

SYNCHRONICITY DEVELOPMENT PLANNERS



TRAFFIC IMPACT STUDY R3 (APRIL 2025)

PROPOSED TOWNSHIP: ENNERDALE SOUTH EXTENSION 6

PREPARED BY:
HAMATINO CONSULTING ENGINEERS
13 HOOGGELEGEN ROAD
WHITE RIVER
1240
(013) 750 1403 Cell 083 2766805
Email: hws@hswart.co.za

JOHANNESBURG ROADS AGENCY
PRIVATE BAG X 70
BRAAMFONTEIN
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TITLE OF REPORT:

TRAFFIC IMPACT STUDY: ENNERDALE SOUTH EXTENSION 6: R3

Report File Name: P 30_22/TIA/Ennerdale South Extension 6

Client: Synchronicity Development Planners.

Hamatino Consulting Engineers
13 Hooggelegen Street
White River
1240

Prepared by: H.W. Swart

Hendrikus Wouterus Swart

ID: 7110185095080

PR : 200270005

Prepared by: H.W. Swart

Yours heart

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EXECUTIVE SUMMARY

ABSTRACT

Client is desirous to establish a shopping center on Portion 37 of the farm Fonteine 313-IQ to be known as Ennerdale South Extension 6.

A formal township application is currently been prepared by Synchronicity Development Planning in order to obtain the necessary statutory approvals required for the commencement of this development.

It is currently anticipated that the development will consist of the following:

- Business 3: 2.1577 ha (with development control of FAR 0.25);
- Special (Erf 4): 0.8814 ha (Road & Access)
- Filling Station

The applicable site is being bordered along the eastern boundary by Road R553 (Golden Highway) and Broad Road along the northern boundary.

Access to the development will be provided from Broad Road which abuts the development along the northern boundary. Both these roads sorts under the jurisdiction of Gautrans.

The compilation of a traffic impact study is a requirement in accordance with TMH 16 (South African Traffic Impact and Site Traffic Assessment Manual), hence this study.

RECOMMENDATIONS

Based on the conclusions that have been derived from this study (refer section 11), the following are recommended:

- That the development be supported from a traffic engineering point of view;
- That the following intersections be upgraded in accordance with section 7 of this report:
 - o Broad Rd / R553 (Golden Highway) Intersection;
- Access to the shopping centre be provided in accordance with the relevant township layout plan and as approved by the Gautrans;

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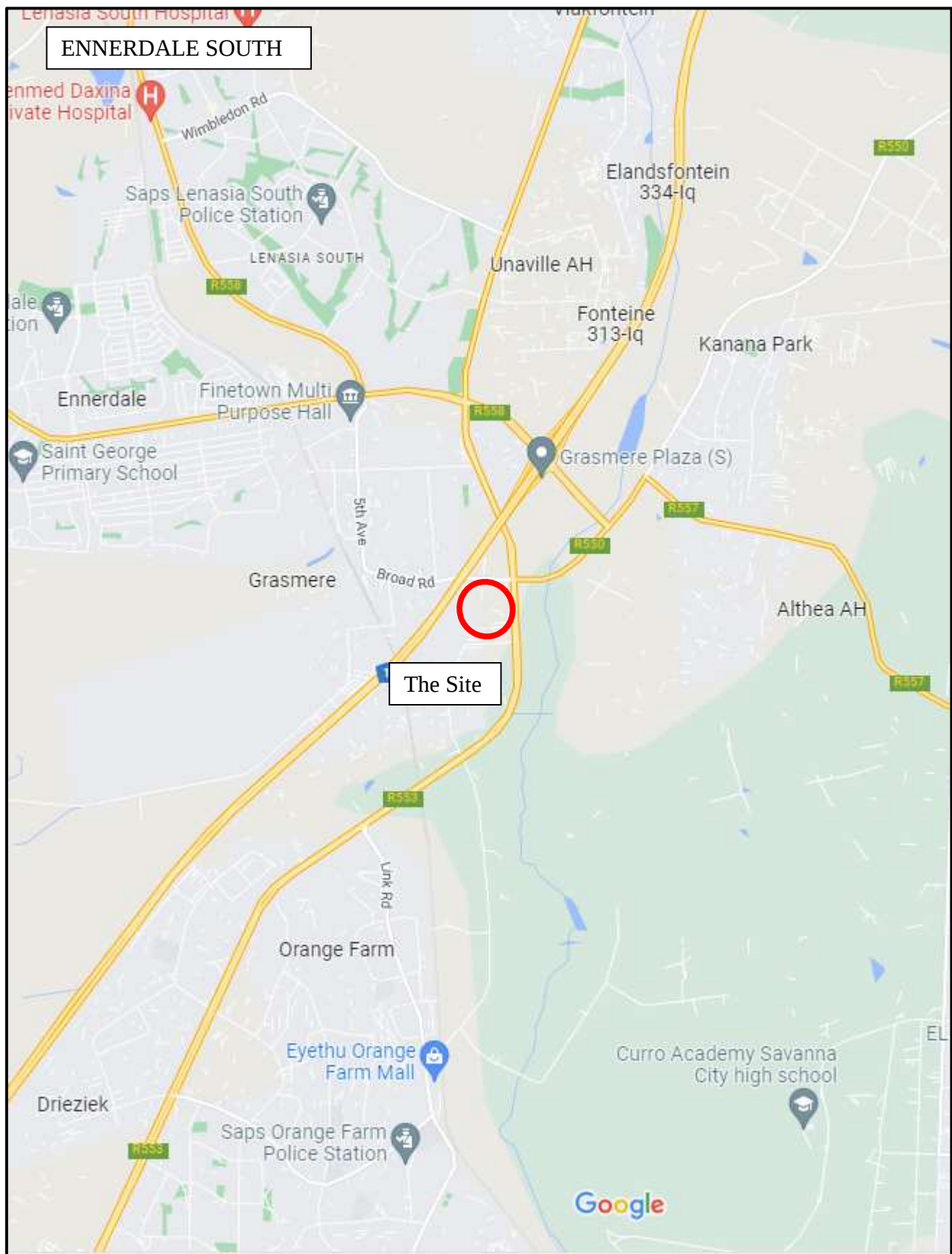
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LOCALITY PLAN



1. INTRODUCTION

1.1 BACKGROUND

Client is desirous to establish a shopping center on Portion 37 of the farm Fonteine 313-IQ to be known as Ennerdale South Extension 6.

A formal township application is currently been prepared by Synchronicity Development Planning in order to obtain the necessary statutory approvals required for the commencement of this development.

It is currently anticipated that the development will consist of the following:

- Business 3: 2.1577 ha (with development control of FAR 0.25);
- Special (Erf 4): 0.8814 ha (Road & Access)
- Filling Station

The applicable site is being bordered along the eastern boundary by Road R553 (Golden Highway) and Broad Road along the northern boundary.

Access to the development will be provided from Broad Road via a new road which will be provided along the township western boundary. The latter is in accordance with comment as received from Gautrans on the previous submission.

The compilation of a traffic impact study is a requirement in accordance with TMH 16 (South African Traffic Impact and Site Traffic Assessment Manual), hence this study.

1.2 PURPOSE OF THIS STUDY

The primarily purpose of this study is to ensure that the access and external road infrastructure to the development is appropriate, safe and will be able to accommodate the anticipated traffic demand in a safe and efficient manner.

The study is done in order to ensure that an acceptable level of service is maintained at all times. In the event that un-acceptable intersection levels of service are expected, mitigation measures are proposed accordingly.

1.3 STUDY AREA

The study area is limited to an analysis of the following intersections (refer figure 1 below):

- Broad Road / Development Access Intersection;
- Broad Rd / R553 (Golden Highway).

1.4 TRAFFIC NOMENCLATURE

Traffic nomenclature used in this report includes the following:

Vph	:	Vehicles per hour
Pcu	:	Passenger car unit
Kph	:	Kilometres per hour
V/C	:	Volume to capacity ratio
LOS	:	Level of service

According to the Highway Capacity Manual, the LOS is defined according to the following table:

TABLE 1: LEVEL OF SERVICE

LEVEL-OF-SERVICE CRITERIA FOR PRIORITY INTERSECTIONS & ROUNDABOUTS

Level of Service	Average Control Delay (S/veh)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

LOS CRITERIA FOR SIGNALIZED INTERSECTIONS

LOS	Control Delay per Vehicle (s/veh)
A	0-10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

Table 1 indicates the levels of services as A to F, of which A is the best and F is the worst level of service.

An explanation of the respective levels of services is as follows:

Level of Service A: Free flowing traffic with a volume to capacity ratio between 0 to 0.1

Level of Service B: Low stable flow with a volume to capacity ratio between 0.1 to 0.3

Level of Service C: High stable flow with a volume to capacity ratio between 0.3 to 0.7

Level of Service D: Approaching unstable flow with a volume to capacity ratio between 0.7 to 1.0

Level of Service E: Unstable flow with a volume to capacity ratio of 1.0

Level of Service F: Forced flow

Intersections or lanes with a Level of Service E or F should be upgraded as soon as possible.

2. METHODOLOGY

The methodology undertaken in conducting this study was as follow:

- Discussion of the project with the Client;
- Study of background information & other reports compiled to date;
- Conduct weekday morning (06h00 to 09h00am) and afternoon (15h00 to 18h00) peak hour traffic counts in order to determine the existing background traffic volumes. Traffic counts has been conducted as follow:
 - o Traffic surveys have been undertaking by means of a CCTV camera recording of each intersection;
 - o The recorded videos have been manual counted in office on the sample sheets provided from this office at 15 min intervals (06:00am – 09:00am and 15:00pm – 18:00pm one weekday only);
 - o 3 leg intersections consist of 6 movements through the intersection;
 - o 4 leg intersections consist of 12 movements through the intersection;
 - o Volumes are classified into light vehicles (LV) and heavy vehicles (HV)
 - o Light vehicles are passenger cars, light delivery vehicles, bakkies, kombis and motorcycles;
 - o Heavy vehicles all others.
- Analyse the existing intersection levels of service. The Traffix for Windows as well as Sidra Intersection 5.0 software package was used to determine the existing levels of service, V/C ratios and the total delay experienced at the analysed intersections. Analysis performed is based on the method dictated in the Highway Capacity Manual;
- Determine the number of trips that will be generated by the development. Trip generation was calculated by using trip generation rates for typical land uses, with specific reference to the South African Trip Data Manual (TMH 17);
- The land uses and areas has been adopted from the site development plan which has been compiled by others;
- Determine the trip distribution, using the existing trip distribution pattern of the area.

- Determine the impact of the proposed development on the adjacent road network during peak traffic hour periods for both the 2025 as well as future year 2030 development scenarios;
- Propose mitigation measures if applicable;
- All of the above to be included in a single volume report, for approval by the local authority & Roads Authority.

3. TRAFFIC STATUS QUO

3.1 EXISTING PEAK HOUR TRAFFIC VOLUMES

Traffic surveys were conducted during the week starting on Monday 05 May 2025 and ending Sunday 11 May 2025.

The peak hour traffic counts were conducted during the following times:

- Morning: 06h00 to 09h00 am (Tuesday 06 May 2025);
- Afternoon: 15:00 – 18:00 pm (Tuesday 06 May 2025).

The weather was mostly sunny and pleasant with no adverse weather conditions experienced during the counting days. Normal Traffic flow phenomena were observed during all of the counting days.

The following information was deduced from the traffic counts:

TABLE 2: PEAK HOUR TRAFFIC COUNTS

Intersection	2025 Count	Peak hour	Peak hour Factor
AM TRAFFIC			
Broad Rd / R553 (Golden Highway)	2482	07:00 – 08:00	0.91
Broad Rd / Access	266	07:00 – 08:00	0.93
FRIDAY PM TRAFFIC			
Broad Rd / R553 (Golden Highway)	2748	17:00 – 18:00	0.91
Broad Rd / Access	276	17:00 – 18:00	0.9
SATURDAY TRAFFIC			
Broad Rd / R553 (Golden Highway)	2782	17:00 – 18:00	0.9
Broad Rd / Access	349	17:00 – 18:00	0.9

The above peak hour traffic volumes are depicted on the traffic volume drawings attached hereto as annexure A

4. ANALYSIS: EXISTING SCENARIO 2025

4.1 AM AND PM: PEAK ANALYSIS

It was found from the development trip generation that the Friday pm and Saturday trip generations are significantly higher than the weekday am trip generation.

Analysis in the remainder of the report was consequently conducted for the above-mentioned peak traffic hour scenarios.

The Traffix for Windows as well as Sidra Intersection 5.0 software package was used to determine the existing levels of service, V/C ratios and the total delay experienced at the analysed intersections. Analysis performed is based on the method dictated in the Highway Capacity Manual.

It is evident from table 6 below that the following intersections are currently (2025) operating at an un-acceptable level of service:

- Broad Rd / R553 (Golden Highway) Intersection;

The above-mentioned intersections need to be upgraded in order to be able to accommodate the existing 2025 background traffic demand prior to development.

Intersection upgrading is discussed in section 7 of this report.

TABLE 3 : PEAK HOUR EXISTING LEVELS OF SERVICE (2025)

INTER-SECTION	LEVELS OF SERVICE AND DELAY (s)												
	Northbound			Southbound			Eastbound			Westbound			Int
	L	S	R	L	S	R	L	S	R	L	S	R	LOS
FRIDAY PM													
Broad Rd / R553 (Golden Highway)	B	C	F	B	F	B	C	C	C	F	F	F	F
	11	24.5	57.7	10.9	88.4	13.9	16.1	16.1	16.1	799	799	799	357.5
Broad Rd / Access	Yet to be provided												
SATURDAY													
Broad Rd / R553 (Golden Highway)	B	F	F	B	F	B	C	C	C	F	F	F	F
	11.61	66.6	111.2	11.8	114	14.8	20.1	20.1	20.1	343	343	343	150
Broad Rd / Access	Yet to be provided												

5. TRIP GENERATION & TRIP DISTRIBUTION

The Developer is currently in process to obtain the necessary statutory approvals in order to develop a shopping centre township consisting of the following (refer township layout plan attached hereto as annexure C):

It is currently anticipated that the development will consist of the following:

- Business 3: 2.1577 ha (with development control of FAR 0.25);
- Special (Erf 4): 0.8814 ha (Road & Access)
- Filling Station

5.1 DEVELOPMENT TRIP GENERATION, DISTRIBUTION AND ASSIGNMENT TO THE ROAD NETWORK

5.1 TRIP GENERATION – ENNERDALE SOUTH EXTENSION 6

The typical trip generation for the applicable land uses were taken from the South African Trip Data Manual Version 1.0 (TMH 17) and adjusted in accordance with table 3.2 of the TMH 17 where applicable. The anticipated trip generation of the proposed development is depicted in table 4 below.

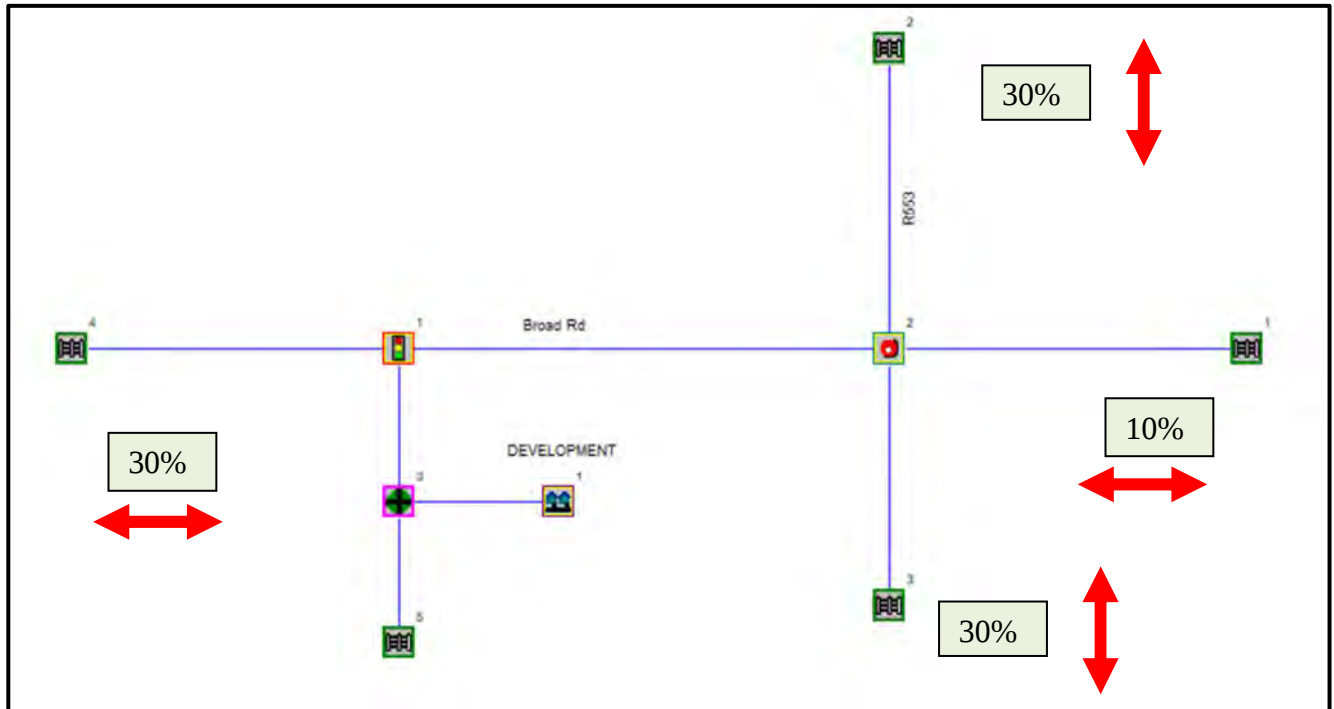
TABLE 4 : DEVELOPMENT TRIP GENERATION

Land Use	Unit	Quant	Rate /100m ²	Trips	Mixed Use	Red Trips	DIRECTIONAL SPLIT	
							IN	OUT
WEEKDAY AM TRIP GENERATION								
Shopping Centre	GLA	5394	2.02	109	0%	109	27.20	81.59
Filling Station	GLA	Trip Interception Only						
TOTAL						109	27	82
WEEKDAY PM TRIP GENERATION								
Shopping Centre	GLA	5394	11.43	616	0%	616	308.21	308.21
Filling Station	GLA	Trip Interception Only						
TOTAL						616	308	308
WEEKDAY PM TRIP GENERATION								
Shopping Centre	GLA	5394	15.13	816	0%	816	407.93	407.93
Filling Station	GLA	Trip Interception Only						
TOTAL						816	408	408

5.2 TRIP DISTRIBUTION

The trip distribution was deduced from the existing traffic counts. The development trips are expected to distribute in accordance with figure 1 below.

