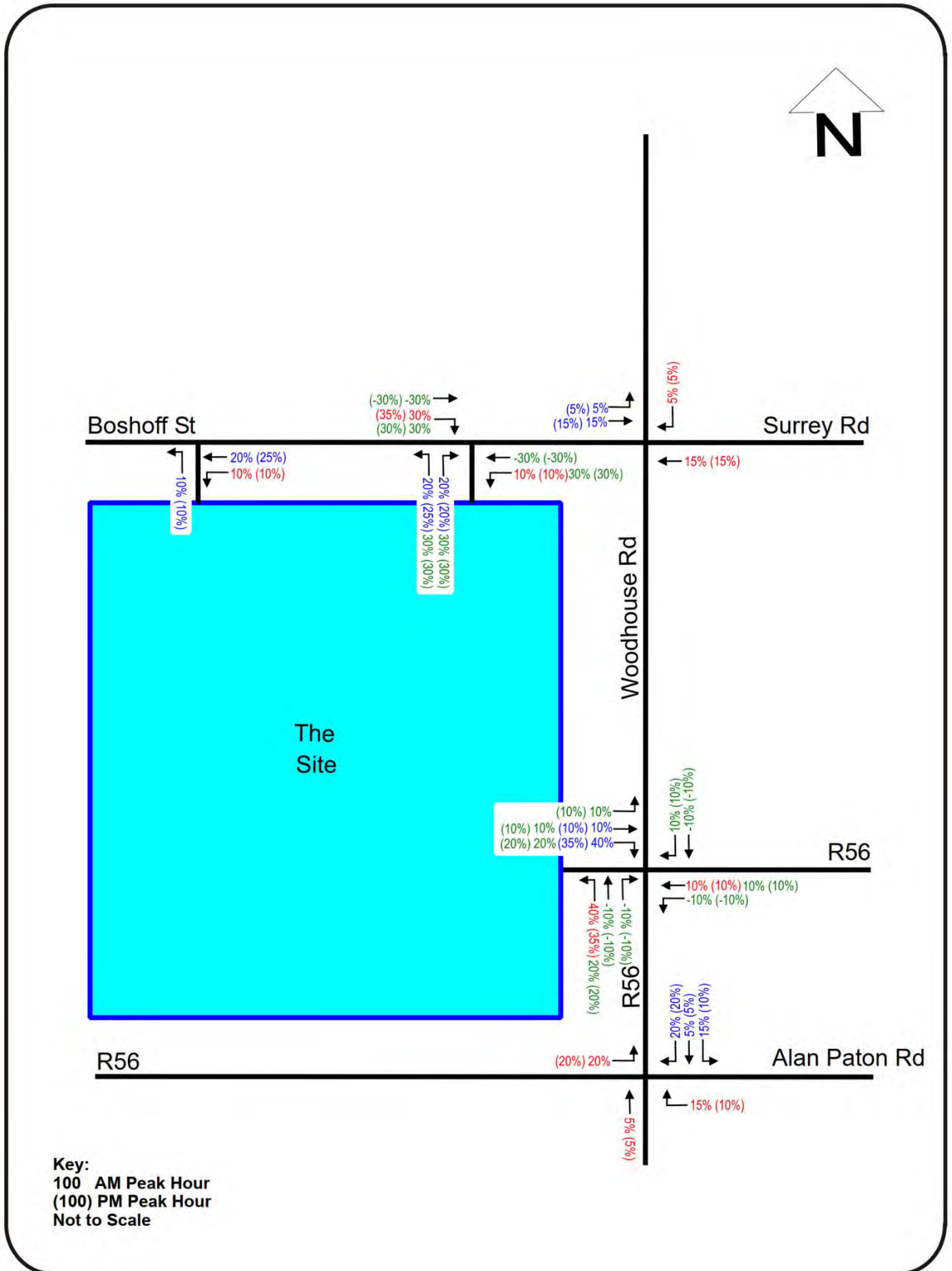


Figure 7: Trip Assignment for the Primary + Diverted Trips

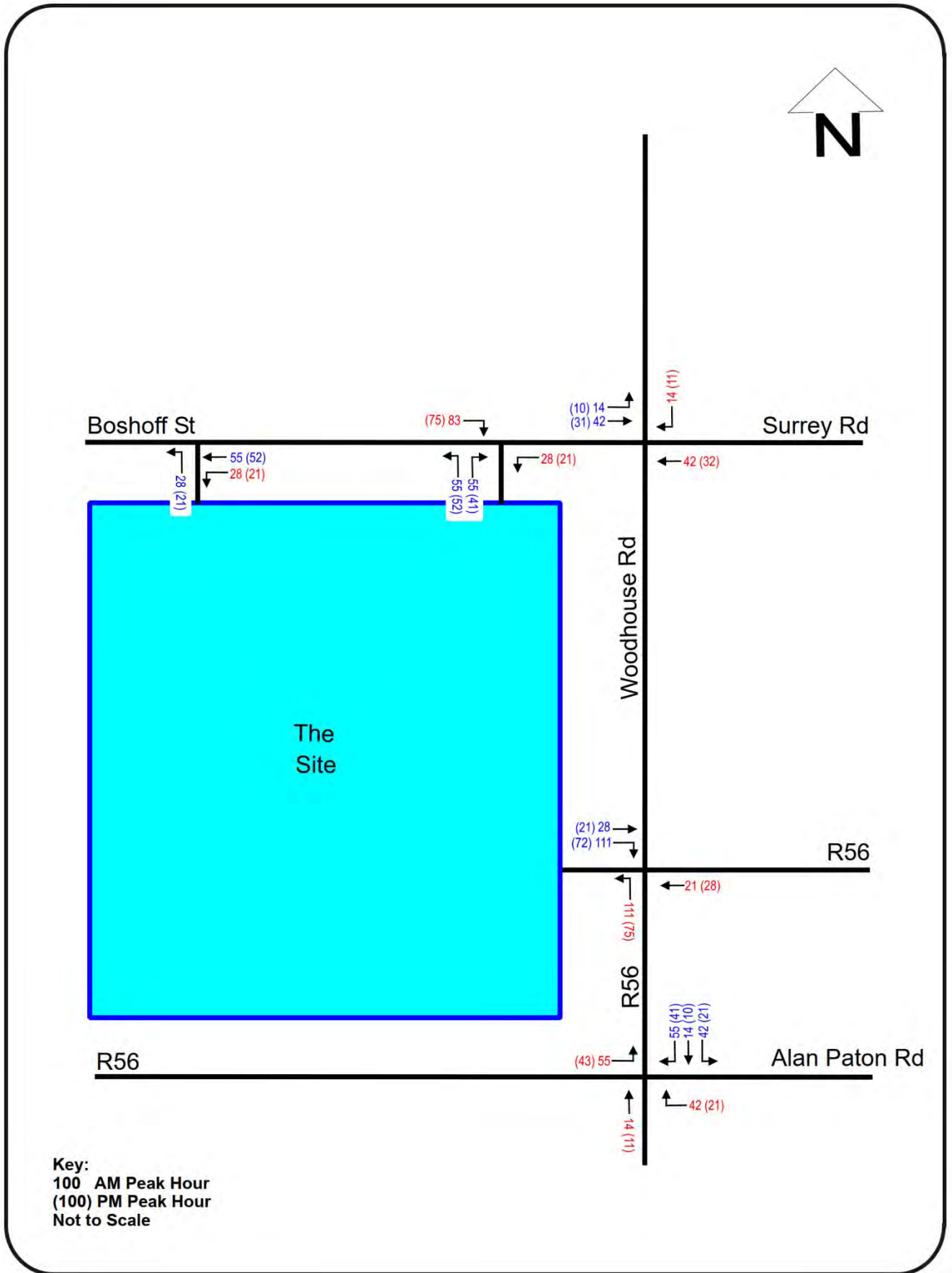




Figure 8: Trip Assignment for the Pass-by Trips

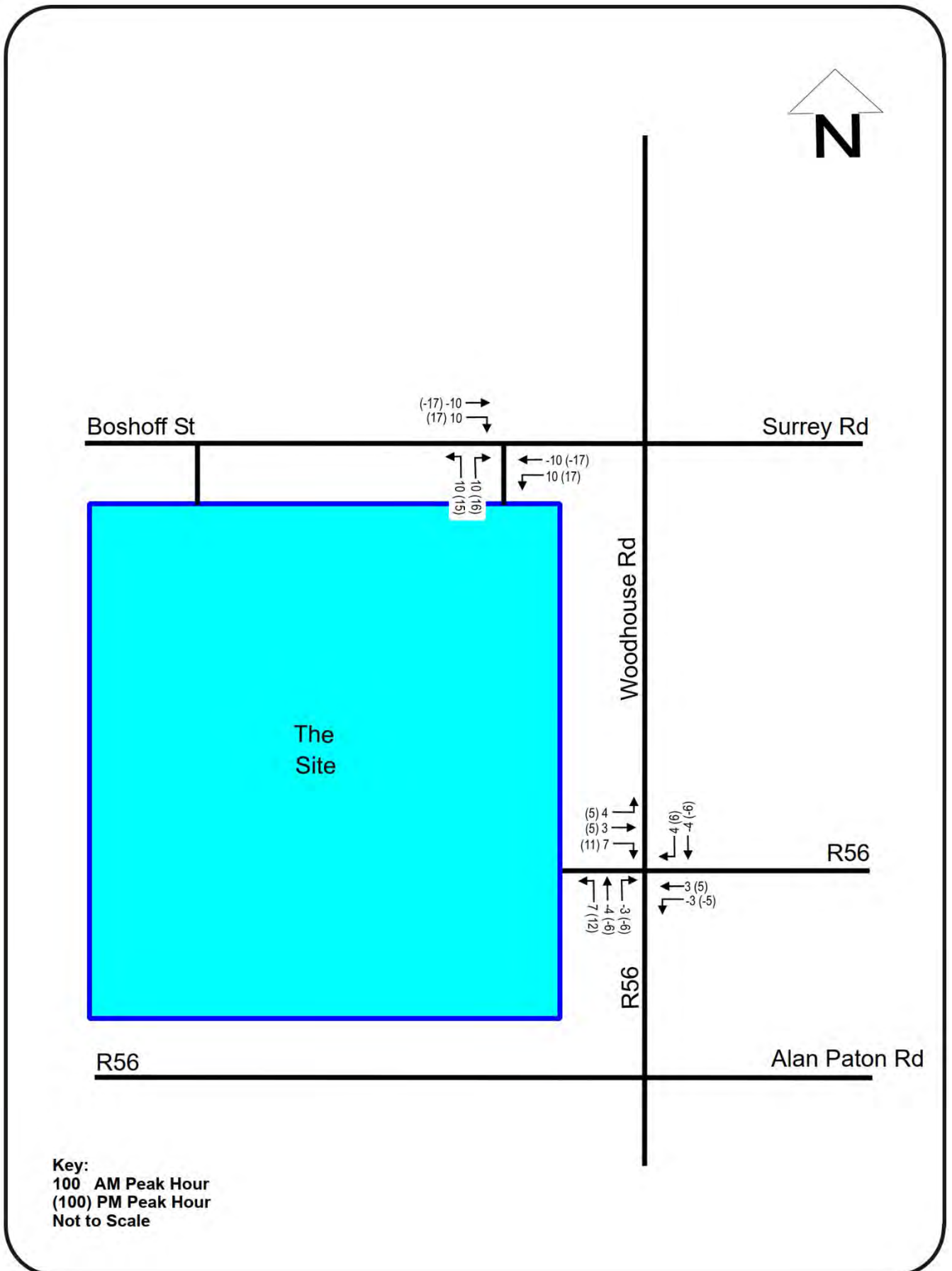


Figure 9: Trip Assignment for the Total Development Generated Traffic Volumes

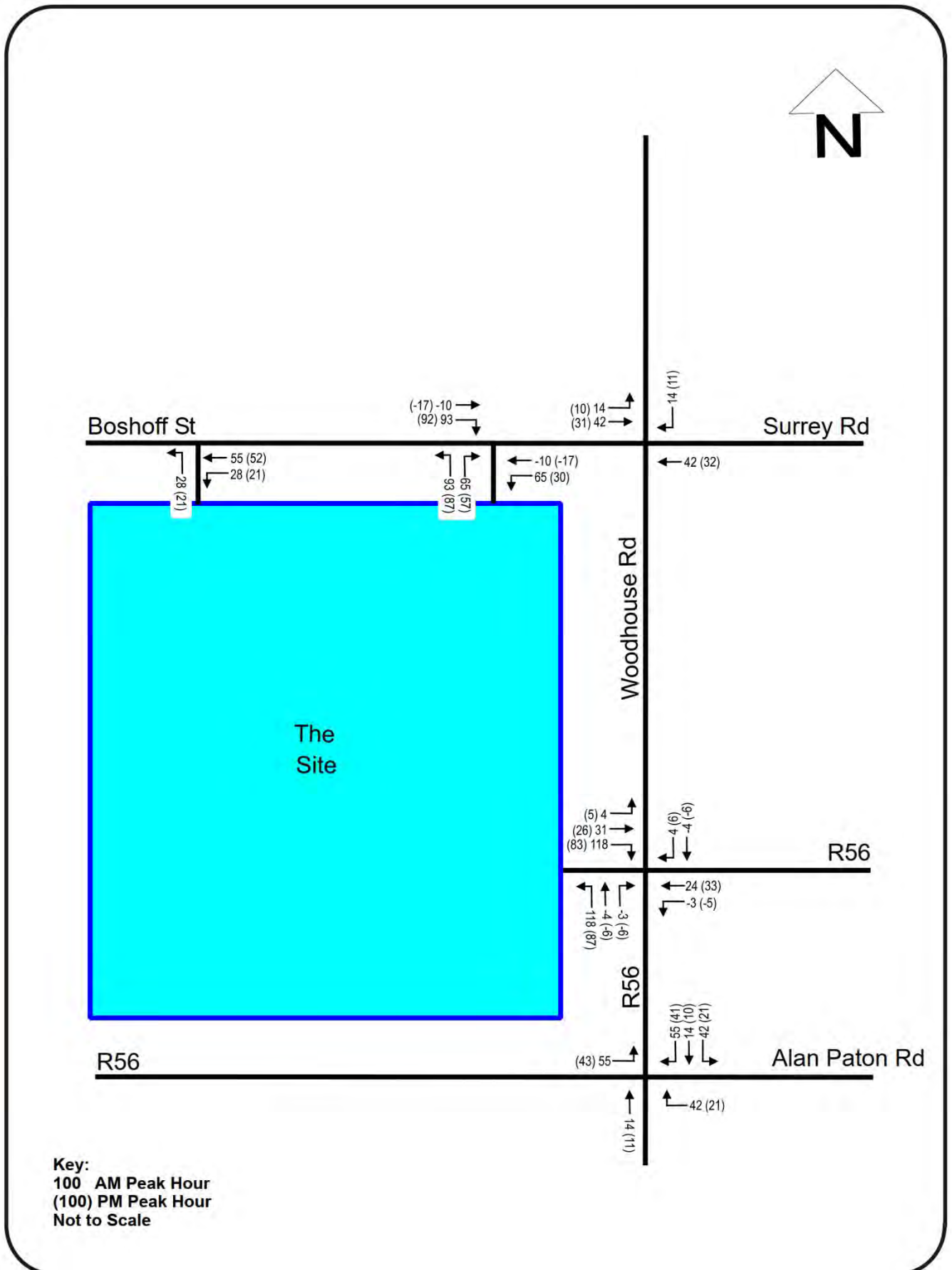
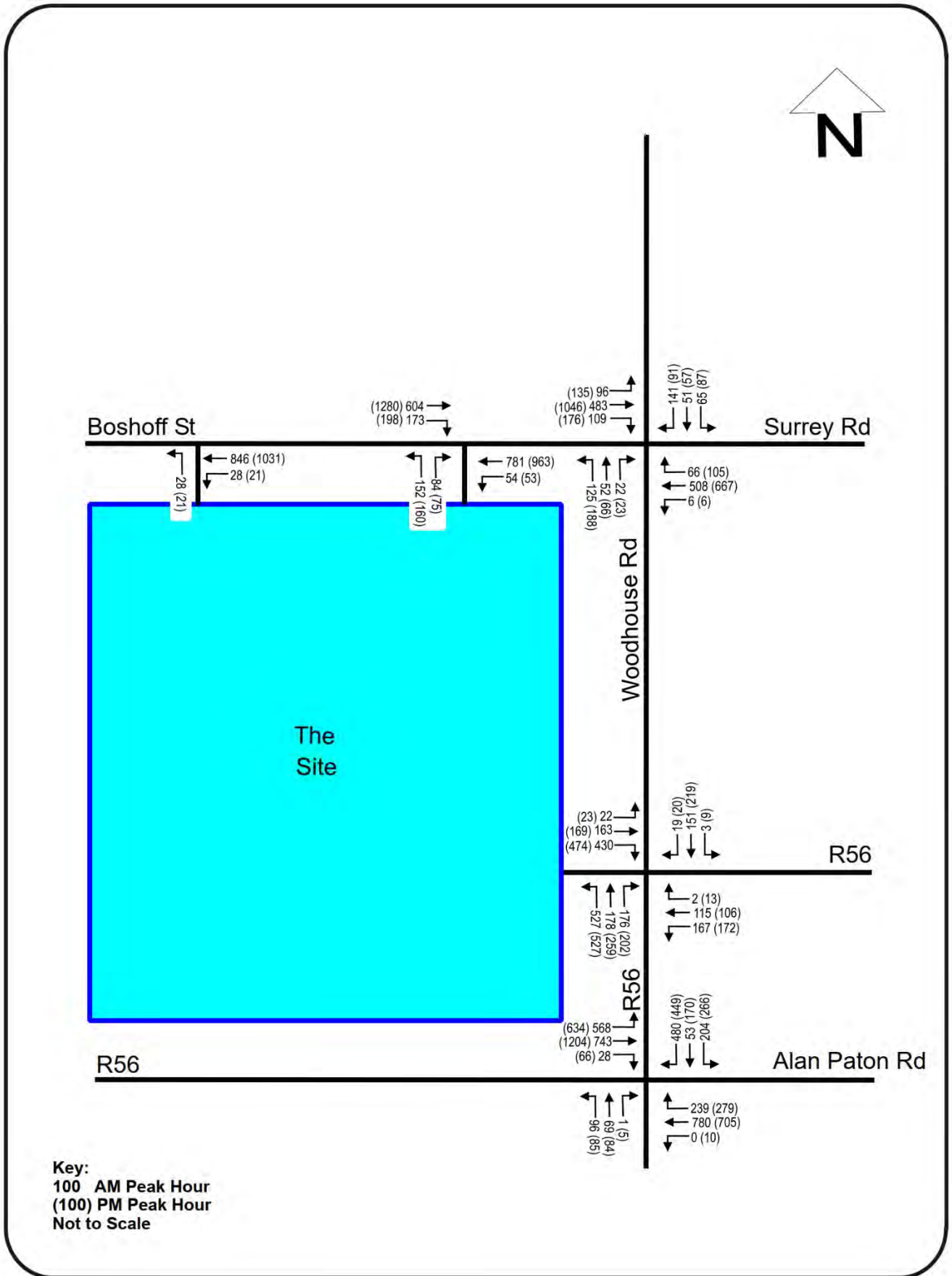


Figure 10: Combined Forecasted 2028 Volumes and Development Traffic Generated Volumes



## 6. TRAFFIC IMPACT ASSESSMENT

The surrounding road network was analysed in this chapter of the TIA to determine the future traffic impact that the proposed development will have on the road network. The intersection on the local road network were analysed using a sophisticated traffic analysis software named SIDRA. The results of this traffic analyses are discussed hereafter in terms of the expected levels of service on the local road network. Level of Service (LOS) is defined as a qualitative measure of the operational conditions within a traffic stream as perceived by road users. This definition generally describes these traffic conditions in terms of speed, travel times, freedom to manoeuvre, traffic interruptions, comfort, convenience and safety. There are six levels of service used to describe the quality of travel on the road network. Each of these levels is given a letter designation from A to F, with LOS A representing the best operating conditions while LOS F represents the least desirable conditions.

