



Traffic Model Fact Sheet

The Townsville Aimsun Integrated Model (TAIM) is a city-wide mesoscopic model and is Council's primary planning tool for the analysis of proposed improvement options, upgrades, and interventions on the road network to support growth identified in the Local Government Infrastructure Plan (LGIP).

The TAIM is calibrated annually against traffic signal information provided by the Department of Transport and Main Roads and provides detailed traffic flow information across the entire city for the calibration year and future year projections in 2026, 2031, 2036 and 2041.

The TAIM is also used to assess the impacts of land development proposals on the operation of the Townsville road network.

Model information comprising traffic flow data can be provided by Council upon request, Council encourages the use of this data when submitting a development application for assessment as the modelled traffic flows represent the planned future network structure in accordance with the LGIP.

Model outputs can be accessed using the following links:

Calibration Model

<https://www.arcgis.com/apps/mapviewer/index.html?layers=b43387bbf63c4257af6855a2dba0b2cf>

Forecast Models

<https://www.arcgis.com/apps/mapviewer/index.html?layers=2a21edf287094a549f44f0180ecc1b2c>

The following limitations apply to the Traffic Model:

- The TAIM is an imperfect representation of traffic information on the road network in the calibration year. The traffic model has been developed using Aimsun traffic modelling software and provides an interpretation of the traffic conditions limited by the modelling processes.
- The model has been calibrated against traffic flow data recorded by vehicle detection equipment at 148 signalised intersections comprising 2175 detection counts, and approximately 150 traffic count sites located across the city.
- Model accuracy at any particular location is relative to how close the location is to a calibration point in the model. At a calibration point the model replicates the traffic flows at that location, e.g., at a signalised intersection the model flows and the data recorded by the signals will match in the calibration year. Between calibration points the model becomes less accurate and a process called Dynamic User Equilibrium (DUE) is used to estimate traffic flows based on travel time algorithms.
- Townsville City Council accepts no responsibility for damages, if any, suffered by any party because of decisions or actions made based on data extracted from the model.



APPENDIX D
Email – Garbutt State School student number

Arry Charrismanagara

From: GUINEY, Jackie (jguin9) <jguin9@eq.edu.au>
Sent: Thursday, 26 October 2023 2:53 PM
To: Arry Charrismanagara
Subject: Re: ROSE004 - Garbutt State School - Student Number Enquiry

110 students

With thanks,

*Jackie Guiney
Principal
Garbutt State School*

*Ph: 47594888
0400635526
OC SA Holder #2352*

From: Arry Charrismanagara <acharrismanagara@lcjengineers.com.au>
Sent: Thursday, 26 October 2023 2:36 PM
To: Principal, Garbutt SS <Principal@garbuttss.eq.edu.au>
Cc: Records.Out <records.out@lcjengineers.com.au>
Subject: ROSE004 - Garbutt State School - Student Number Enquiry

Good afternoon,

We are currently undertaking a Traffic Impact Assessment for a proposed development in Garbutt. As part of this we are required to estimate the vehicular trips generated by Garbutt State School based on the total student number.

Can you please advise (round up to the nearest 10) the number of students attending Garbutt SS? Thanks.

Kind regards,

Arry Charrismanagara

Civil Engineer

Email: acharrismanagara@lcjengineers.com.au

Mobile: 0493 558 938



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*** PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL ***