FIGURE 1: TRAFFIX ROAD NETWORK & TRIP DISTRIBUTION



The anticipated trip generation and distribution as per this section was added to the existing background traffic (as per section 3) and analysed as such. The aforesaid analysis is included in sections 6 & 7 of this report.

6. BASE YEAR ANALYSIS WITH DEVELOPMENT (2025)

The trips that are expected to be generated by this mixed-use development (refer paragraph 5.1.1) was assigned to the existing background traffic and distributed in accordance with paragraph 5.1.2 and analysed as such. A peak hour factor of 0.85 has been used in the analysis.

Note that the Access intersection has been analysed as a signalised intersection and in accordance with section 8 (Access) of this report.

It is evident from table 5 below that the following intersections will not be able to accommodate the traffic demand after development completion:

- Broad Rd / R553 (Golden Highway) Intersection;

Intersection upgrading is discussed in section 8 of this report.

TABLE 5 : PEAK HOUR LEVELS OF SERVICE WITH DEVELOPMENT (2025)

INTER-SECTION	LEVELS OF SERVICE AND DELAY (s)												
	Northbound			Southbound			Eastbound			Westbound			Int
	L	S	R	L	S	R	L	S	R	L	S	R	LOS
FRIDAY PM													
Broad Rd / R553 (Golden Highway)	C	D	F	B	F	C	F	F	F	F	F	F	F
	15.7	29.5	73.1	12.1	115	23.3	62	62	62	+500	+500	+500	315
Broad Rd / Access (signalised)	B	B	B	n/a	n/a	n/a	n/a	B	B	B	B	n/a	B
	13.9	13.9	16.2	n/a	n/a	n/a	n/a	16.8	17.6	18.9	17.8	n/a	17.2
SATURDAY													
Broad Rd / R553 (Golden Highway)	C	F	F	B	F	D	F	F	F	F	F	F	F
	19	81	130	12.9	138	30.6	186	186	186	477	477	477	195
Broad Rd / Access (signalised)	B	A	B	n/a	n/a	n/a	n/a	B	B	C	B	n/a	B
	14.4	14.4	17.9	n/a	n/a	n/a	n/a	17.7	18.2	20.6	17.4	n/a	18.1

7. HORIZON YEAR ANALYSIS (2030)

A five-year horizon analysis has been conducted in order to determine the longer-term sustainability of the road's infrastructure. A 5.0 traffic background growth has been assumed for analysis purposes as well as the addition of latent rights developments.

7.1 HORIZON YEAR (2030) INTERSECTION ANALYSIS

No latent rights developments which impact the study area is applicable.

A conservative 5.0% background traffic growth rate has nevertheless been assumed in order to allow for possible latent rights developments that may impact the study area.

It is evident from table 6 below that the following intersections will not be able to accommodate the horizon year traffic demand and needs to be upgraded prior to the horizon year 2030.

- Broad Rd / R553 (Golden Highway) Intersection;

TABLE 6 : HORIZON YEAR LEVELS OF SERVICE (2030)

INTER-SECTION	LEVELS OF SERVICE AND DELAY (s)												
	Northbound			Southbound			Eastbound			Westbound			Int
	L	S	R	L	S	R	L	S	R	L	S	R	LOS
FRIDAY PM													
Broad Rd / R553 (Golden Highway)	C	E	F	B	F	D	F	F	F	F	F	F	F
	16.3	49.9	165	12.6	256	27.7	85	85	85	+500	+500	+500	490
Broad Rd / Access (signalised)	B	B	B	n/a	n/a	n/a	n/a	B	B	B	B	n/a	B
	13.3	13.3	15.4	n/a	n/a	n/a	n/a	17.7	18.3	19.3	19.1	n/a	17.6
SATURDAY													
Broad Rd / R553 (Golden Highway)	C	F	F	B	F	E	F	F	F	F	F	F	F
	20.2	179	259	13.1	272	35.3	246	246	246	708	708	708	322
Broad Rd / Access (signalised)	B	A	B	n/a	n/a	n/a	n/a	B	B	C	B	n/a	B
	14.3	14.3	17.4	n/a	n/a	n/a	n/a	18.3	18.3	20.1	17.9	n/a	18.1

7. INTERSECTION UPGRADING

It was found in the preceding sections 6 and 7 that the following intersection is currently 2025 already operating at an un-acceptable level of service and is expected to deteriorate further with the addition of traffic growth and development trip generation.

- Broad Rd / R553 (Golden Highway) Intersection;

The above-mentioned intersections need therefore to be upgraded as soon as possible by Gautrans / Developer (in lieu of services contributions towards roads) in order to be able to accommodate the existing traffic demand as well as further traffic background growth (note that the upgrading proposal included below will also be able to accommodate the 2030 horizon year with an assumed 5.0% annual compounded background traffic growth).

7.1 BROAD ROAD / R553 (GOLDEN HIGHWAY)

7.1.1 Immediate upgrading (as soon as possible- not as a result of the development)

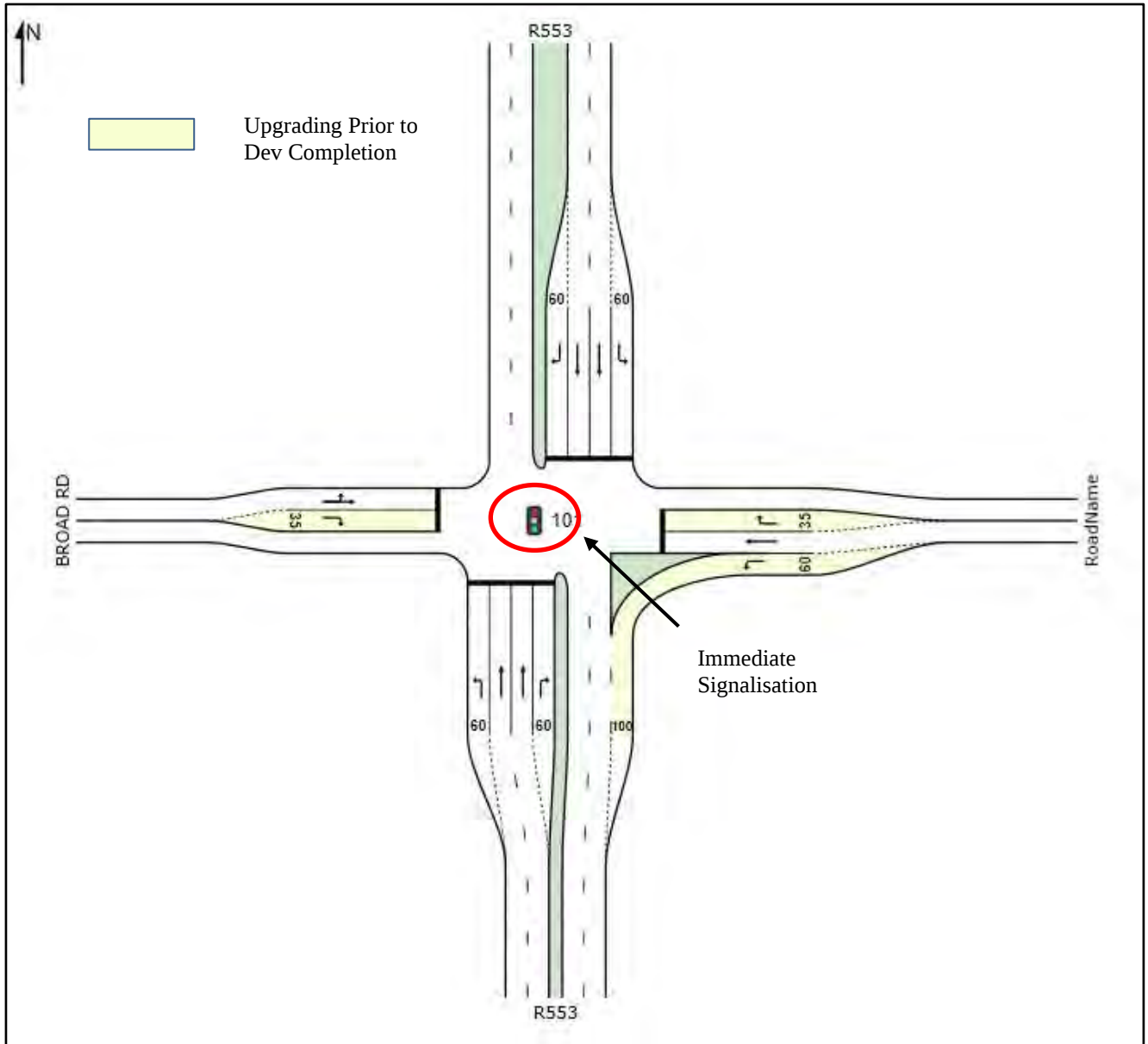
This intersection is currently (2025) operating at an un-acceptable level of service during all of the analysed pm peak periods. It is consequently proposed that the intersection be upgraded as follow:

- That this intersection be signalised by the Gauteng Provincial Government: Roads and Transport subject to the following:
 - o A formal signal plan containing at least four different stages be compiled by a traffic engineer in accordance with the South African Road Traffic Signs Manual Volume 3;
- Add right turn auxiliary lanes at both the north and southbound approaches (Broad Road) of 35m long excluding tapers;
- Add a westbound left turn sliplane with a continuous downstream weave lane onto R553 southbound (not yield control).

7.1.2 Intersection upgrading prior to the horizon year 2030

No further intersection upgrading other than the above is required.

FIGURE 2: BROAD ROAD / R553 INTERSECTION UPGRADING



7.2 UPGRADED INTERSECTION ANALYSIS

The upgraded intersection proposals as contained in section 7.1 above has been analysed of which the results are tabled in table 7 below.

TABLE 7: UPGRADED INTERSECTION ANALYSIS: 2030 HORIZON YEAR

INTER-SECTION	LEVELS OF SERVICE AND DELAY (s)												
	Northbound			Southbound			Eastbound			Westbound			Int
	L	S	R	L	S	R	L	S	R	L	S	R	LOS
FRIDAY PM													
Broad Rd / R553 (Golden Highway)	C	B	B	B	B	B	C	C	D	A	C	C	B
	20.1	15.5	14.4	19.1	17	12.3	27.9	22.4	30.7	5.7	21.1	30.7	14.6
SATURDAY													
Broad Rd / R553 (Golden Highway)	C	C	D	C	C	B	D	D	C	A	C	D	C
	25.6	27.7	48.2	23.5	34.6	16.8	44.5	38.8	34.6	5.8	21.7	37.6	28

9. ACCESS INTERSECTIONS

9.1 ACCESS TO DEVELOPMENT - REFER ANNEXURE C

Access to the development will be provided via a new 20m road reserve in accordance with the Gautrans approval of the proposed development and access.

This road will not only provide access to the proposed shopping centre, but also the residential area further to the south.

The above-mentioned access locality is depicted in figure 3 further below.

FIGURE 3: DEVELOPMENT ACCESS LOCALITIES

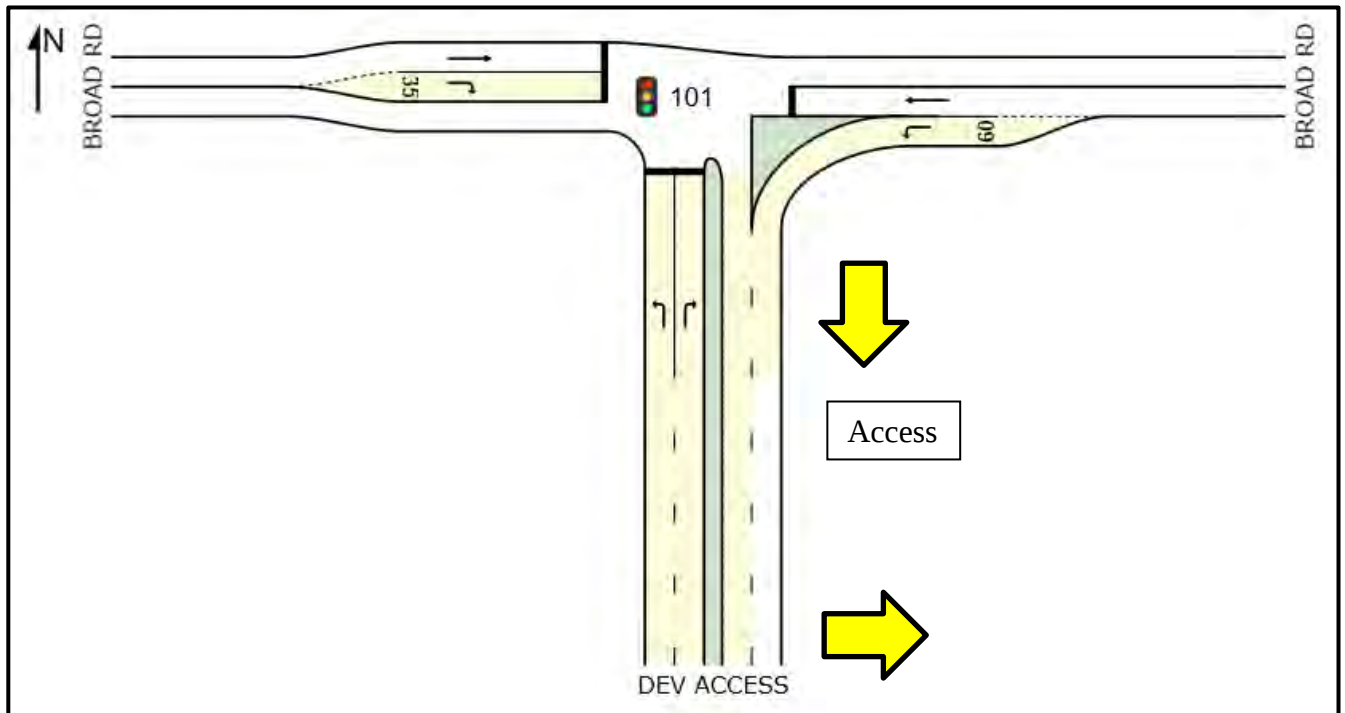


9.2 ACCESS INTERSECTION CAPACITY ANALYSIS & INTERSECTION LAYOUT

9.2.1: ACCESS INTERSECTION GEOMETRY

The access intersection capacity has been analysed in accordance with the access intersection geometry as depicted in figure 4 below.

FIGURE 4: ACCESS INTERSECTION LAYOUT



9.2.2: ACCESS INTERSECTION CAPACITY

The access intersection capacity has been analysed in accordance with the access intersection geometry as depicted in figure 4 above for the horizon year 2030 development scenario which is the worst-case scenario.

The access intersection levels of service for the horizon year 2030 has been analysed and tabled in section 7 of this report and duplicated in table 8 below for ease of reference.

TABLE 8 : ACCESS INTERSECTION LEVELS OF SERVICE (2030)

INTER-SECTION	LEVELS OF SERVICE AND DELAY (s)												
	Northbound			Southbound			Eastbound			Westbound			Int
	L	S	R	L	S	R	L	S	R	L	S	R	LOS
FRIDAY PM													
Broad Rd / Access (signalised)	B	B	B	n/a	n/a	n/a	n/a	B	B	B	B	n/a	B
	13.3	13.3	15.4	n/a	n/a	n/a	n/a	17.7	18.3	19.3	19.1	n/a	17.6
SATURDAY													
Broad Rd / Access (signalised)	B	A	B	n/a	n/a	n/a	n/a	B	B	C	B	n/a	B
	14.3	14.3	17.4	n/a	n/a	n/a	n/a	18.3	18.3	20.1	17.9	n/a	18.1

10. PUBLIC TRANSPORTATION

Public transport in this area is mainly provided by means of mini-bus taxis and private transportation companies.

A taxi rank facility will be provided on the site with direct access from the internal roundabout with an one-way traffic flow through the traffic rank.

A Demarcated safe pedestrian walkway facility will be provided between the above-mentioned taxi rank facility and the shopping complex.

11. CONCLUSIONS & RECOMMENDATIONS

11.1 CONCLUSIONS

It has been found that:

- The following intersections are currently (2025) operating at an un-acceptable level of service and need to be upgraded in order to be able to accommodate the existing 2025 background traffic demand prior to development.
 - o Broad Rd / R553 (Golden Highway) Intersection;
- The trip generation of the development is expected to be as follow:
 - o 109 AM trips (27 in; 82 out);
 - o 616 Friday PM (308; 308)
 - o 816 Saturday trips (408 in; 408 out);
- The following intersections are expected to be operating at an un-acceptable level of service with the addition of the development traffic demand after development completion:
 - o Broad Rd / R553 (Golden Highway) Intersection;
- The upgrading of the above intersection (signalisation and addition of lanes) in accordance with section 7, figure 2 of this report will sufficiently mitigate the existing and expected future delays at this intersection;
- The above-mentioned proposed upgrading will still yield sufficient capacity by the horizon year 2030;
- The development access intersection is expected to be operating at an acceptable level of service by the horizon year 2030;
- Sufficient on-site public transportation infrastructure is provided in the form a taxi rank facility.