The road network surrounding the proposed development will be analysed in detail and the current levels of service on the existing road network will be discussed in detail in this Chapter. The levels of service at each intersection will be presented schematically. The following legend will be used to depict the LOS of each movement at the intersections.



## 6.1 Analysis of 2028 Design Year Forecasted Traffic Volumes (Without Development Generated Traffic)

The forecasted peak hour traffic volumes, without development generated traffic volumes, as shown in **Figure 4**, were analysed using the SIDRA intersection software. The results of the analyses for the intersections located within the primary study area are discussed in the sections that follow hereafter.

### 6.1.1 Chief Albert Luthuli Street, Alan Paton Avenue & Leinster Road Intersection

The 2028 forecasted traffic volumes shown in **Figure 4** were analysed using the existing intersection layout as shown in **Figure 11** below.

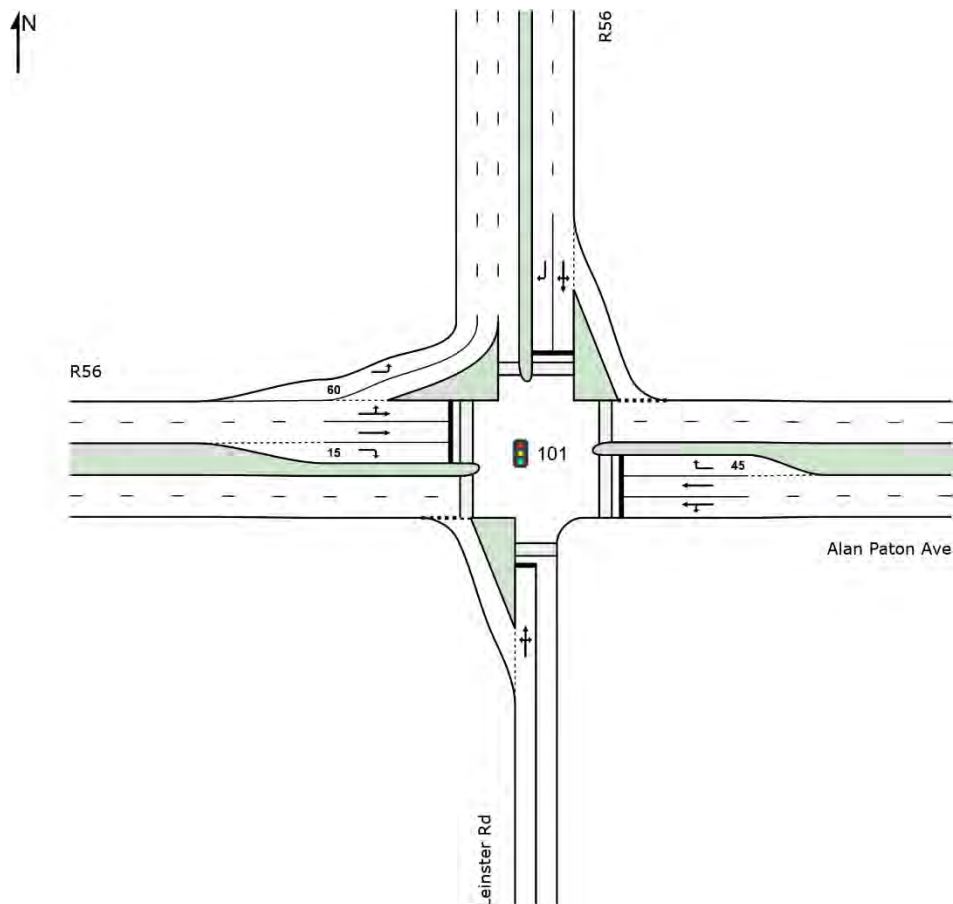


Figure 11: Existing Intersection Configuration for the Chief Albert Luthuli & Alan Paton Avenue & Leinster Road Intersection

The analysis of the 2028 forecasted traffic volumes showed that this intersection will accommodate the additional trips that will travel through this intersection in the 2028 horizon. All movements at this intersection will operate at a LoS A to D during both peak hours. The maximum delay during these peak hours will be 54,0 seconds from the Chief Albert Luthuli St (R56) west approach through movement during the Friday PM peak hour. The longest queue length will be 228,7m from the R56 west approach and will occur during the Friday PM peak hour.

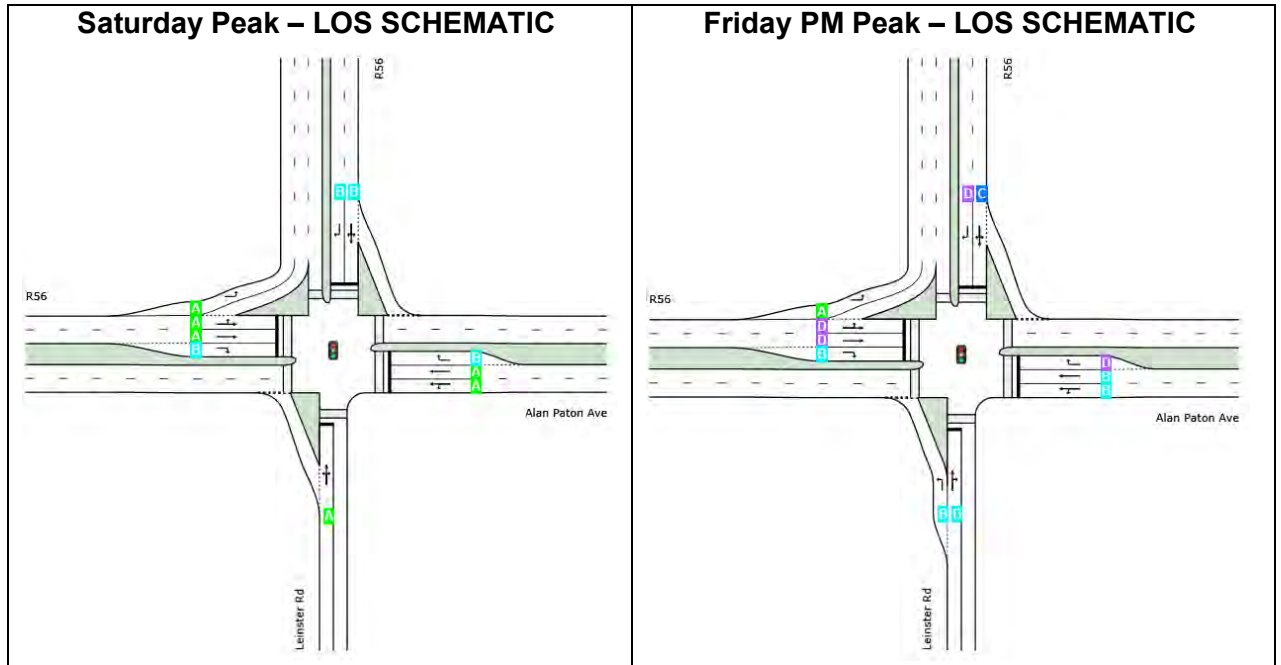


Figure 12: LOS Schematics for the Chief Albert Luthuli & Alan Paton Avenue & Leinster Road Intersection

### 6.1.2 R56 & Woodhouse Road & Woodburn Square Intersection

The 2028 forecasted traffic volumes shown in **Figure 4** were analysed using the existing intersection layout as shown in **Figure 13** below.

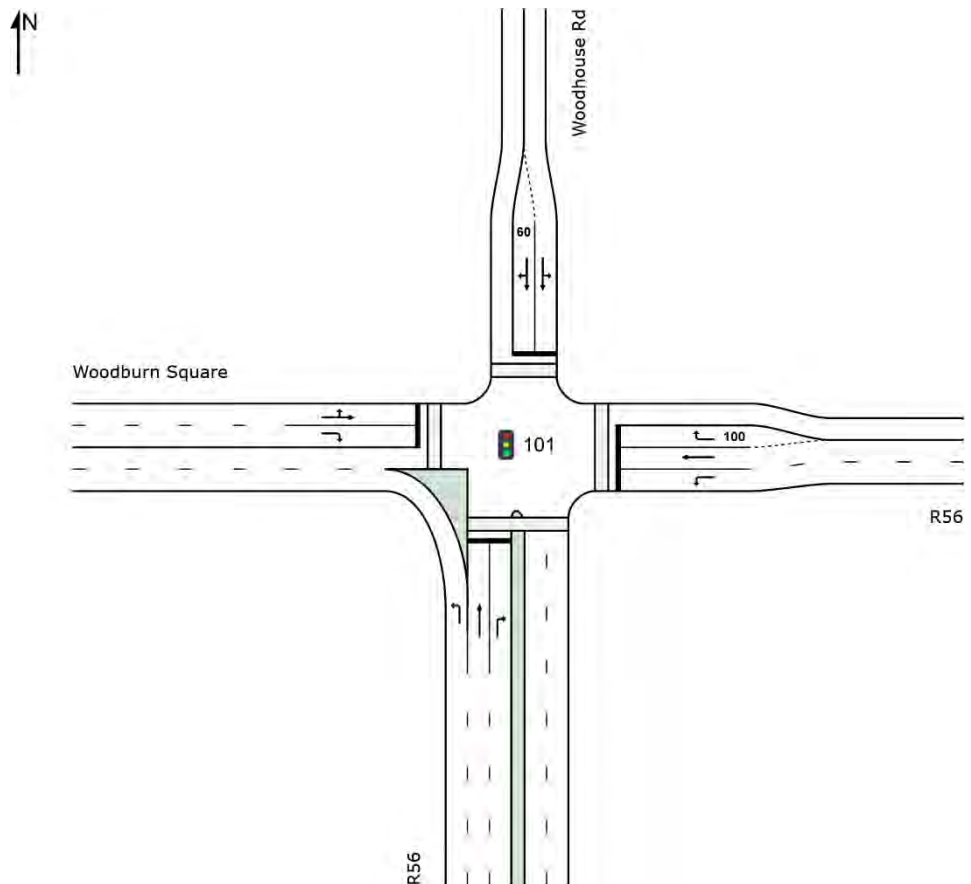


Figure 13: Existing Intersection Configuration for the R56 & Woodhouse Road & Woodburn Square Intersection

The analysis of the 2028 forecasted traffic volumes showed that this intersection will accommodate the additional trips that will travel through this intersection in the 2028 horizon. All movements at this intersection will operate at a LoS A to C during both peak hours. The maximum delay during these peak hours will be 21,4 seconds from the R56 south approach right-turn movement during the Friday PM peak hour. The longest queue length will be 46,6m from the Woodburn Square approach and will occur during the Friday PM peak hour.

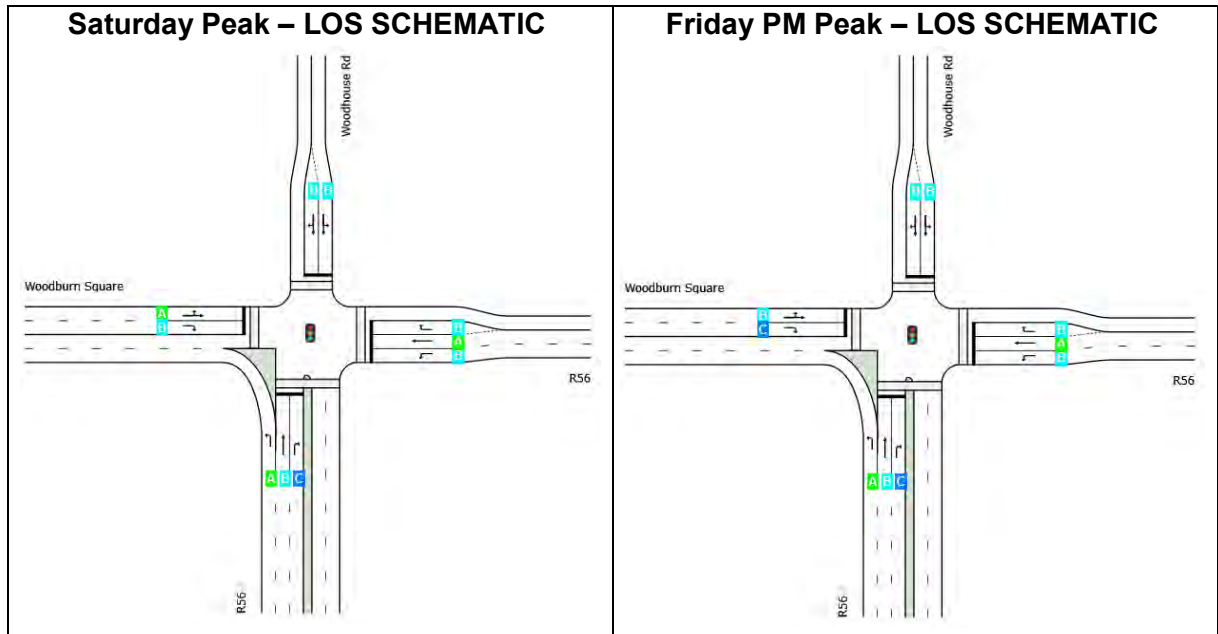
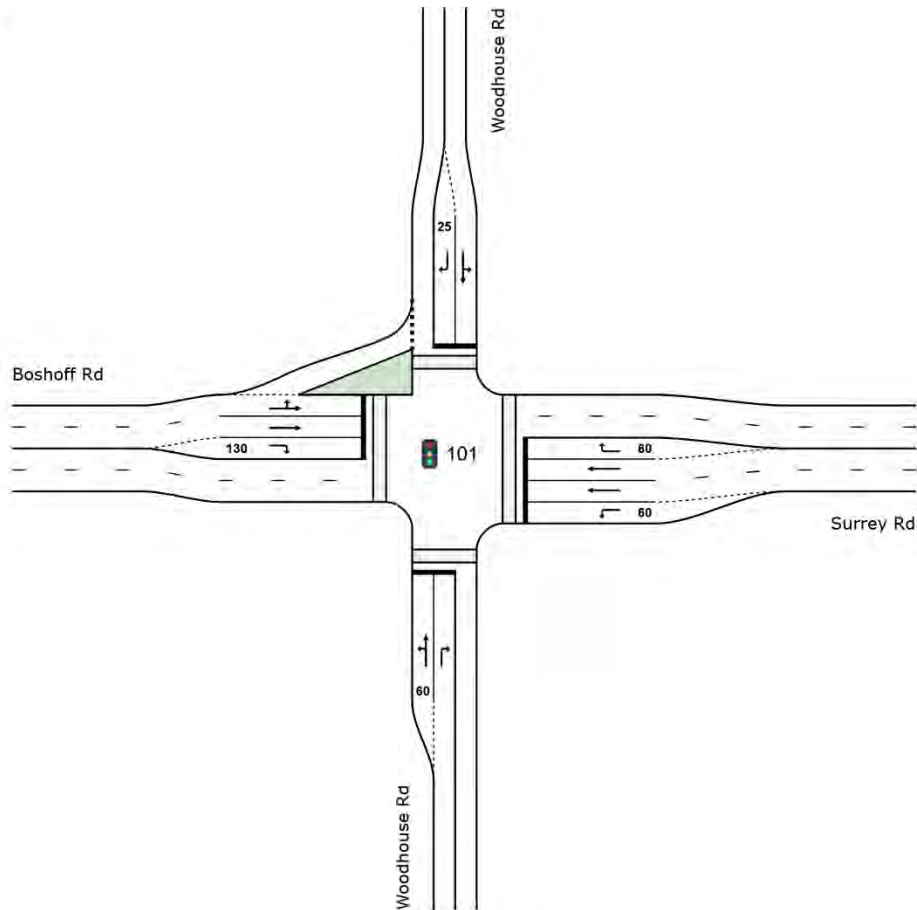


Figure 14: LOS Schematics for the R56 & Woodhouse Road & Woodburn Square Intersection

### 6.1.3 Woodhouse Road & Surrey Road & Boshoff Street Intersection

The 2028 forecasted traffic volumes shown in **Figure 4** were analysed using the existing intersection layout as shown in **Figure 15** below.



**Figure 15: Existing Intersection Configuration for the Woodhouse Road & Surrey Road & Boshoff Street Intersection**

The analysis of the 2028 forecasted traffic volumes showed that this intersection will accommodate the additional trips that will travel through this intersection in the 2028 horizon. All movements at this intersection will operate at a LoS A to C during both peak hours. The maximum delay during these peak hours will be 22,3 seconds from the Woodhouse Road south approach left-turn movement during the Friday PM peak hour. The longest queue length will be 63,9m from the Boshoff Street approach and will occur during the Friday PM peak hour.