APPENDIX E
Traffic Movement Diagrams

Blue text denotes AM peak hour
 Red text denotes PM peak hour

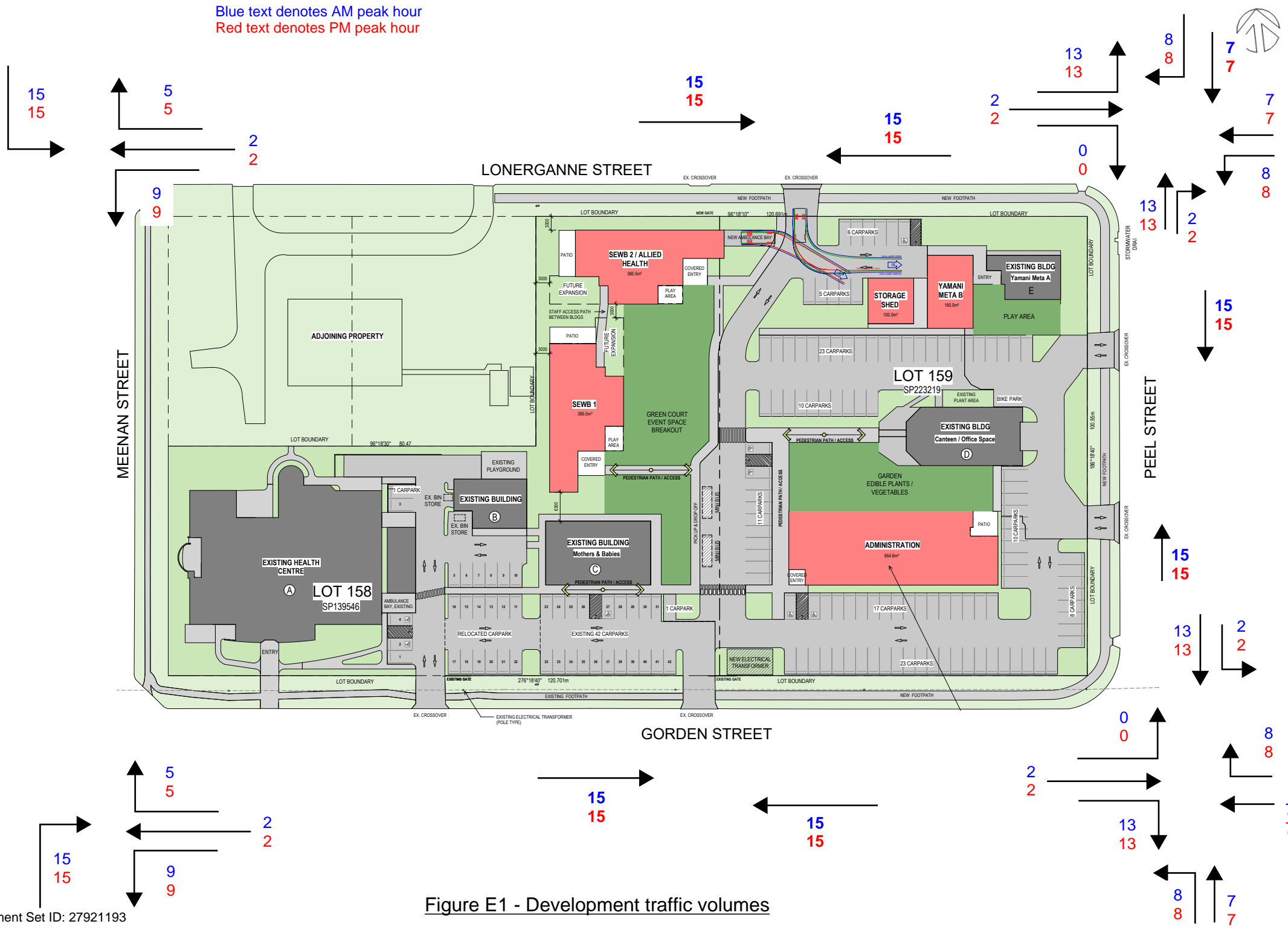


Figure E1 - Development traffic volumes

Blue text denotes AM peak hour
 Red text denotes PM peak hour

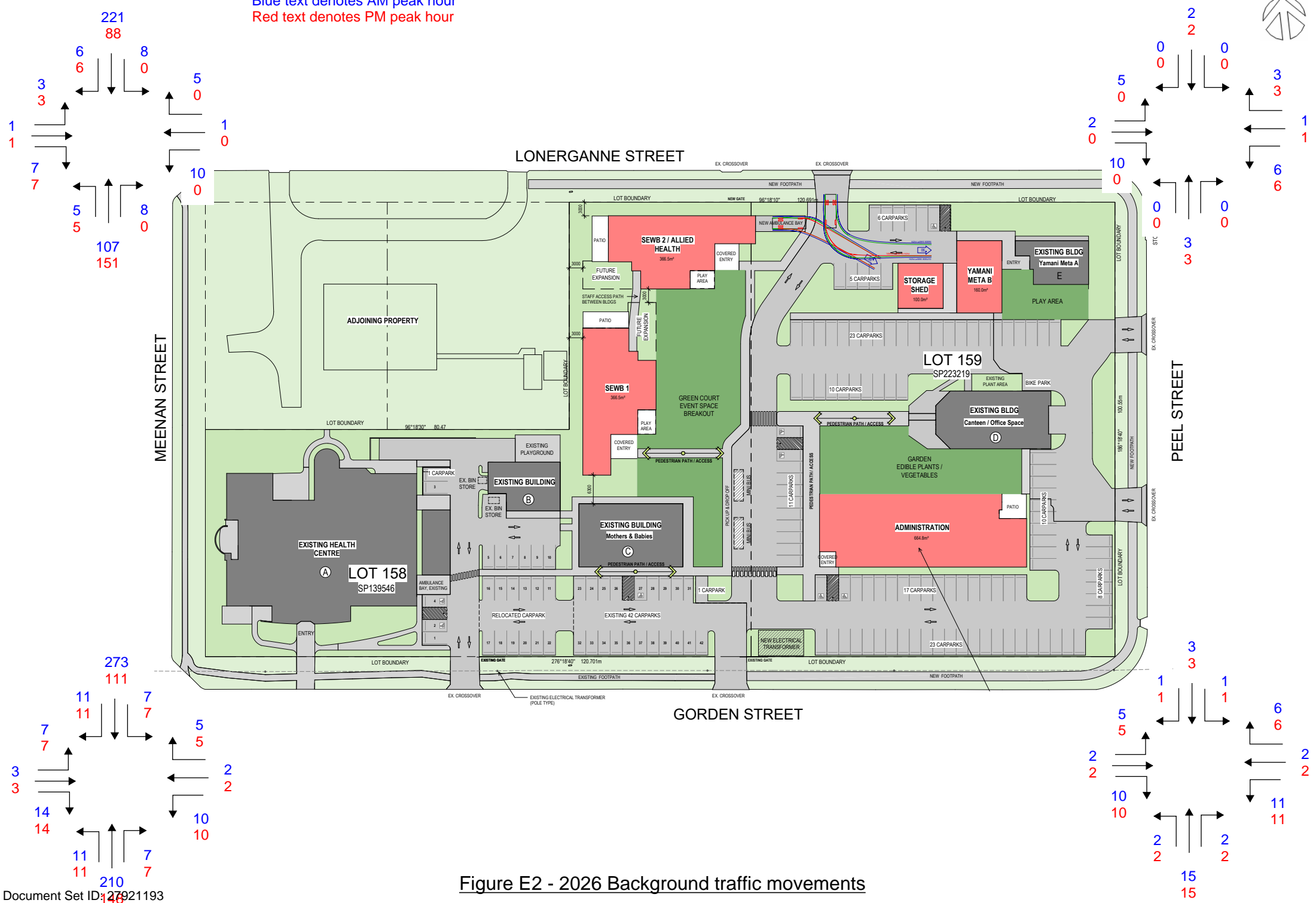


Figure E2 - 2026 Background traffic movements

Blue text denotes AM peak hour
 Red text denotes PM peak hour

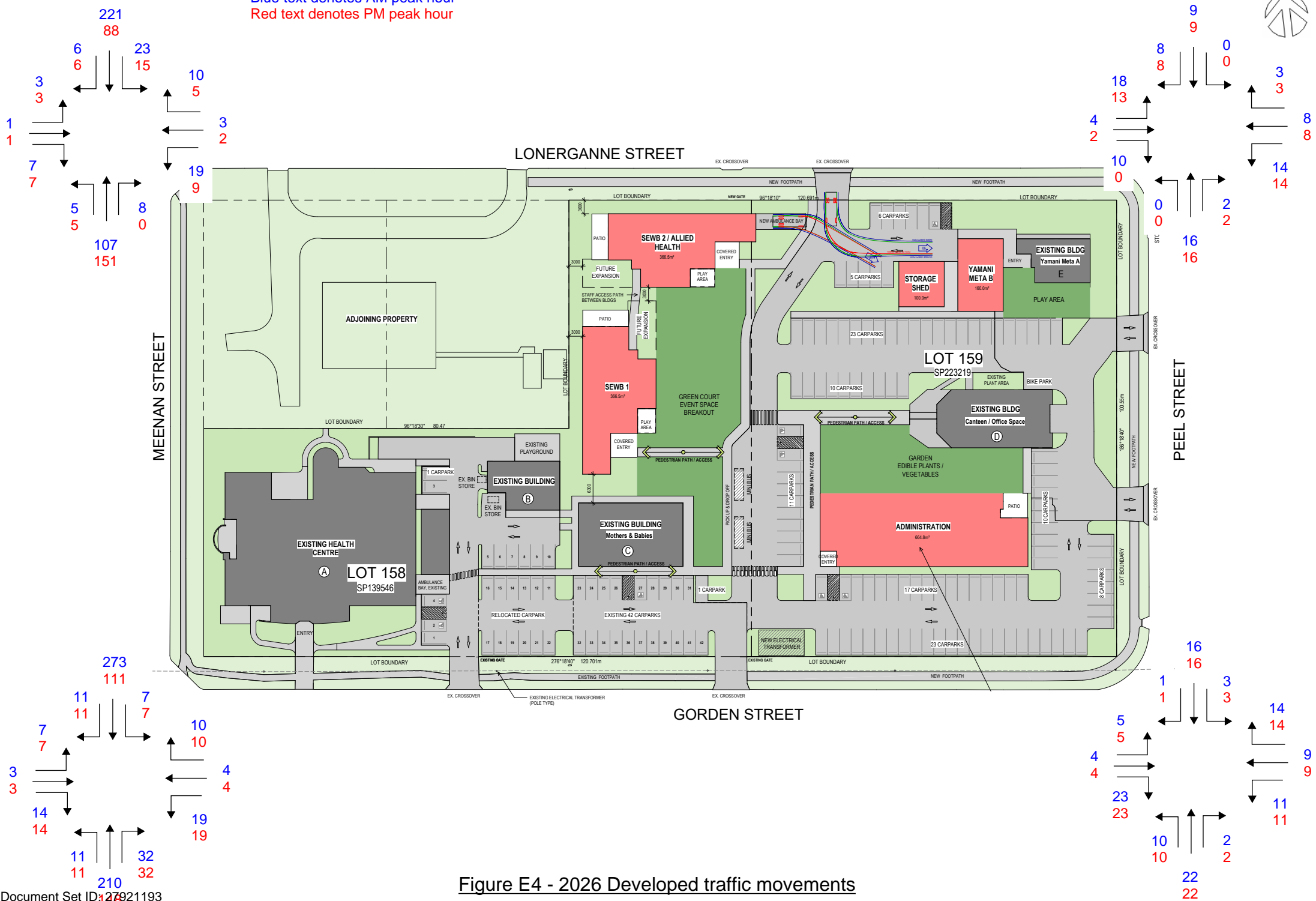


Figure E4 - 2026 Developed traffic movements

Blue text denotes AM peak hour
