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**From:** Robert Holbrook <robert.holbrook@simwolf.com.au>  
**Sent:** Thursday, 15 June 2023 9:12 AM  
**To:** TPC Enquiry  
**Cc:** David Morris; Anthony Spence; Victoria Lightfoot; Barlund, Paola;  
council@devonport.tas.gov.au; pda.dpt@pda.com.au; pda.ltn@pda.com.au  
**Subject:** [230427] Devonport LPS - Draft Amendment AM2022.02 and Permit PA 2022.0024 -  
Stony Rise  
**Attachments:** Mark Petrusma - Supplemental Statement of Evidence 14 June 2023.pdf  
**Importance:** High

**Attention: Delegate Chair, Roger Howlett**

Good morning,

**Devonport LPS - Draft Amendment AM2022.02 and Permit PA 2022.0024 - Stony Rise**

Please find **attached** Supplemental Statement of Evidence prepared by Mark Petrusma for filing.

Kind regards,

**Robert Holbrook**  
Associate

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# STATEMENT OF EVIDENCE

**Reference:** AP-DEV-AM2022.02

**Author:** Mark Petrusma

**Field of expertise:** Traffic Engineering

**Filed on behalf of:** Tipalea Partners

**Date:** 14 June 2023

# TABLE OF CONTENTS

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1.	INTRODUCTION.....	3
1.1	PREAMBLE.....	3
2.	DECLARATION .....	3
2.1	DECLARATION.....	3
3.	TRAFFIC VOLUME INFORMATION .....	4
4.	ADDITIONAL TRAFFIC MODELLING .....	5
5.	APPENDIX A: TRAFFIC VOLUME SUMMARIES .....	6
6.	APPENDIX B: TRAFFIC MODELLING OUTPUTS.....	7

# 1. INTRODUCTION

## 1.1 PREAMBLE

- 1.1.1 This is a statement of evidence from Mark Petrusma, Senior Transport Engineer of GHD Pty Ltd.
- 1.1.2 This statement should be considered as supplemental to my Statement of Evidence dated 7 June 2023 and provides additional information on traffic volume assumptions as well as further traffic modelling at the roundabout of Middle Road and Stony Rise Road.

# 2. DECLARATION

## 2.1 DECLARATION

- 2.1.1 This statement of evidence has been prepared in accordance with the Tasmanian Planning Commissions Practice Note 14. I have made all enquiries which I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge, been withheld from the Commission.
- 2.1.2 I have attempted at all times in preparing this statement to distinguish between matters of fact, professional opinion and submission.

Signed:



Date: 14 June 2023

### 3. TRAFFIC VOLUME INFORMATION

- 3.1.1 A series of traffic volume summaries are provided in Appendix A to this statement. These are described in the following paragraphs.
- 3.1.2 A. Scenario 1 – Existing Volumes (2021). Existing traffic volumes derived from traffic surveys undertaken in October 2021 at the intersections of Stony Rise Road / Friend Street, Bass Highway Westbound / Middle Road, Bass Highway Eastbound / Middle Road. Turning volumes for the roundabout at Stony Rise Road / Middle Road have been estimated based on:
- Approximately 80% of the southbound peak hour traffic volume on Middle Road south of Bass Highway,
  - Approximately 80% of the northbound peak hour traffic volume for the Department of State Growth traffic counter on Stony Rise Road north of Devonport Road (in Quoiba) dated May 2022,
  - 100% of the east and westbound traffic volume for the survey at Stony Rise Road and Friend Street.
- 3.1.3 B. Approved Developments (Residential + Previous Bunnings Proposal). Generated traffic volumes for the approved residential development at 124-128 & 130-136 Stony Rise Road and the previously approved Bunnings proposal at 5 Friend Street. Volumes were obtained from the Traffic Impact Assessments that were prepared for these proposals<sup>1</sup>.
- 3.1.4 C. Scenario 2A – Future Volumes 2035 (Including Previously Approved Developments). Estimated baseline traffic volumes incorporating background traffic growth between 2021 and 2035, approved residential development and previously approved Bunnings proposal.
- 3.1.5 D. Proposed Development (Supermarket and Retail Development). Estimated trip generation and distribution of traffic from the proposed retail development at 5 Friend Street, which is the subject of this application. Note that approximately 25% of proposed trips to/from Stony Rise Road (east) are assumed to be redirected from the north to the proposed development resulting in a reduction in movements between Middle Road and Stony Rise Road (east) at the existing roundabout. This is considered a conservative estimate.
- 3.1.6 E. Scenario 4A – 2035 (including Approved Residential and Proposed Development). Estimated future traffic volumes inclusive of the proposed development traffic.
- 3.1.7 F. Potential Trip Generation of Vacant Sites (1 Friend Street and 90-102 Stony Rise Road). Estimated potential future trip generation of undeveloped sites within the Devonport Homemakers Centre. These have been derived from the O'Brien traffic report (January 2014).
- 3.1.8 G. Scenario 5A – 2035 (including Approved, Proposed Development and Vacant Sites). Ultimate traffic volumes following full build-out of the vacant sites within the Devonport Homemakers Centre. It is noted that this scenario is not relied upon for the proposed development, and any future development on vacant sites would be subject to separate approvals and assessment of traffic generation under the Planning Scheme.