11.2 RECOMMENDATIONS

Based on the conclusions that have been derived from this study, the following are recommended:

- That the development be supported from a traffic engineering point of view;
- That the following intersections be upgraded in accordance with section 7 of this report:
 - o Broad Rd / R553 (Golden Highway) Intersection;
- Access to the shopping centre be provided in accordance with the relevant township layout plan and as approved by the Gautrans;

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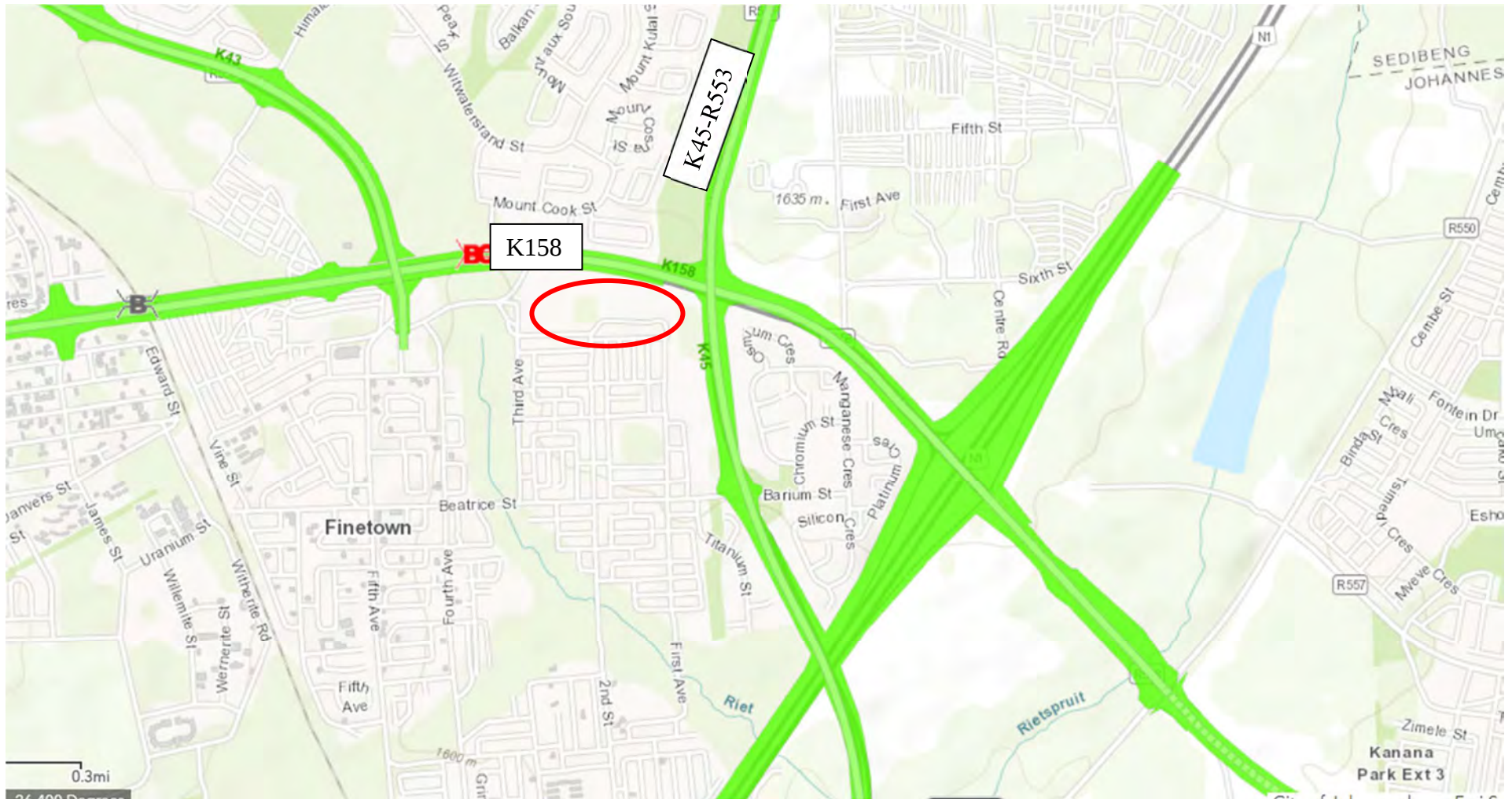
ANNEXURE A: TRAFFIC VOLUMES

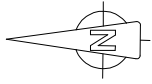
ANNEXURE B: ANALYSIS

ANNEXURE C: TOWNSHIP LAYOUT

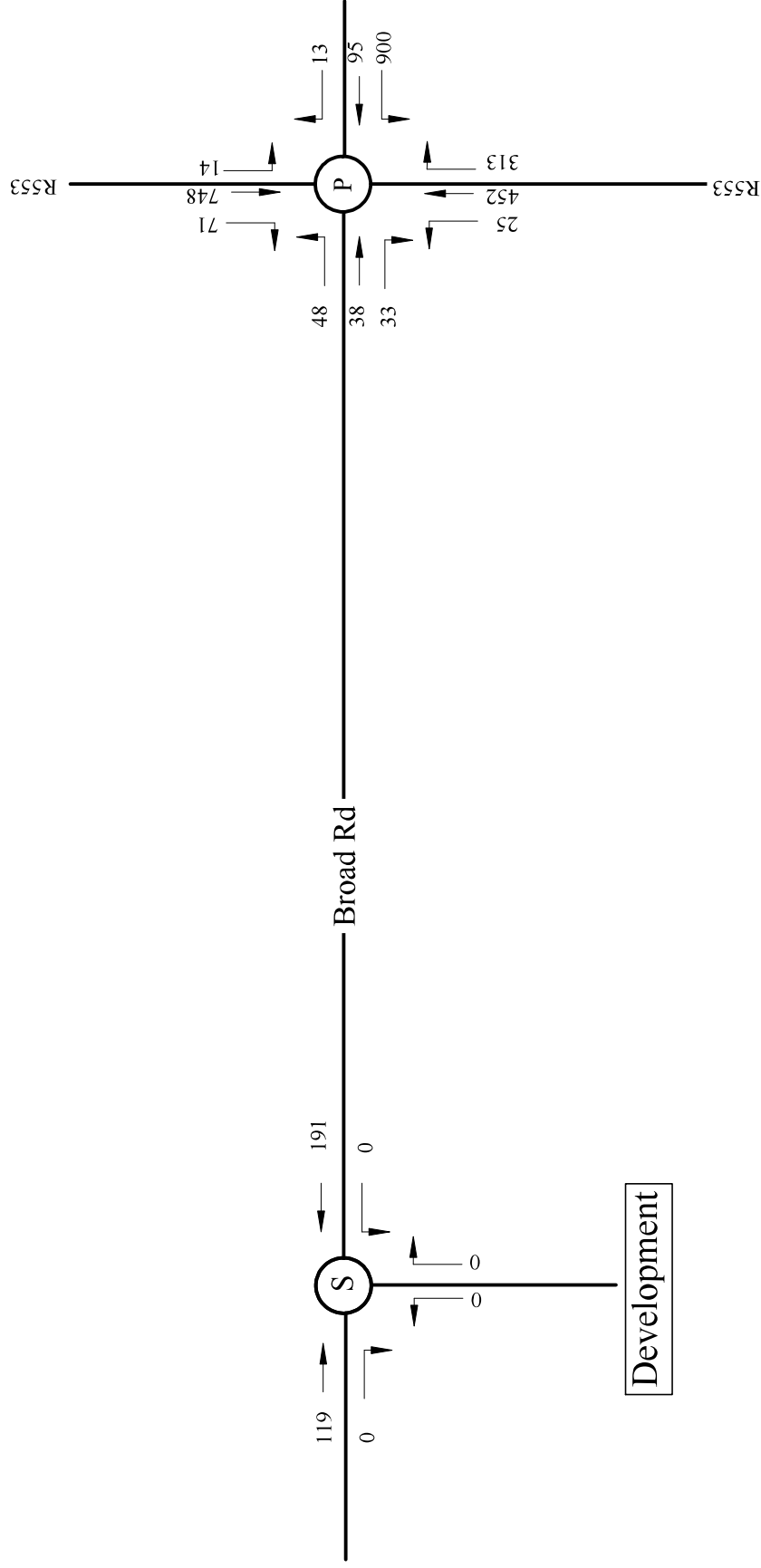


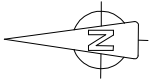
ANNEXURE D: PROVINCIAL ROADS



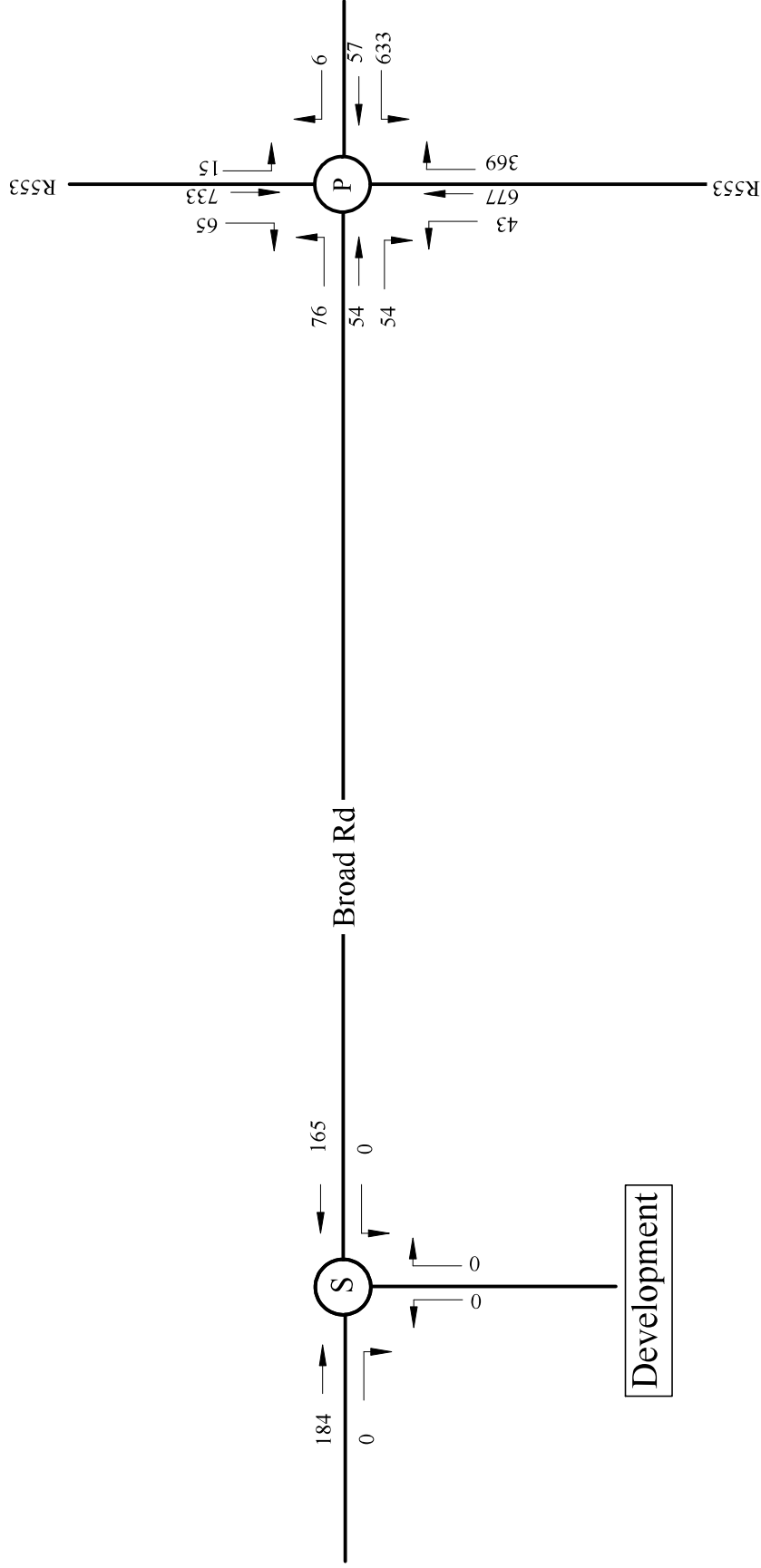


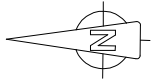
P: PRIORITY CONTROL
R: ROUNDABOUT
S: SIGNAL
A: 4 WAY STOP



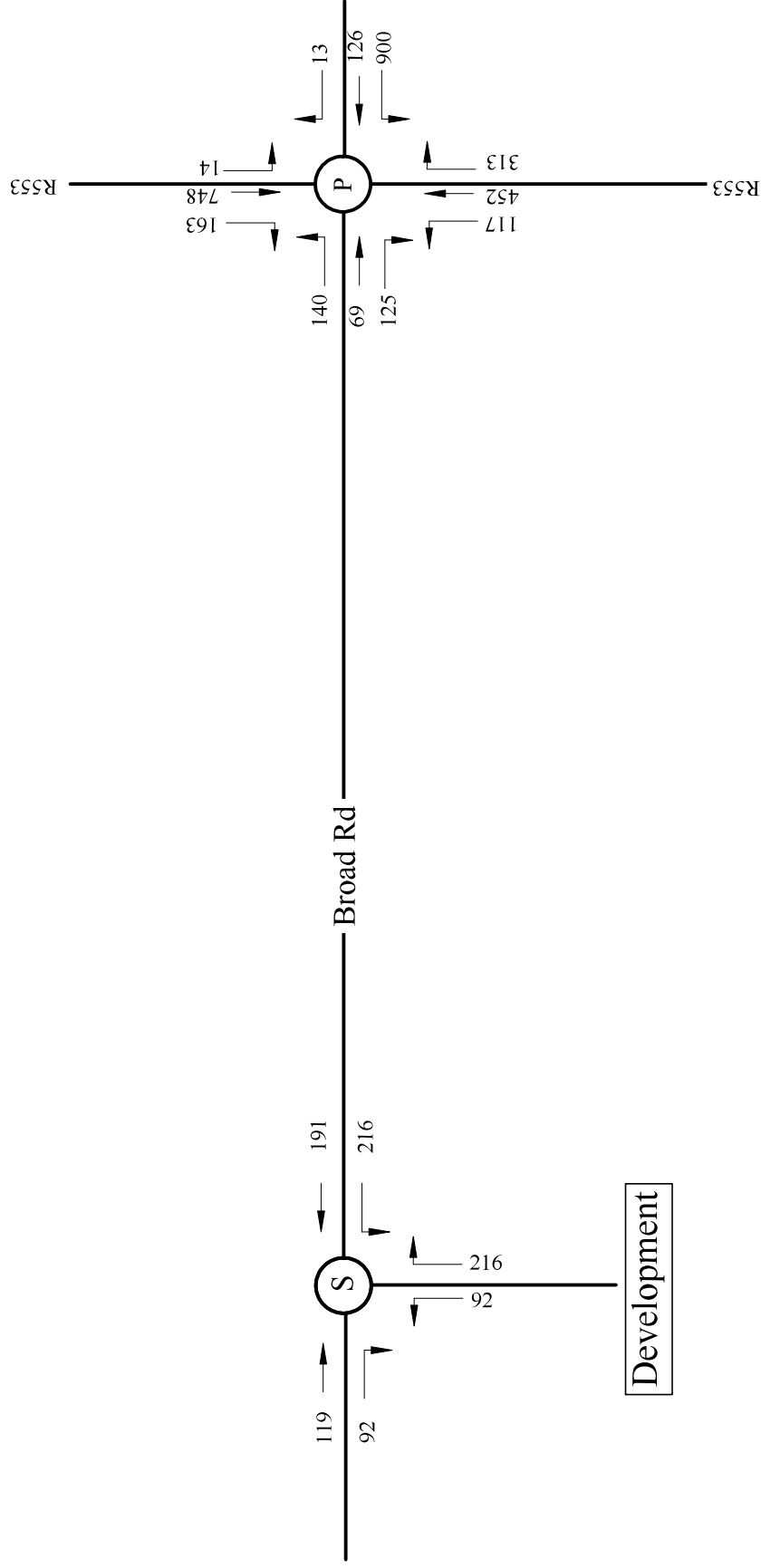


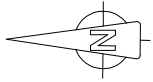
P: PRIORITY CONTROL
R: ROUNDABOUT
S: SIGNAL
A: 4 WAY STOP



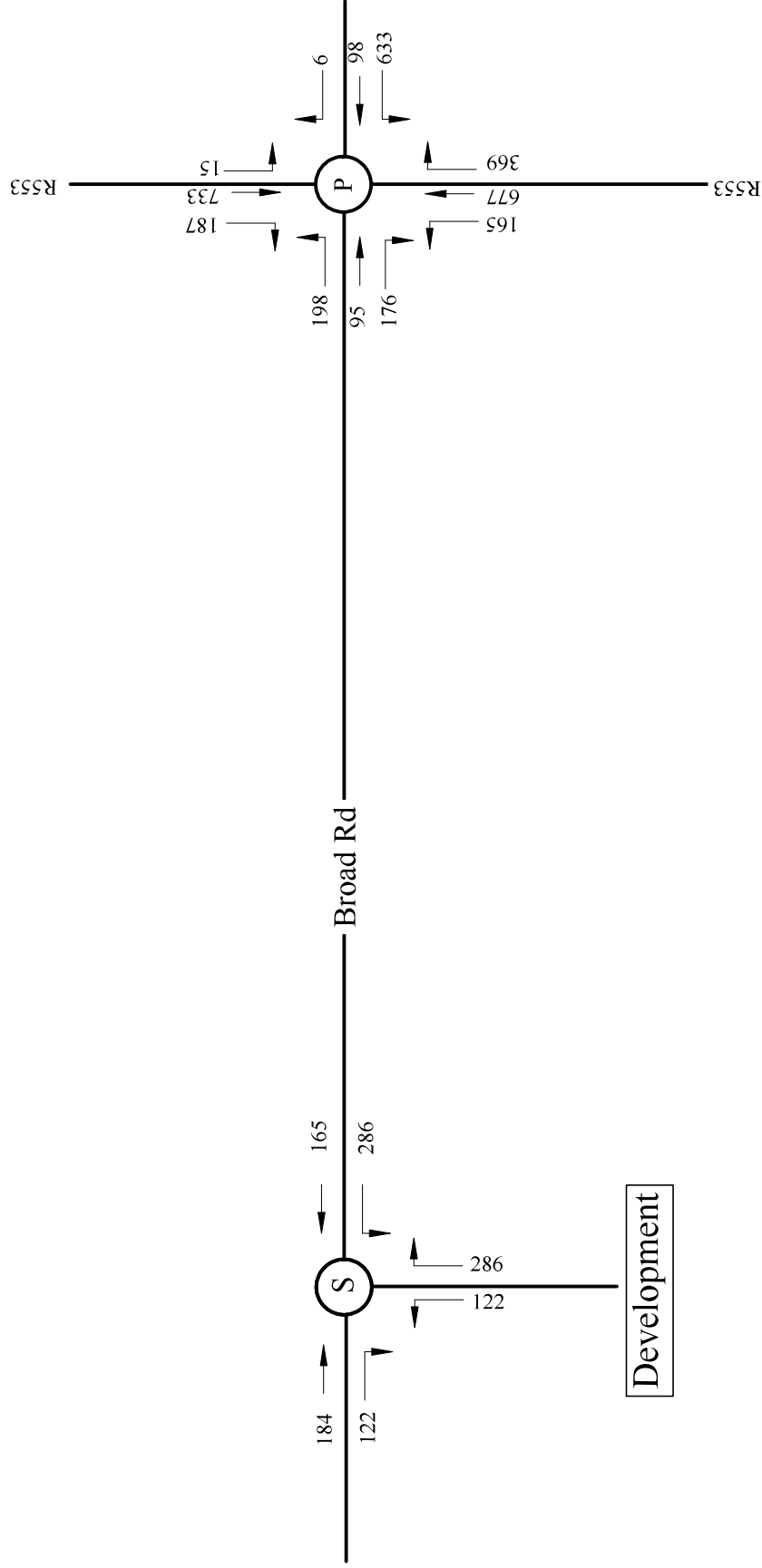


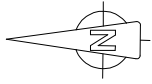
P: PRIORITY CONTROL
R: ROUNDABOUT
S: SIGNAL
A: 4 WAY STOP