 Red text denotes PM peak hour

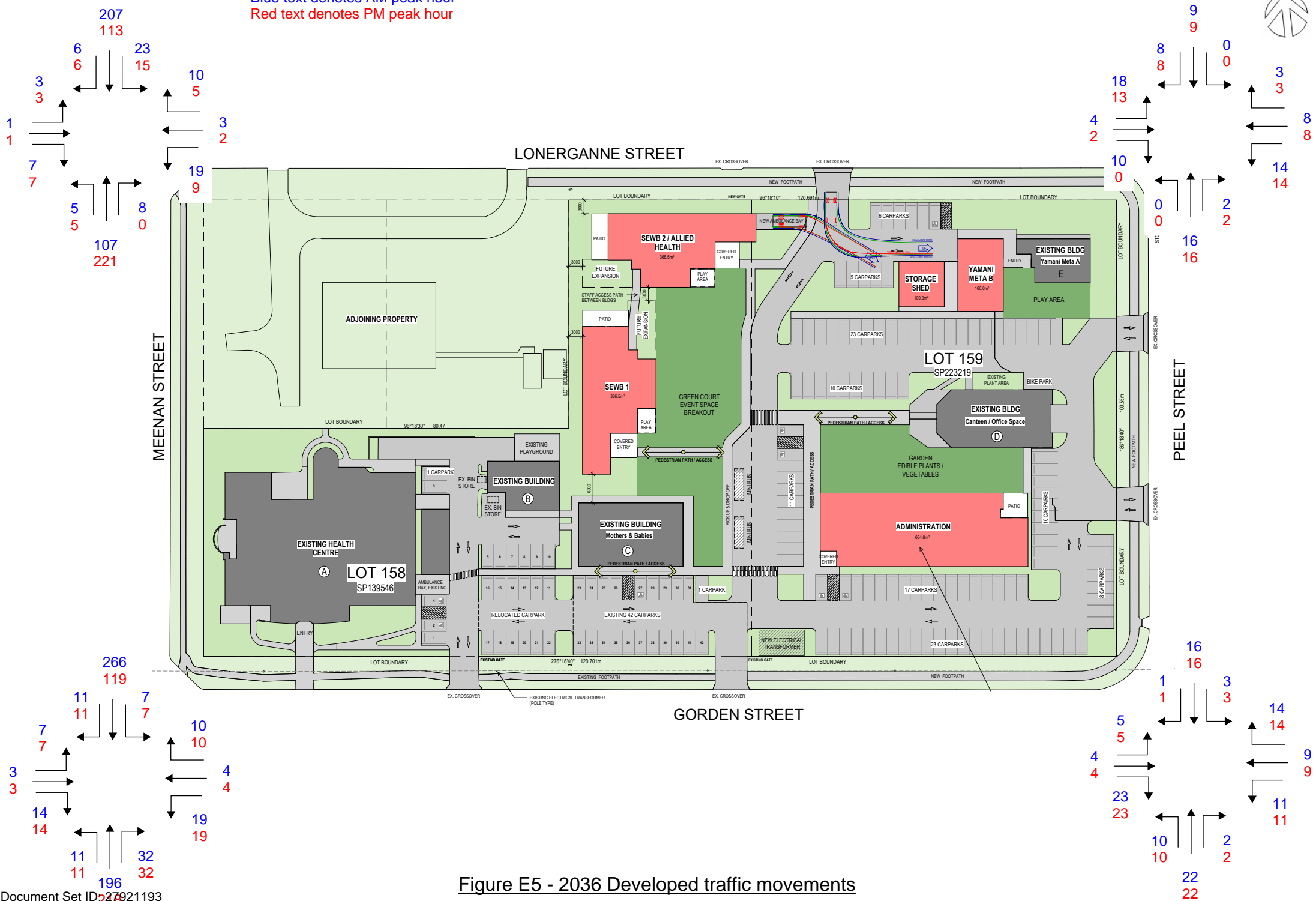



Figure E5 - 2036 Developed traffic movements

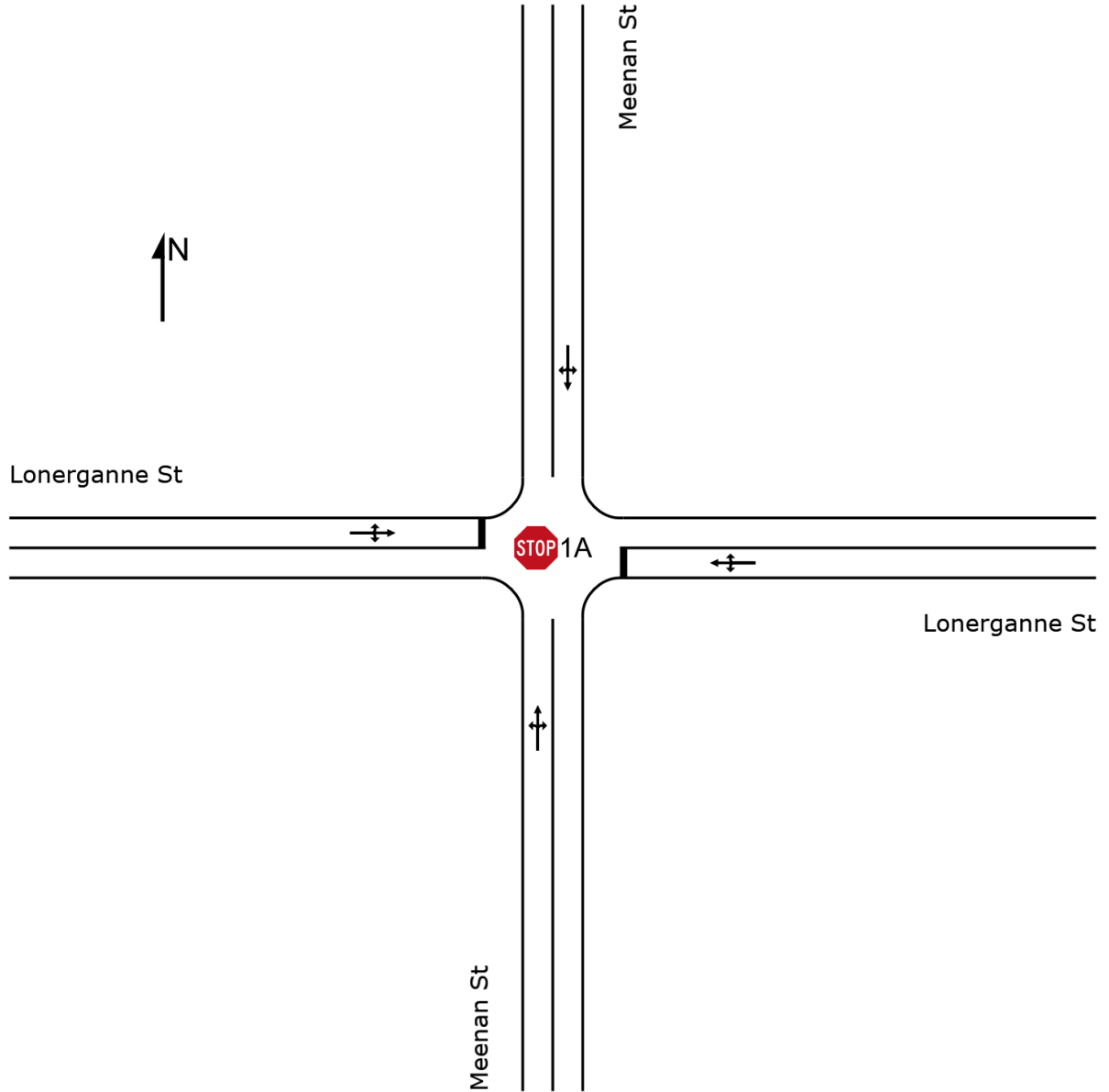
**APPENDIX F
SIDRA output**

SITE LAYOUT

 **Site: [1A] Meenan St/Lonerganne St intersection (2026**
Background AM peak)

Meenan St/Lonerganne St intersection
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

STOP Site: [1A] Meenan St/Lonerganne St intersection (2026 Background AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Meenan St/Lonerganne St intersection