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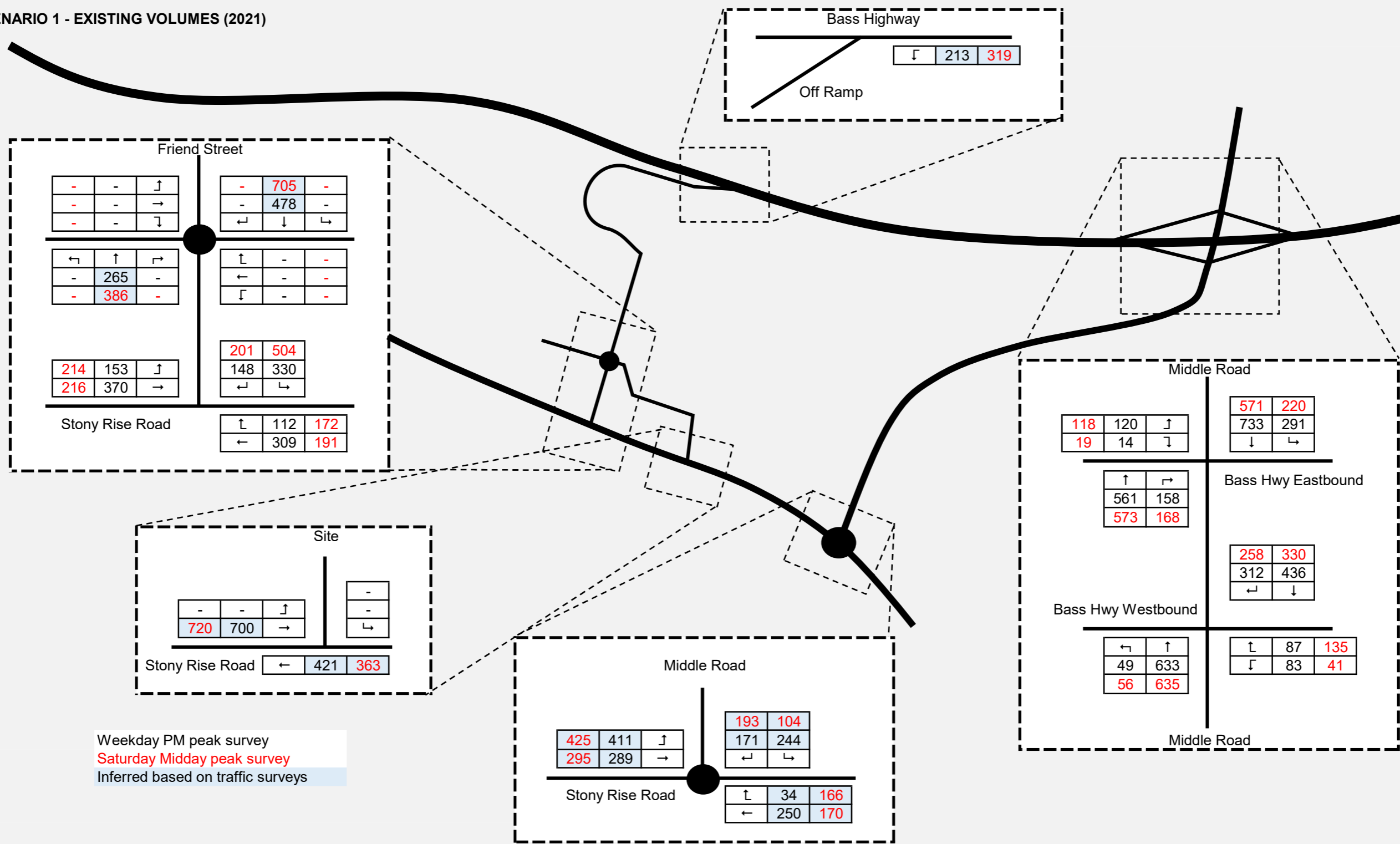
<sup>1</sup> Pitt & Sherry, November 2019, *Stony Rise Subdivision, Devonport Traffic Impact Assessment Rev 02* and O'Brien Traffic, January 2014, *Proposed Bunnings Warehouse 90-102 Stony Rise Road Devonport*

## 4. ADDITIONAL TRAFFIC MODELLING

- 4.1.1 Additional traffic modelling at the intersection of Middle Road and Stony Rise Road has also been undertaken and is provided in Appendix B to this statement. Results are presented for Scenario 2A, Scenario 4A and Scenario 5A.
- 4.1.2 The intersection generally operates with relatively low delays under all modelled scenarios, with the worst movements at Level of Service B (LOS B).
- 4.1.3 The most significant queuing would occur on the eastbound Stony Rise Road approach, with a 95<sup>th</sup> percentile queue length of up to 150 metres during the Saturday peak under Scenario 4A, increasing to around 266 metres under Scenario 5A. It should be noted that this means that queues of this size have a 5% likelihood of occurring over the peak hour. The *average* queue experienced over the peak period is significantly lower at around 60 metres (8.5 vehicles) under Scenario 4A and 107 metres (15.2 vehicles) under Scenario 5A.
- 4.1.4 The degree of saturation is expected to reach around 0.975 under Scenario 5A during the Saturday peak, indicating the roundabout is approaching capacity (97.5% of capacity).
- 4.1.5 In summary, the existing roundabout is considered to have sufficient capacity to accommodate background traffic growth to 2035 plus the proposed development on the site. Once other sites within the Centre are built out however (Scenario 5A) the intersection is likely to be approaching capacity and further intervention may be required to maintain efficient traffic operation.