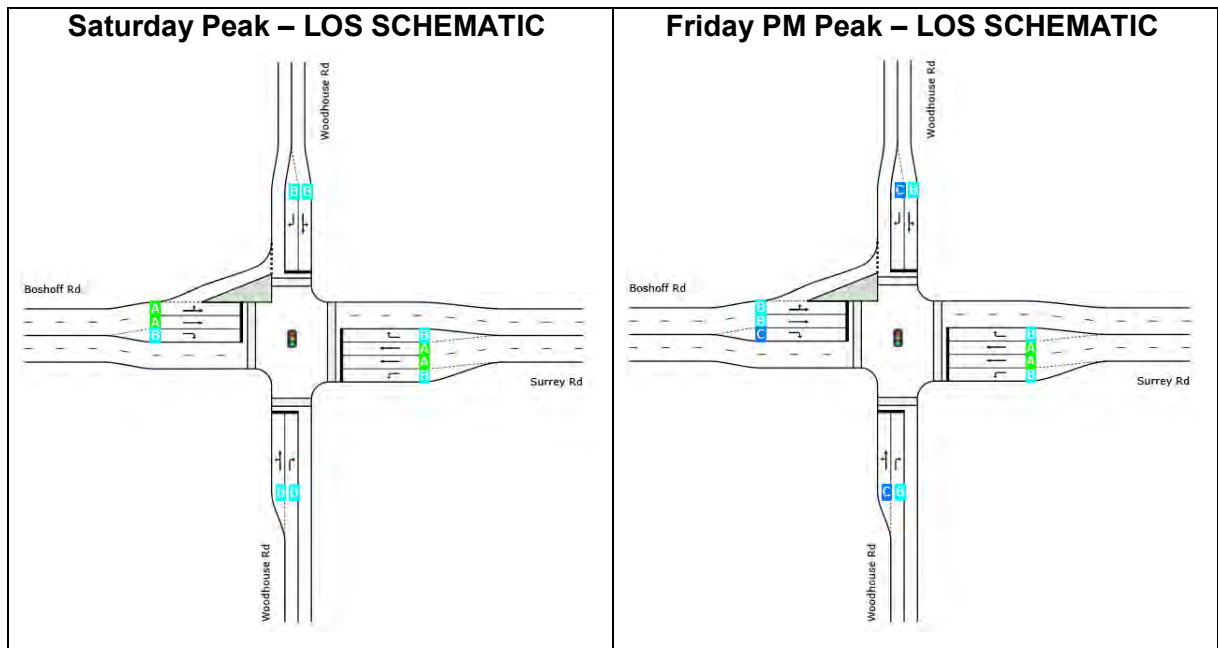


Figure 16: LOS Schematics for the Woodhouse Road & Surrey Road & Boshoff Street Intersection

## 6.2 Analysis of 2028 Design Year with Development Generated Traffic Volumes

The combined peak hour traffic volumes which includes the trips that will be generated by the proposed development, as shown in **Figure 10**, were analysed using SIDRA. The results of the analysis are discussed in the sections that follow hereafter.

### 6.2.1 Chief Albert Luthuli Street & Alan Paton Avenue & Leinster Road Intersection

The analysis of the combined 2028 forecasted traffic volumes showed that the existing intersection layout will be able to accommodate the additional volumes of traffic that will travel through this intersection in the 2028 horizon. All movements at this intersection will operate at a LoS A to D during both peak hours. Excluding the right-turn movement from the Alan Paton Road approach right-turn movement during the Friday PM peak hour which will operate at a Los E. The maximum delay during these peak hours will be 71,1 seconds from the Alan Paton Road approach right-turn movement during the Friday PM peak hour. The longest queue length will be 232,8m from the R56 west approach and will occur during the Friday PM peak hour.

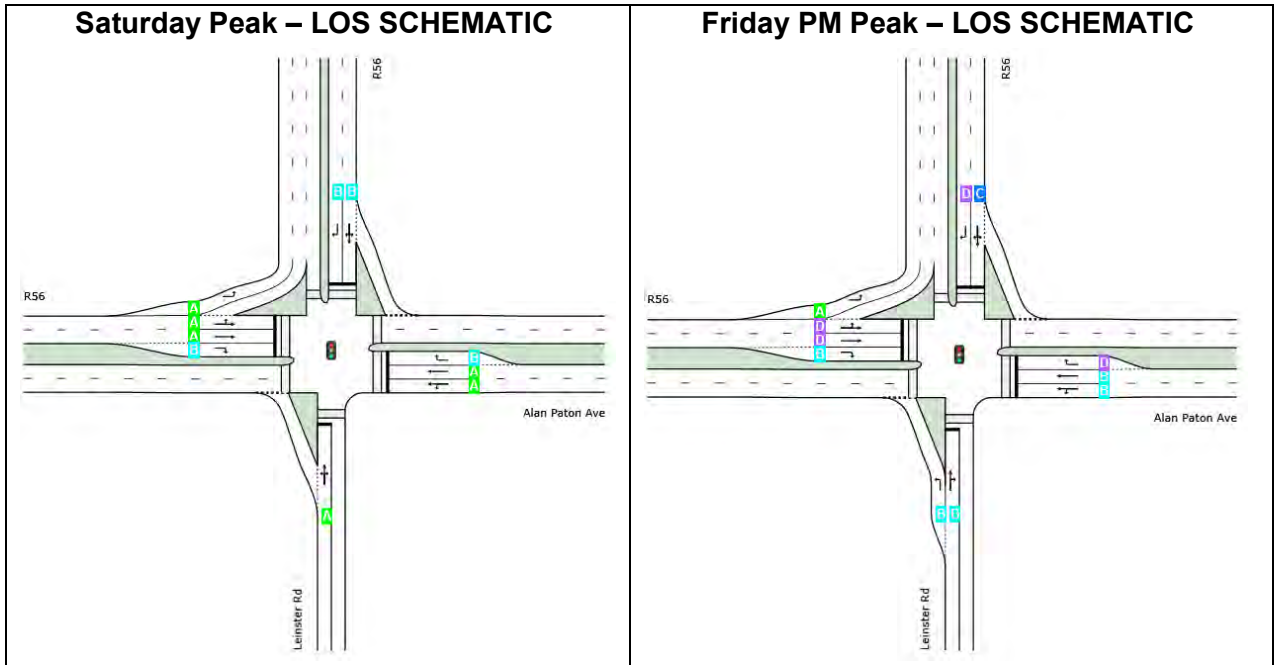


Figure 17: LOS Schematics for the R56 & Alan Paton Avenue & Leinster Road Intersection

### 6.2.2 R56 & Woodhouse Road & Woodburn Square Intersection

The analysis of the combined 2028 forecasted traffic volumes showed that the existing intersection layout will be able to accommodate the additional volumes of traffic that will travel through this intersection in the 2028 horizon. All movements at this intersection will operate at a LoS A to C during both peak hours. The maximum delay during these peak hours will be 26,7 seconds from the R56 south approach right-turn movement during the Friday PM peak hour. The longest queue length will be 71,7m from the Woodburn Square approach and will occur during the Friday PM peak hour.

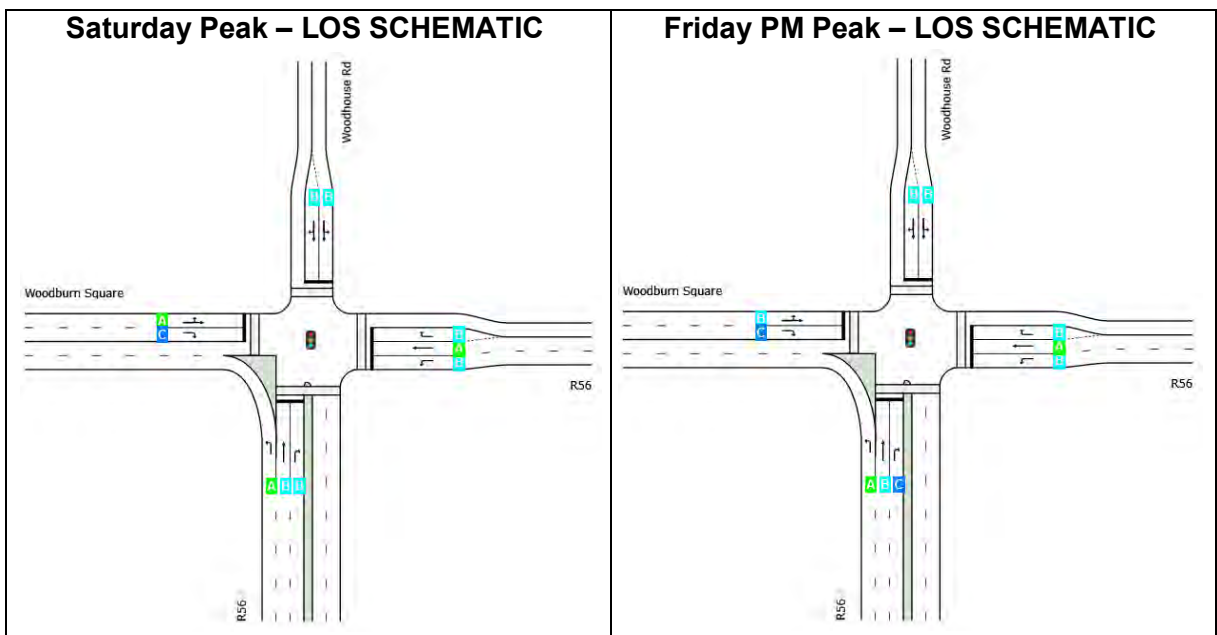


Figure 18: LOS Schematics for the R56 & Woodhouse Road & Woodburn Square Intersection

### 6.2.3 Woodhouse Road & Surrey Road & Boshoff Street Intersection

The analysis of the combined 2028 forecasted traffic volumes showed that the existing intersection layout will be able to accommodate the additional volumes of traffic that will travel through this intersection in the 2028 horizon. All movements at this intersection will operate at a LoS A to C during both peak hours. The maximum delay during these peak hours will be 20,8 seconds from the Woodhouse Road north approach right-turn movement during the Friday PM peak hour. The longest queue length will be 63,8m from the Boshoff Street approach and will occur during the Friday PM peak hour.

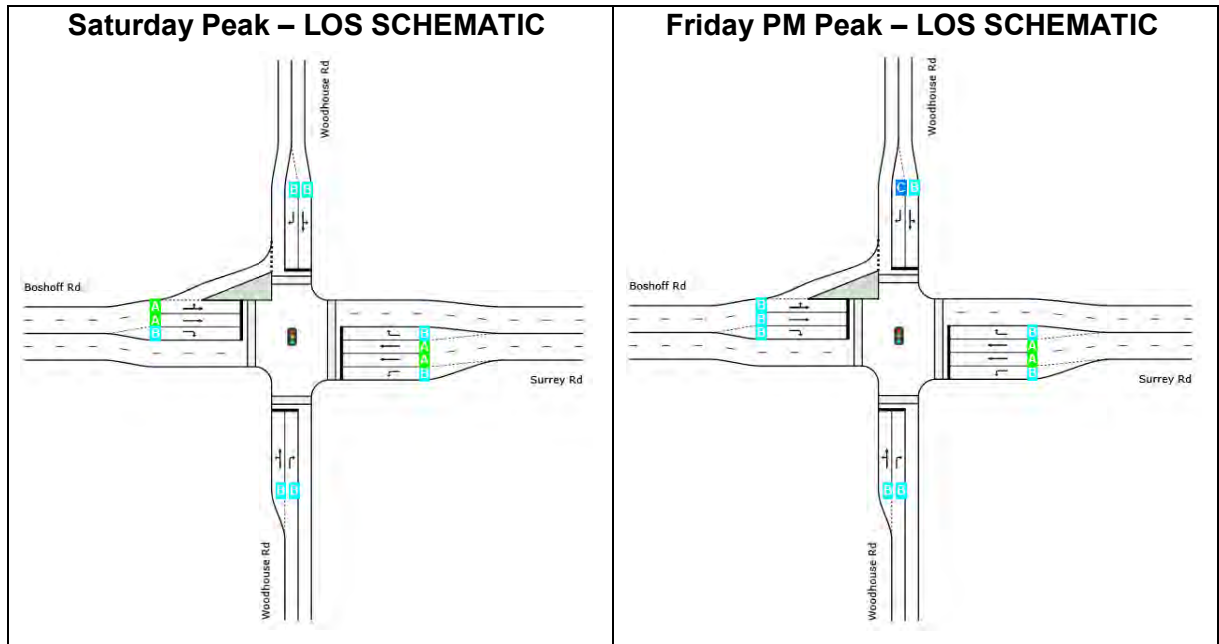
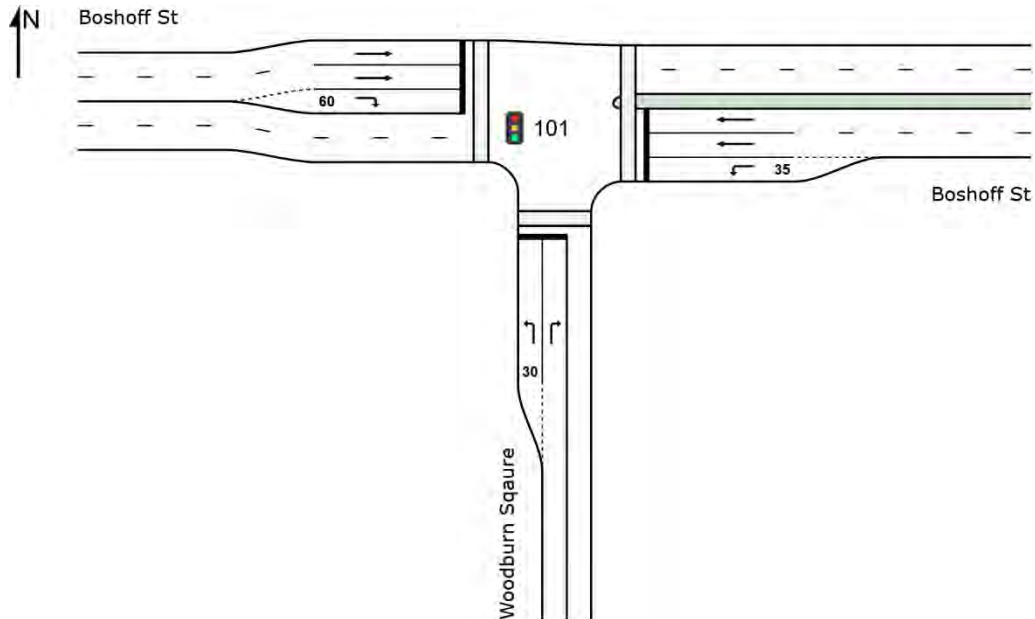


Figure 19: LOS Schematics for the Woodhouse Road & Surrey Road & Boshoff Street Intersection

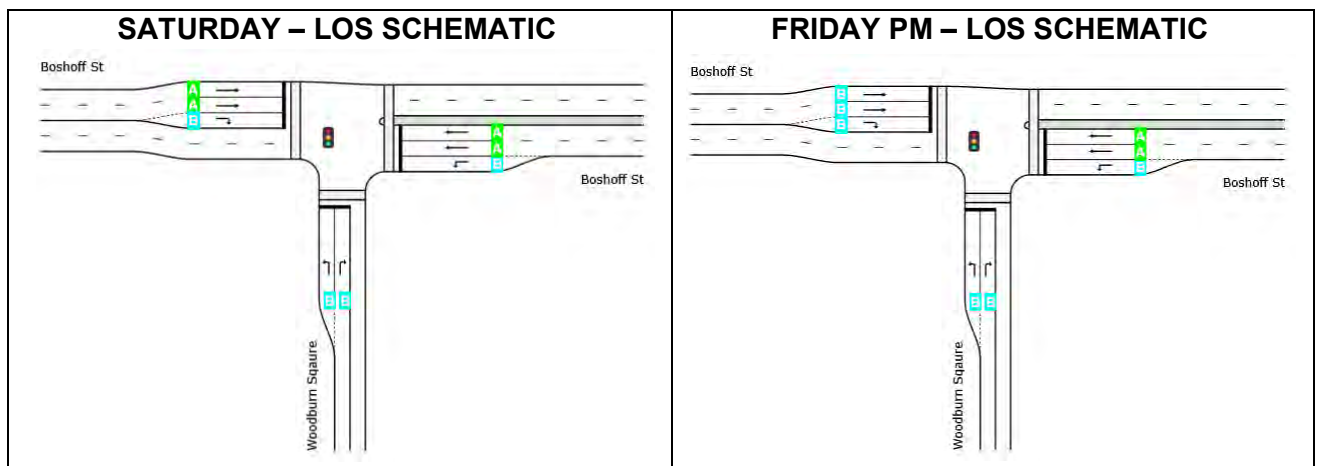
### 6.2.4 New Boshoff Street and Woodburn Square Access Intersection

As part of the proposed development a new access will be constructed off Boshoff Street just west of the intersection Boshoff Street and Surrey Road intersection. The layout used for the analysis of this intersection is shown in **Figure 20**.



**Figure 20: Proposed Intersection Configuration for the Boshoff Street and Woodburn Square Access Intersection**

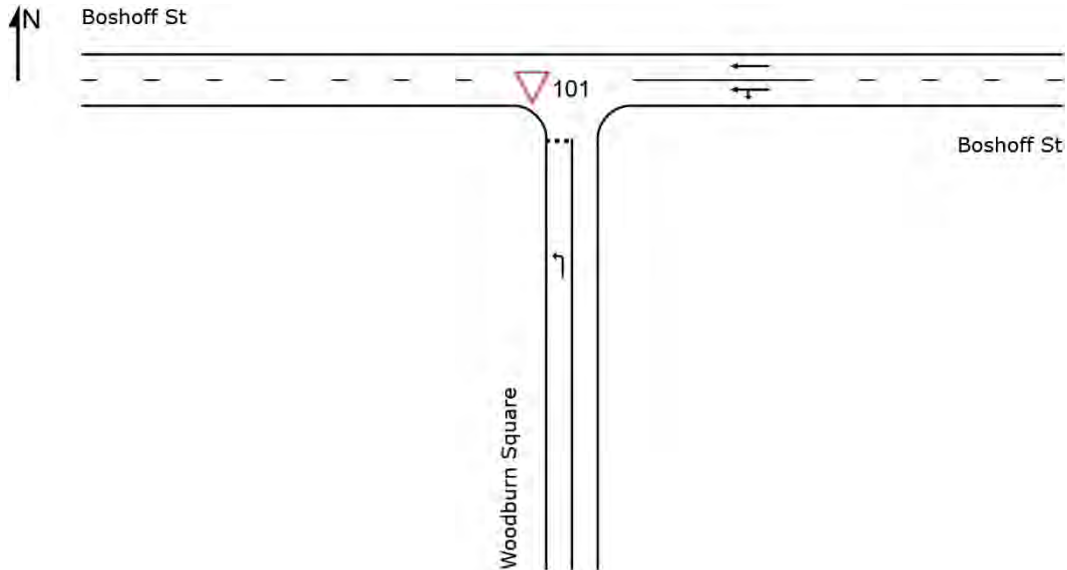
The analysis of the combined 2028 forecasted traffic volumes showed that the proposed intersection layout will be able to accommodate the additional volumes of traffic that will travel through this intersection in the 2028 horizon. All movements at this intersection will operate at a LoS A to B during both peak hours. The maximum delay during these peak hours will be 18,9 seconds from the site access approach during the Friday PM peak hour. The longest queue length will be 76,6m from the site access approach and will occur during the Friday PM peak hour.