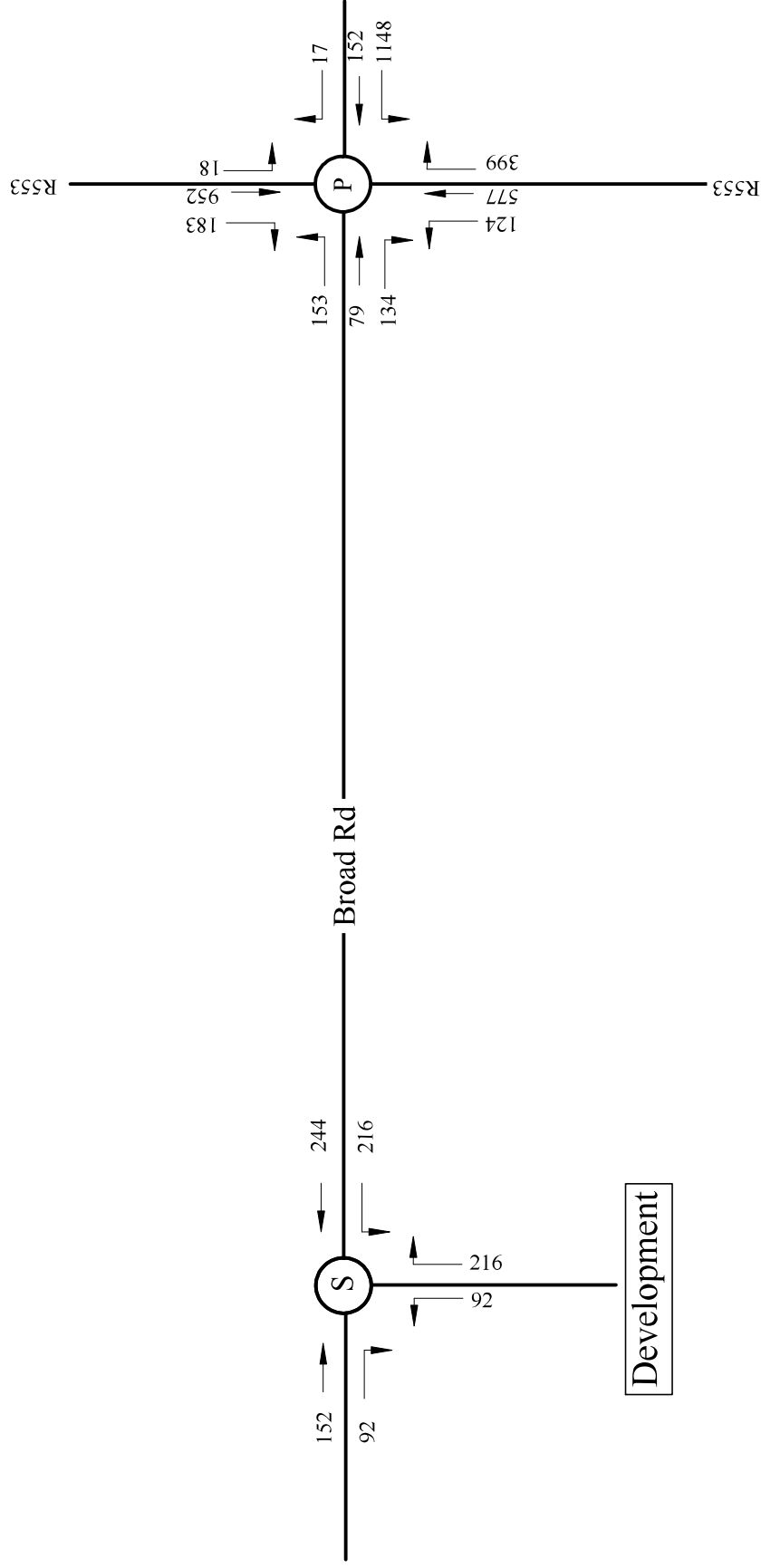


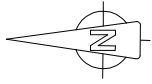
P: PRIORITY CONTROL
R: ROUNDABOUT
S: SIGNAL
A: 4 WAY STOP



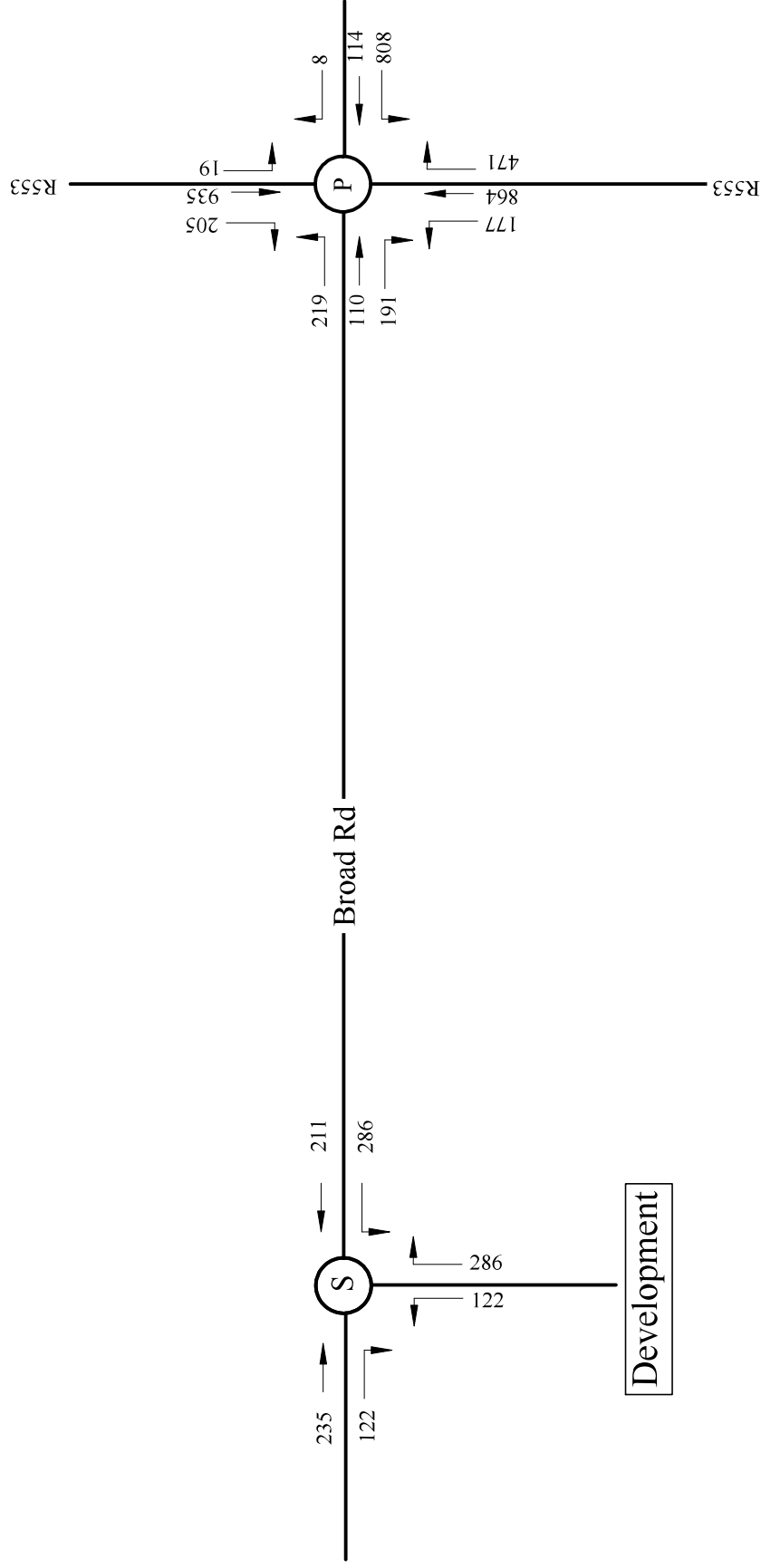


P: PRIORITY CONTROL
R: ROUNDABOUT
S: SIGNAL
A: 4 WAY STOP





P: PRIORITY CONTROL
R: ROUNDABOUT
S: SIGNAL
A: 4 WAY STOP



FRIDAY PM 2025 BACKGROUND

FRIDAY PM	Wed Jun 25, 2025 17:56:15	Page 1-1
Scenario Report		
Scenario:	FRIDAY PM	
Command:	Default Command	
Volume:	FRIDAY PM	
Geometry:	Default Geometry	
Impact Fee:	Default Impact Fee	
Trip Generation:	FRIDAY PM	
Trip Distribution:	Default Trip Distribution	
Paths:	Default Path	
Routes:	Default Route	
Configuration:	Default Configuration	

FRIDAY PM				Wed Jun 25, 2025 17:56:15										Page 2-1	

Turning Movement Report															
PM															
Volume	Northbound			Southbound			Eastbound			Westbound			Total		
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume		
#1 Broad Rd / Access															
Base	0	0	0	0	0	0	0	119	0	0	191	0	310		
Added	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	119	0	0	191	0	310		
#2 R553 / Broad Rd															
Base	25	452	313	14	746	71	48	38	33	900	95	13	2748		
Added	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	25	452	313	14	746	71	48	38	33	900	95	13	2748		

FRIDAY PMWed Jun 25, 2025 17:56:15Page 3-1

Link Volume Report
PM

Volume Type	NB Link			SB Link			EB Link			WB Link			Total Volume
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
#1 Broad Rd / Access													
Base	0	0	0	0	0	0	119	191	310	191	119	310	620
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	119	191	310	191	119	310	620
#2 R553 / Broad Rd													
Base	790	1679	2469	831	513	1344	119	191	310	1008	365	1373	5496
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	790	1679	2469	831	513	1344	119	191	310	1008	365	1373	5496

FRIDAY PM

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Intersection Volume Report
Base Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
2 R553 / Broad	25	452	313	14	746	71	48	38	33	900	95	13

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 2 R553 / Broad Rd	F 243.8	2.244	F 243.8	2.244	+ 0.000 V/C

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 R553 / Broad Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 2.244

Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 243.8

Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R

Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lefts:	Include			Include			Include			Include		

Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
-------------	---	---	---	---	---	---	---	---	---	---	---	---

Lanes:	1	0	2	0	1	1	0	2	0	1	0	0	1	0	0
--------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

-----|-----|-----|-----|

Volume Module:

Base Vol:	25	452	313	14	746	71	48	38	33	900	95	13
-----------	----	-----	-----	----	-----	----	----	----	----	-----	----	----

Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
-------------	------	------	------	------	------	------	------	------	------	------	------	------

Initial Bse:	25	452	313	14	746	71	48	38	33	900	95	13
--------------	----	-----	-----	----	-----	----	----	----	----	-----	----	----

User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
-----------	------	------	------	------	------	------	------	------	------	------	------	------

PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
----------	------	------	------	------	------	------	------	------	------	------	------	------

PHF Volume:	28	502	348	16	829	79	53	42	37	1000	106	14
-------------	----	-----	-----	----	-----	----	----	----	----	------	-----	----

Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
-------------	---	---	---	---	---	---	---	---	---	---	---	---

Reduced Vol:	28	502	348	16	829	79	53	42	37	1000	106	14
--------------	----	-----	-----	----	-----	----	----	----	----	------	-----	----

PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
----------	------	------	------	------	------	------	------	------	------	------	------	------

MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
----------	------	------	------	------	------	------	------	------	------	------	------	------

FinalVolume:	28	502	348	16	829	79	53	42	37	1000	106	14
--------------	----	-----	-----	----	-----	----	----	----	----	------	-----	----

-----|-----|-----|-----|

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
-------------	------	------	------	------	------	------	------	------	------	------	------	------

Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.40	0.32	0.28	0.90	0.09	0.01
--------	------	------	------	------	------	------	------	------	------	------	------	------

Final Sat.:	457	841	397	448	837	390	160	126	110	446	47	6
-------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	---

-----|-----|-----|-----|

Capacity Analysis Module:

Vol/Sat:	0.06	0.60	0.88	0.03	0.99	0.20	0.33	0.33	0.33	2.24	2.24	2.24
----------	------	------	------	------	------	------	------	------	------	------	------	------

Crit Moves:	****			****			****			****		
-------------	------	--	--	------	--	--	------	--	--	------	--	--

Delay/Veh:	11.1	23.1	49.5	10.9	71.2	14.1	16.5	16.5	16.5	582.9	583	582.9
------------	------	------	------	------	------	------	------	------	------	-------	-----	-------

Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
------------	------	------	------	------	------	------	------	------	------	------	------	------

AdjDel/Veh:	11.1	23.1	49.5	10.9	71.2	14.1	16.5	16.5	16.5	582.9	583	582.9
-------------	------	------	------	------	------	------	------	------	------	-------	-----	-------

LOS by Move:	B	C	E	B	F	B	C	C	C	F	F	F
--------------	---	---	---	---	---	---	---	---	---	---	---	---

ApproachDel:	33.2			65.3			16.5			582.9		
--------------	------	--	--	------	--	--	------	--	--	-------	--	--

Delay Adj:	1.00			1.00			1.00			1.00		
------------	------	--	--	------	--	--	------	--	--	------	--	--

ApprAdjDel:	33.2			65.3			16.5			582.9		
-------------	------	--	--	------	--	--	------	--	--	-------	--	--

LOS by Appr:	D			F			C			F		
--------------	---	--	--	---	--	--	---	--	--	---	--	--

AllWayAvgQ:	0.1	1.4	4.2	0.0	7.0	0.2	0.5	0.5	0.5	79.4	79.4	79.4
-------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
 2000 HCM 4-Way Stop Method
 Base Volume Alternative

Intersection #2 R553 / Broad Rd

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Time Period: 0.25 hour

HevVeh: 10% 10% 10% 10%

Alpha Value: 0.01

GroupType:	5	5	2	2
P[C1]:	0.0000	0.0000	0.0000	0.0000
P[C2]:	0.0000	0.0000	0.0000	0.0000
P[C3]:	0.0000	0.0129	0.0000	0.0130
P[C4]:	0.6672	0.6607	0.0194	0.6607
P[C5]:	0.3328	0.3263	0.9806	0.3263
Padj[C1]:	0.03333	0.03313	0.03981	0.03313
Padj[C2]:	0.02333	0.02313	0.02981	0.02313
Padj[C3]:	0.01333	0.01275	0.01981	0.01274
Padj[C4]:	-0.03670	-0.03638	0.00864	-0.03638
Padj[C5]:	-0.03328	-0.03263	-0.09806	-0.03263

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RITE	LEFT	RITE	LTR	NOLANE	LTR	NOLANE
HeadwayAdj:	-0.530	0.670	-0.530	0.670	-0.017	xx.xxx	-0.363	xx.xxx
Volume:	28	348	16	79	132	xxxxxx	1120	xxxxxx
Capacity:	457	397	448	390	396	xxxxx	499	xxxxx
DegOfUtil:	0.06	0.87	0.03	0.20	0.33	x.xx	2.24	x.xx
DepHeadway:	7.85	9.05	7.91	9.11	9.06	xx.xx	7.21	xx.xx
ServiceTime:	5.5	6.7	5.6	6.8	7.1	xx.x	5.2	xx.x
Delay:	11.1	49.5	10.9	14.1	16.5	xxx.x	582.9	xxx.x
Queue:	0.1	4.2	0.0	0.2	0.5	xxx.x	79.4	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	THRU	THRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.170	0.170	0.170	0.170	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	251	251	414	414	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	420	420	418	418	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.60	0.60	0.99	0.99	x.xx	x.xx	x.xx	x.xx
DepHeadway:	8.55	8.55	8.61	8.61	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	6.2	6.2	6.3	6.3	xx.x	xx.x	xx.x	xx.x
Delay:	23.1	23.1	71.2	71.2	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	1.4	1.4	7.0	7.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	33.2	65.3	16.5	582.9
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	33.2	65.3	16.5	582.9
LOS by Appr:	D	F	C	F

OverallDel: 243.8
 OverallLOS: F

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 R553 / Broad Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 2.244
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 243.8
Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lefts:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 2 0 1	1 0 2 0 1	0 0 1! 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	25	452	313	14	746	71	48	38	33	900	95	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	452	313	14	746	71	48	38	33	900	95	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	452	313	14	746	71	48	38	33	900	95	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	28	502	348	16	829	79	53	42	37	1000	106	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	502	348	16	829	79	53	42	37	1000	106	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	502	348	16	829	79	53	42	37	1000	106	14

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.40	0.32	0.28	0.90	0.09	0.01
Final Sat.:	457	841	397	448	837	390	160	126	110	446	47	6

Capacity Analysis Module:

Vol/Sat:	0.06	0.60	0.88	0.03	0.99	0.20	0.33	0.33	0.33	2.24	2.24	2.24
Crit Moves:			****		****			****			****	
Delay/Veh:	11.1	23.1	49.5	10.9	71.2	14.1	16.5	16.5	16.5	582.9	583	582.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	23.1	49.5	10.9	71.2	14.1	16.5	16.5	16.5	582.9	583	582.9
LOS by Move:	B	C	E	B	F	B	C	C	C	F	F	F
ApproachDel:	33.2				65.3			16.5		582.9		
Delay Adj:	1.00				1.00			1.00		1.00		
ApprAdjDel:	33.2				65.3			16.5		582.9		
LOS by Appr:	D				F			C		F		
AllWayAvgQ:	0.1	1.4	4.2	0.0	7.0	0.2	0.5	0.5	0.5	79.4	79.4	79.4

Note: Queue reported is the number of cars per lane.