## **5. APPENDIX A: TRAFFIC VOLUME SUMMARIES**

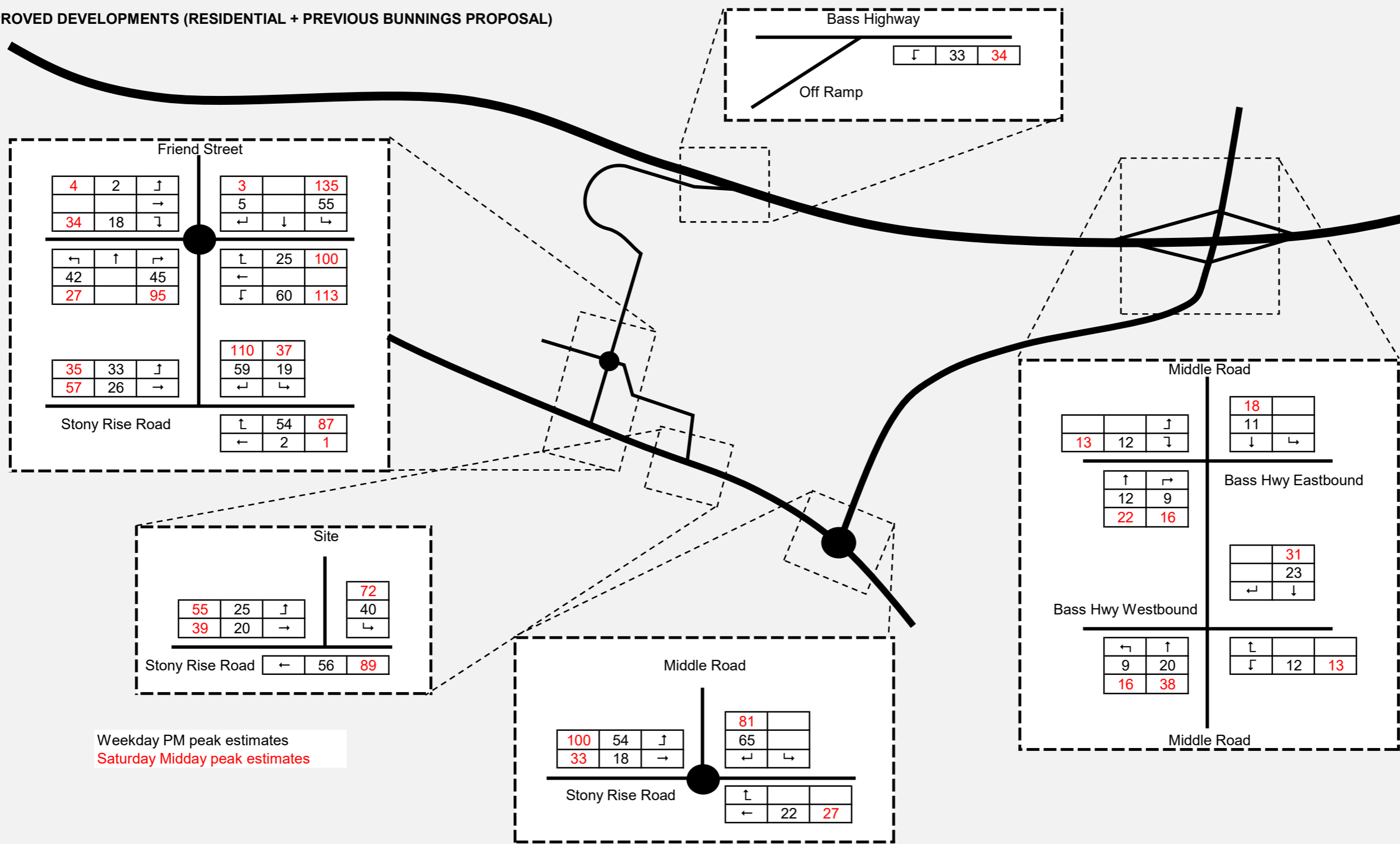
A. SCENARIO 1 - EXISTING VOLUMES (2021)



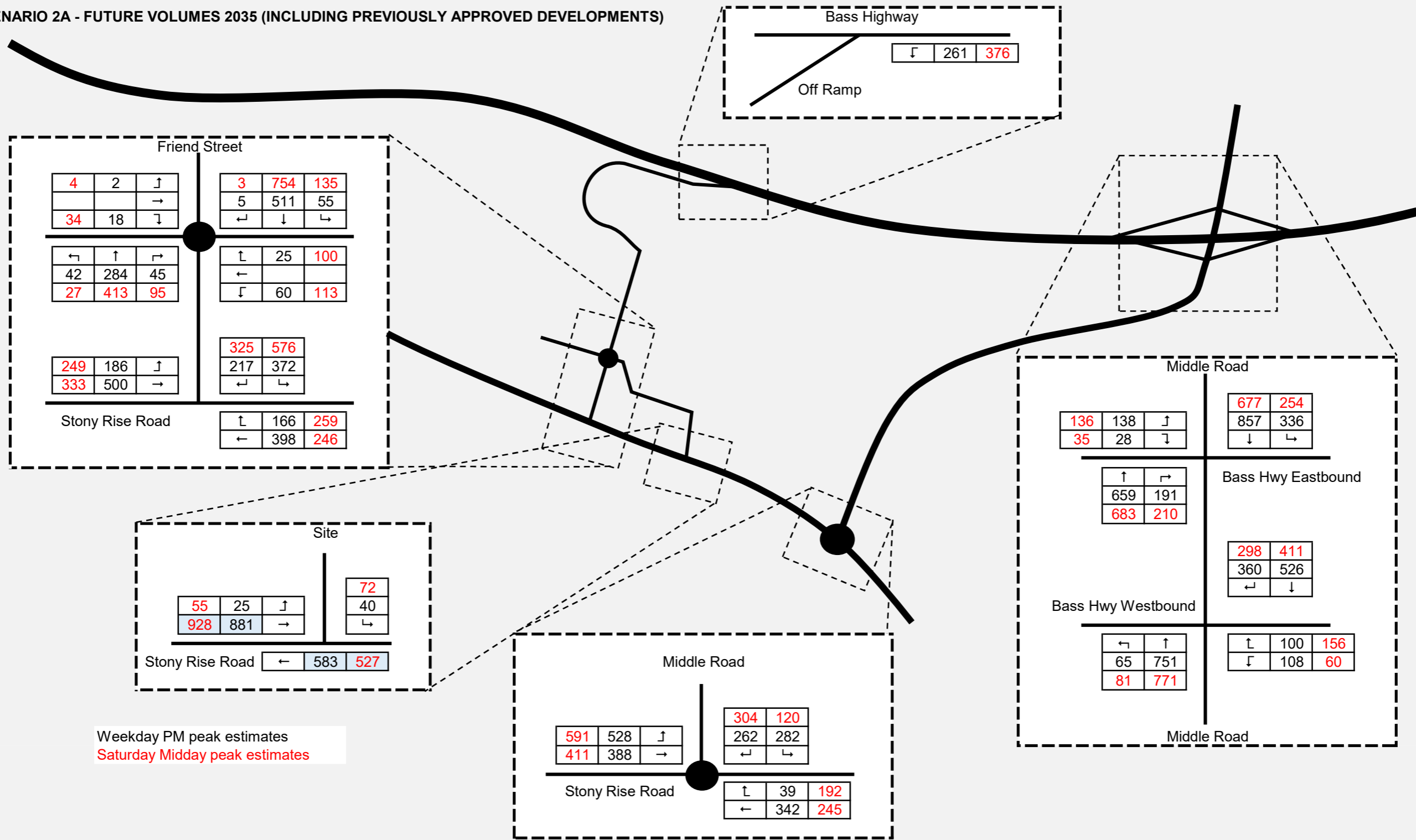
Weekday PM peak survey  
 Saturday Midday peak survey  
 Inferred based on traffic surveys