 Site Category: Existing Design
 Stop (Two-Way)
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Meenan St															
1	L2	All MCs	5	6.0	5	6.0	0.066	6.1	LOS A	0.1	0.5	0.07	0.10	0.07	48.9
2	T1	All MCs	107	6.0	107	6.0	0.066	0.1	LOS A	0.1	0.5	0.07	0.10	0.07	56.1
3	R2	All MCs	8	6.0	8	6.0	0.066	6.3	LOS A	0.1	0.5	0.07	0.10	0.07	48.0
Approach			120	6.0	120	6.0	0.066	0.8	NA	0.1	0.5	0.07	0.10	0.07	54.8
East: Lonerganne St															
4	L2	All MCs	10	3.0	10	3.0	0.018	8.5	LOS A	0.1	0.4	0.36	0.86	0.36	34.7
5	T1	All MCs	1	3.0	1	3.0	0.018	9.2	LOS A	0.1	0.4	0.36	0.86	0.36	37.5
6	R2	All MCs	5	3.0	5	3.0	0.018	9.4	LOS A	0.1	0.4	0.36	0.86	0.36	34.3
Approach			16	3.0	16	3.0	0.018	8.8	LOS A	0.1	0.4	0.36	0.86	0.36	34.8
North: Meenan St															
7	L2	All MCs	8	6.0	8	6.0	0.126	5.6	LOS A	0.1	0.4	0.02	0.04	0.02	49.9
8	T1	All MCs	221	6.0	221	6.0	0.126	0.0	LOS A	0.1	0.4	0.02	0.04	0.02	58.1
9	R2	All MCs	6	6.0	6	6.0	0.126	5.6	LOS A	0.1	0.4	0.02	0.04	0.02	49.0
Approach			235	6.0	235	6.0	0.126	0.3	NA	0.1	0.4	0.02	0.04	0.02	57.3
West: Lonerganne St															
10	L2	All MCs	3	3.0	3	3.0	0.014	7.9	LOS A	0.0	0.3	0.35	0.86	0.35	34.3
11	T1	All MCs	1	3.0	1	3.0	0.014	9.2	LOS A	0.0	0.3	0.35	0.86	0.35	37.2
12	R2	All MCs	7	3.0	7	3.0	0.014	9.4	LOS A	0.0	0.3	0.35	0.86	0.35	34.0
Approach			11	3.0	11	3.0	0.014	9.0	LOS A	0.0	0.3	0.35	0.86	0.35	34.4
All Vehicles			382	5.8	382	5.8	0.126	1.1	NA	0.1	0.5	0.06	0.11	0.06	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control 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