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node Intersection	NB	SB	EB	WB
2 R553 / Broad Rd	102010	102010	000001	000001

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Base Queue Report (cars)																

Node Intersection		Northbound			Southbound			Eastbound			Westbound					
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R			
#2	[AllWayAvgQ]	0.1	1.4	4.2	0.0	7.0	0.2	0.5	0.5	0.5	79.4	79.4	79.4			

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Future Queue Report (cars)																

Node Intersection		Northbound			Southbound			Eastbound			Westbound					
		L	--	T	--	R	L	--	T	--	R	L	--	T	--	R
#2	[AllWayAvgQ]	0.1	1.4	4.2	0.0	7.0	0.2	0.5	0.5	0.5	79.4	79.4	79.4			

SATURDAY BACKGROUND 2025

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Scenario Report		
Scenario:	SATURDAY	
Command:	Default Command	
Volume:	SAT	
Geometry:	Default Geometry	
Impact Fee:	Default Impact Fee	
Trip Generation:	SAT	
Trip Distribution:	Default Trip Distribution	
Paths:	Default Path	
Routes:	Default Route	
Configuration:	Default Configuration	

SATURDAY				Wed Jun 25, 2025 17:58:04										Page 2-1	

Turning Movement Report															
SAT															

Volume	Northbound			Southbound			Eastbound			Westbound			Total		
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume		
#1 Broad Rd / Access															
Base	0	0	0	0	0	0	0	184	0	0	165	0	349		
Added	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	184	0	0	165	0	349		
#2 R553 / Broad Rd															
Base	43	677	369	15	733	65	76	54	54	633	57	6	2782		
Added	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	43	677	369	15	733	65	76	54	54	633	57	6	2782		

SATURDAY

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Link Volume Report

SAT

Volume Type	NB Link			SB Link			EB Link			WB Link			Total Volume
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
#1 Broad Rd / Access													
Base	0	0	0	0	0	0	184	165	349	165	184	349	698
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	184	165	349	165	184	349	698
#2 R553 / Broad Rd													
Base	1089	1420	2509	813	759	1572	184	165	349	696	438	1134	5564
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1089	1420	2509	813	759	1572	184	165	349	696	438	1134	5564

SATURDAY

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Intersection Volume Report

Base Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L --	T --	R	L --	T --	R	L --	T --	R	L --	T --	R
2 R553 / Broad	43	677	369	15	733	65	76	54	54	633	57	6

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 2 R553 / Broad Rd	F 132.6	1.643	F 132.6	1.643	+ 0.000 V/C

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 R553 / Broad Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	1.643
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	132.6
Optimal Cycle:	0	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lefts:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	1	1	0	2	0	1	0	0

Volume Module:

Base Vol:	43	677	369	15	733	65	76	54	54	633	57	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	677	369	15	733	65	76	54	54	633	57	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	48	752	410	17	814	72	84	60	60	703	63	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	752	410	17	814	72	84	60	60	703	63	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	48	752	410	17	814	72	84	60	60	703	63	7

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.42	0.29	0.29	0.91	0.08	0.01
Final Sat.:	442	816	386	410	770	362	163	116	116	428	39	4

Capacity Analysis Module:

Vol/Sat:	0.11	0.92	1.06	0.04	1.06	0.20	0.52	0.52	0.52	1.64	1.64	1.64
Crit Moves:	****			****			****			****		
Delay/Veh:	11.8	57.0	94.2	11.7	93.2	15.0	21.4	21.4	21.4	318.6	319	318.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.8	57.0	94.2	11.7	93.2	15.0	21.4	21.4	21.4	318.6	319	318.6
LOS by Move:	B	F	F	B	F	B	C	C	C	F	F	F
ApproachDel:	67.8			85.5			21.4			318.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	67.8			85.5			21.4			318.6		
LOS by Appr:	F			F			C			F		
AllWayAvgQ:	0.1	5.2	8.8	0.0	8.7	0.2	1.0	1.0	1.0	40.3	40.3	40.3

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
 2000 HCM 4-Way Stop Method
 Base Volume Alternative

Intersection #2 R553 / Broad Rd

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Time Period:	0.25 hour	10%	10%	10%	10%
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HevVeh:	10%	10%	10%	10%
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Alpha Value:	0.01	0.01	0.01	0.01
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GroupType:	5	5	2	2
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P[C1]:	0.0000	0.0000	0.0000	0.0000
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P[C2]:	0.0000	0.0000	0.0000	0.0000
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P[C3]:	0.0000	0.0000	0.0000	0.0000
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P[C4]:	0.4830	0.4830	0.0000	0.4830
--------	--------	--------	--------	--------

P[C5]:	0.5170	0.5170	1.0000	0.5170
--------	--------	--------	--------	--------

Padj[C1]:	0.03517	0.03517	0.04000	0.03517
-----------	---------	---------	---------	---------

Padj[C2]:	0.02517	0.02517	0.03000	0.02517
-----------	---------	---------	---------	---------

Padj[C3]:	0.01517	0.01517	0.02000	0.01517
-----------	---------	---------	---------	---------

Padj[C4]:	-0.02381	-0.02381	0.01000	-0.02381
-----------	----------	----------	---------	----------

Padj[C5]:	-0.05170	-0.05170	-0.10000	-0.05170
-----------	----------	----------	----------	----------

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
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LaneType:	LEFT	RITE	LEFT	RITE	LTR	NOLANE	LTR	NOLANE
-----------	------	------	------	------	-----	--------	-----	--------

HeadwayAdj:	-0.530	0.670	-0.530	0.670	-0.019	xx.xxx	-0.374	xx.xxx
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Volume:	48	410	17	72	204	xxxxxx	773	xxxxxx
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Capacity:	442	386	410	362	395	xxxxx	471	xxxxx
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DegOfUtil:	0.11	1.06	0.04	0.20	0.52	x.xx	1.64	x.xx
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DepHeadway:	8.13	9.33	8.66	9.86	9.10	xx.xx	7.65	xx.xx
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ServiceTime:	5.8	7.0	6.4	7.6	7.1	xx.x	5.7	xx.x
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Delay:	11.8	94.2	11.7	15.0	21.4	xxx.x	318.6	xxx.x
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Queue:	0.1	8.8	0.0	0.2	1.0	xxx.x	40.3	xxx.x
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Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
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LaneType:	THRU	THRU	THRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
-----------	------	------	------	------	--------	--------	--------	--------

HeadwayAdj:	0.170	0.170	0.170	0.170	xx.xxx	xx.xxx	xx.xxx	xx.xxx
-------------	-------	-------	-------	-------	--------	--------	--------	--------

Volume:	376	376	407	407	xxxxxx	xxxxxx	xxxxxx	xxxxxx
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Capacity:	408	408	385	385	xxxxx	xxxxx	xxxxx	xxxxx
-----------	-----	-----	-----	-----	-------	-------	-------	-------

DegOfUtil:	0.92	0.92	1.06	1.06	x.xx	x.xx	x.xx	x.xx
------------	------	------	------	------	------	------	------	------

DepHeadway:	8.83	8.83	9.36	9.36	xx.xx	xx.xx	xx.xx	xx.xx
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ServiceTime:	6.5	6.5	7.1	7.1	xx.x	xx.x	xx.x	xx.x
--------------	-----	-----	-----	-----	------	------	------	------

Delay:	57.0	57.0	93.2	93.2	xxx.x	xxx.x	xxx.x	xxx.x
--------	------	------	------	------	-------	-------	-------	-------

Queue:	5.2	5.2	8.7	8.7	xxx.x	xxx.x	xxx.x	xxx.x
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Approach:	North Bound	South Bound	East Bound	West Bound
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ApproachDel:	67.8	85.5	21.4	318.6
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Delay Adj:	1.00	1.00	1.00	1.00
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ApprAdjDel:	67.8	85.5	21.4	318.6
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LOS by Appr:	F	F	C	F
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OverallDel:	132.6
OverallLOS:	F

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 R553 / Broad Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.643
 Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 132.6
 Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lefts:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	1	1	0	0	1	0	1	0

Volume Module:

Base Vol:	43	677	369	15	733	65	76	54	54	633	57	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	677	369	15	733	65	76	54	54	633	57	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	43	677	369	15	733	65	76	54	54	633	57	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	48	752	410	17	814	72	84	60	60	703	63	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	752	410	17	814	72	84	60	60	703	63	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	48	752	410	17	814	72	84	60	60	703	63	7

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.42	0.29	0.29	0.91	0.08	0.01
Final Sat.:	442	816	386	410	770	362	163	116	116	428	39	4

Capacity Analysis Module:

Vol/Sat:	0.11	0.92	1.06	0.04	1.06	0.20	0.52	0.52	0.52	1.64	1.64	1.64
Crit Moves:	****			****			****			****		
Delay/Veh:	11.8	57.0	94.2	11.7	93.2	15.0	21.4	21.4	21.4	318.6	319	318.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.8	57.0	94.2	11.7	93.2	15.0	21.4	21.4	21.4	318.6	319	318.6
LOS by Move:	B	F	F	B	F	B	C	C	C	F	F	F
ApproachDel:	67.8			85.5			21.4			318.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	67.8			85.5			21.4			318.6		
LOS by Appr:	F			F			C			F		
AllWayAvgQ:	0.1	5.2	8.8	0.0	8.7	0.2	1.0	1.0	1.0	40.3	40.3	40.3

Note: Queue reported is the number of cars per lane.

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node Intersection	NB	SB	EB	WB
2 R553 / Broad Rd	102010	102010	000001	000001

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Base Queue Report (cars)																

Node Intersection		Northbound			Southbound			Eastbound			Westbound					
		L	--	T	--	R	L	--	T	--	R	L	--	T	--	R
#2	[AllWayAvgQ]	0.1	5.2	8.8	0.0	8.7	0.2	1.0	1.0	1.0	40.3	40.3	40.3			

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Future Queue Report (cars)																

Node Intersection		Northbound			Southbound			Eastbound			Westbound					
		L	--	T	--	R	L	--	T	--	R	L	--	T	--	R
#2	[AllWayAvgQ]	0.1	5.2	8.8	0.0	8.7	0.2	1.0	1.0	1.0	40.3	40.3	40.3			

FRIDAY PM WITH DEVELOPMENT

Scenario: FRIDAY PM Scenario Report

Command: Default Command
Volume: FRIDAY PM
Geometry: Default Geometry
Impact Fee: Default Impact Fee
Trip Generation: FRIDAY PM
Trip Distribution: Default Trip Distribution
Paths: Default Path
Routes: Default Route
Configuration: Default Configuration

Trip Generation Report

Forecast for PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1		100.00	SHOPPING	3.08	3.08	308	308	616	100.0
	Zone 1 Subtotal					308	308	616	100.0
TOTAL						308	308	616	100.0

Trip Distribution Report				
Percent Of Trips DEF				
Zone	To Gates			
	1	2	3	4
1	10.0	30.0	30.0	30.0

Turning Movement Report													
PM													
Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Broad Rd / Access													
Base	0	0	0	0	0	0	0	119	0	0	191	0	310
Added	92	0	216	0	0	0	0	0	92	216	0	0	616
Total	92	0	216	0	0	0	0	119	92	216	191	0	926
#2 R553 / Broad Rd													
Base	25	452	313	14	746	71	48	38	33	900	95	13	2748
Added	92	0	0	0	0	92	92	31	92	0	31	0	430
Total	117	452	313	14	746	163	140	69	125	900	126	13	3178

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Link Volume Report
PM

Volume Type	NB Link			SB Link			EB Link			WB Link			Total Volume
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
#1 Broad Rd / Access													
Base	0	0	0	0	0	0	119	191	310	191	119	310	620
Added	308	308	616	0	0	0	92	92	184	216	216	432	1232
Total	308	308	616	0	0	0	211	283	494	407	335	742	1852
#2 R553 / Broad Rd													
Base	790	1679	2469	831	513	1344	119	191	310	1008	365	1373	5496
Added	92	92	184	92	92	184	215	215	430	31	31	62	860
Total	882	1771	2653	923	605	1528	334	406	740	1039	396	1435	6356

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Intersection Volume Report
Base Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
1 Broad Rd / Ac	0	0	0	0	0	0	0	119	0	0	191	0
2 R553 / Broad	25	452	313	14	746	71	48	38	33	900	95	13

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Intersection Volume Report
Future Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
1 Broad Rd / Ac	92		0 216	0		0 0	0	119	92	216	191	0
2 R553 / Broad	117	452	313	14	746	163	140	69	125	900	126	13

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Impact Analysis Report
Level Of Service

Intersection	Base			Future			Change in
	LOS	Del/ Veh	V/ C	LOS	Del/ Veh	V/ C	
# 1 Broad Rd / Access	A	0.2	0.131	B	17.0	0.366	+16.745 D/V
# 2 R553 / Broad Rd	F	243.8	2.244	F	315.0	2.768	+ 0.524 V/C

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Broad Rd / Access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.131
Loss Time (sec): 6 (Y+R=5.0 sec) Average Delay (sec/veh): 0.2
Optimal Cycle: 60 Level Of Service: A

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Permitted	Permitted	Permitted	Permitted
Lefts:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 1	1 0 1 0 0

Volume Module:

Base Vol:	0 0 0	0 0 0	0 119 0	0 191 0
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Initial Bse:	0 0 0	0 0 0	0 119 0	0 191 0
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
PHF Adj:	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90
PHF Volume:	0 0 0	0 0 0	0 132 0	0 212 0
Reduct Vol:	0 0 0	0 0 0	0 0 0	0 0 0
Reduced Vol:	0 0 0	0 0 0	0 132 0	0 212 0
PCE Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
MLF Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
FinalVolume:	0 0 0	0 0 0	0 132 0	0 212 0

Saturation Flow Module:

Sat/Lane:	1900 1900 1900	1900 1900 1900	1900 1900 1900	1900 1900 1900
Adjustment:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 0.91 1.00	1.00 0.91 1.00
Lanes:	1.00 0.00 1.00	0.00 0.00 0.00	0.00 1.00 1.00	1.00 1.00 0.00
Final Sat.:	1900 0 1900	0 0 0	0 1727 1900	1900 1727 0

Capacity Analysis Module:

Vol/Sat:	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.08 0.00	0.00 0.12 0.00
Crit Moves:				****
Green Time:	0.0 0.0 0.0	0.0 0.0 0.0	0.0 94.0 0.0	0.0 94.0 0.0
Volume/Cap:	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.08 0.00	0.00 0.13 0.00
Uniform Del:	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.2 0.0	0.0 0.2 0.0
IncrementDel:	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
InitQueueDel:	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
Delay Adj:	0.00 0.00 0.00	0.00 0.00 0.00	0.00 1.00 0.00	0.00 1.00 0.00
Delay/Veh:	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.2 0.0	0.0 0.2 0.0
User DelAdj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
AdjDel/Veh:	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.2 0.0	0.0 0.2 0.0
LOS by Move:	A A A	A A A	A A A	A A A
HCM2kAvgQ:	0 0 0	0 0 0	0 0 0	0 1 0

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
2000 HCM Operations Method
Base Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
HCM Ops Adjusted Lane Utilization Module:				
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 1	1 0 1 0 0
Lane Group:	L xxxx R	xxxx xxxx xxxx	xxxx T R	L T xxxx
#LnsInGrps:	1 0 1	0 0 0	0 1 1	1 1 0

HCM Ops Input Saturation Adj Module:

Lane Width:	3.66 3.66 3.66	3.66 3.66 3.66	3.66 3.66 3.66	3.66 3.66 3.66
CrsswalkWid:	2.44	2.44	2.44	2.44
% Hev Veh:	10	10	10	10
Grade:	0%	0%	0%	0%
Parking/Hr:	No	No	No	No
Bus Stp/Hr:	0	0	0	0
Area Type:	< < < < < < < < < < Other > > > > > > > > > >			
Cnft Ped/Hr:	0	0	0	0
ExclusiveLT:	Include	Include	Include	Include
% LT Prct:	0	0	0	0

HCM Ops f(r) Adj Case Module:

f(r) Case:	xxxx xxxx xxxx	xxxx xxxx xxxx	xxxx xxxx xxxx	xxxx xxxx xxxx
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HCM Ops Saturation Adj Module:

Ln Wid Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx 1.00 xxxxx
Hev Veh Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 0.91 xxxxx	xxxx 0.91 xxxxx
Grade Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx 1.00 xxxxx
Parking Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx xxxx xxxxx
Bus Stp Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx xxxx xxxxx
Area Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx 1.00 xxxxx
RT Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx
LT Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx
PedBike Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
HCM Sat Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 0.91 1.00	1.00 0.91 1.00
Usr Sat Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
MLF Sat Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Fn1 Sat Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 0.91 1.00	1.00 0.91 1.00

Delay Adjustment Factor Module:

Coordinated:	< < < < < < < < < < No > > > > > > > > > >
--------------	--

Signal Type:	< < < < < < < < < Actuated > > > > > > > > > >
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DelAdjFctr:	0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 0.00 1.00 0.00
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Level of Service Detailed Computation Report (HCM2000 Queue Method)
2000 HCM Operations Method
Base Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.0	0.0	0.0	94.0	0.0
ArrivalType:	3			3			3			3		
ProgFactor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Q1:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.4	0.0
UpstreamVC:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UpstreamAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EarlyArrAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Q2:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0
HCM2KQueue:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.6	0.0
70th%Factor:	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
HCM2k70thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.7	0.0
85th%Factor:	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.59	1.60
HCM2k85thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.9	0.0
90th%Factor:	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.79	1.80	1.80	1.79	1.80
HCM2k90thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	1.0	0.0
95th%Factor:	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.09	2.10	2.10	2.08	2.10
HCM2k95thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.2	0.0
98th%Factor:	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.68	2.70	2.70	2.66	2.70
HCM2k98thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	1.5	0.0

Fuel Consumption and Emissions
2000 HCM Operations Method
Base Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
----- ----- ----- -----												
Run Speed:	48 KPH			48 KPH			48 KPH			48 KPH		
NumOfStops:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0	3.6	0.0

Name: year 1995 composite fleet												
Fuel Consumption:	1.615 kilograms											
	2.181 liters											
Carbon Dioxide:	5.040 kilograms											
Carbon Monoxide:	0.294 kilograms											
Hydrocarbons:	0.027 kilograms											
Nitrogen Oxides:	0.016 kilograms											

Name: year 2000 composite fleet												
Fuel Consumption:	1.386 kilograms											
	1.871 liters											
Carbon Dioxide:	4.324 kilograms											
Carbon Monoxide:	0.277 kilograms											
Hydrocarbons:	0.024 kilograms											
Nitrogen Oxides:	0.014 kilograms											