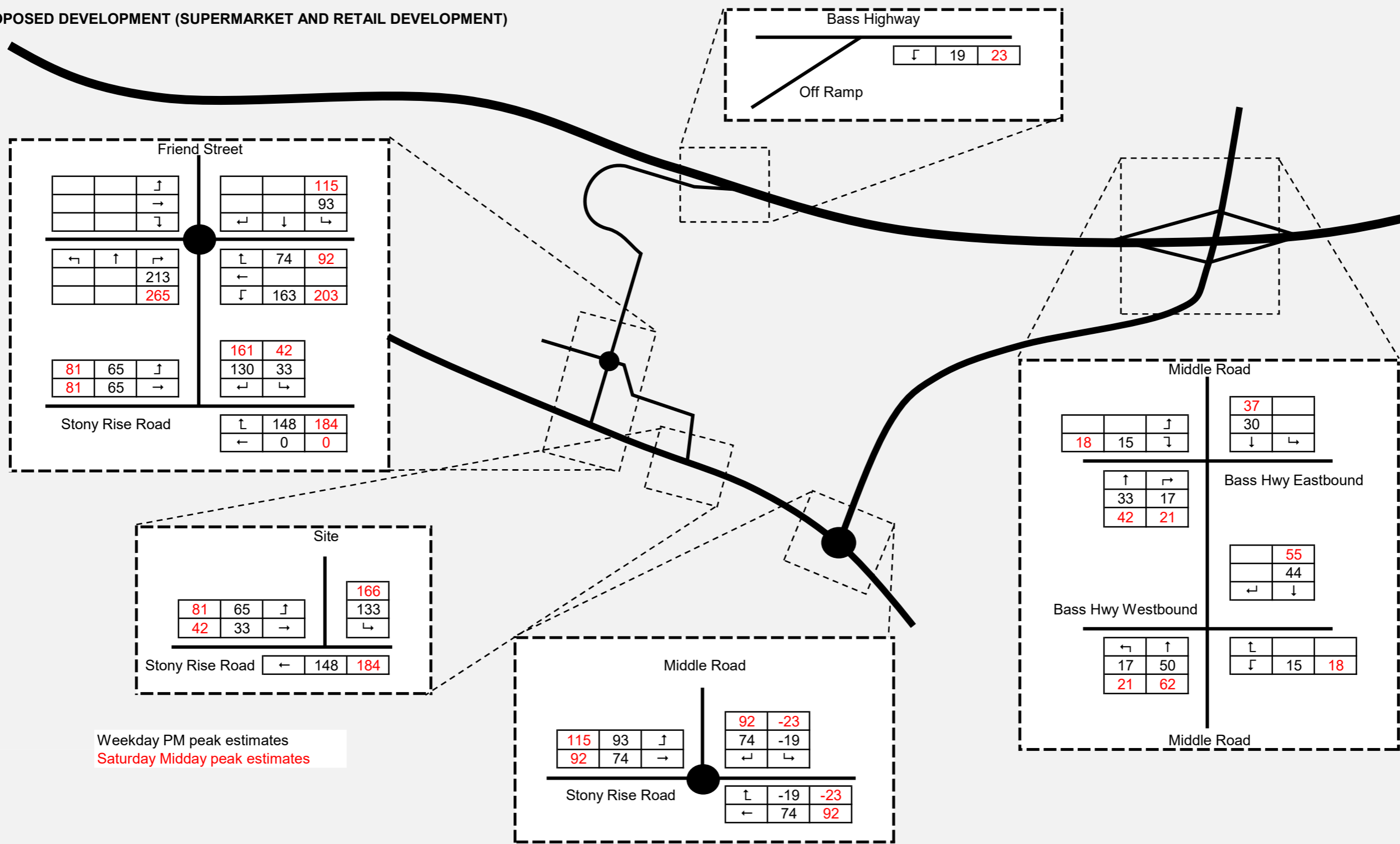
B. APPROVED DEVELOPMENTS (RESIDENTIAL + PREVIOUS BUNNINGS PROPOSAL)