**Figure 21: LOS Schematics at the Boshoff Street and Woodburn Square Access Intersection**

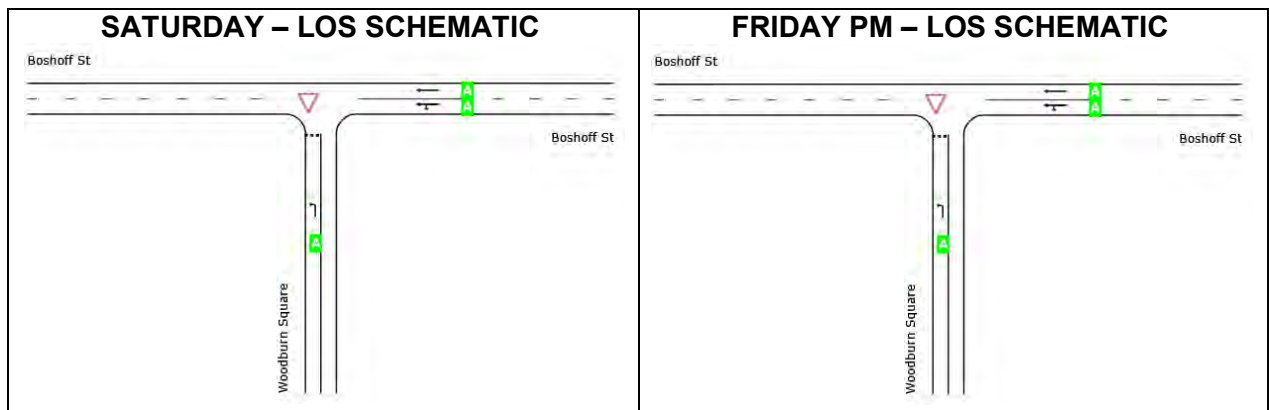
### 6.2.5 Boshoff Street and Woodburn Square Left-Turn Only Access Intersection

As part of the proposed development a left-turn only access will be constructed off Boshoff Street. The layout used for the analysis of this intersection is shown hereafter in **Figure 22**.



**Figure 22: Proposed Intersection Configuration for Boshoff Street and Woodburn Square Left-turn Only Access Intersection**

The analysis of the combined 2028 forecasted traffic volumes showed that the proposed intersection layout will be able to accommodate the additional volumes of traffic that will travel through this intersection in the 2028 horizon. All movements at this intersection will operate at a LoS A during both peak hours. The analysis showed there would be negligible delays and queueing during both peak hours.



**Figure 23: LOS Schematics at the Boshoff Street and Woodburn Square Left-turn Only Access Intersection**

## 7. PEDESTRIANS AND PUBLIC TRANSPORT

It is expected that the proposed development will generate some additional pedestrian trips and public transport traffic. To promote the use of public transport, two new public transport laybys will be constructed on Boshoff Street, as shown in TRLs in Appendix C. In addition, new sidewalks will be constructed that will link the new PT laybys to the new section of the shopping centre, thereby allowing for the seamless movement of pedestrians.

## 8. ASSESSMENT ON GENERAL ROAD SAFETY

No road safety concerns were observed during the site visit and traffic count period. Traffic speeds appear to be acceptable on the adjacent roads. Also, there were no evidence of pedestrian / vehicle conflict. It is expected that the proposed development will not cause the road safety conditions on the surrounding road network to deteriorate in any way.

## 9. CONCLUSIONS AND RECOMMENDATIONS

Based on the above analyses, the following conclusions can be drawn and recommendations made regarding the traffic impact of the proposed development.

- a) The developer, KZN Natal Rugby Union, intends to extend the existing Woodburn Square Shopping Centre located in Pietermaritzburg in KwaZulu-Natal.
- b) In terms of the TMH 16 COTO Manual for Traffic Impact Assessments and Site Traffic Assessments, the proposed development was assessed for a design horizon year of 5 years (2028).
- c) The area in the vicinity of the proposed development is considered to be a low growth area. As such, a 3% per annum growth rate compounded annually was considered reasonable for this traffic impact assessment.
- d) It was established from the analysis of the existing traffic counts that the peak hours on the surrounding road network occur at the following times:
  - **Friday PM Peak Hour** : 16h00 to 17h00
  - **Saturday Peak Hour** : 12h00 to 13h00
- e) The table hereafter shows the total amount of trips the proposed development would generate onto the surrounding road network:

PEAK PERIOD	SATURDAY PEAK HOUR (veh/h)		FRIDAY PM PEAK HOUR (veh/h)	
	IN	OUT	IN	OUT
Primary + Diverted	277	277	213	207
Pass-by	34	34	57	52
<b>TOTAL</b>	<b>311</b>	<b>311</b>	<b>270</b>	<b>259</b>
<b>TOTAL 2-WAY</b>	<b>622</b>		<b>529</b>	

- f) The traffic analysis showed that no road upgrades will be required on the surrounding road network to handle the anticipated traffic volumes that will be generated by the proposed expansion of the shopping centre.
- g) As part of the proposed extension, two new access points will be constructed on Boshoff Street. The first new access will be constructed just west of the Boshoff Street and Woodhouse Road intersection. This new access will be a full directional access that leads directly into the primary parking area. This new access intersection will require signalisation.
- h) The second new access will be constructed further west along Boshoff Street and will be restricted to left-in and left-out movements only. This second new access will predominantly provide access to delivery vehicles and will also allow quick access to the rugby training fields.
- i) To promote the use of public transport, two new public transport laybys will be constructed on Boshoff Street outside the new access intersection.
- j) New sidewalks will be constructed, that will link the new PT laybys to the new section of the shopping centre, thereby allowing for the seamless movement of pedestrians.
- k) No road safety concerns were observed during the site visit and traffic count period. Traffic speeds appear to be acceptable on all roads and there was no evidence of pedestrian and vehicle conflict. It is expected that the proposed development will not cause the road safety conditions on the surrounding road network to deteriorate in any way.

***Taking all the above points into consideration, it is recommended that from a traffic impact perspective, the proposed development can be approved.***



## **APPENDIX A: TRAFFIC COUNTS**

Client: Jinyela  
Project: Alan Paton & Lenister & Chief Albert Luthuli

3/ Jun/22 Friday		Woodhouse Road (N)											3A																	
		1					2					3					3A													
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total						
15:00 - 15:15	87	0	0	3	90	96	21	1	2	1	25	31	44	0	0	0	0	45	47	0	0	0	0	0	152	1	3	4	160	174
15:15 - 15:30	84	0	0	2	86	90	19	0	0	0	19	19	45	1	0	0	0	46	46	0	0	0	0	0	148	1	0	2	151	155
15:30 - 15:45	83	0	0	0	83	83	31	1	1	0	33	35	46	1	0	0	0	47	47	0	0	0	0	0	160	2	1	0	163	165
15:45 - 16:00	75	0	0	0	75	75	23	0	0	0	23	23	61	0	0	0	0	61	61	0	0	0	0	0	159	0	0	0	159	159
16:00 - 16:15	95	0	1	2	98	104	30	0	0	0	30	30	40	0	0	0	2	42	46	0	0	0	0	0	165	0	1	4	170	180
16:15 - 16:30	77	1	0	1	79	81	35	0	0	0	35	35	58	1	0	0	0	59	59	0	0	0	0	0	170	2	0	1	173	175
16:30 - 16:45	84	0	0	1	85	87	38	2	0	0	40	40	59	1	0	0	0	61	63	0	0	0	0	0	181	3	1	1	186	190
16:45 - 17:00	88	1	0	1	90	92	33	0	0	0	33	33	49	1	0	0	0	50	50	0	0	0	0	0	170	2	0	1	173	175
17:00 - 17:15	75	0	0	1	76	78	31	1	0	0	32	34	34	0	0	0	0	36	38	0	0	0	0	0	140	1	1	2	144	150
17:15 - 17:30	95	0	0	0	95	95	31	1	0	1	33	35	48	1	0	0	0	50	52	0	0	0	0	0	174	2	0	2	178	182
17:30 - 17:45	101	1	0	0	102	102	28	1	0	1	30	32	55	0	0	0	2	57	61	0	0	0	0	0	184	2	0	3	189	195
17:45 - 18:00	103	0	2	1	106	112	17	0	0	0	17	17	39	1	0	0	0	40	40	1	1	1	1	1	160	1	2	1	164	170
<b>Total</b>	<b>1047</b>	<b>3</b>	<b>3</b>	<b>12</b>	<b>1065</b>	<b>1095</b>	<b>337</b>	<b>6</b>	<b>4</b>	<b>3</b>	<b>350</b>	<b>364</b>	<b>578</b>	<b>8</b>	<b>2</b>	<b>6</b>	<b>594</b>	<b>610</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1963</b>	<b>17</b>	<b>9</b>	<b>21</b>	<b>2010</b>	<b>2070</b>	

Client: Jinyela  
Project: Alan Paton & Lenister & Chief Albert Luthuli

3/ Jun/22 Friday		Alan Paton Road (E)											6A																	
		4					5					6					6A													
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total						
15:00 - 15:15	38	2	2	1	43	49	155	0	0	3	158	164	0	0	0	0	0	0	0	0	0	0	0	0	193	2	2	4	201	213
15:15 - 15:30	35	3	1	1	40	44	150	0	1	5	156	168	1	0	0	0	0	1	1	1	1	1	1	1	187	3	2	6	198	214
15:30 - 15:45	50	1	1	0	52	54	137	0	0	5	142	152	0	0	0	0	0	0	0	0	0	0	0	0	188	1	1	5	195	207
15:45 - 16:00	30	5	1	0	36	38	124	0	0	0	124	124	1	0	0	0	0	1	1	1	1	1	1	1	156	5	1	0	162	164
16:00 - 16:15	50	2	1	0	53	55	160	0	1	2	163	169	1	0	0	0	0	1	1	1	1	1	1	1	211	2	2	2	217	225
16:15 - 16:30	57	4	0	1	62	64	159	0	1	5	165	177	0	0	0	0	0	0	0	0	0	0	0	0	216	4	1	6	227	241
16:30 - 16:45	44	5	0	1	50	52	115	2	0	2	119	123	2	0	0	1	3	5	5	1	0	0	0	1	162	7	0	4	173	181
16:45 - 17:00	52	4	1	0	57	59	159	1	1	1	161	163	5	0	0	0	0	5	5	1	0	0	0	1	217	5	2	0	224	228
17:00 - 17:15	37	1	1	0	39	41	153	3	1	7	164	180	0	0	0	0	0	1	1	1	1	1	1	1	191	4	2	7	204	222
17:15 - 17:30	45	3	1	1	50	54	157	3	1	3	164	172	1	0	0	0	0	2	2	1	0	0	0	0	203	6	2	4	215	227
17:30 - 17:45	43	3	0	0	46	46	133	3	0	1	137	139	2	0	0	0	0	2	2	1	1	1	1	1	179	6	0	1	186	188
17:45 - 18:00	34	4	0	0	38	38	125	7	0	1	133	135	4	0	0	0	0	4	4	1	0	0	0	1	164	11	0	1	176	178
<b>Total</b>	<b>515</b>	<b>37</b>	<b>9</b>	<b>5</b>	<b>566</b>	<b>594</b>	<b>1727</b>	<b>19</b>	<b>6</b>	<b>34</b>	<b>1786</b>	<b>1866</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>18</b>	<b>20</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>2267</b>	<b>56</b>	<b>15</b>	<b>40</b>	<b>2378</b>	<b>2488</b>



Client: Jinyela  
Project: Surrey Road & Beshoff & Woodhouse Roads

3/June/22 Friday		Woodhouse Road (N)													3A															
		1					2					3					3A					Total from Woodhouse Road (N)								
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total
15:00 - 15:15	21	1	5	0	27	37	13	0	3	0	16	22	20	0	0	0	1	21	23	0	0	0	0	0	54	1	8	1	64	82
15:15 - 15:30	13	0	0	0	13	13	19	0	0	0	19	19	19	0	0	0	0	19	19	0	0	0	0	0	51	0	0	0	51	51
15:30 - 15:45	15	1	2	0	18	22	16	0	0	0	16	16	20	0	0	0	0	20	20	0	0	0	0	0	51	1	2	0	54	58
15:45 - 16:00	15	0	0	0	15	18	17	0	0	0	17	17	19	0	0	0	0	19	19	0	0	0	0	0	50	1	0	1	52	54
16:00 - 16:15	13	0	0	1	14	16	17	0	0	0	17	17	20	1	0	0	0	21	21	0	0	0	0	0	50	1	0	1	52	54
16:15 - 16:30	12	1	0	0	13	13	16	0	0	0	16	16	17	0	0	0	0	17	17	0	0	0	0	0	45	1	0	0	46	46
16:30 - 16:45	15	0	0	0	15	15	11	0	0	0	11	11	17	1	0	0	0	18	18	0	0	0	0	0	43	1	0	0	44	44
16:45 - 17:00	14	0	1	0	15	17	17	0	0	0	17	17	19	0	0	0	0	19	19	0	0	0	0	0	50	0	1	0	51	53
17:00 - 17:15	14	1	2	1	18	24	11	0	1	2	14	20	21	0	1	0	0	22	24	0	0	0	0	0	46	1	4	3	54	68
17:15 - 17:30	11	0	0	0	11	11	14	0	0	0	14	14	12	0	0	0	0	12	12	0	0	0	0	0	37	0	0	0	37	37
17:30 - 17:45	12	0	1	0	13	15	18	0	1	0	18	18	15	0	0	0	0	15	15	0	0	0	0	0	45	0	1	0	46	48
17:45 - 18:00	9	0	0	0	9	9	16	0	1	0	17	19	15	0	0	0	0	15	15	0	0	0	0	0	40	0	1	0	41	43
<b>Total</b>	<b>164</b>	<b>4</b>	<b>11</b>	<b>3</b>	<b>182</b>	<b>210</b>	<b>185</b>	<b>0</b>	<b>5</b>	<b>2</b>	<b>192</b>	<b>206</b>	<b>213</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>218</b>	<b>222</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>562</b>	<b>7</b>	<b>17</b>	<b>6</b>	<b>592</b>	<b>638</b>	

Client: Jinyela  
Project: Surrey Road & Beshoff & Woodhouse Roads

3/June/22 Friday		Surrey Road (E)													6A															
		4					5					6					6A					Total from Surrey Road (E)								
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total
15:00 - 15:15	21	0	0	0	21	21	115	14	4	7	140	162	1	0	0	0	1	1	1	0	0	0	0	0	137	14	4	7	162	184
15:15 - 15:30	17	0	1	0	18	20	79	21	1	7	108	124	3	0	0	0	3	3	3	0	0	0	0	0	99	21	2	7	129	147
15:30 - 15:45	17	0	0	0	17	17	111	22	0	5	138	148	1	0	0	0	1	1	1	0	0	0	0	0	129	22	0	5	156	166
15:45 - 16:00	11	0	0	1	12	14	94	11	0	6	111	123	0	0	0	0	0	0	0	0	0	0	0	0	105	11	0	7	123	137
16:00 - 16:15	21	1	0	0	22	22	108	21	2	5	136	150	1	1	0	0	2	2	2	0	0	0	0	0	130	23	2	5	160	174
16:15 - 16:30	28	0	0	0	28	28	151	26	3	6	186	204	3	0	0	0	3	3	3	0	0	0	0	0	182	26	3	6	217	235
16:30 - 16:45	17	0	2	0	19	23	100	28	1	5	134	146	1	0	0	0	1	1	1	0	0	0	0	0	118	28	3	5	154	170
16:45 - 17:00	20	0	1	1	22	26	74	13	0	3	90	96	1	0	0	0	1	1	1	0	0	0	0	0	95	13	1	4	113	123
17:00 - 17:15	14	1	0	0	15	15	94	18	2	3	117	127	2	0	0	0	2	2	2	0	0	0	0	0	110	19	2	3	134	144
17:15 - 17:30	12	0	1	1	14	18	73	13	2	1	89	95	0	0	0	0	0	0	0	0	0	0	0	0	85	13	3	2	103	113
17:30 - 17:45	21	0	1	0	22	24	76	6	1	2	85	91	2	0	0	0	2	2	2	0	0	0	0	0	99	6	2	2	109	117
17:45 - 18:00	18	0	0	0	18	18	55	8	0	0	63	63	1	0	0	0	1	1	1	0	0	0	0	0	74	8	0	0	82	82
<b>Total</b>	<b>217</b>	<b>2</b>	<b>6</b>	<b>3</b>	<b>228</b>	<b>246</b>	<b>1130</b>	<b>201</b>	<b>16</b>	<b>50</b>	<b>1397</b>	<b>1529</b>	<b>16</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1363</b>	<b>204</b>	<b>22</b>	<b>53</b>	<b>1642</b>	<b>1792</b>	

3/June/22 Friday	Woodhouse Road (S)											Woodhouse Road (S)														
	7					8					9					9A										
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total		
15:00 - 15:15	5	0	0	0	5	5	18	0	0	0	18	18	41	2	2	3	48	58	0	0	0	0	0	0	0	0
15:15 - 15:30	10	0	0	0	10	10	13	0	2	0	15	19	37	3	2	0	42	46	0	0	0	0	0	0	0	0
15:30 - 15:45	11	0	0	1	12	14	13	0	1	0	14	16	52	1	1	1	55	59	0	0	0	0	0	0	0	0
15:45 - 16:00	9	0	0	0	9	9	16	0	0	0	16	16	55	4	2	2	62	68	0	0	0	0	0	0	0	0
16:00 - 16:15	8	0	0	0	8	8	14	0	0	0	14	14	47	2	1	1	50	52	0	0	0	0	0	0	0	0
16:15 - 16:30	5	0	0	0	5	5	13	0	0	0	13	13	61	4	1	1	67	71	0	0	0	0	0	0	0	0
16:30 - 16:45	6	0	0	0	6	6	23	1	0	0	24	24	54	4	0	0	58	58	0	0	0	0	0	0	0	0
16:45 - 17:00	5	0	0	0	5	5	16	0	0	1	17	19	57	8	1	1	67	71	0	0	0	0	0	0	0	0
17:00 - 17:15	2	0	0	0	2	2	25	0	0	0	25	25	57	1	0	0	59	61	0	0	0	0	0	0	0	0
17:15 - 17:30	10	0	0	0	10	10	20	1	3	0	25	31	56	2	3	0	61	67	0	0	0	0	0	0	0	0
17:30 - 17:45	10	0	0	0	10	10	14	0	0	0	14	14	47	5	0	0	52	52	0	0	0	0	0	0	0	0
17:45 - 18:00	11	0	0	0	11	11	15	0	0	0	15	15	50	4	0	0	54	54	0	0	0	0	0	0	0	0
Total	92	0	0	1	93	95	201	2	6	1	210	224	614	40	13	8	675	717	0	0	0	0	0	0	0	0