STOP Site: [1B] Meenan St/Lonerganne St intersection (2026)
Developed AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Meenan St/Lonerganne St intersection
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Meenan St															
1	L2	All MCs	5	6.0	5	6.0	0.066	6.2	LOS A	0.1	0.5	0.07	0.10	0.07	48.8
2	T1	All MCs	107	6.0	107	6.0	0.066	0.1	LOS A	0.1	0.5	0.07	0.10	0.07	56.0
3	R2	All MCs	8	6.0	8	6.0	0.066	6.4	LOS A	0.1	0.5	0.07	0.10	0.07	48.0
Approach			120	6.0	120	6.0	0.066	0.8	NA	0.1	0.5	0.07	0.10	0.07	54.7
East: Lonerganne St															
4	L2	All MCs	19	3.0	19	3.0	0.036	8.5	LOS A	0.1	0.9	0.37	0.88	0.37	34.6
5	T1	All MCs	3	3.0	3	3.0	0.036	9.4	LOS A	0.1	0.9	0.37	0.88	0.37	37.4
6	R2	All MCs	10	3.0	10	3.0	0.036	9.6	LOS A	0.1	0.9	0.37	0.88	0.37	34.2
Approach			32	3.0	32	3.0	0.036	8.9	LOS A	0.1	0.9	0.37	0.88	0.37	34.8
North: Meenan St															
7	L2	All MCs	23	6.0	23	6.0	0.135	5.6	LOS A	0.1	0.4	0.02	0.07	0.02	49.2
8	T1	All MCs	221	6.0	221	6.0	0.135	0.0	LOS A	0.1	0.4	0.02	0.07	0.02	56.8
9	R2	All MCs	6	6.0	6	6.0	0.135	5.6	LOS A	0.1	0.4	0.02	0.07	0.02	48.4
Approach			250	6.0	250	6.0	0.135	0.7	NA	0.1	0.4	0.02	0.07	0.02	55.3
West: Lonerganne St															
10	L2	All MCs	3	3.0	3	3.0	0.014	7.9	LOS A	0.0	0.3	0.35	0.86	0.35	34.3
11	T1	All MCs	1	3.0	1	3.0	0.014	9.4	LOS A	0.0	0.3	0.35	0.86	0.35	37.2
12	R2	All MCs	7	3.0	7	3.0	0.014	9.5	LOS A	0.0	0.3	0.35	0.86	0.35	33.9
Approach			11	3.0	11	3.0	0.014	9.1	LOS A	0.0	0.3	0.35	0.86	0.35	34.4
All Vehicles			413	5.7	413	5.7	0.135	1.5	NA	0.1	0.9	0.07	0.16	0.07	50.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control 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