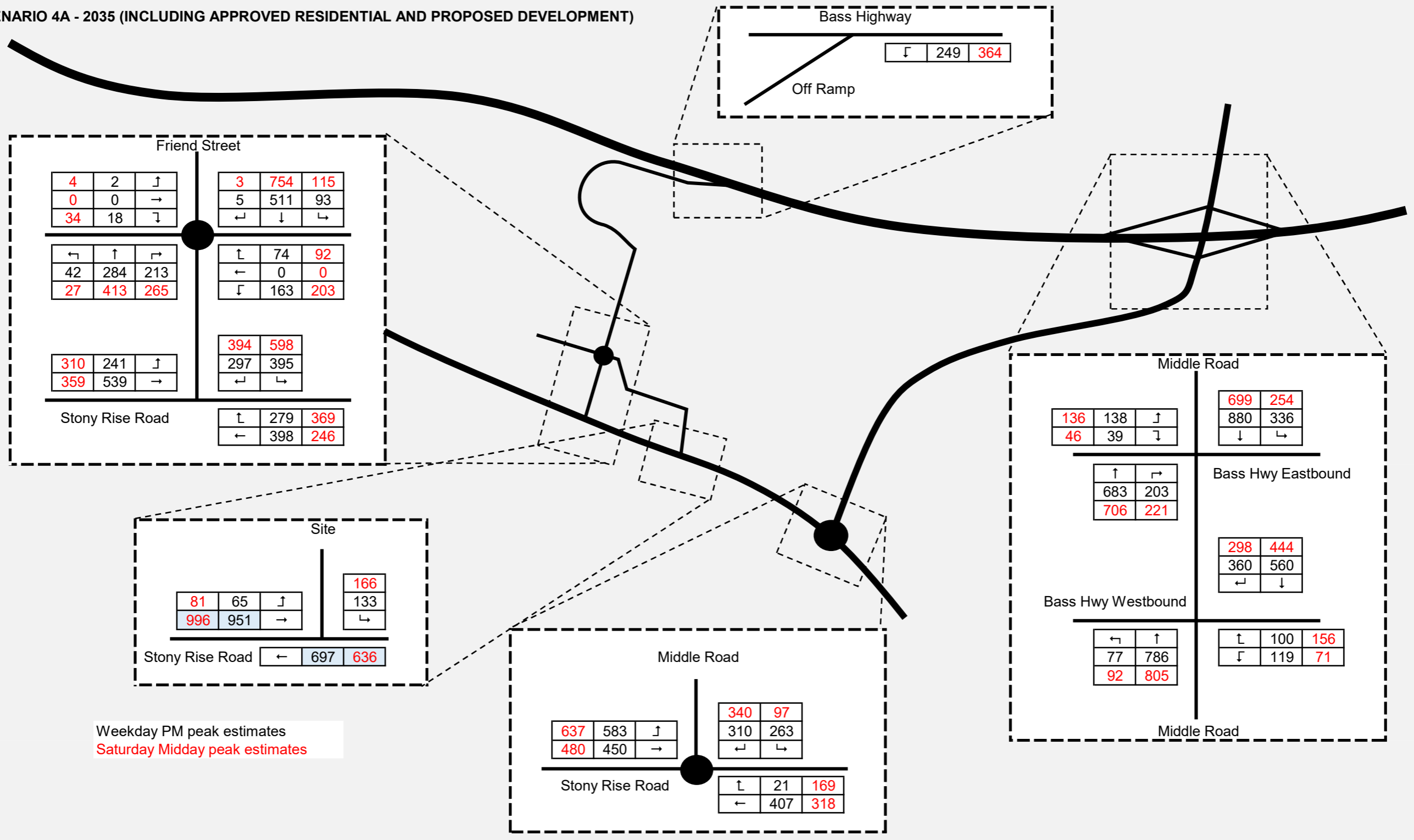
C. SCENARIO 2A - FUTURE VOLUMES 2035 (INCLUDING PREVIOUSLY APPROVED DEVELOPMENTS)