3/June/22 Friday	Boshoff Street (W)											Boshoff Street (W)													
	10					11					12					12A									
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	
15:00 - 15:15	47	0	0	2	49	53	118	23	1	9	151	171	34	2	1	1	18	22	0	0	0	0	0	0	0
15:15 - 15:30	59	1	0	0	60	60	136	20	3	8	167	189	17	0	0	0	17	17	0	0	0	0	0	0	0
15:30 - 15:45	56	2	1	0	59	61	178	31	5	3	217	233	20	1	1	1	23	27	0	0	0	0	0	0	0
15:45 - 16:00	64	0	0	0	64	64	168	28	4	3	203	217	17	0	0	2	19	23	0	0	0	0	0	0	0
16:00 - 16:15	62	0	0	3	65	71	183	19	2	3	207	217	36	1	0	0	37	37	0	0	0	0	0	0	0
16:15 - 16:30	57	1	0	0	58	58	203	22	3	8	236	258	11	0	1	1	13	17	0	0	0	0	0	0	0
16:30 - 16:45	59	5	1	0	65	67	189	20	5	7	221	245	29	0	1	1	31	35	0	0	0	0	0	0	0
16:45 - 17:00	54	1	0	0	55	55	175	24	4	4	207	223	14	1	0	0	15	15	0	0	0	0	0	0	0
17:00 - 17:15	60	1	0	0	61	61	167	30	3	8	208	230	16	0	2	0	18	22	0	0	0	0	0	0	0
17:15 - 17:30	57	3	0	0	60	60	148	19	3	4	174	188	14	0	1	0	15	19	0	0	0	0	0	0	0
17:30 - 17:45	59	1	0	0	60	60	117	16	4	5	142	160	19	0	0	0	19	19	0	0	0	0	0	0	0
17:45 - 18:00	47	3	0	0	50	50	89	11	2	1	103	109	25	1	1	1	28	32	0	0	0	0	0	0	0
Total	681	18	2	5	706	720	1871	263	39	63	2236	2440	232	6	8	7	253	283	0	0	0	0	0	0	0

Client: Jinyela  
Project: Woodhouse & New England

3/June/22		Woodhouse Road (N)											Woodhouse Road (N)												
Friday		1						2					3					3A							
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	
15:00 - 15:15	20	0	0	1	21	23	42	0	3	1	46	54	1	0	0	0	0	1	1	0	0	0	0	0	63
15:15 - 15:30	17	0	0	0	17	17	59	1	0	0	60	60	2	0	0	0	0	1	1	0	0	0	0	0	77
15:30 - 15:45	25	0	0	0	25	25	43	2	1	0	46	48	2	0	0	0	0	2	2	0	0	0	0	0	70
15:45 - 16:00	32	0	0	0	32	32	50	4	0	0	50	50	4	0	0	0	0	4	4	0	0	0	0	0	86
16:00 - 16:15	32	0	0	1	33	35	43	1	0	2	46	50	4	0	0	0	0	4	4	0	0	0	0	0	86
16:15 - 16:30	31	0	0	0	31	31	50	1	0	0	51	51	2	0	0	0	0	2	2	0	0	0	0	0	83
16:30 - 16:45	26	0	0	0	26	26	43	3	1	0	47	49	1	0	0	0	0	1	1	0	0	0	0	0	70
16:45 - 17:00	26	1	0	0	27	27	49	1	0	0	50	50	1	0	0	0	0	1	1	0	0	0	0	0	76
17:00 - 17:15	28	0	0	0	28	28	41	1	1	1	44	48	1	0	0	0	0	1	1	0	0	0	0	0	70
17:15 - 17:30	30	0	0	0	30	30	40	2	0	0	43	45	3	0	0	0	0	3	3	0	0	0	0	0	73
17:30 - 17:45	29	0	0	0	29	29	37	0	0	0	37	37	4	0	0	0	0	4	4	0	0	0	0	0	70
17:45 - 18:00	28	0	0	0	28	28	33	1	1	0	35	37	5	0	0	0	0	5	5	0	0	0	0	0	66
<b>Total</b>	<b>324</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>327</b>	<b>331</b>	<b>530</b>	<b>13</b>	<b>7</b>	<b>5</b>	<b>555</b>	<b>579</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>883</b>

Client: Jinyela  
Project: Woodhouse & New England

3/June/22		New England Road (E)											New England Road (E)												
Friday		4						5					6					6A							
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	
15:00 - 15:15	1	0	0	0	1	1	12	0	0	0	12	12	0	0	0	0	0	2	2	0	0	0	0	0	49
15:15 - 15:30	0	0	0	0	0	0	15	0	0	0	15	15	0	0	0	0	0	2	2	0	0	0	0	0	54
15:30 - 15:45	2	0	0	0	2	2	23	0	0	0	23	23	0	0	0	0	0	27	27	0	0	0	0	0	51
15:45 - 16:00	2	0	0	0	2	2	18	0	0	0	18	18	0	0	0	0	0	39	39	0	0	0	0	0	58
16:00 - 16:15	2	0	0	0	2	2	21	0	0	0	21	21	0	0	0	0	0	41	41	0	0	0	0	0	63
16:15 - 16:30	3	0	0	0	3	3	20	0	0	0	20	20	0	0	0	0	0	45	45	0	0	0	0	0	68
16:30 - 16:45	3	0	0	0	3	3	18	0	0	0	18	18	0	0	0	0	0	33	33	0	0	0	0	0	54
16:45 - 17:00	3	0	0	0	3	3	10	0	0	0	10	10	0	0	0	0	0	34	36	0	0	0	0	0	46
17:00 - 17:15	2	0	0	0	2	2	20	0	0	0	20	20	0	0	0	0	0	24	28	0	0	0	0	0	44
17:15 - 17:30	0	0	0	0	0	0	16	0	0	0	16	16	0	0	0	0	0	45	47	0	0	0	0	0	60
17:30 - 17:45	1	0	0	0	1	1	21	0	0	0	21	21	0	0	0	0	0	39	39	0	0	0	0	0	60
17:45 - 18:00	2	0	0	0	2	2	16	0	0	0	16	16	0	0	0	0	0	34	38	0	0	0	0	0	50
<b>Total</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>210</b>	<b>426</b>	<b>2</b>	<b>2</b>	<b>210</b>	<b>440</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>440</b>	<b>464</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>657</b>

3/Jun/22 Friday	Woodhouse Road (S)											Woodhouse Road (S)																			
	7			8				9				9A			7			8				9				9A					
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	
15:00 - 15:15	43	0	0	0	43	43	48	2	3	3	56	68	80	0	0	0	1	81	83	2	0	0	0	2	85	173	2	3	4	182	196
15:15 - 15:30	43	0	0	1	44	46	37	3	2	0	42	46	71	0	0	0	2	73	77	0	0	0	0	0	77	151	3	2	3	159	169
15:30 - 15:45	45	0	0	3	48	54	55	1	2	2	60	68	97	0	0	0	0	97	97	1	0	0	0	1	98	198	1	2	5	206	220
15:45 - 16:00	41	0	0	4	45	53	49	4	1	0	54	56	87	1	0	0	0	88	88	1	0	0	0	1	89	178	5	1	4	188	198
16:00 - 16:15	51	0	0	1	52	54	44	2	2	0	48	52	94	1	0	0	1	96	98	0	0	0	0	0	98	189	3	2	2	196	204
16:15 - 16:30	33	0	0	0	33	33	62	4	0	1	67	69	103	0	0	0	1	104	106	1	0	0	0	1	107	199	4	0	2	205	209
16:30 - 16:45	38	0	0	1	39	41	48	6	0	0	54	54	91	0	0	0	1	92	94	0	0	0	0	0	94	177	6	0	2	185	189
16:45 - 17:00	52	0	2	1	55	61	49	7	1	3	60	68	88	0	0	0	0	88	88	0	0	0	0	0	88	189	7	3	4	203	217
17:00 - 17:15	40	0	0	0	40	40	50	1	1	0	52	54	85	0	0	0	1	86	88	0	0	0	0	0	88	175	1	1	1	178	182
17:15 - 17:30	41	0	0	2	43	47	54	3	4	0	61	69	90	0	0	0	1	91	93	1	0	0	0	1	94	186	3	4	3	196	210
17:30 - 17:45	30	0	0	0	30	30	50	5	0	0	55	55	95	0	0	0	0	95	95	0	0	0	0	0	95	175	5	0	0	180	180
17:45 - 18:00	37	0	1	0	38	40	40	4	1	0	45	47	82	0	0	0	0	82	82	0	0	0	0	0	82	159	4	2	0	165	169
<b>Total</b>	<b>494</b>	<b>0</b>	<b>3</b>	<b>13</b>	<b>510</b>	<b>542</b>	<b>586</b>	<b>42</b>	<b>17</b>	<b>9</b>	<b>654</b>	<b>706</b>	<b>1063</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>1073</b>	<b>1089</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>2149</b>	<b>44</b>	<b>20</b>	<b>30</b>	<b>2243</b>	<b>2343</b>		

3/Jun/22 Friday	Woodburn Mal (W)											Woodburn Mal (W)																			
	10			11				12				12A			10			11				12				12A					
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	
15:00 - 15:15	67	0	0	1	68	70	19	0	0	1	20	22	18	0	0	1	0	19	21	0	0	0	0	0	21	104	0	1	2	107	113
15:15 - 15:30	61	0	0	0	61	61	23	0	0	1	24	26	17	0	1	0	18	20	20	0	0	0	0	0	20	101	0	1	1	103	107
15:30 - 15:45	76	0	0	0	76	76	24	0	0	0	24	24	23	0	0	0	1	24	26	0	0	0	0	0	26	123	0	1	1	124	126
15:45 - 16:00	76	0	0	0	76	76	29	0	0	0	29	29	21	0	0	0	0	21	21	0	0	0	0	0	21	126	0	0	0	126	126
16:00 - 16:15	74	0	0	2	76	80	26	0	0	0	26	26	26	0	0	0	0	26	26	0	0	0	0	0	26	126	0	2	128	132	
16:15 - 16:30	79	0	0	0	79	79	36	0	0	0	36	36	24	0	0	0	0	24	24	0	0	0	0	0	24	139	0	0	0	139	139
16:30 - 16:45	92	0	0	1	93	95	23	0	0	1	24	26	27	0	0	0	0	27	27	0	0	0	0	0	27	142	0	2	144	148	
16:45 - 17:00	88	1	0	0	89	89	37	0	0	1	38	40	34	0	0	0	0	34	34	0	0	0	0	0	0	34	159	1	0	161	163
17:00 - 17:15	74	0	0	0	74	74	37	0	0	0	37	37	32	0	0	0	0	32	32	0	0	0	0	0	32	143	0	0	0	143	143
17:15 - 17:30	89	0	0	0	89	89	27	0	0	0	27	27	26	0	0	0	0	26	26	1	0	0	0	1	27	143	0	0	0	143	143
17:30 - 17:45	101	1	0	2	104	108	22	0	0	0	22	22	23	0	0	0	0	23	23	0	0	0	0	0	23	146	1	0	2	149	153
17:45 - 18:00	100	0	0	0	100	100	33	0	0	0	33	33	18	0	0	0	0	18	18	0	0	0	0	0	18	151	0	0	0	151	151
<b>Total</b>	<b>977</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>985</b>	<b>997</b>	<b>336</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>340</b>	<b>348</b>	<b>289</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>292</b>	<b>298</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1603</b>	<b>2</b>	<b>2</b>	<b>11</b>	<b>1618</b>	<b>1644</b>		

Client: Jinyela Project: Alan Paton & Leinster & Chief Albert Luthuli

4/Jun/22 Saturday	Woodhouse Road (N)										Total from Woodhouse Road (N)																				
	1					2					3					3A															
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total							
09:00-09:15	62	1	0	1	64	66	4	0	0	0	4	4	14	3	0	1	18	20	0	0	0	0	0	0	80	4	0	2	86	90	
09:15-09:30	76	0	0	3	79	85	3	0	0	0	3	3	25	1	0	1	24	29	0	0	0	0	0	0	0	104	1	0	4	109	117
09:30-09:45	59	0	0	0	59	59	8	0	0	0	8	8	22	1	0	1	24	26	0	0	0	0	0	0	89	1	0	1	91	93	
09:45-10:00	76	1	0	0	77	77	7	0	0	0	7	7	33	1	1	0	35	37	0	0	0	0	0	0	116	2	1	0	119	121	
10:00-10:15	61	1	0	0	63	65	6	0	0	0	6	6	31	1	0	0	32	32	0	0	0	0	0	0	98	2	0	1	101	103	
10:15-10:30	91	0	0	3	94	100	13	0	0	0	13	13	30	4	0	0	34	34	0	0	0	0	0	0	115	4	0	3	141	147	
10:30-10:45	74	2	0	0	76	76	8	0	0	0	8	8	33	2	0	0	35	35	0	0	0	0	0	0	134	4	0	0	141	149	
10:45-11:00	92	1	0	2	95	99	7	0	0	0	7	7	37	2	0	1	40	42	0	0	0	0	0	0	136	3	0	3	142	148	
11:00-11:15	94	0	0	2	96	100	10	0	0	0	10	10	22	1	0	1	24	26	0	0	0	0	0	0	126	1	0	3	130	136	
11:15-11:30	92	0	0	2	94	92	3	0	0	0	3	3	35	1	0	1	37	39	0	0	0	0	0	0	130	1	0	1	132	134	
11:30-11:45	76	0	0	2	78	82	7	0	0	0	7	7	34	0	0	1	35	37	0	0	0	0	0	0	119	0	0	3	120	126	
11:45-12:00	81	1	0	1	83	85	10	0	0	0	10	10	28	1	0	0	29	29	0	0	0	0	0	0	117	0	0	1	122	124	
12:00-12:15	88	0	0	2	90	94	8	0	0	0	8	8	25	1	0	0	26	26	0	0	0	0	0	0	121	1	0	2	124	128	
12:15-12:30	87	0	0	0	87	87	9	0	0	0	9	9	34	0	0	0	35	37	0	0	0	0	0	0	130	0	0	1	131	133	
12:30-12:45	94	2	0	2	98	102	10	0	0	0	10	10	38	1	0	0	39	39	0	0	0	0	0	0	142	3	0	2	147	151	
12:45-13:00	87	1	0	3	91	97	7	0	0	0	7	7	37	2	0	1	40	42	0	0	0	0	0	0	131	3	0	4	138	146	
Total	1290	10	0	22	1322	1366	120	0	0	0	120	120	478	22	1	9	510	530	0	0	0	0	0	0	1888	32	1	31	1952	2016	

Client: Jinyela Project: Alan Paton & Leinster & Chief Albert Luthuli

4/Jun/22 Saturday	Alan Paton Road (E)										Total from Alan Paton Road (E)																			
	4					5					6					6A														
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total						
09:00-09:15	23	1	0	0	24	24	152	6	0	5	163	173	1	0	0	0	1	1	0	0	0	0	0	0	176	7	0	5	188	198
09:15-09:30	20	0	0	1	21	23	129	2	3	4	138	152	0	0	0	0	0	0	0	1	0	0	0	1	150	2	3	5	160	176
09:30-09:45	22	0	0	1	23	25	154	0	0	4	158	166	0	0	0	0	0	0	0	0	0	0	0	0	176	0	0	5	181	191
09:45-10:00	30	0	0	0	30	30	146	6	3	6	161	179	0	0	0	0	0	0	0	0	0	0	0	0	176	6	3	6	191	209
10:00-10:15	26	2	0	1	29	31	169	6	1	7	183	199	2	0	0	2	2	2	0	3	200	8	1	8	200	8	1	8	217	235
10:15-10:30	34	3	0	2	37	37	163	4	2	0	169	173	0	0	0	0	0	0	2	1	198	7	2	0	198	7	2	0	207	211
10:30-10:45	29	1	0	2	32	36	136	8	1	2	147	153	0	0	0	0	0	0	1	1	202	9	1	4	202	9	1	4	180	190
10:45-11:00	42	1	0	1	44	46	159	7	1	0	167	169	0	0	0	0	0	0	1	1	166	8	1	1	166	8	1	1	212	216
11:00-11:15	36	3	1	0	40	42	166	4	1	0	171	173	2	0	0	2	2	0	0	0	204	7	2	0	204	7	2	0	213	217
11:15-11:30	36	4	0	1	41	43	137	1	1	3	142	150	0	0	0	0	0	0	0	0	173	5	1	4	173	5	1	4	183	193
11:30-11:45	43	1	0	2	46	50	137	6	1	6	150	164	0	0	0	0	0	0	0	0	160	7	1	8	160	7	1	8	196	214
11:45-12:00	40	0	0	1	41	43	149	4	0	5	158	168	1	0	0	1	1	1	0	1	191	4	0	6	191	4	0	6	201	213
12:00-12:15	35	2	0	1	38	40	171	3	0	4	178	186	0	0	0	0	0	0	0	206	5	0	5	206	5	0	5	216	226	
12:15-12:30	34	2	0	2	38	42	145	3	2	4	154	166	0	0	0	0	0	0	0	179	5	2	6	179	5	2	6	192	208	
12:30-12:45	51	1	0	0	52	52	155	5	0	2	162	166	0	0	0	0	0	0	0	206	6	0	2	206	6	0	2	214	218	
12:45-13:00	40	2	0	0	42	42	173	3	1	2	179	185	0	0	0	0	0	0	0	214	5	1	2	214	5	1	2	222	228	
Total	541	23	1	13	578	606	2441	68	17	54	2580	2722	6	0	0	6	6	6	9	2997	91	18	67	2997	91	18	67	3173	3343	