DISCLAIMER

The fuel consumption and emissions measures should be used with caution and only for comparisons of different signal timings, geometric design alternatives or for general planning applications, as these calculations are applied to the analysis of a single intersection within the CCG and TRAFFIX. Network models are more appropriate since they can account for the influence of the adjacent control measures and other system elements.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Broad Rd / Access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.366
Loss Time (sec): 6 (Y+R=5.0 sec) Average Delay (sec/veh): 17.0
Optimal Cycle: 60 Level Of Service: B

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Permitted	Permitted	Permitted	Permitted
Lefts:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 1	1 0 1 0 0

Volume Module:

Base Vol:	0	0	0	0	0	0	0	119	0	0	191	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	119	0	0	191	0
Added Vol:	92	0	216	0	0	0	0	0	92	216	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	92	0	216	0	0	0	0	119	92	216	191	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	102	0	240	0	0	0	0	132	102	240	212	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	102	0	240	0	0	0	0	132	102	240	212	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	102	0	240	0	0	0	0	132	102	240	212	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.70	1.00	1.00	1.00	0.91	0.52	0.77	0.91	1.00	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
Final Sat.:	1468	0	1328	0	0	0	0	1727	988	1468	1727	0

Capacity Analysis Module:

Vol/Sat:	0.07	0.00	0.18	0.00	0.00	0.00	0.00	0.08	0.10	0.16	0.12	0.00
Crit Moves:	****			****			****			****		
Green Time:	49.4	0.0	49.4	0.0	0.0	0.0	0.0	44.6	44.6	44.6	44.6	0.0
Volume/Cap:	0.14	0.00	0.37	0.00	0.00	0.00	0.00	0.17	0.23	0.37	0.28	0.00
Uniform Del:	13.8	0.0	15.7	0.0	0.0	0.0	0.0	16.6	17.1	18.3	17.5	0.0
IncrementDel:	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.2	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	13.9	0.0	16.0	0.0	0.0	0.0	0.0	16.7	17.4	18.7	17.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.9	0.0	16.0	0.0	0.0	0.0	0.0	16.7	17.4	18.7	17.7	0.0
LOS by Move:	B	A	B	A	A	A	A	B	B	B	B	A
HCM2kAvgQ:	2	0	5	0	0	0	0	2	2	5	4	0

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
2000 HCM Operations Method
Future Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
HCM Ops Adjusted Lane Utilization Module:				
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 1	1 0 1 0 0
Lane Group:	L xxxx R	xxxx xxxx xxxx	xxxx T R	L T xxxx
#LnsInGrps:	1 0 1	0 0 0	0 1 1	1 1 0

HCM Ops Input Saturation Adj Module:

Lane Width:	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
CrsswalkWid:	2.44		2.44		2.44		2.44		2.44		
% Hev Veh:	10		10		10		10		10		
Grade:	0%		0%		0%		0%		0%		
Parking/Hr:	No		No		No		No		No		
Bus Stp/Hr:	0		0		0		0		0		
Area Type:	< < < < < < < < < < Other > > > > > > > > > > > > > >										
Cnft Ped/Hr:	0		0		0		0		0		
ExclusiveLT:	Include		Include		Include		Include		Include		
% LT Prct:	0		0		0		0		0		

HCM Ops f(rt) Adj Case Module:

f(rt) Case:	2	2	2	2	2	2	2	2	2	2	2
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HCM Ops Saturation Adj Module:

Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	0.91	1.00	0.91	1.00	1.00	1.00	0.91	0.91	0.91	0.91	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bus Stp Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	1.00	1.00	0.77	1.00	1.00	1.00	1.00	1.00	0.57	1.00	1.00
LT Adj:	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	1.00	1.00
PedBike Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
HCM Sat Adj:	0.77	1.00	0.70	1.00	1.00	1.00	0.91	0.52	0.77	0.91	1.00
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fn1 Sat Adj:	0.77	1.00	0.70	1.00	1.00	1.00	0.91	0.52	0.77	0.91	1.00

Delay Adjustment Factor Module:

Coordinated:	< < < < < < < < < < No > > > > > > > > > > > > > >
--------------	--

Signal Type:	< < < < < < < < < Actuated > > > > > > > > > > > > > >
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DelAdjFctr:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
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Level Of Service Detailed Computation Report (Permitted Right Turn Sat Adj)
 2000 HCM Operations Method
 Future Volume Alternative

 Intersection #1 Broad Rd / Access

Approach:	North	South	East	West
Cycle Length, C:	100	xxxxxx	100	xxxxxx
Actual Green Time Per Lane Group, G:	42.39	xxxxxx	47.61	xxxxxx
Effective Green Time Per Lane Group, g:	44.39	xxxxxx	49.61	xxxxxx
Opposing Effective Green Time, go:	44.39	xxxxxx	49.61	xxxxxx
Number Of Opposing Lanes, No:	0	xxxxxx	1	xxxxxx
Number Of Lanes In Lane Group, N:	1	xxxxxx	1	xxxxxx
Adjusted Right-Turn Flow Rate, Vrt:	240	xxxxxx	102	xxxxxx
Proportion of Rite Turns in Lane Group, Prt:	1.00	xxxxxx	1.00	xxxxxx
Proportion of Rite Turns in Opp Flow, Prto:	1.00	xxxxxx	xxxxxx	xxxxxx
Right Turns Per Cycle, RTC:	6.67	xxxxxx	2.84	xxxxxx
Adjusted Opposing Flow Rate, Vo:	0	xxxxxx	212	xxxxxx
Opposing Flow Per Lane Per Cycle, Volc:	0.00	xxxxxx	5.89	xxxxxx
Opposing Platoon Ratio, Rpo:	1.00	xxxxxx	1.00	xxxxxx
Lost Time Per Phase, tl:	3.00	xxxxxx	3.00	xxxxxx
Eff grn until arrival of rite-turn car, gf:	0.00	xxxxxx	0.00	xxxxxx
Opposing Queue Ratio, qro:	0.56	xxxxxx	0.50	xxxxxx
Eff grn blocked by opposing queue, gq:	0.00	xxxxxx	3.73	xxxxxx
Eff grn while right turns filter thru, gu:	44.39	xxxxxx	45.88	xxxxxx
Max opposing cars arriving during gq-gf, n:	0.00	xxxxxx	xxxxxx	xxxxxx
Proportion of Opposing Thru & LT cars, ptho:	0.00	xxxxxx	xxxxxx	xxxxxx
Right-turn Saturation Factor, fs:	xxxxxx	xxxxxx	0.74	xxxxxx
Proportion of Rite Turns in Shared Lane, pr:	1.00	xxxxxx	1.00	xxxxxx
Through-car Equivalents, el1:	1.30	xxxxxx	1.62	xxxxxx
Single Lane Through-car Equivalents, el2:	1.00	xxxxxx	xxxxxx	xxxxxx
Minimum Right Turn Adjustment Factor, fmin:	0.09	xxxxxx	0.08	xxxxxx
Single Lane Rite Turn Adjustment Factor, fm:	0.77	xxxxxx	0.57	xxxxxx
Right Turn Adjustment Factor, frt:	0.77	xxxxxx	0.57	xxxxxx

Level Of Service Detailed Computation Report (HCM2000 Queue Method)
 2000 HCM Operations Method
 Future Volume Alternative

 Intersection #1 Broad Rd / Access

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Green Time:	49.4	0.0	49.4	0.0	0.0	0.0	0.0	44.6	44.6	44.6	44.6	0.0
ArrivalType:	3			3			3			3		
ProgFactor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Q1:	1.5	0.0	4.1	0.0	0.0	0.0	0.0	2.2	1.8	4.4	3.7	0.0
UpstreamVC:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UpstreamAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EarlyArrAdj:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Q2:	0.2	0.0	0.6	0.0	0.0	0.0	0.0	0.2	0.3	0.6	0.4	0.0
HCM2KQueue:	1.7	0.0	4.7	0.0	0.0	0.0	0.0	2.4	2.1	5.0	4.1	0.0
70th%Factor:	1.20	1.20	1.19	1.20	1.20	1.20	1.20	1.19	1.19	1.19	1.19	1.20
HCM2k70thQ:	2.0	0.0	5.6	0.0	0.0	0.0	0.0	2.9	2.5	5.9	4.9	0.0
85th%Factor:	1.58	1.60	1.56	1.60	1.60	1.60	1.60	1.58	1.58	1.55	1.56	1.60
HCM2k85thQ:	2.7	0.0	7.3	0.0	0.0	0.0	0.0	3.8	3.2	7.7	6.4	0.0
90th%Factor:	1.77	1.80	1.72	1.80	1.80	1.80	1.80	1.75	1.76	1.71	1.73	1.80
HCM2k90thQ:	3.0	0.0	8.1	0.0	0.0	0.0	0.0	4.2	3.6	8.5	7.1	0.0
95th%Factor:	2.05	2.10	1.96	2.10	2.10	2.10	2.10	2.02	2.04	1.95	1.98	2.10
HCM2k95thQ:	3.5	0.0	9.2	0.0	0.0	0.0	0.0	4.9	4.2	9.7	8.1	0.0
98th%Factor:	2.58	2.70	2.40	2.70	2.70	2.70	2.70	2.53	2.55	2.38	2.43	2.70
HCM2k98thQ:	4.4	0.0	11.2	0.0	0.0	0.0	0.0	6.1	5.2	11.9	10.0	0.0

Fuel Consumption and Emissions
2000 HCM Operations Method
Future Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Run Speed:	48 KPH			48 KPH			48 KPH			48 KPH		
NumOfStops:	13.9	0.0	37.1	0.0	0.0	0.0	0.0	19.8	15.8	39.7	33.5	0.0

Name: year 1995 composite fleet

Fuel Consumption: 11.026 kilograms
14.885 liters
Carbon Dioxide: 34.400 kilograms
Carbon Monoxide: 2.603 kilograms
Hydrocarbons: 0.447 kilograms
Nitrogen Oxides: 0.103 kilograms

Name: year 2000 composite fleet

Fuel Consumption: 10.220 kilograms
13.797 liters
Carbon Dioxide: 31.886 kilograms
Carbon Monoxide: 2.541 kilograms
Hydrocarbons: 0.434 kilograms
Nitrogen Oxides: 0.091 kilograms

DISCLAIMER

The fuel consumption and emissions measures should be used with caution and only for comparisons of different signal timings, geometric design alternatives or for general planning applications, as these calculations are applied to the analysis of a single intersection within the CCG and TRAFFIX. Network models are more appropriate since they can account for the influence of the adjacent control measures and other system elements.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 R553 / Broad Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 2.244
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 243.8
Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lefts:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	1	0	1	0	0	1	0	0

Volume Module:

Base Vol:	25	452	313	14	746	71	48	38	33	900	95	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	452	313	14	746	71	48	38	33	900	95	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	28	502	348	16	829	79	53	42	37	1000	106	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	502	348	16	829	79	53	42	37	1000	106	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	502	348	16	829	79	53	42	37	1000	106	14

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.40	0.32	0.28	0.90	0.09	0.01
Final Sat.:	457	841	397	448	837	390	160	126	110	446	47	6

Capacity Analysis Module:

Vol/Sat:	0.06	0.60	0.88	0.03	0.99	0.20	0.33	0.33	0.33	2.24	2.24	2.24
Crit Moves:	****			****			****			****		
Delay/Veh:	11.1	23.1	49.5	10.9	71.2	14.1	16.5	16.5	16.5	582.9	583	582.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	23.1	49.5	10.9	71.2	14.1	16.5	16.5	16.5	582.9	583	582.9
LOS by Move:	B	C	E	B	F	B	C	C	C	F	F	F
ApproachDel:	33.2			65.3			16.5			582.9		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	33.2			65.3			16.5			582.9		
LOS by Appr:	D			F			C			F		
AllWayAvgQ:	0.1	1.4	4.2	0.0	7.0	0.2	0.5	0.5	0.5	79.4	79.4	79.4

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
 2000 HCM 4-Way Stop Method
 Base Volume Alternative

Intersection #2 R553 / Broad Rd

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Time Period: 0.25 hour

HevVeh: 10% 10% 10% 10%

Alpha Value: 0.01

GroupType:	5	5	2	2
P[C1]:	0.0000	0.0000	0.0000	0.0000
P[C2]:	0.0000	0.0000	0.0000	0.0000
P[C3]:	0.0000	0.0129	0.0000	0.0130
P[C4]:	0.6672	0.6607	0.0194	0.6607
P[C5]:	0.3328	0.3263	0.9806	0.3263
Padj[C1]:	0.03333	0.03313	0.03981	0.03313
Padj[C2]:	0.02333	0.02313	0.02981	0.02313
Padj[C3]:	0.01333	0.01275	0.01981	0.01274
Padj[C4]:	-0.03670	-0.03638	0.00864	-0.03638
Padj[C5]:	-0.03328	-0.03263	-0.09806	-0.03263

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RITE	LEFT	RITE	LTR	NOLANE	LTR	NOLANE
HeadwayAdj:	-0.530	0.670	-0.530	0.670	-0.017	xx.xxx	-0.363	xx.xxx
Volume:	28	348	16	79	132	xxxxxx	1120	xxxxxx
Capacity:	457	397	448	390	396	xxxxx	499	xxxxx
DegOfUtil:	0.06	0.87	0.03	0.20	0.33	x.xx	2.24	x.xx
DepHeadway:	7.85	9.05	7.91	9.11	9.06	xx.xx	7.21	xx.xx
ServiceTime:	5.5	6.7	5.6	6.8	7.1	xx.x	5.2	xx.x
Delay:	11.1	49.5	10.9	14.1	16.5	xxx.x	582.9	xxx.x
Queue:	0.1	4.2	0.0	0.2	0.5	xxx.x	79.4	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	THRU	THRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.170	0.170	0.170	0.170	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	251	251	414	414	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	420	420	418	418	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.60	0.60	0.99	0.99	x.xx	x.xx	x.xx	x.xx
DepHeadway:	8.55	8.55	8.61	8.61	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	6.2	6.2	6.3	6.3	xx.x	xx.x	xx.x	xx.x
Delay:	23.1	23.1	71.2	71.2	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	1.4	1.4	7.0	7.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	33.2	65.3	16.5	582.9
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	33.2	65.3	16.5	582.9
LOS by Appr:	D	F	C	F

OverallDel: 243.8
 OverallLOS: F

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 R553 / Broad Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 2.768
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 315.0
Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lefts:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 2 0 1	1 0 2 0 1	0 0 1! 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	25	452	313	14	746	71	48	38	33	900	95	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	452	313	14	746	71	48	38	33	900	95	13
Added Vol:	92	0	0	0	0	92	92	31	92	0	31	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	452	313	14	746	163	140	69	125	900	126	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	130	502	348	16	829	181	156	77	139	1000	140	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	502	348	16	829	181	156	77	139	1000	140	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	130	502	348	16	829	181	156	77	139	1000	140	14

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.42	0.21	0.37	0.87	0.12	0.01
Final Sat.:	406	753	358	394	739	350	166	82	148	361	51	5

Capacity Analysis Module:

Vol/Sat:	0.32	0.67	0.97	0.04	1.12	0.52	0.94	0.94	0.94	2.77	2.77	2.77
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Delay/Veh:	15.7	29.5	73.1	12.1	115	23.3	62.0	62.0	62.0	820.7	821	820.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.7	29.5	73.1	12.1	115	23.3	62.0	62.0	62.0	820.7	821	820.7
LOS by Move:	C	D	F	B	F	C	F	F	F	F	F	F
ApproachDel:	43.1			97.2			62.0			820.7		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	43.1			97.2			62.0			820.7		
LOS by Appr:	E			F			F			F		
AllWayAvgQ:	0.5	1.8	6.0	0.0	10.5	1.0	5.5	5.5	5.5	93.7	93.7	93.7

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
2000 HCM 4-Way Stop Method
Future Volume Alternative

Intersection #2 R553 / Broad Rd

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Time Period:	0.25 hour			
HevVeh:	10%	10%	10%	10%
Alpha Value:	0.01			
GroupType:	5	5	2	2
P[C1]:	0.0000	0.0000	0.0000	0.0000
P[C2]:	0.0000	0.0000	0.0000	0.0000
P[C3]:	0.0000	0.0001	0.0000	0.0001
P[C4]:	0.0608	0.0626	0.0021	0.0626
P[C5]:	0.9392	0.9373	0.9979	0.9373
Padj[C1]:	0.03939	0.03937	0.03998	0.03937
Padj[C2]:	0.02939	0.02937	0.02998	0.02937
Padj[C3]:	0.01939	0.01937	0.01998	0.01937
Padj[C4]:	0.00575	0.00562	0.00985	0.00562
Padj[C5]:	-0.09392	-0.09373	-0.09979	-0.09373

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RITE	LEFT	RITE	LTR	NOLANE	LTR	NOLANE
HeadwayAdj:	-0.530	0.670	-0.530	0.670	-0.007	xx.xxx	-0.347	xx.xxx
Volume:	130	348	16	181	371	xxxxxx	1154	xxxxxx
Capacity:	406	358	394	350	395	xxxxx	417	xxxxx
DegOfUtil:	0.32	0.97	0.04	0.52	0.94	x.xx	2.77	x.xx
DepHeadway:	8.86	10.06	9.04	10.24	9.11	xx.xx	8.63	xx.xx
ServiceTime:	6.6	7.8	6.7	7.9	7.1	xx.x	6.6	xx.x
Delay:	15.7	73.1	12.1	23.3	62.0	xxx.x	820.7	xxx.x
Queue:	0.5	6.0	0.0	1.0	5.5	xxx.x	93.7	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	THRU	THRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.170	0.170	0.170	0.170	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	251	251	414	414	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	376	376	370	370	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.67	0.67	1.12	1.12	x.xx	x.xx	x.xx	x.xx
DepHeadway:	9.56	9.56	9.74	9.74	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	7.3	7.3	7.4	7.4	xx.x	xx.x	xx.x	xx.x
Delay:	29.5	29.5	114.9	114.9	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	1.8	1.8	10.5	10.5	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	43.1	97.2	62.0	820.7
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	43.1	97.2	62.0	820.7
LOS by Appr:	E	F	F	F