D. PROPOSED DEVELOPMENT (SUPERMARKET AND RETAIL DEVELOPMENT)

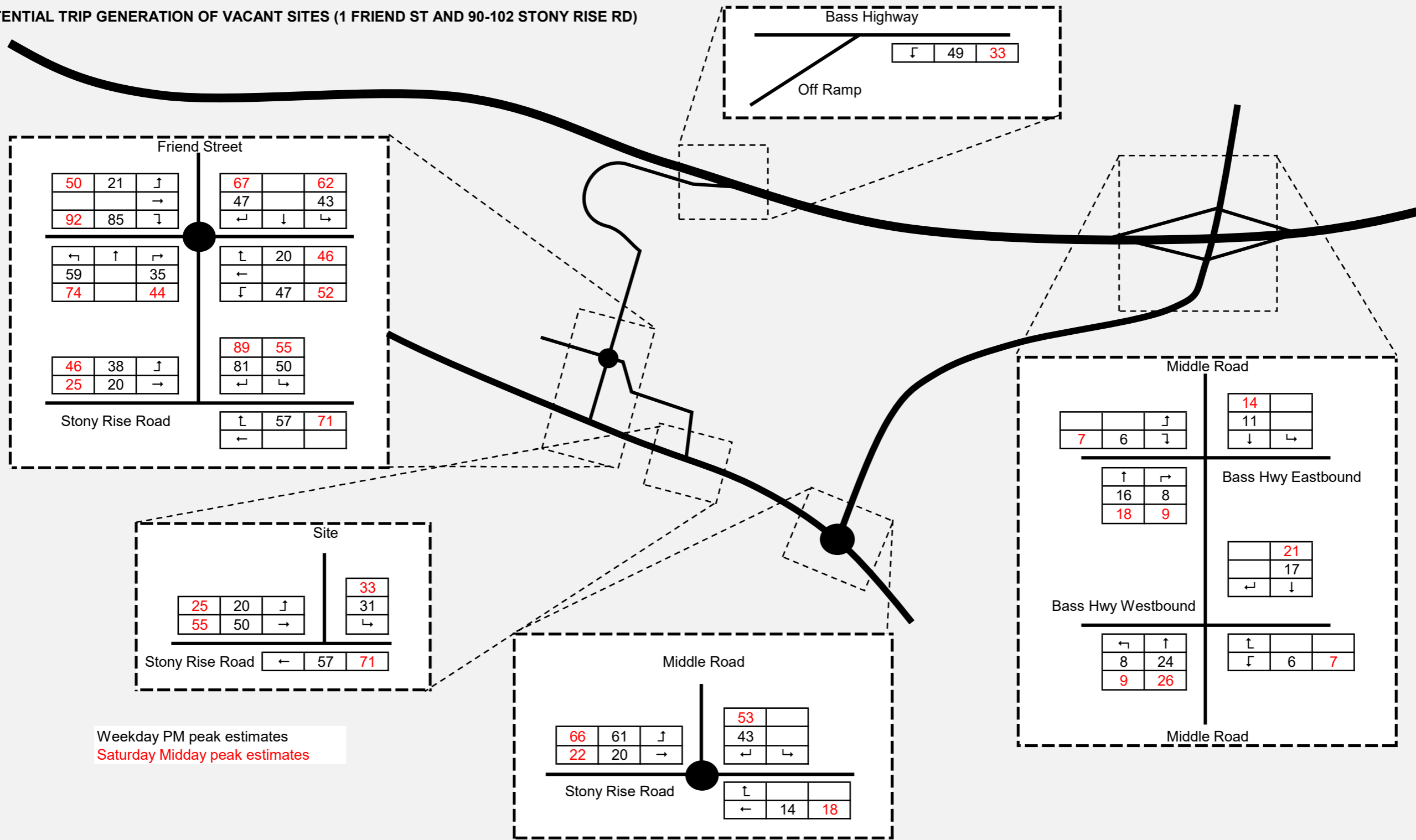


E. SCENARIO 4A - 2035 (INCLUDING APPROVED RESIDENTIAL AND PROPOSED DEVELOPMENT)

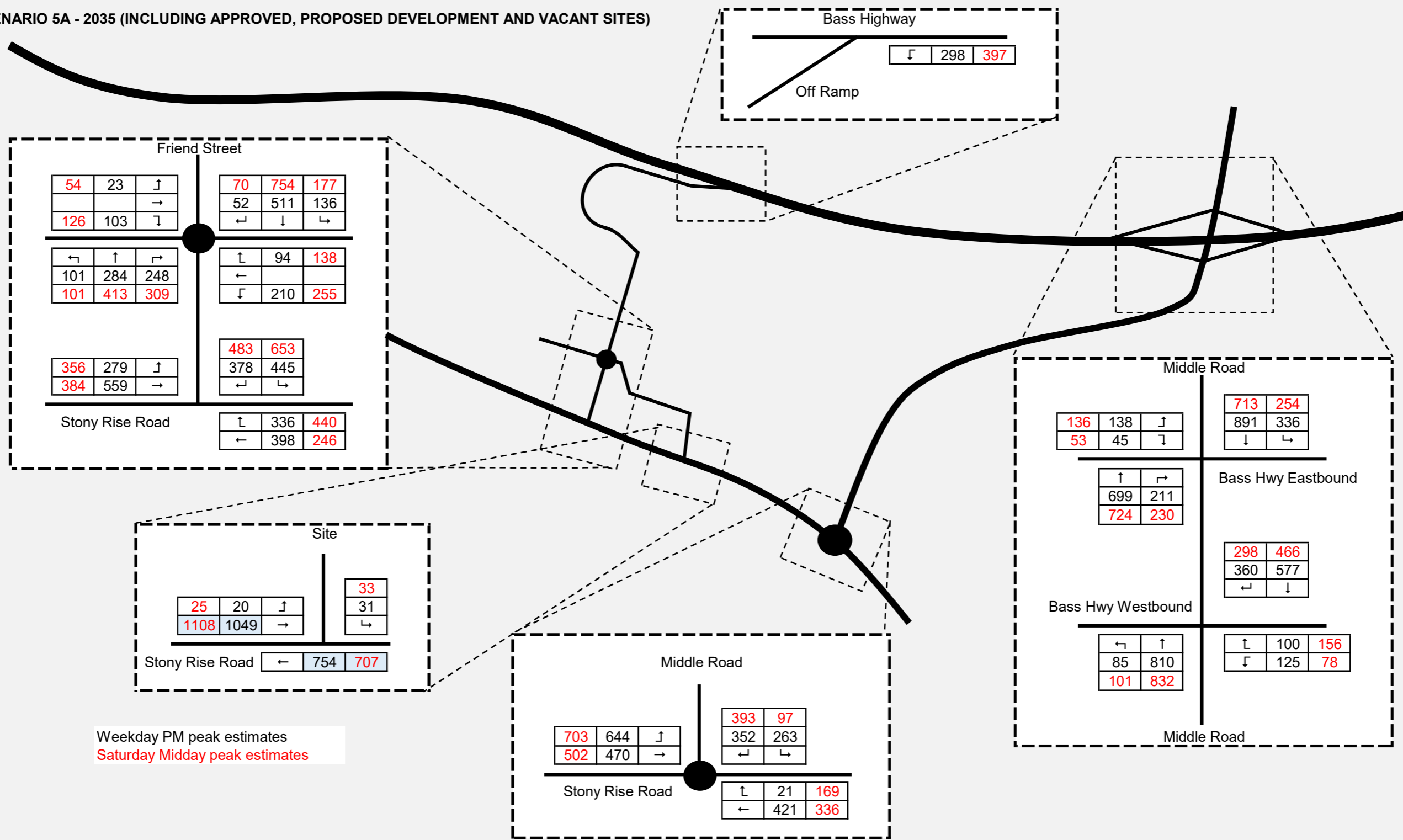


Weekday PM peak estimates  
 Saturday Midday peak estimates

F. POTENTIAL TRIP GENERATION OF VACANT SITES (1 FRIEND ST AND 90-102 STONY RISE RD)



G. SCENARIO 5A - 2035 (INCLUDING APPROVED, PROPOSED DEVELOPMENT AND VACANT SITES)



Weekday PM peak estimates  
 Saturday Midday peak estimates

## **6. APPENDIX B: TRAFFIC MODELLING OUTPUTS**

# MOVEMENT SUMMARY

Site: 101 [Scenario 2A - Stony Middle - PM Peak (Site Folder: Scenario 2A)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection of Stony Rise Road and Middle Road  
 Scenario 2A - Roundabout  
 2035 PM Peak  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ] veh/h	%	[ Total HV ] veh/h	%				[ Veh. ] veh	[ Dist ] m				
East: Stony Rise Road															
5	T1	All MCs	360	3.2	360	3.2	0.369	4.6	LOS A	2.6	19.0	0.59	0.53	0.59	45.2
6	R2	All MCs	41	0.0	41	0.0	0.369	8.8	LOS A	2.6	19.0	0.59	0.53	0.59	45.0
Approach			401	2.9	401	2.9	0.369	5.1	LOS A	2.6	19.0	0.59	0.53	0.59	45.2
North: Middle Road															
7	L2	All MCs	297	0.0	297	0.0	0.558	6.7	LOS A	5.0	35.8	0.76	0.68	0.80	44.1
9	R2	All MCs	276	4.2	276	4.2	0.558	11.1	LOS B	5.0	35.8	0.76	0.68	0.80	43.2
Approach			573	2.0	573	2.0	0.558	8.8	LOS A	5.0	35.8	0.76	0.68	0.80	43.7
West: Stony Rise Road															
10	L2	All MCs	556	3.6	556	3.6	0.622	3.3	LOS A	6.9	50.0	0.28	0.39	0.28	46.3
11	T1	All MCs	408	6.4	408	6.4	0.622	3.3	LOS A	6.9	50.0	0.28	0.39	0.28	46.5
Approach			964	4.8	964	4.8	0.622	3.3	LOS A	6.9	50.0	0.28	0.39	0.28	46.4
All Vehicles			1938	3.6	1938	3.6	0.622	5.3	LOS A	6.9	50.0	0.48	0.50	0.49	45.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 101 [Scenario 2A - Stony Middle - Sat Peak (Site Folder: Scenario 2A)]

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Intersection of Stony Rise Road and Middle Road  
 Scenario 2A - Roundabout  
 2035 Saturday Peak  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	[ Total HV ]	[ Veh. ]	[ Dist ]									
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Stony Rise Road															