Client: Jinyela Project: Alan Paton & Leinster & Chief Albert Luthuli

4/Jun/22 Saturday	Leinster Road (S)													Total from Leinster Road (S)												
	7				8				9					9A				Total				Total				
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total		
09:00 - 09:15	0	0	0	0	0	0	11	0	0	0	0	21	0	0	0	0	0	21	0	0	0	0	0	0	32	
09:15 - 09:30	2	0	0	0	2	9	27	0	0	0	0	27	0	0	0	0	0	27	0	0	0	0	0	0	38	
09:30 - 09:45	1	0	0	0	1	12	12	0	0	0	0	19	0	0	0	0	0	19	0	0	0	0	0	0	32	
09:45 - 10:00	1	0	0	0	1	6	6	0	0	0	0	24	0	0	0	0	0	24	0	0	0	0	0	0	31	
10:00 - 10:15	2	0	0	0	2	12	12	0	0	0	0	16	0	0	0	0	0	16	0	0	0	0	0	0	30	
10:15 - 10:30	0	0	0	0	0	12	12	0	0	0	0	22	0	0	0	0	0	22	0	0	0	0	0	0	34	
10:30 - 10:45	1	0	0	0	1	13	13	0	0	0	0	14	0	0	0	0	0	14	0	0	0	0	0	0	28	
10:45 - 11:00	0	0	0	0	0	8	8	0	0	0	0	18	0	0	0	0	0	18	0	0	0	0	0	0	26	
11:00 - 11:15	1	0	0	0	1	8	8	0	0	0	0	16	0	0	0	0	0	16	0	0	0	0	0	0	25	
11:15 - 11:30	2	0	0	0	2	16	16	0	0	0	0	18	0	0	0	0	0	18	0	0	0	0	0	0	36	
11:30 - 11:45	1	0	0	0	1	9	9	0	0	0	0	32	0	0	0	0	0	32	0	0	0	0	0	0	44	
11:45 - 12:00	1	0	0	0	1	10	10	0	0	0	0	14	0	0	0	0	0	14	0	0	0	0	0	0	25	
12:00 - 12:15	1	0	0	0	1	9	9	0	0	0	0	29	0	0	0	0	0	29	0	0	0	0	0	0	39	
12:15 - 12:30	0	0	0	0	0	15	15	0	0	0	0	19	0	0	0	0	0	19	0	0	0	0	0	0	34	
12:30 - 12:45	0	0	0	0	0	8	8	0	0	0	0	17	0	0	0	0	0	17	0	0	0	0	0	0	26	
12:45 - 13:00	0	0	0	0	0	15	15	0	0	0	0	18	0	0	0	0	0	18	0	0	0	0	0	0	33	
<b>Total</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>173</b>	<b>322</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>324</b>	<b>328</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>328</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>511</b>		

Client: Jinyela Project: Alan Paton & Leinster & Chief Albert Luthuli

4/Jun/22 Saturday	Chief Albert Luthuli Road (W)													Total from Chief Albert Luthuli Road (W)												
	10				11				12					12A				Total				Total				
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total		
09:00 - 09:15	5	0	0	0	5	108	110	0	0	0	0	77	2	0	0	0	0	77	2	0	0	0	0	0	192	
09:15 - 09:30	6	0	0	0	6	124	130	0	0	0	3	79	85	1	0	0	0	85	1	0	0	0	0	0	210	
09:30 - 09:45	6	0	0	0	6	133	139	0	0	0	1	93	95	1	0	0	0	95	1	0	0	0	0	0	233	
09:45 - 10:00	4	0	0	0	4	126	128	0	0	0	0	87	87	0	0	0	0	87	0	0	0	0	0	0	217	
10:00 - 10:15	6	0	0	0	6	139	145	0	0	0	3	83	89	0	0	0	0	83	0	0	0	0	0	0	228	
10:15 - 10:30	10	0	0	0	10	154	156	0	0	0	1	90	94	1	0	0	0	91	1	0	0	0	0	0	251	
10:30 - 10:45	5	0	0	0	5	138	143	0	0	0	2	97	101	1	0	0	0	99	1	0	0	0	0	0	246	
10:45 - 11:00	12	0	0	0	12	142	148	0	0	0	3	100	102	3	0	0	0	103	3	0	0	0	0	0	257	
11:00 - 11:15	5	0	0	0	5	141	147	0	0	0	3	111	117	1	0	0	0	114	1	0	0	0	0	0	259	
11:15 - 11:30	4	0	0	0	4	144	152	0	0	0	1	102	104	2	0	0	0	104	2	0	0	0	0	0	253	
11:30 - 11:45	6	0	0	0	6	137	141	0	0	0	1	90	92	1	0	0	0	91	1	0	0	0	0	0	240	
11:45 - 12:00	7	0	0	0	7	169	171	0	0	0	2	104	110	0	0	0	0	106	0	0	0	0	0	0	281	
12:00 - 12:15	6	0	0	0	6	152	164	0	0	0	3	108	112	0	0	0	0	111	0	0	0	0	0	0	270	
12:15 - 12:30	8	0	0	0	8	169	171	0	0	0	1	115	117	3	0	0	0	118	3	0	0	0	0	0	295	
12:30 - 12:45	2	0	0	0	2	171	173	0	0	0	1	95	97	0	0	0	0	96	0	0	0	0	0	0	268	
12:45 - 13:00	8	0	0	0	8	145	149	0	0	0	2	124	124	0	0	0	0	126	0	0	0	0	0	0	277	
<b>Total</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>103</b>	<b>109</b>	<b>2560</b>	<b>5</b>	<b>5</b>	<b>31</b>	<b>2301</b>	<b>2373</b>	<b>1524</b>	<b>7</b>	<b>1</b>	<b>23</b>	<b>1555</b>	<b>1603</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3975</b>	

4/Jun/22		Woodhouse Road (N)														Total from Woodhouse Road (N)													
Saturday		1							2							3							3A						
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total					
09:00 - 09:15	13	0	0	0	13	13	8	0	0	0	8	8	13	0	0	0	13	13	0	0	0	0	0	0	34				
09:15 - 09:30	14	0	0	0	14	14	12	0	0	1	13	15	9	0	0	0	9	11	0	0	0	0	0	0	34				
09:30 - 09:45	21	1	0	0	22	22	9	0	0	0	9	9	17	0	0	0	17	19	0	0	0	0	0	0	46				
09:45 - 10:00	20	1	0	0	21	21	7	0	0	0	7	7	17	0	0	0	17	17	0	0	0	0	0	0	44				
10:00 - 10:15	18	0	0	0	18	18	11	0	0	0	11	11	15	0	0	0	15	15	0	0	0	0	0	0	38				
10:15 - 10:30	7	1	0	0	8	8	18	0	0	0	18	18	15	0	0	0	15	17	0	0	0	0	0	0	40				
10:30 - 10:45	17	1	0	0	18	18	16	0	0	0	16	16	8	0	0	0	8	8	0	0	0	0	0	0	41				
10:45 - 11:00	27	1	0	0	28	28	9	0	0	0	9	9	14	0	0	0	14	14	0	0	0	0	0	0	50				
11:00 - 11:15	21	1	0	0	22	22	9	0	0	0	9	9	15	0	0	0	15	15	0	0	0	0	0	0	42				
11:15 - 11:30	13	0	0	1	14	14	20	1	0	0	21	21	13	0	0	0	13	17	1	0	0	0	0	1	48				
11:30 - 11:45	16	1	0	0	17	17	7	0	0	0	7	7	12	0	0	0	12	12	0	0	0	0	0	0	35				
11:45 - 12:00	23	3	1	2	29	35	6	0	0	0	6	6	22	0	0	0	22	22	0	0	0	0	0	0	51				
12:00 - 12:15	18	0	1	1	20	24	12	0	0	0	12	12	17	0	0	0	17	17	0	0	0	0	0	0	47				
12:15 - 12:30	35	1	0	0	36	36	17	0	0	0	17	17	18	0	0	0	18	18	0	0	0	0	0	0	70				
12:30 - 12:45	19	1	0	0	20	20	13	0	0	0	13	13	7	0	0	0	7	7	0	0	0	0	0	0	39				
12:45 - 13:00	19	2	1	0	22	24	14	0	0	0	14	14	14	0	0	0	14	14	0	0	0	0	0	0	47				
Total	301	14	3	5	323	339	188	1	0	1	190	192	215	0	0	0	222	236	1	0	0	0	0	0	705				
																									15				
																									13				
																									736				
																									768				

4/Jun/22		Surrey Road (E)														Total from Surrey Road (E)													
Saturday		4							5							6							6A						
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total					
09:00 - 09:15	10	0	0	0	10	10	63	12	0	1	76	78	1	0	0	0	1	1	0	0	0	0	0	0	74				
09:15 - 09:30	12	0	0	0	12	12	56	14	0	1	71	73	1	0	0	0	1	1	0	0	0	0	0	0	69				
09:30 - 09:45	15	0	0	0	15	15	71	6	0	0	77	77	1	0	0	0	1	1	0	0	0	0	0	0	87				
09:45 - 10:00	10	0	0	1	11	13	86	11	0	4	101	109	2	0	0	0	2	2	0	0	0	0	0	0	98				
10:00 - 10:15	10	0	0	0	10	10	84	11	0	4	99	107	2	0	0	0	2	2	0	0	0	0	0	0	96				
10:15 - 10:30	11	0	0	0	11	11	76	8	0	1	85	87	1	0	0	0	1	1	0	0	0	0	0	0	88				
10:30 - 10:45	8	0	0	0	8	8	78	10	0	1	89	91	1	0	0	0	1	1	0	0	0	0	0	0	88				
10:45 - 11:00	19	1	0	0	20	20	78	9	0	4	91	99	4	0	0	0	4	4	0	0	0	0	0	0	101				
11:00 - 11:15	10	1	0	0	11	11	89	10	0	2	101	105	3	0	0	0	3	3	0	0	0	0	0	0	102				
11:15 - 11:30	14	0	0	0	14	14	84	9	0	1	97	99	2	0	0	0	2	2	0	0	0	0	0	0	103				
11:30 - 11:45	20	1	0	0	21	21	88	6	0	2	96	100	3	0	0	0	3	3	0	0	0	0	0	0	111				
11:45 - 12:00	17	0	0	1	18	20	88	12	0	4	104	112	0	1	0	0	0	0	0	0	0	0	0	0	105				
12:00 - 12:15	16	0	0	0	16	16	86	8	0	3	97	103	2	0	0	0	2	2	0	0	0	0	0	0	104				
12:15 - 12:30	11	1	0	0	12	12	98	8	0	2	108	112	3	0	0	0	3	3	0	0	0	0	0	0	112				
12:30 - 12:45	16	0	0	0	16	16	82	8	1	3	94	102	0	0	0	0	0	0	0	0	0	0	0	0	98				
12:45 - 13:00	11	0	1	1	13	17	94	7	0	1	102	104	1	0	0	0	1	1	0	0	0	0	0	0	106				
Total	210	4	1	3	218	226	1304	149	1	34	1488	1558	27	1	0	1	29	31	0	0	0	0	0	0	1541				
																									154				
																									38				
																									1735				
																									1815				



The

Transport Data Specialists

Client: Jinyela

Project: Surrey Road & Boshoff & Woodhouse Roads

4/June/22 Saturday	Woodhouse Road (S)										9A										Total from Woodhouse Road (S)										
	7					8					9					9A					9A					9A					
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	
09:00 - 09:15	5	0	0	0	5	5	8	0	0	0	8	8	29	1	0	0	30	30	0	0	0	0	0	0	0	42	1	0	0	43	43
09:15 - 09:30	5	0	0	0	5	5	8	0	0	0	8	8	25	0	0	0	26	28	0	0	0	0	0	0	0	38	0	0	1	39	41
09:30 - 09:45	2	0	0	0	2	2	15	0	0	0	15	15	38	0	0	0	38	38	0	0	0	0	0	0	0	55	0	0	0	55	55
09:45 - 10:00	8	0	0	0	8	8	9	0	0	0	9	9	42	0	0	0	42	42	0	0	0	0	0	0	0	59	0	0	0	59	59
10:00 - 10:15	8	0	0	0	8	8	17	0	0	0	17	17	34	2	0	0	36	36	0	0	0	0	0	0	0	59	2	0	0	61	61
10:15 - 10:30	6	0	0	0	6	6	12	0	1	0	13	15	50	3	0	0	53	53	0	0	0	0	0	0	0	68	3	1	0	72	74
10:30 - 10:45	5	0	0	1	6	6	15	0	0	0	15	15	45	1	0	0	46	46	0	0	0	0	0	0	0	65	1	0	1	67	69
10:45 - 11:00	9	0	0	0	9	9	6	0	0	0	6	6	34	1	0	3	38	44	0	0	0	0	0	0	0	49	1	0	3	53	59
11:00 - 11:15	6	1	0	0	7	7	15	0	0	0	15	15	44	2	1	0	47	49	0	0	0	0	0	0	0	65	3	1	0	69	71
11:15 - 11:30	6	0	0	0	6	6	9	0	0	0	9	9	45	2	0	0	47	49	0	0	0	0	0	0	0	60	2	0	0	62	62
11:30 - 11:45	5	0	0	0	5	5	15	1	0	0	16	16	43	2	0	0	45	45	0	0	0	0	0	0	0	63	3	0	0	66	66
11:45 - 12:00	3	0	0	0	3	3	13	1	0	0	14	14	49	0	0	0	51	55	0	0	0	0	0	0	0	65	1	0	2	68	72
12:00 - 12:15	3	0	0	1	4	4	19	0	0	0	19	19	38	2	0	0	40	40	0	0	0	0	0	0	0	60	2	0	1	63	65
12:15 - 12:30	4	0	0	0	4	4	12	0	0	0	12	12	42	1	0	1	44	46	0	0	0	0	0	0	0	58	1	0	1	60	62
12:30 - 12:45	8	0	0	0	8	8	10	0	0	0	10	10	39	2	0	0	41	41	0	0	0	0	0	0	0	57	2	0	0	59	59
12:45 - 13:00	8	0	0	0	8	8	13	1	1	0	15	17	56	2	0	0	58	58	0	0	0	0	0	0	0	77	3	1	0	81	83
Total	91	1	0	2	94	98	196	3	2	0	201	205	653	21	1	7	682	698	0	0	0	0	0	0	0	940	25	3	9	977	1001



The

Transport Data Specialists

Client: Jinyela

Project: Surrey Road & Boshoff & Woodhouse Roads

4/June/22 Saturday	Boshoff Street (W)										12A										Total from Boshoff Street (W)										
	10					11					12					12A					12A					12A					
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	
09:00 - 09:15	22	3	0	0	25	25	59	5	0	2	66	70	8	0	0	0	10	14	0	0	0	0	0	0	0	89	8	0	4	101	109
09:15 - 09:30	31	0	0	1	32	34	66	7	0	4	77	85	9	0	0	0	9	9	0	0	0	0	0	0	0	106	7	0	5	118	128
09:30 - 09:45	27	2	0	0	29	29	60	7	0	6	73	85	15	0	0	1	16	18	0	0	0	0	0	0	0	102	9	0	7	118	132
09:45 - 10:00	32	0	0	0	32	32	70	10	0	2	82	86	12	0	0	0	12	12	0	0	0	0	0	0	0	114	10	0	2	126	130
10:00 - 10:15	26	3	0	0	29	29	78	5	2	4	89	101	16	0	0	0	16	16	0	0	0	0	0	0	0	120	8	2	4	134	146
10:15 - 10:30	36	1	0	0	37	37	74	8	0	5	87	97	16	0	0	0	16	16	0	0	0	0	0	0	0	126	9	0	5	140	150
10:30 - 10:45	28	2	0	0	30	30	90	7	0	4	101	109	19	1	0	0	20	20	0	0	0	0	0	0	0	137	10	0	4	151	159
10:45 - 11:00	37	1	0	0	38	38	115	4	0	5	124	134	12	0	0	2	21	25	0	0	0	0	0	0	0	178	6	0	5	189	199
11:00 - 11:15	51	2	0	0	53	53	115	4	0	3	94	100	18	1	0	2	21	25	0	0	0	0	0	0	0	145	12	0	2	159	163
11:15 - 11:30	33	1	0	0	34	34	88	11	0	2	101	105	24	0	0	0	24	24	0	0	0	0	0	0	0	145	14	0	2	169	176
11:30 - 11:45	47	0	0	1	48	50	84	14	0	3	101	107	19	0	0	0	19	19	0	0	0	0	0	0	0	150	14	0	4	168	176
11:45 - 12:00	36	1	0	1	38	40	92	11	0	5	108	118	22	0	0	0	22	22	0	0	0	0	0	0	0	150	12	0	6	168	180
12:00 - 12:15	32	1	0	1	34	36	79	12	1	2	94	100	19	0	0	2	21	25	0	0	0	0	0	0	0	150	13	1	5	166	178
12:15 - 12:30	43	0	0	0	43	43	96	9	1	5	111	123	11	1	0	0	12	12	0	0	0	0	0	0	0	150	10	1	5	166	178
12:30 - 12:45	38	1	0	1	40	42	85	16	0	0	101	101	13	0	0	0	13	13	0	0	0	0	0	0	0	136	17	0	1	154	156
12:45 - 13:00	42	3	0	1	46	48	62	7	0	1	70	72	13	1	0	0	14	14	1	1	1	1	1	1	1	118	11	0	2	131	135
Total	561	21	0	6	588	600	1276	146	4	53	1479	1593	246	4	0	7	257	271	1	0	0	0	0	0	0	2084	171	4	66	2325	2465



Client: Jinyela Project: Woodhouse & New England

4/June/22		7										8										9										9A									
Saturday		Woodhouse Road (S)					Woodhouse Road (S)					Woodhouse Road (S)					Woodhouse Road (S)					Woodhouse Road (S)					Woodhouse Road (S)														
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total					
09:00 - 09:15	28	0	0	0	37	37	33	1	0	0	34	34	44	0	0	0	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
09:15 - 09:30	30	0	0	1	31	33	27	0	0	1	28	30	51	0	0	2	51	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
09:30 - 09:45	30	0	0	1	31	33	33	0	0	0	33	33	65	0	0	0	65	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
09:45 - 10:00	32	0	0	0	32	32	40	0	0	0	40	40	53	0	0	0	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:00 - 10:15	34	0	0	3	37	43	39	2	0	0	41	41	44	0	0	0	44	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:15 - 10:30	31	1	0	0	32	32	34	3	1	0	38	40	68	0	0	0	69	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:30 - 10:45	32	1	0	0	33	33	42	1	0	1	44	46	60	0	0	0	61	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:45 - 11:00	35	0	0	1	36	38	35	1	0	3	39	45	77	0	0	0	77	77	1	0	0	0	0	1	1	148	1	0	0	0	0	0	0	0	0	0	0	0			
11:00 - 11:15	33	1	0	3	37	43	35	3	1	0	41	41	76	1	0	0	76	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:15 - 11:30	25	1	0	2	28	32	38	3	0	0	41	41	94	0	0	0	94	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:30 - 11:45	29	0	0	3	30	32	39	2	0	0	41	41	73	0	0	2	75	79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:45 - 12:00	38	0	0	3	41	47	45	1	0	1	47	49	62	0	0	0	62	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:00 - 12:15	38	1	0	1	40	42	34	2	0	1	37	39	84	0	0	0	85	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:15 - 12:30	40	0	0	1	41	43	41	1	0	1	43	45	83	0	0	0	84	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:30 - 12:45	31	0	0	1	32	34	33	2	1	0	36	38	84	0	0	0	84	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:45 - 13:00	41	0	0	0	41	41	39	2	0	0	41	41	100	0	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total	536	5	0	18	559	595	587	24	3	8	622	644	1111	1	0	10	1122	1142	1	0	0	0	0	1	2235	30	3	36	2504	2382	3	0	0	0	0	0					