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Broad Rd / Access													
[Base(LOS=A,Del=0.2,V/C=0.131)][Future(LOS=B,Del=17.0,V/C=0.366)][+16.745 D/V]													
Base	0	0	0	0	0	0	0	119	0	0	191	0	310
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	0	0	0	0	0	0	0	119	0	0	191	0	310
Zn 1	92	0	216	0	0	0	0	0	92	216	0	0	616
Added	92	0	216	0	0	0	0	0	92	216	0	0	616
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	92	0	216	0	0	0	0	119	92	216	191	0	926
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	92	0	216	0	0	0	0	119	92	216	191	0	926
#2 R553 / Broad Rd													
[Base(LOS=F,Del=243.8,V/C=2.244)][Future(LOS=F,Del=315.0,V/C=2.768)][+0.524 V/C]													
Base	25	452	313	14	746	71	48	38	33	900	95	13	2748
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	25	452	313	14	746	71	48	38	33	900	95	13	2748
Zn 1	92	0	0	0	0	92	92	31	92	0	31	0	430
Added	92	0	0	0	0	92	92	31	92	0	31	0	430
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	117	452	313	14	746	163	140	69	125	900	126	13	3178
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	117	452	313	14	746	163	140	69	125	900	126	13	3178

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Project Trips Report
PM

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
Zone #1:												
1 Broad Rd / Ac	92		0 216	0		0 0	0		0 0	92	216	0 0
2 R553 / Broad	92		0 0	0		0 92	92		31 92	0	31	0 0

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Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node Intersection	NB	SB	EB	WB
1 Broad Rd / Access	100010	000000	001010	101000
2 R553 / Broad Rd	102010	102010	000001	000001

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Base Queue Report (cars)														

Node Intersection		Northbound			Southbound			Eastbound			Westbound			
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R	
#1	[HCM2kAvgQ]:	0	0	0	0	0	0	0	0	0	0	1	0	
#2	[AllWayAvgQ]	0.1	1.4	4.2	0.0	7.0	0.2	0.5	0.5	0.5	79.4	79.4	79.4	

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Future Queue Report (cars)																

		Northbound			Southbound			Eastbound			Westbound					
Node	Intersection	L	--	T	--	R	L	--	T	--	R	L	--	T	--	R
#1	[HCM2kAvgQ]:	2		0		5	0		0		0	0		2		2
#2	[AllWayAvgQ]	0.5	1.8	6.0			0.0	10.5	1.0			5.5	5.5	5.5	93.7	93.7
												93.7		93.7		93.7

SATURDAY WITH DEVELOPMENT

Scenario Report	
Scenario:	SATURDAY
Command:	Default Command
Volume:	SAT
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	SAT
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Trip Generation Report									
Forecast for SAT									
Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1		100.00	SHOPPING	4.08	4.08	408	408	816	100.0
	Zone 1 Subtotal					408	408	816	100.0
TOTAL						408	408	816	100.0

Trip Distribution Report				
Percent Of Trips DEF				
Zone	To Gates			
	1	2	3	4
1	10.0	30.0	30.0	30.0

Turning Movement Report												
SAT												
Volume	Northbound			Southbound			Eastbound			Westbound		
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
#1 Broad Rd / Access												
Base	0	0	0	0	0	0	0	184	0	0	165	0
Added	122	0	286	0	0	0	0	0	122	286	0	0
Total	122	0	286	0	0	0	0	184	122	286	165	0
#2 R553 / Broad Rd												
Base	43	677	369	15	733	65	76	54	54	633	57	6
Added	122	0	0	0	0	122	122	41	122	0	41	0
Total	165	677	369	15	733	187	198	95	176	633	98	6

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Link Volume Report
SAT

Volume Type	NB Link			SB Link			EB Link			WB Link			Total Volume
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
#1 Broad Rd / Access													
Base	0	0	0	0	0	0	184	165	349	165	184	349	698
Added	408	408	816	0	0	0	122	122	244	286	286	572	1632
Total	408	408	816	0	0	0	306	287	593	451	470	921	2330
#2 R553 / Broad Rd													
Base	1089	1420	2509	813	759	1572	184	165	349	696	438	1134	5564
Added	122	122	244	122	122	244	285	285	570	41	41	82	1140
Total	1211	1542	2753	935	881	1816	469	450	919	737	479	1216	6704

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Intersection Volume Report
Base Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
1 Broad Rd / Ac	0		0	0		0	0	184	0	0	165	0
2 R553 / Broad	43	677	369	15	733	65	76	54	54	633	57	6

Intersection Volume Report

Future Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
1 Broad Rd / Ac	122		0 286	0	0	0	0	184	122	286	165	0
2 R553 / Broad	165	677	369	15	733	187	198	95	176	633	98	6

Impact Analysis Report

Level Of Service

Intersection	Base			Future			Change in
	LOS	Del/ Veh	V/ C	LOS	Del/ Veh	V/ C	
# 1 Broad Rd / Access	A	0.2	0.126	B	17.8	0.485	+17.580 D/V
# 2 R553 / Broad Rd	F	132.6	1.643	F	194.8	1.997	+ 0.354 V/C

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Broad Rd / Access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.126
Loss Time (sec): 6 (Y+R=5.0 sec) Average Delay (sec/veh): 0.2
Optimal Cycle: 60 Level Of Service: A

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Permitted	Permitted	Permitted	Permitted
Lefts:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 1	1 0 1 0 0

Volume Module:

Base Vol:	0	0	0	0	0	0	184	0	0	165	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	184	0	0	165	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	0	0	0	204	0	0	183	0
Reduced Vol:	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	204	0	0	183	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	0	0	0	0	0	204	0	0	183	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Final Sat.:	1900	0	1900	0	0	0	0	1727	1900	1727	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.11	0.00
Crit Moves:							****				
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	94.0	0.0	0.0	94.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.11	0.00
Uniform Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0
IncrementDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	0	0	0	1	0	0	0	0

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
2000 HCM Operations Method
Base Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
HCM Ops Adjusted Lane Utilization Module:				
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 1	1 0 1 0 0
Lane Group:	L xxxx R	xxxx xxxx xxxx	xxxx T R	L T xxxx
#LnsInGrps:	1 0 1	0 0 0	0 1 1	1 1 0
HCM Ops Input Saturation Adj Module:				
Lane Width:	3.66 3.66 3.66	3.66 3.66 3.66	3.66 3.66 3.66	3.66 3.66 3.66
CrsswalkWid:	2.44	2.44	2.44	2.44
% Hev Veh:	10	10	10	10
Grade:	0%	0%	0%	0%
Parking/Hr:	No	No	No	No
Bus Stp/Hr:	0	0	0	0
Area Type:	< < < < < < < < < < Other > > > > > > > > > >			
Cnft Ped/Hr:	0	0	0	0
ExclusiveLT:	Include	Include	Include	Include
% LT Prct:	0	0	0	0

HCM Ops f(r) Adj Case Module:

f(r) Case:	xxxx xxxx xxxx	xxxx xxxx xxxx	xxxx xxxx xxxx	xxxx xxxx xxxx
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HCM Ops Saturation Adj Module:

Ln Wid Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx 1.00 xxxxx
Hev Veh Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 0.91 xxxxx	xxxx 0.91 xxxxx
Grade Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx 1.00 xxxxx
Parking Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx xxxx xxxxx
Bus Stp Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx xxxx xxxxx
Area Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx 1.00 xxxxx	xxxx 1.00 xxxxx
RT Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx
LT Adj:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx
PedBike Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
HCM Sat Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 0.91 1.00	1.00 0.91 1.00
Usr Sat Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
MLF Sat Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Fn1 Sat Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 0.91 1.00	1.00 0.91 1.00

Delay Adjustment Factor Module:

Coordinated:	< < < < < < < < < < No > > > > > > > > > >
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Signal Type:	< < < < < < < < < < Actuated > > > > > > > > > >
--------------	--

DelAdjFctr:	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 1.00 0.00 0.00 1.00 0.00
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Level of Service Detailed Computation Report (HCM2000 Queue Method)
2000 HCM Operations Method
Base Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Green Time:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.0	0.0	0.0	94.0	0.0
ArrivalType:	3			3			3			3		
ProgFactor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Q1:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.3	0.0
UpstreamVC:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UpstreamAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EarlyArrAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00
Q2:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
HCM2KQueue:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5	0.0
70th%Factor:	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
HCM2k70thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6	0.0
85th%Factor:	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.59	1.60	1.60	1.60	1.60
HCM2k85thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.7	0.0
90th%Factor:	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.79	1.80	1.80	1.79	1.80
HCM2k90thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.8	0.0
95th%Factor:	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.08	2.10	2.10	2.08	2.10
HCM2k95thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.0	0.0
98th%Factor:	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.66	2.70	2.70	2.66	2.70
HCM2k98thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	1.2	0.0

Fuel Consumption and Emissions
2000 HCM Operations Method
Base Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
----- ----- ----- -----												
Run Speed:	48 KPH			48 KPH			48 KPH			48 KPH		
NumOfStops:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.1	0.0

Name: year 1995 composite fleet												
Fuel Consumption:	1.819 kilograms											
	2.456 liters											
Carbon Dioxide:	5.676 kilograms											
Carbon Monoxide:	0.331 kilograms											
Hydrocarbons:	0.031 kilograms											
Nitrogen Oxides:	0.018 kilograms											

Name: year 2000 composite fleet												
Fuel Consumption:	1.561 kilograms											
	2.107 liters											
Carbon Dioxide:	4.870 kilograms											
Carbon Monoxide:	0.312 kilograms											
Hydrocarbons:	0.027 kilograms											
Nitrogen Oxides:	0.015 kilograms											

DISCLAIMER

The fuel consumption and emissions measures should be used with caution and only for comparisons of different signal timings, geometric design alternatives or for general planning applications, as these calculations are applied to the analysis of a single intersection within the CCG and TRAFFIX. Network models are more appropriate since they can account for the influence of the adjacent control measures and other system elements.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Broad Rd / Access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.485
Loss Time (sec): 6 (Y+R=5.0 sec) Average Delay (sec/veh): 17.8
Optimal Cycle: 60 Level Of Service: B

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Permitted	Permitted	Permitted	Permitted
Lefts:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 1	1 0 1 0 0

Volume Module:

Base Vol:	0	0	0	0	0	0	184	0	0	165	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	184	0	0	165	0
Added Vol:	122	0	286	0	0	0	0	122	286	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	122	0	286	0	0	0	184	122	286	165	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	136	0	318	0	0	0	204	136	318	183	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	136	0	318	0	0	0	204	136	318	183	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	136	0	318	0	0	0	204	136	318	183	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.70	1.00	1.00	1.00	0.91	0.55	0.77	0.91	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1468	0	1328	0	0	0	1727	1038	1468	1727	0

Capacity Analysis Module:

Vol/Sat:	0.09	0.00	0.24	0.00	0.00	0.00	0.00	0.12	0.13	0.22	0.11	0.00
Crit Moves:	****			****								
Green Time:	49.4	0.0	49.4	0.0	0.0	0.0	0.0	44.6	44.6	44.6	44.6	0.0
Volume/Cap:	0.19	0.00	0.48	0.00	0.00	0.00	0.00	0.27	0.29	0.48	0.24	0.00
Uniform Del:	14.1	0.0	16.9	0.0	0.0	0.0	0.0	17.4	17.6	19.6	17.1	0.0
IncrementDel:	0.1	0.0	0.6	0.0	0.0	0.0	0.0	0.2	0.4	0.6	0.2	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Delay/Veh:	14.3	0.0	17.4	0.0	0.0	0.0	0.0	17.6	18.0	20.1	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.3	0.0	17.4	0.0	0.0	0.0	0.0	17.6	18.0	20.1	17.3	0.0
LOS by Move:	B	A	B	A	A	A	A	B	B	C	B	A
HCM2kAvgQ:	2	0	7	0	0	0	0	4	3	7	3	0

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
2000 HCM Operations Method
Future Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
HCM Ops Adjusted Lane Utilization Module:				
Lanes:	1 0 0 0 1	0 0 0 0 0	0 0 1 0 1	1 0 1 0 0
Lane Group:	L xxxx R	xxxx xxxx xxxx	xxxx T R	L T xxxx
#LnsInGrps:	1 0 1	0 0 0	0 1 1	1 1 0

HCM Ops Input Saturation Adj Module:

Lane Width:	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
CrsswalkWid:	2.44		2.44		2.44		2.44		2.44		
% Hev Veh:	10		10		10		10		10		
Grade:	0%		0%		0%		0%		0%		
Parking/Hr:	No		No		No		No		No		
Bus Stp/Hr:	0		0		0		0		0		
Area Type:	< < < < < < < < < < Other > > > > > > > > > > > > > >										
Cnft Ped/Hr:	0		0		0		0		0		
ExclusiveLT:	Include		Include		Include		Include		Include		
% LT Prct:	0		0		0		0		0		

HCM Ops f(rt) Adj Case Module:

f(rt) Case:	2	2	2	2	2	2	2	2	2	2	2
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HCM Ops Saturation Adj Module:

Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	0.91	1.00	0.91	1.00	1.00	1.00	0.91	0.91	0.91	0.91	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bus Stp Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	1.00	1.00	0.77	1.00	1.00	1.00	1.00	1.00	0.60	1.00	1.00
LT Adj:	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	1.00	1.00
PedBike Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
HCM Sat Adj:	0.77	1.00	0.70	1.00	1.00	1.00	1.00	0.91	0.55	0.77	0.91
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FnL Sat Adj:	0.77	1.00	0.70	1.00	1.00	1.00	1.00	0.91	0.55	0.77	0.91

Delay Adjustment Factor Module:

Coordinated:	< < < < < < < < < < No > > > > > > > > > > > > > >
--------------	--

Signal Type:	< < < < < < < < < Actuated > > > > > > > > > > > > > >
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DelAdjFctr:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
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Level Of Service Detailed Computation Report (Permitted Right Turn Sat Adj)
 2000 HCM Operations Method
 Future Volume Alternative

 Intersection #1 Broad Rd / Access

Approach:	North	South	East	West
Cycle Length, C:	100	xxxxxx	100	xxxxxx
Actual Green Time Per Lane Group, G:	42.39	xxxxxx	47.61	xxxxxx
Effective Green Time Per Lane Group, g:	44.39	xxxxxx	49.61	xxxxxx
Opposing Effective Green Time, go:	44.39	xxxxxx	49.61	xxxxxx
Number Of Opposing Lanes, No:	0	xxxxxx	1	xxxxxx
Number Of Lanes In Lane Group, N:	1	xxxxxx	1	xxxxxx
Adjusted Right-Turn Flow Rate, Vrt:	318	xxxxxx	136	xxxxxx
Proportion of Rite Turns in Lane Group, Prt:	1.00	xxxxxx	1.00	xxxxxx
Proportion of Rite Turns in Opp Flow, Prto:	1.00	xxxxxx	xxxxxx	xxxxxx
Right Turns Per Cycle, RTC:	8.83	xxxxxx	3.77	xxxxxx
Adjusted Opposing Flow Rate, Vo:	0	xxxxxx	183	xxxxxx
Opposing Flow Per Lane Per Cycle, Volc:	0.00	xxxxxx	5.08	xxxxxx
Opposing Platoon Ratio, Rpo:	1.00	xxxxxx	1.00	xxxxxx
Lost Time Per Phase, tl:	3.00	xxxxxx	3.00	xxxxxx
Eff grn until arrival of rite-turn car, gf:	0.00	xxxxxx	0.00	xxxxxx
Opposing Queue Ratio, qro:	0.56	xxxxxx	0.50	xxxxxx
Eff grn blocked by opposing queue, gq:	0.00	xxxxxx	2.70	xxxxxx
Eff grn while right turns filter thru, gu:	44.39	xxxxxx	46.91	xxxxxx
Max opposing cars arriving during gq-gf, n:	0.00	xxxxxx	xxxxxx	xxxxxx
Proportion of Opposing Thru & LT cars, ptho:	0.00	xxxxxx	xxxxxx	xxxxxx
Right-turn Saturation Factor, fs:	xxxxxx	xxxxxx	0.76	xxxxxx
Proportion of Rite Turns in Shared Lane, pr:	1.00	xxxxxx	1.00	xxxxxx
Through-car Equivalents, el1:	1.30	xxxxxx	1.57	xxxxxx
Single Lane Through-car Equivalents, el2:	1.00	xxxxxx	xxxxxx	xxxxxx
Minimum Right Turn Adjustment Factor, fmin:	0.09	xxxxxx	0.08	xxxxxx
Single Lane Rite Turn Adjustment Factor, fm:	0.77	xxxxxx	0.60	xxxxxx
Right Turn Adjustment Factor, frt:	0.77	xxxxxx	0.60	xxxxxx

Level Of Service Detailed Computation Report (HCM2000 Queue Method)
 2000 HCM Operations Method
 Future Volume Alternative

 Intersection #1 Broad Rd / Access

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Green Time:	49.4	0.0	49.4	0.0	0.0	0.0	0.0	44.6	44.6	44.6	44.6	0.0
ArrivalType:	3			3			3			3		
ProgFactor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Q1:	2.1	0.0	5.9	0.0	0.0	0.0	0.0	3.6	2.4	6.2	3.2	0.0
UpstreamVC:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UpstreamAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EarlyArrAdj:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Q2:	0.2	0.0	0.9	0.0	0.0	0.0	0.0	0.4	0.4	0.9	0.3	0.0
HCM2KQueue:	2.3	0.0	6.8	0.0	0.0	0.0	0.0	3.9	2.8	7.2	3.5	0.0
70th%Factor:	1.19	1.20	1.18	1.20	1.20	1.20	1.20	1.19	1.19	1.18	1.19	1.20
HCM2k70thQ:	2.8	0.0	8.1	0.0	0.0	0.0	0.0	4.7	3.3	8.5	4.1	0.0
85th%Factor:	1.58	1.60	1.54	1.60	1.60	1.60	1.60	1.56	1.57	1.54	1.57	1.60
HCM2k85thQ:	3.7	0.0	10.5	0.0	0.0	0.0	0.0	6.1	4.4	11.0	5.4	0.0
90th%Factor:	1.76	1.80	1.68	1.80	1.80	1.80	1.80	1.73	1.75	1.68	1.74	1.80
HCM2k90thQ:	4.1	0.0	11.5	0.0	0.0	0.0	0.0	6.8	4.9	12.0	6.0	0.0
95th%Factor:	2.03	2.10	1.91	2.10	2.10	2.10	2.10	1.98	2.01	1.90	1.99	2.10
HCM2k95thQ:	4.7	0.0	13.0	0.0	0.0	0.0	0.0	7.8	5.7	13.6	6.9	0.0
98th%Factor:	2.54	2.70	2.29	2.70	2.70	2.70	2.70	2.44	2.51	2.28	2.47	2.70
HCM2k98thQ:	5.9	0.0	15.6	0.0	0.0	0.0	0.0	9.6	7.0	16.3	8.5	0.0

Fuel Consumption and Emissions
2000 HCM Operations Method
Future Volume Alternative

Intersection #1 Broad Rd / Access

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Run Speed:	48 KPH			48 KPH			48 KPH			48 KPH		
NumOfStops:	18.9	0.0	52.9	0.0	0.0	0.0	0.0	32.1	21.6	56.1	28.4	0.0

Name: year 1995 composite fleet

Fuel Consumption: 14.262 kilograms
19.254 liters
Carbon Dioxide: 44.497 kilograms
Carbon Monoxide: 3.384 kilograms
Hydrocarbons: 0.585 kilograms
Nitrogen Oxides: 0.132 kilograms

Name: year 2000 composite fleet

Fuel Consumption: 13.241 kilograms
17.875 liters
Carbon Dioxide: 41.311 kilograms
Carbon Monoxide: 3.304 kilograms
Hydrocarbons: 0.569 kilograms
Nitrogen Oxides: 0.117 kilograms

DISCLAIMER

The fuel consumption and emissions measures should be used with caution and only for comparisons of different signal timings, geometric design alternatives or for general planning applications, as these calculations are applied to the analysis of a single intersection within the CCG and TRAFFIX. Network models are more appropriate since they can account for the influence of the adjacent control measures and other system elements.