5	T1	All MCs	258	0.8	258	0.8	0.433	4.9	LOS A	3.3	23.1	0.65	0.60	0.65	44.5
6	R2	All MCs	202	0.5	202	0.5	0.433	9.2	LOS A	3.3	23.1	0.65	0.60	0.65	44.4
Approach			460	0.7	460	0.7	0.433	6.8	LOS A	3.3	23.1	0.65	0.60	0.65	44.4
North: Middle Road															
7	L2	All MCs	126	3.3	126	3.3	0.471	6.0	LOS A	3.7	26.5	0.76	0.68	0.76	44.0
9	R2	All MCs	320	0.3	320	0.3	0.471	10.1	LOS B	3.7	26.5	0.76	0.68	0.76	43.2
Approach			446	1.2	446	1.2	0.471	8.9	LOS A	3.7	26.5	0.76	0.68	0.76	43.4
West: Stony Rise Road															
10	L2	All MCs	622	0.5	622	0.5	0.834	7.1	LOS A	14.0	98.7	0.81	0.70	0.90	44.4
11	T1	All MCs	433	0.7	433	0.7	0.834	7.1	LOS A	14.0	98.7	0.81	0.70	0.90	44.7
Approach			1055	0.6	1055	0.6	0.834	7.1	LOS A	14.0	98.7	0.81	0.70	0.90	44.5
All Vehicles			1961	0.8	1961	0.8	0.834	7.5	LOS A	14.0	98.7	0.76	0.67	0.81	44.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 101 [Scenario 4A - Stony Middle - PM Peak (Site Folder: Scenario 4A)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection of Stony Rise Road and Middle Road  
 Scenario 4A - Roundabout  
 2035 PM Peak  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%				[ Veh. ]	Dist ]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Stony Rise Road															
5	T1	All MCs	428	2.7	428	2.7	0.436	5.1	LOS A	3.3	23.8	0.67	0.56	0.67	45.0
6	R2	All MCs	22	0.0	22	0.0	0.436	9.3	LOS A	3.3	23.8	0.67	0.56	0.67	44.9
Approach			451	2.6	451	2.6	0.436	5.3	LOS A	3.3	23.8	0.67	0.56	0.67	45.0
North: Middle Road															
7	L2	All MCs	277	0.0	277	0.0	0.613	8.6	LOS A	6.5	46.5	0.83	0.76	0.96	43.0
9	R2	All MCs	326	3.5	326	3.5	0.613	12.9	LOS B	6.5	46.5	0.83	0.76	0.96	42.1
Approach			603	1.9	603	1.9	0.613	10.9	LOS B	6.5	46.5	0.83	0.76	0.96	42.5
West: Stony Rise Road															
10	L2	All MCs	614	3.3	614	3.3	0.667	3.2	LOS A	8.9	64.4	0.22	0.37	0.22	46.4
11	T1	All MCs	474	5.6	474	5.6	0.667	3.1	LOS A	8.9	64.4	0.22	0.37	0.22	46.7
Approach			1087	4.3	1087	4.3	0.667	3.2	LOS A	8.9	64.4	0.22	0.37	0.22	46.6
All Vehicles			2141	3.2	2141	3.2	0.667	5.8	LOS A	8.9	64.4	0.49	0.52	0.52	45.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 101 [Scenario 4A - Stony Middle - Sat Peak (Site Folder: Scenario 4A)]