Client: Jinyela Project: Woodhouse & New England

4/June/22		10										11										12										12A									
Saturday		Woodburn Mall (W)					Woodburn Mall (W)					Woodburn Mall (W)					Woodburn Mall (W)					Woodburn Mall (W)					Woodburn Mall (W)														
Time	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total	Light	Taxi	Bus	Heavy	Total	PCU Total					
09:00 - 09:15	28	0	0	1	29	31	9	0	0	0	9	9	9	0	0	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
09:15 - 09:30	38	0	0	1	39	41	20	0	0	0	20	20	13	0	0	0	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
09:30 - 09:45	44	0	0	1	45	47	18	0	0	0	18	18	20	0	0	0	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
09:45 - 10:00	51	0	0	0	51	51	14	0	0	0	15	17	20	0	0	0	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:00 - 10:15	45	0	0	0	45	45	18	0	0	0	19	21	17	0	0	0	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:15 - 10:30	48	1	0	0	49	49	16	0	0	0	16	16	28	0	0	0	28	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:30 - 10:45	54	1	0	0	55	55	18	0	0	2	20	24	20	0	0	0	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:45 - 11:00	44	0	0	0	44	44	29	0	0	1	30	32	19	0	0	0	19	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:00 - 11:15	51	0	0	1	52	54	28	0	0	0	28	28	23	0	0	0	23	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:15 - 11:30	56	0	0	0	56	56	26	0	0	0	26	26	25	0	0	0	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:30 - 11:45	62	0	0	1	63	65	34	1	0	2	37	41	25	0	0	0	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:45 - 12:00	62	0	0	0	62	62	23	0	0	0	23	23	16	0	0	0	17	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:00 - 12:15	55	0	0	0	55	55	31	0	0	1	32	34	24	0	0	0	24	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:15 - 12:30	67	0	0	0	67	67	37	0	0	0	37	37	18	0	0	0	18	18	1	0	0	0	0	1	1	123	1	0	0	0	0	0	0	0	0	0	0	0			
12:30 - 12:45	72	1	0	0	73	73	23	0	0	0	23	23	27	0	0	0	27	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:45 - 13:00	74	0	0	0	74	74	22	0	0	0	22	22	38	0	0	0	38	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total	851	3	0	5	859	869	366	1	0	8	375	391	342	0	0	0	343	345	1	0	0	0	0	1	343	345	1	0	0	0	0	0	0	0	0	0	0				

## **APPENDIX B: RESULTS OF SIDRA ANALYSIS**

# MOVEMENT SUMMARY

## Site: 101 [R56/ Alan Paton Forecast Sat]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h		v/c	sec		veh	m				km/h
South: Leinster Rd												
1	L2	96	0,0	0,311	10,7	LOS B	1,1	7,7	0,81	0,71	0,81	52,0
2	T1	56	0,0	0,311	5,1	LOS A	1,1	7,7	0,81	0,71	0,81	52,6
3	R2	1	0,0	0,311	10,6	LOS B	1,1	7,7	0,81	0,71	0,81	51,4
Approach		153	0,0	0,311	8,6	LOS A	1,1	7,7	0,81	0,71	0,81	52,2
East: Alan Paton Ave												
4	L2	1	0,0	0,601	15,3	LOS B	5,2	36,1	0,88	0,76	0,92	50,5
5	T1	780	0,0	0,601	9,8	LOS A	5,2	36,1	0,88	0,76	0,92	51,7
6	R2	197	0,0	0,636	19,5	LOS B	3,1	21,5	0,96	0,86	1,14	44,5
Approach		978	0,0	0,636	11,7	LOS B	5,2	36,1	0,90	0,78	0,97	50,1
North: R56												
7	L2	162	0,0	0,572	13,4	LOS B	3,1	22,0	0,88	0,83	1,07	49,1
8	T1	39	0,0	0,572	7,8	LOS A	3,1	22,0	0,88	0,83	1,07	49,6
9	R2	424	0,0	0,572	15,7	LOS B	3,9	27,3	0,90	0,82	0,99	47,4
Approach		625	0,0	0,572	14,6	LOS B	3,9	27,3	0,90	0,83	1,02	48,0
West: R56												
10	L2	512	0,0	0,276	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
11	T1	743	0,0	0,579	9,5	LOS A	4,9	34,1	0,87	0,74	0,89	51,9
12	R2	28	0,0	0,092	17,8	LOS B	0,4	2,6	0,87	0,70	0,87	45,2
Approach		1283	0,0	0,579	8,2	LOS A	4,9	34,1	0,52	0,66	0,53	52,9
All Vehicles		3039	0,0	0,636	10,7	LOS B	5,2	36,1	0,74	0,74	0,79	50,9

# MOVEMENT SUMMARY

 **Site: 101 [R56/ Alan Paton Forecast Fri]**

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: Leinster Rd												
1	L2	85	0,0	0,153	14,3	LOS B	1,1	7,6	0,71	0,71	0,71	48,1
2	T1	73	0,0	0,141	19,5	LOS B	2,0	13,8	0,77	0,61	0,77	45,3
3	R2	5	0,0	0,141	25,0	LOS C	2,0	13,8	0,77	0,61	0,77	44,4
Approach		163	0,0	0,153	17,0	LOS B	2,0	13,8	0,74	0,66	0,74	46,7
East: Alan Paton Ave												
4	L2	10	0,0	0,459	22,3	LOS C	9,1	63,4	0,78	0,68	0,78	46,0
5	T1	705	0,0	0,459	16,8	LOS B	9,1	63,5	0,78	0,67	0,78	47,0
6	R2	257	0,0	0,873	46,7	LOS D	10,2	71,3	1,00	1,13	1,84	33,4
Approach		972	0,0	0,873	24,7	LOS C	10,2	71,3	0,84	0,79	1,06	42,5
North: R56												
7	L2	246	0,0	0,841	35,8	LOS D	16,1	112,8	0,99	1,07	1,52	38,3
8	T1	160	0,0	0,841	30,2	LOS C	16,1	112,8	0,99	1,07	1,52	38,7
9	R2	408	0,0	0,841	39,3	LOS D	16,1	112,8	1,00	1,02	1,36	36,4
Approach		814	0,0	0,841	36,5	LOS D	16,1	112,8	0,99	1,05	1,44	37,4
West: R56												
10	L2	591	0,0	0,318	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
11	T1	1204	0,0	0,952	54,0	LOS D	32,7	228,7	0,93	1,31	1,67	31,9
12	R2	66	0,0	0,159	19,7	LOS B	1,5	10,2	0,72	0,73	0,72	44,3
Approach		1861	0,0	0,952	37,5	LOS D	32,7	228,7	0,63	1,04	1,11	37,2
All Vehicles		3810	0,0	0,952	33,1	LOS C	32,7	228,7	0,77	0,96	1,15	38,8



## MOVEMENT SUMMARY

### Site: 101 [R56/ Alan Paton Forecast Sat + Site]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h	v/c	sec			veh	m				km/h
South: Leinster Rd												
1	L2	96	0,00,311	10,7	LOS B	1,1	7,7	0,81	0,71	0,81	52,0	
2	T1	56	0,00,311	5,1	LOS A	1,1	7,7	0,81	0,71	0,81	52,6	
3	R2	1	0,00,311	10,6	LOS B	1,1	7,7	0,81	0,71	0,81	51,4	
Approach		153	0,00,311	8,6	LOS A	1,1	7,7	0,81	0,71	0,81	52,2	
East: Alan Paton Ave												
4	L2	1	0,00,601	15,3	LOS B	5,2	36,1	0,88	0,76	0,92	50,5	
5	T1	780	0,00,601	9,8	LOS A	5,2	36,1	0,88	0,76	0,92	51,7	
6	R2	197	0,00,636	19,5	LOS B	3,1	21,5	0,96	0,86	1,14	44,5	
Approach		978	0,00,636	11,7	LOS B	5,2	36,1	0,90	0,78	0,97	50,1	
North: R56												
7	L2	162	0,00,572	13,4	LOS B	3,1	22,0	0,88	0,83	1,07	49,1	
8	T1	39	0,00,572	7,8	LOS A	3,1	22,0	0,88	0,83	1,07	49,6	
9	R2	424	0,00,572	15,7	LOS B	3,9	27,3	0,90	0,82	0,99	47,4	
Approach		625	0,00,572	14,6	LOS B	3,9	27,3	0,90	0,83	1,02	48,0	
West: R56												
10	L2	512	0,00,276	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9	
11	T1	743	0,00,579	9,5	LOS A	4,9	34,1	0,87	0,74	0,89	51,9	
12	R2	28	0,00,092	17,8	LOS B	0,4	2,6	0,87	0,70	0,87	45,2	
Approach		1283	0,00,579	8,2	LOS A	4,9	34,1	0,52	0,66	0,53	52,9	
All Vehicles		3039	0,00,636	10,7	LOS B	5,2	36,1	0,74	0,74	0,79	50,9	

# MOVEMENT SUMMARY

## Site: 101 [R56/ Alan Paton Forecast Fri + Site]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 70 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h		v/c	sec		veh	m				km/h
South: Leinster Rd												
1	L2	85	0,0	0,126	17,5	LOS B	1,7	11,8	0,69	0,71	0,69	46,1
2	T1	84	0,0	0,559	36,1	LOS D	3,2	22,3	1,00	0,79	1,05	37,7
3	R2	5	0,0	0,559	41,6	LOS D	3,2	22,3	1,00	0,79	1,05	37,1
Approach		174	0,0	0,559	27,2	LOS C	3,2	22,3	0,85	0,75	0,87	41,4
East: Alan Paton Ave												
4	L2	10	0,0	0,476	23,1	LOS C	9,3	65,0	0,80	0,69	0,80	45,5
5	T1	705	0,0	0,476	17,6	LOS B	9,3	65,1	0,80	0,69	0,80	46,5
6	R2	279	0,0	0,988	71,1	LOS E	12,9	90,2	1,00	1,32	2,41	27,3
Approach		994	0,0	0,988	32,7	LOS C	12,9	90,2	0,86	0,87	1,25	38,9
North: R56												
7	L2	266	0,0	0,888	42,4	LOS D	21,0	147,1	1,00	1,15	1,68	35,8
8	T1	170	0,0	0,888	36,8	LOS D	21,0	147,1	1,00	1,15	1,68	36,1
9	R2	449	0,0	0,888	40,7	LOS D	21,0	147,1	1,00	1,08	1,54	35,9
Approach		885	0,0	0,888	40,5	LOS D	21,0	147,1	1,00	1,11	1,61	35,9
West: R56												
10	L2	634	0,0	0,341	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
11	T1	1204	0,0	0,946	51,2	LOS D	33,3	232,8	0,96	1,30	1,64	32,7
12	R2	66	0,0	0,163	16,1	LOS B	1,2	8,1	0,72	0,71	0,72	46,4
Approach		1904	0,0	0,946	34,8	LOS C	33,3	232,8	0,63	1,02	1,06	38,3
All Vehicles		3957	0,0	0,988	35,2	LOS D	33,3	232,8	0,78	0,99	1,22	38,0

# MOVEMENT SUMMARY

## Site: 101 [Existing Woodburn Access Forecast AM]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: R56												
1	L2	409	0,0	0,220	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
2	T1	182	0,0	0,467	12,4	LOS B	2,6	18,0	0,93	0,74	0,93	49,8
3	R2	179	0,0	0,596	20,5	LOS C	2,8	19,5	0,98	0,82	1,10	44,2
Approach		770	0,0	0,596	10,7	LOS B	2,8	19,5	0,45	0,65	0,48	50,8
East: R56												
4	L2	170	0,0	0,229	12,2	LOS B	1,7	12,0	0,69	0,74	0,69	48,8
5	T1	85	0,0	0,109	6,3	LOS A	0,8	5,7	0,66	0,51	0,66	54,4
6	R2	2	0,0	0,004	12,9	LOS B	0,0	0,1	0,68	0,61	0,68	48,2
Approach		257	0,0	0,229	10,3	LOS B	1,7	12,0	0,68	0,66	0,68	50,5
North: Woodhouse Rd												
7	L2	3	0,0	0,400	17,8	LOS B	2,2	15,1	0,91	0,72	0,91	48,8
8	T1	155	0,0	0,400	12,2	LOS B	2,2	15,1	0,91	0,72	0,91	49,8
9	R2	111	0,0	0,400	18,9	LOS B	1,6	11,5	0,93	0,76	0,93	44,7
Approach		269	0,0	0,400	15,0	LOS B	2,2	15,1	0,92	0,74	0,92	47,6
West: Woodburn Square												
10	L2	124	0,0	0,336	12,6	LOS B	2,7	19,1	0,73	0,68	0,73	50,5
11	T1	132	0,0	0,336	7,0	LOS A	2,7	19,1	0,73	0,68	0,73	51,8
12	R2	312	0,0	0,596	14,9	LOS B	4,1	28,8	0,86	0,83	0,92	47,4
Approach		568	0,0	0,596	12,6	LOS B	4,1	28,8	0,80	0,76	0,83	49,0
All Vehicles		1864	0,0	0,596	11,8	LOS B	4,1	28,8	0,66	0,70	0,68	49,7

# MOVEMENT SUMMARY

## Site: 101 [Existing Woodburn Access Forecast PM]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: R56												
1	L2	441	0,0	0,237	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
2	T1	265	0,0	0,582	12,2	LOS B	3,8	26,6	0,93	0,79	0,99	50,0
3	R2	208	0,0	0,699	21,4	LOS C	3,4	23,7	1,00	0,88	1,27	43,7
Approach		914	0,0	0,699	11,1	LOS B	3,8	26,6	0,50	0,69	0,58	50,6
East: R56												
4	L2	177	0,0	0,260	13,1	LOS B	1,9	13,4	0,74	0,75	0,74	48,3
5	T1	80	0,0	0,112	7,0	LOS A	0,8	5,6	0,69	0,53	0,69	53,8
6	R2	13	0,0	0,030	14,7	LOS B	0,1	1,0	0,76	0,67	0,76	47,1
Approach		270	0,0	0,260	11,4	LOS B	1,9	13,4	0,72	0,68	0,72	49,7
North: Woodhouse Rd												
7	L2	9	0,0	0,506	17,2	LOS B	3,2	22,2	0,91	0,75	0,91	49,1
8	T1	225	0,0	0,506	11,7	LOS B	3,2	22,2	0,92	0,75	0,92	50,1
9	R2	136	0,0	0,506	19,3	LOS B	2,1	14,7	0,95	0,79	0,99	44,5
Approach		370	0,0	0,506	14,6	LOS B	3,2	22,2	0,93	0,76	0,94	47,9
West: Woodburn Square												
10	L2	129	0,0	0,391	13,5	LOS B	3,1	21,8	0,78	0,71	0,78	49,9
11	T1	144	0,0	0,391	8,0	LOS A	3,1	21,8	0,78	0,71	0,78	51,1
12	R2	391	0,0	0,814	21,3	LOS C	6,9	48,6	0,98	1,04	1,46	43,7
Approach		664	0,0	0,814	16,9	LOS B	6,9	48,6	0,90	0,91	1,18	46,3
All Vehicles		2218	0,0	0,814	13,5	LOS B	6,9	48,6	0,72	0,76	0,84	48,7

## MOVEMENT SUMMARY

### Site: 101 [Existing Woodburn Access Forecast AM + Site]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: R56												
1	L2	527	0,0	0,284	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
2	T1	178	0,0	0,456	12,4	LOS B	2,5	17,5	0,92	0,74	0,92	49,9
3	R2	176	0,0	0,524	19,2	LOS B	2,6	18,3	0,96	0,80	0,99	44,9
Approach		881	0,0	0,524	9,7	LOS A	2,6	18,3	0,38	0,62	0,38	51,6
East: R56												
4	L2	167	0,0	0,225	12,2	LOS B	1,7	11,8	0,69	0,74	0,69	48,8
5	T1	115	0,0	0,147	6,4	LOS A	1,1	7,8	0,67	0,53	0,67	54,3
6	R2	2	0,0	0,004	12,1	LOS B	0,0	0,1	0,65	0,61	0,65	48,7
Approach		284	0,0	0,225	9,9	LOS A	1,7	11,8	0,68	0,65	0,68	50,9
North: Woodhouse Rd												
7	L2	3	0,0	0,240	17,3	LOS B	1,2	8,7	0,88	0,68	0,88	49,1
8	T1	151	0,0	0,240	11,8	LOS B	1,2	8,7	0,88	0,68	0,88	49,8
9	R2	19	0,0	0,240	17,4	LOS B	1,1	7,5	0,88	0,69	0,88	48,0
Approach		173	0,0	0,240	12,5	LOS B	1,2	8,7	0,88	0,68	0,88	49,6
West: Woodburn Square												
10	L2	22	0,0	0,239	12,3	LOS B	1,9	13,1	0,70	0,59	0,70	52,3
11	T1	163	0,0	0,239	6,7	LOS A	1,9	13,1	0,70	0,59	0,70	53,5
12	R2	430	0,0	0,830	21,6	LOS C	8,0	55,7	0,97	1,08	1,49	43,6
Approach		615	0,0	0,830	17,3	LOS B	8,0	55,7	0,89	0,93	1,26	46,1
All Vehicles		1953	0,0	0,830	12,4	LOS B	8,0	55,7	0,63	0,73	0,75	49,5

# MOVEMENT SUMMARY

## Site: 101 [Existing Woodburn Access Forecast PM + Site]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: R56												
1	L2	527	0,0	0,284	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
2	T1	259	0,0	0,664	17,8	LOS B	5,2	36,3	0,97	0,85	1,10	46,4
3	R2	202	0,0	0,749	26,7	LOS C	4,4	31,0	1,00	0,93	1,33	41,1
Approach		988	0,0	0,749	13,2	LOS B	5,2	36,3	0,46	0,70	0,56	49,2
East: R56												
4	L2	172	0,0	0,185	11,6	LOS B	1,9	13,2	0,58	0,72	0,58	49,3
5	T1	106	0,0	0,109	5,8	LOS A	1,1	7,8	0,55	0,44	0,55	54,8
6	R2	13	0,0	0,021	12,2	LOS B	0,1	1,0	0,57	0,66	0,57	48,6
Approach		291	0,0	0,185	9,5	LOS A	1,9	13,2	0,57	0,61	0,57	51,1
North: Woodhouse Rd												
7	L2	9	0,0	0,352	21,3	LOS C	2,5	17,2	0,90	0,72	0,90	46,4
8	T1	219	0,0	0,352	16,2	LOS B	2,5	17,2	0,91	0,72	0,91	47,0
9	R2	20	0,0	0,352	22,4	LOS C	2,1	14,4	0,92	0,73	0,92	45,3
Approach		248	0,0	0,352	16,9	LOS B	2,5	17,2	0,91	0,72	0,91	46,8
West: Woodburn Square												
10	L2	23	0,0	0,198	11,6	LOS B	2,1	14,8	0,59	0,51	0,59	52,7
11	T1	169	0,0	0,198	6,1	LOS A	2,1	14,8	0,59	0,51	0,59	54,0
12	R2	474	0,0	0,798	21,5	LOS C	10,2	71,7	0,92	0,98	1,21	43,7
Approach		666	0,0	0,798	17,2	LOS B	10,2	71,7	0,82	0,85	1,03	46,2
All Vehicles		2193	0,0	0,798	14,3	LOS B	10,2	71,7	0,64	0,73	0,74	48,2