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 R553 / Broad Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.643
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 132.6
Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Lefts:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	1	0	1	0	0	1	0	0

Volume Module:

Base Vol:	43	677	369	15	733	65	76	54	54	633	57	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	677	369	15	733	65	76	54	54	633	57	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	48	752	410	17	814	72	84	60	60	703	63	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	752	410	17	814	72	84	60	60	703	63	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	48	752	410	17	814	72	84	60	60	703	63	7

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.42	0.29	0.29	0.91	0.08	0.01
Final Sat.:	442	816	386	410	770	362	163	116	116	428	39	4

Capacity Analysis Module:

Vol/Sat:	0.11	0.92	1.06	0.04	1.06	0.20	0.52	0.52	0.52	1.64	1.64	1.64
Crit Moves:	****			****			****			****		
Delay/Veh:	11.8	57.0	94.2	11.7	93.2	15.0	21.4	21.4	21.4	318.6	319	318.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.8	57.0	94.2	11.7	93.2	15.0	21.4	21.4	21.4	318.6	319	318.6
LOS by Move:	B	F	F	B	F	B	C	C	C	F	F	F
ApproachDel:	67.8			85.5			21.4			318.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	67.8			85.5			21.4			318.6		
LOS by Appr:	F			F			C			F		
AllWayAvgQ:	0.1	5.2	8.8	0.0	8.7	0.2	1.0	1.0	1.0	40.3	40.3	40.3

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
 2000 HCM 4-Way Stop Method
 Base Volume Alternative

Intersection #2 R553 / Broad Rd

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Time Period: 0.25 hour

HevVeh: 10% 10% 10% 10%

Alpha Value: 0.01

GroupType:	5	5	2	2
P[C1]:	0.0000	0.0000	0.0000	0.0000
P[C2]:	0.0000	0.0000	0.0000	0.0000
P[C3]:	0.0000	0.0000	0.0000	0.0000
P[C4]:	0.4830	0.4830	0.0000	0.4830
P[C5]:	0.5170	0.5170	1.0000	0.5170
Padj[C1]:	0.03517	0.03517	0.04000	0.03517
Padj[C2]:	0.02517	0.02517	0.03000	0.02517
Padj[C3]:	0.01517	0.01517	0.02000	0.01517
Padj[C4]:	-0.02381	-0.02381	0.01000	-0.02381
Padj[C5]:	-0.05170	-0.05170	-0.10000	-0.05170

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RITE	LEFT	RITE	LTR	NOLANE	LTR	NOLANE
HeadwayAdj:	-0.530	0.670	-0.530	0.670	-0.019	xx.xxx	-0.374	xx.xxx
Volume:	48	410	17	72	204	xxxxxx	773	xxxxxx
Capacity:	442	386	410	362	395	xxxxx	471	xxxxx
DegOfUtil:	0.11	1.06	0.04	0.20	0.52	x.xx	1.64	x.xx
DepHeadway:	8.13	9.33	8.66	9.86	9.10	xx.xx	7.65	xx.xx
ServiceTime:	5.8	7.0	6.4	7.6	7.1	xx.x	5.7	xx.x
Delay:	11.8	94.2	11.7	15.0	21.4	xxx.x	318.6	xxx.x
Queue:	0.1	8.8	0.0	0.2	1.0	xxx.x	40.3	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	THRU	THRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.170	0.170	0.170	0.170	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	376	376	407	407	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	408	408	385	385	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	0.92	0.92	1.06	1.06	x.xx	x.xx	x.xx	x.xx
DepHeadway:	8.83	8.83	9.36	9.36	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	6.5	6.5	7.1	7.1	xx.x	xx.x	xx.x	xx.x
Delay:	57.0	57.0	93.2	93.2	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	5.2	5.2	8.7	8.7	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	67.8	85.5	21.4	318.6
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	67.8	85.5	21.4	318.6
LOS by Appr:	F	F	C	F

OverallDel:	132.6
OverallLOS:	F

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 R553 / Broad Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 1.997
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 194.8
Optimal Cycle: 0 Level Of Service: F

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Lefts:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 2 0 1	1 0 2 0 1	0 0 1! 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	43	677	369	15	733	65	76	54	54	633	57	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	677	369	15	733	65	76	54	54	633	57	6
Added Vol:	122	0	0	0	0	122	122	41	122	0	41	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	165	677	369	15	733	187	198	95	176	633	98	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	183	752	410	17	814	208	220	106	196	703	109	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	752	410	17	814	208	220	106	196	703	109	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	183	752	410	17	814	208	220	106	196	703	109	7

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.42	0.20	0.38	0.86	0.13	0.01
Final Sat.:	400	744	354	367	690	329	167	80	148	352	55	3

Capacity Analysis Module:

Vol/Sat:	0.46	1.01	1.16	0.05	1.18	0.63	1.32	1.32	1.32	2.00	2.00	2.00
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Delay/Veh:	19.0	81.4	130.1	12.9	138	30.6	186.8	187	186.8	477.4	477	477.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.0	81.4	130.1	12.9	138	30.6	186.8	187	186.8	477.4	477	477.4
LOS by Move:	C	F	F	B	F	D	F	F	F	F	F	F
ApproachDel:	87.8			114.8			186.8			477.4		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	87.8			114.8			186.8			477.4		
LOS by Appr:	F			F			F			F		
AllWayAvgQ:	0.8	7.1	11.5	0.0	12.0	1.6	19.1	19.1	19.1	53.0	53.0	53.0

Note: Queue reported is the number of cars per lane.

Level Of Service Detailed Computation Report
2000 HCM 4-Way Stop Method
Future Volume Alternative

Intersection #2 R553 / Broad Rd

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Time Period:	0.25 hour			
HevVeh:	10%	10%	10%	10%
Alpha Value:	0.01			
GroupType:	5	5	2	2
P[C1]:	0.0000	0.0000	0.0000	0.0000
P[C2]:	0.0000	0.0000	0.0000	0.0000
P[C3]:	0.0000	0.0000	0.0000	0.0000
P[C4]:	0.0000	0.0000	0.0000	0.0000
P[C5]:	1.0000	1.0000	1.0000	1.0000
Padj[C1]:	0.04000	0.04000	0.04000	0.04000
Padj[C2]:	0.03000	0.03000	0.03000	0.03000
Padj[C3]:	0.02000	0.02000	0.02000	0.02000
Padj[C4]:	0.01000	0.01000	0.01000	0.01000
Padj[C5]:	-0.10000	-0.10000	-0.10000	-0.10000

Lanes:	L1	L2	L1	L2	L1	L2	L1	L2
LaneType:	LEFT	RITE	LEFT	RITE	LTR	NOLANE	LTR	NOLANE
HeadwayAdj:	-0.530	0.670	-0.530	0.670	-0.008	xx.xxx	-0.344	xx.xxx
Volume:	183	410	17	208	521	xxxxxx	819	xxxxxx
Capacity:	400	354	367	329	395	xxxxx	410	xxxxx
DegOfUtil:	0.46	1.16	0.05	0.63	1.32	x.xx	2.00	x.xx
DepHeadway:	8.98	10.18	9.73	10.93	9.11	xx.xx	8.78	xx.xx
ServiceTime:	6.7	7.9	7.4	8.6	7.1	xx.x	6.8	xx.x
Delay:	19.0	130.1	12.9	30.6	186.8	xxx.x	477.4	xxx.x
Queue:	0.8	11.5	0.0	1.6	19.1	xxx.x	53.0	xxx.x

Lanes:	L3	L4	L3	L4	L3	L4	L3	L4
LaneType:	THRU	THRU	THRU	THRU	NOLANE	NOLANE	NOLANE	NOLANE
HeadwayAdj:	0.170	0.170	0.170	0.170	xx.xxx	xx.xxx	xx.xxx	xx.xxx
Volume:	376	376	407	407	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Capacity:	372	372	345	345	xxxxx	xxxxx	xxxxx	xxxxx
DegOfUtil:	1.01	1.01	1.18	1.18	x.xx	x.xx	x.xx	x.xx
DepHeadway:	9.68	9.68	10.43	10.43	xx.xx	xx.xx	xx.xx	xx.xx
ServiceTime:	7.4	7.4	8.1	8.1	xx.x	xx.x	xx.x	xx.x
Delay:	81.4	81.4	138.4	138.4	xxx.x	xxx.x	xxx.x	xxx.x
Queue:	7.1	7.1	12.0	12.0	xxx.x	xxx.x	xxx.x	xxx.x

Approach:	North Bound	South Bound	East Bound	West Bound
ApproachDel:	87.8	114.8	186.8	477.4
Delay Adj:	1.00	1.00	1.00	1.00
ApprAdjDel:	87.8	114.8	186.8	477.4
LOS by Appr:	F	F	F	F

OverallDel: 194.8
OverallLOS: F

Turning Movement By Zone Report
SAT

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Broad Rd / Access													
[Base(LOS=A, Del=0.2, V/C=0.126)][Future(LOS=B, Del=17.8, V/C=0.485)][+17.580 D/V]													
Base	0	0	0	0	0	0	0	184	0	0	165	0	349
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	0	0	0	0	0	0	0	184	0	0	165	0	349
Zn 1	122	0	286	0	0	0	0	0	122	286	0	0	816
Added	122	0	286	0	0	0	0	0	122	286	0	0	816
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	122	0	286	0	0	0	0	184	122	286	165	0	1165
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	122	0	286	0	0	0	0	184	122	286	165	0	1165

#2 R553 / Broad Rd													
[Base(LOS=F, Del=132.6, V/C=1.643)][Future(LOS=F, Del=194.8, V/C=1.997)][+0.354 V/C]													
Base	43	677	369	15	733	65	76	54	54	633	57	6	2782
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	43	677	369	15	733	65	76	54	54	633	57	6	2782
Zn 1	122	0	0	0	0	122	122	41	122	0	41	0	570
Added	122	0	0	0	0	122	122	41	122	0	41	0	570
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	165	677	369	15	733	187	198	95	176	633	98	6	3352
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	165	677	369	15	733	187	198	95	176	633	98	6	3352

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Project Trips Report

SAT

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
Zone #1:												
1 Broad Rd / Ac	122		0 286	0		0 0	0		0 122	286		0 0
2 R553 / Broad	122		0 0	0		0 122	122		41 122	0		41 0

SATURDAY

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Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)												
Node Intersection		NB			SB			EB			WB	
1 Broad Rd / Access		100010			000000			001010			101000	
2 R553 / Broad Rd		102010			102010			000001			000001	

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Base Queue Report (cars)																

		Northbound			Southbound			Eastbound			Westbound					
Node Intersection		L	--	T	--	R	L	--	T	--	R	L	--	T	--	R
#1	[HCM2kAvgQ]:	0		0		0	0		0	1		0		0		0
#2	[AllWayAvgQ]	0.1	5.2	8.8		0.0	8.7	0.2	1.0	1.0	1.0	40.3	40.3	40.3		

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Future Queue Report (cars)																

		Northbound			Southbound			Eastbound			Westbound					
Node Intersection		L	--	T	--	R	L	--	T	--	R	L	--	T	--	R
#1	[HCM2kAvgQ]:	2		0		7	0		0		0	4		3		7
#2	[AllWayAvgQ]	0.8	7.1	11.5	0.0	12.0	1.6	19.1	19.1	19.1	53.0	53.0	53.0			

MOVEMENT SUMMARY

 **Site: 101 [FRIDAY PM 2025]**

New Site
Signals - Fixed Time Isolated Cycle Time = 55 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: R553											
1	L2	123	0.0	0.193	20.1	LOS C	2.4	16.9	0.75	0.74	44.2
2	T1	476	0.0	0.355	15.5	LOS B	5.0	34.8	0.80	0.67	47.8
3	R2	329	0.0	0.583	14.4	LOS B	4.7	33.1	0.86	0.80	47.9
Approach		928	0.0	0.583	15.7	LOS B	5.0	34.8	0.82	0.73	47.3
East: RoadName											
4	L2	947	0.0	0.485	5.7	LOS A	0.0	0.0	0.00	0.53	54.8
5	T1	133	0.0	0.323	21.1	LOS C	3.2	22.2	0.90	0.71	44.7
6	R2	14	0.0	0.070	30.7	LOS C	0.3	2.4	0.92	0.68	39.4
Approach		1094	0.0	0.485	7.9	LOS A	3.2	22.2	0.12	0.55	53.1
North: R553											
7	L2	15	0.0	0.023	19.1	LOS B	0.3	1.9	0.70	0.66	44.8
8	T1	785	0.0	0.585	17.0	LOS B	9.0	63.1	0.88	0.76	46.9
9	R2	172	0.0	0.269	12.3	LOS B	2.2	15.6	0.66	0.73	48.8
Approach		972	0.0	0.585	16.2	LOS B	9.0	63.1	0.84	0.75	47.2
West: BROAD RD											
10	L2	147	0.0	0.555	27.9	LOS C	5.6	39.1	0.95	0.80	41.3
11	T1	73	0.0	0.555	22.4	LOS C	5.6	39.1	0.95	0.80	42.1
12	R2	132	0.0	0.518	30.7	LOS C	3.5	24.5	0.97	0.78	39.4
Approach		352	0.0	0.555	27.8	LOS C	5.6	39.1	0.96	0.79	40.7
All Vehicles		3345	0.0	0.585	14.6	LOS B	9.0	63.1	0.61	0.68	48.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [FRIDAY PM 2030 horizon]**

New Site
Signals - Fixed Time Isolated Cycle Time = 55 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: R553											
1	L2	131	10.0	0.246	22.2	LOS C	2.8	20.9	0.80	0.76	42.9
2	T1	607	10.0	0.542	18.3	LOS B	7.1	54.0	0.89	0.75	46.2
3	R2	420	10.0	0.702	17.8	LOS B	6.9	52.5	0.92	0.86	45.6
Approach		1158	10.0	0.702	18.6	LOS B	7.1	54.0	0.89	0.79	45.6
East: RoadName											
4	L2	1208	10.0	0.663	5.9	LOS A	0.0	0.0	0.00	0.52	54.4
5	T1	160	10.0	0.508	24.0	LOS C	4.2	31.6	0.96	0.77	43.2
6	R2	18	10.0	0.147	35.0	LOS C	0.5	3.8	0.98	0.68	37.5
Approach		1386	10.0	0.663	8.3	LOS A	4.2	31.6	0.12	0.55	52.5
North: R553											
7	L2	19	10.0	0.036	20.9	LOS C	0.4	2.8	0.74	0.68	43.6
8	T1	1002	10.0	0.895	31.0	LOS C	16.8	127.4	1.00	1.11	39.8
9	R2	193	10.0	0.291	12.2	LOS B	2.3	17.5	0.70	0.75	48.5
Approach		1214	10.0	0.895	27.9	LOS C	16.8	127.4	0.95	1.04	41.0
West: BROAD RD											
10	L2	161	10.0	0.804	34.6	LOS C	7.3	55.8	1.00	0.96	38.2
11	T1	83	10.0	0.804	29.0	LOS C	7.3	55.8	1.00	0.96	39.1
12	R2	141	10.0	0.800	37.4	LOS D	4.3	32.9	1.00	0.93	36.6
Approach		385	10.0	0.804	34.4	LOS C	7.3	55.8	1.00	0.95	37.8
All Vehicles		4143	10.0	0.895	19.3	LOS B	16.8	127.4	0.66	0.80	45.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

 **Site: 101 [SAT 2030 horizon]**

New Site
Signals - Fixed Time Isolated Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: R553											
1	L2	186	10.0	0.350	25.6	LOS C	4.8	36.3	0.83	0.78	41.2
2	T1	909	10.0	0.808	27.7	LOS C	15.2	115.6	0.99	0.97	41.3
3	R2	496	10.0	0.973	48.2	LOS D	19.0	144.3	1.00	1.15	33.1
Approach		1592	10.0	0.973	33.8	LOS C	19.0	144.3	0.97	1.00	38.3
East: RoadName											
4	L2	851	10.0	0.467	5.8	LOS A	0.0	0.0	0.00	0.52	54.5
5	T1	120	10.0	0.253	21.7	LOS C	3.1	23.8	0.84	0.67	44.3
6	R2	8	10.0	0.059	37.6	LOS D	0.3	2.0	0.95	0.66	36.6
Approach		979	10.0	0.467	8.0	LOS A	3.1	23.8	0.11	0.54	52.8
North: R553											
7	L2	20	10.0	0.038	23.5	LOS C	0.5	3.5	0.74	0.68	42.3
8	T1	984	10.0	0.892	34.6	LOS C	19.1	145.2	1.00	1.09	38.3
9	R2	216	10.0	0.415	16.8	LOS B	3.5	26.5	0.85	0.78	45.8
Approach		1220	10.0	0.892	31.3	LOS C	19.1	145.2	0.97	1.03	39.5
West: BROAD RD											
10	L2	231	10.0	0.911	44.5	LOS D	13.5	102.5	0.98	1.10	34.6
11	T1	116	10.0	0.911	38.8	LOS D	13.5	102.5	0.98	1.10	35.4
12	R2	201	10.0	0.688	34.6	LOS C	6.5	49.4	0.98	0.87	37.7
Approach		547	10.0	0.911	39.7	LOS D	13.5	102.5	0.98	1.01	35.9
All Vehicles		4338	10.0	0.973	28.0	LOS C	19.1	145.2	0.78	0.91	40.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.