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Intersection of Stony Rise Road and Middle Road  
 Scenario 4A - Roundabout  
 2035 Saturday Peak  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ] veh/h	%	[ Total HV ] veh/h	%				[ Veh. ] veh	[ Dist ] m				
East: Stony Rise Road															
5	T1	All MCs	335	0.6	335	0.6	0.505	5.3	LOS A	4.1	28.8	0.73	0.62	0.73	44.4
6	R2	All MCs	178	0.6	178	0.6	0.505	9.6	LOS A	4.1	28.8	0.73	0.62	0.73	44.3
Approach			513	0.6	513	0.6	0.505	6.8	LOS A	4.1	28.8	0.73	0.62	0.73	44.3
North: Middle Road															
7	L2	All MCs	102	4.1	102	4.1	0.533	7.5	LOS A	4.8	34.2	0.85	0.76	0.93	43.2
9	R2	All MCs	358	0.3	358	0.3	0.533	11.5	LOS B	4.8	34.2	0.85	0.76	0.93	42.3
Approach			460	1.1	460	1.1	0.533	10.6	LOS B	4.8	34.2	0.85	0.76	0.93	42.5
West: Stony Rise Road															
10	L2	All MCs	671	0.5	671	0.5	0.904	8.6	LOS A	21.1	148.4	0.93	0.74	1.07	43.7
11	T1	All MCs	505	0.6	505	0.6	0.904	8.5	LOS A	21.1	148.4	0.93	0.74	1.07	43.9
Approach			1176	0.5	1176	0.5	0.904	8.6	LOS A	21.1	148.4	0.93	0.74	1.07	43.8
All Vehicles			2148	0.7	2148	0.7	0.904	8.6	LOS A	21.1	148.4	0.87	0.71	0.96	43.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 101 [Scenario 5A - Stony Middle - PM Peak (Site Folder: Scenario 5A)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection of Stony Rise Road and Middle Road  
 Scenario 5A - Roundabout  
 2035 PM Peak  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ] veh/h	%	[ Total HV ] veh/h	%				[ Veh. ] veh	[ Dist ] m				
East: Stony Rise Road															
5	T1	All MCs	443	2.6	443	2.6	0.475	5.4	LOS A	3.7	26.8	0.73	0.60	0.73	44.8
6	R2	All MCs	22	0.0	22	0.0	0.475	9.7	LOS A	3.7	26.8	0.73	0.60	0.73	44.7
Approach			465	2.5	465	2.5	0.475	5.7	LOS A	3.7	26.8	0.73	0.60	0.73	44.8
North: Middle Road															
7	L2	All MCs	277	0.0	277	0.0	0.672	10.2	LOS B	8.3	59.0	0.89	0.83	1.11	42.2
9	R2	All MCs	371	3.1	371	3.1	0.672	14.5	LOS B	8.3	59.0	0.89	0.83	1.11	41.2
Approach			647	1.8	647	1.8	0.672	12.7	LOS B	8.3	59.0	0.89	0.83	1.11	41.6
West: Stony Rise Road															
10	L2	All MCs	678	3.0	678	3.0	0.717	3.2	LOS A	11.3	81.9	0.25	0.37	0.25	46.4
11	T1	All MCs	495	5.3	495	5.3	0.717	3.1	LOS A	11.3	81.9	0.25	0.37	0.25	46.6
Approach			1173	3.9	1173	3.9	0.717	3.2	LOS A	11.3	81.9	0.25	0.37	0.25	46.5
All Vehicles			2285	3.0	2285	3.0	0.717	6.4	LOS A	11.3	81.9	0.53	0.55	0.59	44.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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# MOVEMENT SUMMARY

Site: 101 [Scenario 5A - Stony Middle - Sat Peak (Site Folder: Scenario 5A)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Intersection of Stony Rise Road and Middle Road  
 Scenario 5A - Roundabout  
 2035 Saturday Peak  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed
			[ Total HV ]	%	[ Total HV ]	%				[ Veh. ]	[ Dist ]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Stony Rise Road															
5	T1	All MCs	354	0.6	354	0.6	0.558	6.5	LOS A	5.1	36.2	0.81	0.70	0.87	44.0
6	R2	All MCs	178	0.6	178	0.6	0.558	10.8	LOS B	5.1	36.2	0.81	0.70	0.87	43.9
Approach			532	0.6	532	0.6	0.558	7.9	LOS A	5.1	36.2	0.81	0.70	0.87	44.0
North: Middle Road															
7	L2	All MCs	102	4.1	102	4.1	0.622	9.1	LOS A	6.6	46.6	0.92	0.83	1.10	42.3
9	R2	All MCs	414	0.3	414	0.3	0.622	13.2	LOS B	6.6	46.6	0.92	0.83	1.10	41.4
Approach			516	1.0	516	1.0	0.622	12.4	LOS B	6.6	46.6	0.92	0.83	1.10	41.6
West: Stony Rise Road															
10	L2	All MCs	740	0.4	740	0.4	0.975	16.4	LOS B	37.8	265.9	1.00	1.05	1.43	39.6
11	T1	All MCs	528	0.6	528	0.6	0.975	16.4	LOS B	37.8	265.9	1.00	1.05	1.43	39.8
Approach			1268	0.5	1268	0.5	0.975	16.4	LOS B	37.8	265.9	1.00	1.05	1.43	39.7
All Vehicles			2316	0.6	2316	0.6	0.975	13.6	LOS B	37.8	265.9	0.94	0.92	1.23	41.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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.

Roundabout Capacity Model: SIDRA Standard.

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

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