# MOVEMENT SUMMARY

## Site: 101 [Boshoff St/ Surrey Rd Forecast Sat]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: Woodhouse Rd												
1	L2	212	0,0	0,492	15,5	LOS B	3,6	25,0	0,87	0,78	0,87	47,6
2	T1	65	0,0	0,492	9,9	LOS A	3,6	25,0	0,87	0,78	0,87	48,7
3	R2	28	0,0	0,063	14,9	LOS B	0,3	2,3	0,77	0,69	0,77	47,5
Approach		305	0,0	0,492	14,2	LOS B	3,6	25,0	0,86	0,77	0,86	47,8
East: Surrey Rd												
4	L2	8	0,0	0,014	13,7	LOS B	0,1	0,6	0,72	0,64	0,72	47,9
5	T1	465	0,0	0,397	9,6	LOS A	2,9	20,2	0,84	0,68	0,84	51,8
6	R2	66	0,0	0,189	17,2	LOS B	0,9	6,1	0,87	0,73	0,87	45,8
Approach		539	0,0	0,397	10,6	LOS B	2,9	20,2	0,84	0,69	0,84	51,0
North: Woodhouse Rd												
7	L2	65	0,0	0,228	14,5	LOS B	1,5	10,6	0,79	0,69	0,79	49,2
8	T1	65	0,0	0,228	9,0	LOS A	1,5	10,6	0,79	0,69	0,79	50,3
9	R2	114	0,0	0,329	17,7	LOS B	1,6	11,0	0,89	0,76	0,89	45,6
Approach		244	0,0	0,329	14,5	LOS B	1,6	11,0	0,84	0,72	0,84	47,7
West: Boshoff Rd												
10	L2	70	0,0	0,434	12,1	LOS B	2,4	16,7	0,83	0,71	0,88	52,4
11	T1	436	0,0	0,434	8,4	LOS A	3,2	22,3	0,84	0,70	0,86	52,3
12	R2	189	0,0	0,532	17,6	LOS B	2,7	18,9	0,92	0,81	0,96	45,5
Approach		695	0,0	0,532	11,3	LOS B	3,2	22,3	0,86	0,73	0,89	50,3
All Vehicles		1783	0,0	0,532	12,0	LOS B	3,6	25,0	0,85	0,72	0,86	49,7

# MOVEMENT SUMMARY

## Site: 101 [Boshoff St/ Surrey Rd Forecast Fri]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: Woodhouse Rd												
1	L2	281	0,0	0,822	22,3	LOS C	6,4	44,8	1,00	1,04	1,51	43,7
2	T1	79	0,0	0,822	16,7	LOS B	6,4	44,8	1,00	1,04	1,51	44,6
3	R2	28	0,0	0,082	17,8	LOS B	0,4	2,6	0,87	0,69	0,87	45,8
Approach		388	0,0	0,822	20,8	LOS C	6,4	44,8	0,99	1,02	1,47	44,0
East: Surrey Rd												
4	L2	8	0,0	0,012	12,2	LOS B	0,1	0,5	0,65	0,64	0,65	48,9
5	T1	633	0,0	0,443	8,2	LOS A	3,7	25,9	0,80	0,67	0,80	52,9
6	R2	105	0,0	0,392	19,8	LOS B	1,6	11,0	0,95	0,76	0,95	44,3
Approach		746	0,0	0,443	9,8	LOS A	3,7	25,9	0,82	0,68	0,82	51,5
North: Woodhouse Rd												
7	L2	87	0,0	0,357	16,7	LOS B	2,1	14,6	0,88	0,74	0,88	47,6
8	T1	71	0,0	0,357	11,2	LOS B	2,1	14,6	0,88	0,74	0,88	48,7
9	R2	66	0,0	0,303	21,6	LOS C	1,0	7,2	0,99	0,72	0,99	43,5
Approach		224	0,0	0,357	16,4	LOS B	2,1	14,6	0,91	0,73	0,91	46,6
West: Boshoff Rd												
10	L2	111	0,0	0,788	18,4	LOS B	8,7	60,6	0,94	0,99	1,46	48,3
11	T1	1010	0,0	0,788	12,8	LOS B	9,1	63,9	0,95	0,97	1,34	49,3
12	R2	282	0,0	0,769	20,6	LOS C	4,8	33,7	0,98	0,98	1,39	43,9
Approach		1403	0,0	0,788	14,8	LOS B	9,1	63,9	0,95	0,98	1,36	48,0
All Vehicles		2761	0,0	0,822	14,4	LOS B	9,1	63,9	0,92	0,88	1,19	48,1



# MOVEMENT SUMMARY

## Site: 101 [Boshoff St/ Surrey Rd Forecast Sat + Site]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: Woodhouse Rd												
1	L2	125	0,0	0,403	16,9	LOS B	2,4	16,6	0,89	0,76	0,89	47,0
2	T1	52	0,0	0,403	11,3	LOS B	2,4	16,6	0,89	0,76	0,89	48,0
3	R2	22	0,0	0,060	16,7	LOS B	0,3	1,9	0,84	0,68	0,84	46,4
Approach		199	0,0	0,403	15,4	LOS B	2,4	16,6	0,88	0,75	0,88	47,2
East: Surrey Rd												
4	L2	6	0,0	0,009	12,1	LOS B	0,1	0,4	0,65	0,63	0,65	48,9
5	T1	508	0,0	0,355	7,8	LOS A	2,9	20,0	0,77	0,63	0,77	53,1
6	R2	66	0,0	0,167	15,3	LOS B	0,8	5,6	0,80	0,73	0,80	46,9
Approach		580	0,0	0,355	8,7	LOS A	2,9	20,0	0,77	0,64	0,77	52,3
North: Woodhouse Rd												
7	L2	65	0,0	0,262	16,4	LOS B	1,5	10,4	0,85	0,72	0,85	47,8
8	T1	51	0,0	0,262	10,9	LOS B	1,5	10,4	0,85	0,72	0,85	48,8
9	R2	141	0,0	0,431	18,9	LOS B	2,0	14,3	0,94	0,77	0,94	44,9
Approach		257	0,0	0,431	16,7	LOS B	2,0	14,3	0,90	0,75	0,90	46,4
West: Boshoff Rd												
10	L2	96	0,0	0,405	10,7	LOS B	2,3	16,3	0,76	0,69	0,82	53,2
11	T1	483	0,0	0,405	6,8	LOS A	3,3	23,3	0,77	0,67	0,80	53,4
12	R2	109	0,0	0,268	14,9	LOS B	1,3	9,2	0,80	0,75	0,80	47,2
Approach		688	0,0	0,405	8,7	LOS A	3,3	23,3	0,78	0,68	0,80	52,2
All Vehicles		1724	0,0	0,431	10,7	LOS B	3,3	23,3	0,81	0,69	0,82	50,7

# MOVEMENT SUMMARY

## Site: 101 [Boshoff St/ Surrey Rd Forecast Fri + Site]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: Woodhouse Rd												
1	L2	188	0,0	0,675	19,6	LOS B	4,0	27,8	0,97	0,88	1,17	45,3
2	T1	66	0,0	0,675	14,0	LOS B	4,0	27,8	0,97	0,88	1,17	46,3
3	R2	23	0,0	0,075	17,8	LOS B	0,3	2,1	0,87	0,69	0,87	45,7
Approach		277	0,0	0,675	18,1	LOS B	4,0	27,8	0,97	0,86	1,15	45,5
East: Surrey Rd												
4	L2	6	0,0	0,008	11,5	LOS B	0,1	0,4	0,62	0,63	0,62	49,4
5	T1	667	0,0	0,428	7,4	LOS A	3,7	26,0	0,77	0,64	0,77	53,5
6	R2	105	0,0	0,378	18,9	LOS B	1,5	10,7	0,93	0,76	0,93	44,8
Approach		778	0,0	0,428	9,0	LOS A	3,7	26,0	0,79	0,66	0,79	52,1
North: Woodhouse Rd												
7	L2	87	0,0	0,380	17,7	LOS B	2,0	13,9	0,91	0,75	0,91	46,8
8	T1	57	0,0	0,380	12,2	LOS B	2,0	13,9	0,91	0,75	0,91	47,8
9	R2	91	0,0	0,384	20,8	LOS C	1,4	9,8	0,97	0,75	0,97	43,9
Approach		235	0,0	0,384	17,6	LOS B	2,0	13,9	0,93	0,75	0,93	45,9
West: Boshoff Rd												
10	L2	135	0,0	0,764	16,5	LOS B	8,5	59,2	0,91	0,94	1,32	49,5
11	T1	1046	0,0	0,764	11,1	LOS B	9,1	63,8	0,92	0,92	1,22	50,4
12	R2	176	0,0	0,457	15,6	LOS B	2,3	16,1	0,85	0,78	0,85	46,7
Approach		1357	0,0	0,764	12,2	LOS B	9,1	63,8	0,91	0,91	1,18	49,8
All Vehicles		2647	0,0	0,764	12,4	LOS B	9,1	63,8	0,88	0,82	1,04	49,6

# MOVEMENT SUMMARY

## Site: 101 [New Woodburn Access Forecast Sat + Site]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h		v/c	sec		veh	m				km/h
South: Woodburn Sqaure												
1	L2	152	0,0	0,409	17,8	LOS B	2,1	14,8	0,91	0,77	0,91	45,4
3	R2	84	0,0	0,226	17,3	LOS B	1,1	7,8	0,87	0,74	0,87	45,8
Approach		236	0,0	0,409	17,6	LOS B	2,1	14,8	0,90	0,76	0,90	45,6
East: Boshoff St												
4	L2	54	0,0	0,073	11,7	LOS B	0,5	3,5	0,64	0,69	0,64	49,2
5	T1	781	0,0	0,501	7,7	LOS A	4,5	31,6	0,80	0,68	0,80	53,3
Approach		835	0,0	0,501	7,9	LOS A	4,5	31,6	0,79	0,68	0,79	53,0
West: Boshoff St												
11	T1	604	0,0	0,387	7,2	LOS A	3,3	23,1	0,75	0,63	0,75	53,6
12	R2	173	0,0	0,496	16,6	LOS B	2,4	16,6	0,89	0,79	0,89	46,1
Approach		777	0,0	0,496	9,3	LOS A	3,3	23,1	0,78	0,66	0,78	51,7
All Vehicles		1848	0,0	0,501	9,7	LOS A	4,5	31,6	0,80	0,68	0,80	51,4

# MOVEMENT SUMMARY

## Site: 101 [New Woodburn Access Forecast Fri + Site]

New Site

Site Category: (None)

Signals - Fixed Time Isolated Cycle Time = 30 seconds (Site Practical Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h		v/c	sec		veh	m				km/h
South: Woodburn Sqaure												
1	L2	160	0,0	0,431	17,9	LOS B	2,2	15,7	0,92	0,78	0,92	45,4
3	R2	75	0,0	0,202	17,2	LOS B	1,0	6,9	0,87	0,73	0,87	45,8
Approach		235	0,0	0,431	17,7	LOS B	2,2	15,7	0,90	0,76	0,90	45,5
East: Boshoff St												
4	L2	53	0,0	0,071	11,7	LOS B	0,5	3,5	0,64	0,69	0,64	49,2
5	T1	963	0,0	0,617	8,4	LOS A	6,0	42,3	0,85	0,74	0,88	52,7
Approach		1016	0,0	0,617	8,6	LOS A	6,0	42,3	0,84	0,74	0,87	52,5
West: Boshoff St												
11	T1	1280	0,0	0,821	13,6	LOS B	10,9	76,6	0,95	1,02	1,31	49,0
12	R2	198	0,0	0,640	18,9	LOS B	3,1	21,4	0,95	0,87	1,14	44,8
Approach		1478	0,0	0,821	14,3	LOS B	10,9	76,6	0,95	1,00	1,29	48,4
All Vehicles		2729	0,0	0,821	12,5	LOS B	10,9	76,6	0,91	0,88	1,10	49,6

## MOVEMENT SUMMARY

▽ Site: 101 [Woodburn Square Left-turn Forecast Sat + Site]

New Site  
 Site Category: (None)  
 Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV %				Vehicles	Distance				
		veh/h	v/c		sec		veh	m				km/h
South: Woodburn Square												
1	L2	28	0,0	0,025	6,9	LOS A	0,1	0,7	0,42	0,61	0,42	52,3
Approach		28	0,0	0,025	6,9	LOS A	0,1	0,7	0,42	0,61	0,42	52,3
East: Boshoff St												
4	L2	28	0,0	0,224	5,6	LOS A	0,0	0,0	0,00	0,04	0,00	58,0
5	T1	846	0,0	0,224	0,0	LOS A	0,0	0,0	0,00	0,02	0,00	59,8
Approach		874	0,0	0,224	0,2	NA	0,0	0,0	0,00	0,02	0,00	59,7
All Vehicles		902	0,0	0,224	0,4	NA	0,1	0,7	0,01	0,04	0,01	59,5

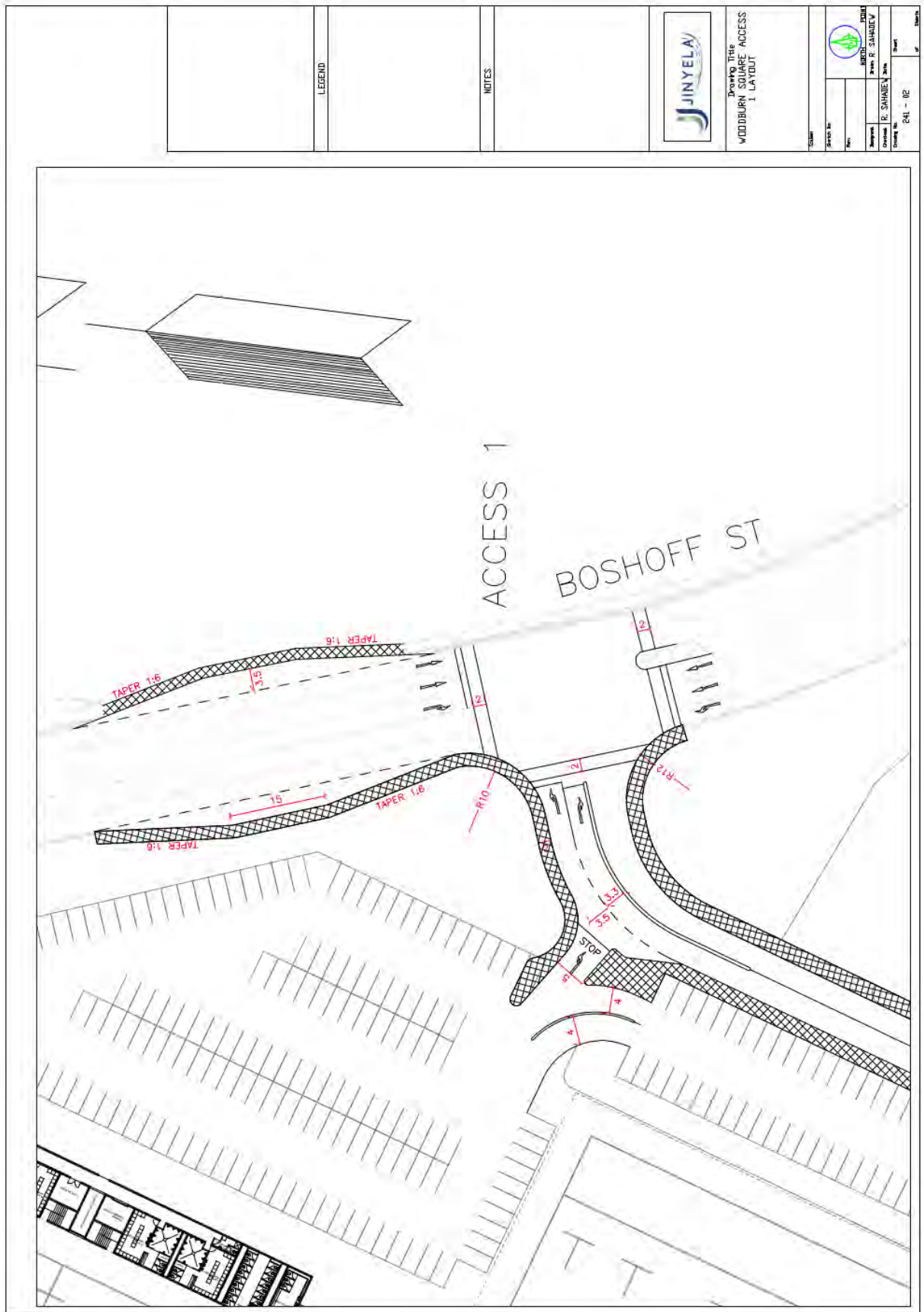
## MOVEMENT SUMMARY

### ▽ Site: 101 [Woodburn Square Left-turn Forecast Fri + Site]

New Site  
 Site Category: (None)  
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total	HV				Vehicles	Distance				
		veh/h	%	v/c	sec		veh	m				km/h
South: Woodburn Square												
1	L2	21	0,0	0,021	7,4	LOS A	0,1	0,5	0,47	0,64	0,47	52,2
Approach		21	0,0	0,021	7,4	LOS A	0,1	0,5	0,47	0,64	0,47	52,2
East: Boshoff St												
4	L2	21	0,0	0,270	5,6	LOS A	0,0	0,0	0,00	0,02	0,00	58,1
5	T1	1031	0,0	0,270	0,0	LOS A	0,0	0,0	0,00	0,01	0,00	59,8
Approach		1052	0,0	0,270	0,1	NA	0,0	0,0	0,00	0,01	0,00	59,8
All Vehicles		1073	0,0	0,270	0,3	NA	0,1	0,5	0,01	0,02	0,01	59,6

## **APPENDIX C: TRL DIAGRAMS**



LEGEND

NOTES



DRAWING TITLE  
WOODBURN SQUARE ACCESS  
1 LAYOUT

PROJECT NO.	DATE	SCALE	SHEET
DESIGNED BY	APPROVED BY	DATE	
DRAWN BY	PROJECT NO.		
CHECKED BY			
DATE			
PROJECT NO.			
DATE			
PROJECT NO.			
DATE			
PROJECT NO.			
DATE			