STOP Site: [1C] Meenan St/Lonerganne St intersection (2036 Background AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Meenan St/Lonerganne St intersection
 Site Category: Existing Design
 Stop (Two-Way)
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]			v/c	sec				[Veh.]	[Dist]		
			veh/h	%	veh/h	%					veh	m			km/h
South: Meenan St															
1	L2	All MCs	5	6.0	5	6.0	0.066	6.1	LOS A	0.1	0.5	0.06	0.09	0.06	48.9
2	T1	All MCs	107	6.0	107	6.0	0.066	0.1	LOS A	0.1	0.5	0.06	0.09	0.06	56.1
3	R2	All MCs	8	6.0	8	6.0	0.066	6.2	LOS A	0.1	0.5	0.06	0.09	0.06	48.1
Approach			120	6.0	120	6.0	0.066	0.7	NA	0.1	0.5	0.06	0.09	0.06	54.8
East: Lonerganne St															
4	L2	All MCs	10	3.0	10	3.0	0.017	8.4	LOS A	0.1	0.4	0.35	0.86	0.35	34.8
5	T1	All MCs	1	3.0	1	3.0	0.017	9.1	LOS A	0.1	0.4	0.35	0.86	0.35	37.6
6	R2	All MCs	5	3.0	5	3.0	0.017	9.3	LOS A	0.1	0.4	0.35	0.86	0.35	34.4
Approach			16	3.0	16	3.0	0.017	8.7	LOS A	0.1	0.4	0.35	0.86	0.35	34.9
North: Meenan St															
7	L2	All MCs	8	6.0	8	6.0	0.119	5.6	LOS A	0.1	0.4	0.02	0.04	0.02	49.8
8	T1	All MCs	207	6.0	207	6.0	0.119	0.0	LOS A	0.1	0.4	0.02	0.04	0.02	58.0
9	R2	All MCs	6	6.0	6	6.0	0.119	5.6	LOS A	0.1	0.4	0.02	0.04	0.02	49.0
Approach			221	6.0	221	6.0	0.119	0.4	NA	0.1	0.4	0.02	0.04	0.02	57.1
West: Lonerganne St															
10	L2	All MCs	3	3.0	3	3.0	0.014	7.9	LOS A	0.0	0.3	0.34	0.86	0.34	34.4
11	T1	All MCs	1	3.0	1	3.0	0.014	9.1	LOS A	0.0	0.3	0.34	0.86	0.34	37.3
12	R2	All MCs	7	3.0	7	3.0	0.014	9.3	LOS A	0.0	0.3	0.34	0.86	0.34	34.1
Approach			11	3.0	11	3.0	0.014	8.9	LOS A	0.0	0.3	0.34	0.86	0.34	34.5
All Vehicles			368	5.8	368	5.8	0.119	1.1	NA	0.1	0.5	0.06	0.12	0.06	52.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control 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

STOP Site: [1D] Meenan St/Lonerganne St intersection (2036
Developed AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Meenan St/Lonerganne St intersection
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Meenan St															
1	L2	All MCs	5	6.0	5	6.0	0.066	6.1	LOS A	0.1	0.5	0.07	0.10	0.07	48.9
2	T1	All MCs	107	6.0	107	6.0	0.066	0.1	LOS A	0.1	0.5	0.07	0.10	0.07	56.1
3	R2	All MCs	8	6.0	8	6.0	0.066	6.3	LOS A	0.1	0.5	0.07	0.10	0.07	48.0
Approach			120	6.0	120	6.0	0.066	0.8	NA	0.1	0.5	0.07	0.10	0.07	54.7
East: Lonerganne St															
4	L2	All MCs	19	3.0	19	3.0	0.035	8.4	LOS A	0.1	0.9	0.36	0.88	0.36	34.7
5	T1	All MCs	3	3.0	3	3.0	0.035	9.3	LOS A	0.1	0.9	0.36	0.88	0.36	37.5
6	R2	All MCs	10	3.0	10	3.0	0.035	9.4	LOS A	0.1	0.9	0.36	0.88	0.36	34.3
Approach			32	3.0	32	3.0	0.035	8.8	LOS A	0.1	0.9	0.36	0.88	0.36	34.9
North: Meenan St															
7	L2	All MCs	23	6.0	23	6.0	0.127	5.6	LOS A	0.1	0.4	0.02	0.08	0.02	49.1
8	T1	All MCs	207	6.0	207	6.0	0.127	0.0	LOS A	0.1	0.4	0.02	0.08	0.02	56.6
9	R2	All MCs	6	6.0	6	6.0	0.127	5.6	LOS A	0.1	0.4	0.02	0.08	0.02	48.3
Approach			236	6.0	236	6.0	0.127	0.7	NA	0.1	0.4	0.02	0.08	0.02	55.1
West: Lonerganne St															
10	L2	All MCs	3	3.0	3	3.0	0.014	7.9	LOS A	0.0	0.3	0.35	0.86	0.35	34.4
11	T1	All MCs	1	3.0	1	3.0	0.014	9.3	LOS A	0.0	0.3	0.35	0.86	0.35	37.2
12	R2	All MCs	7	3.0	7	3.0	0.014	9.4	LOS A	0.0	0.3	0.35	0.86	0.35	34.0
Approach			11	3.0	11	3.0	0.014	9.0	LOS A	0.0	0.3	0.35	0.86	0.35	34.4
All Vehicles			399	5.7	399	5.7	0.127	1.6	NA	0.1	0.9	0.07	0.17	0.07	50.6

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control 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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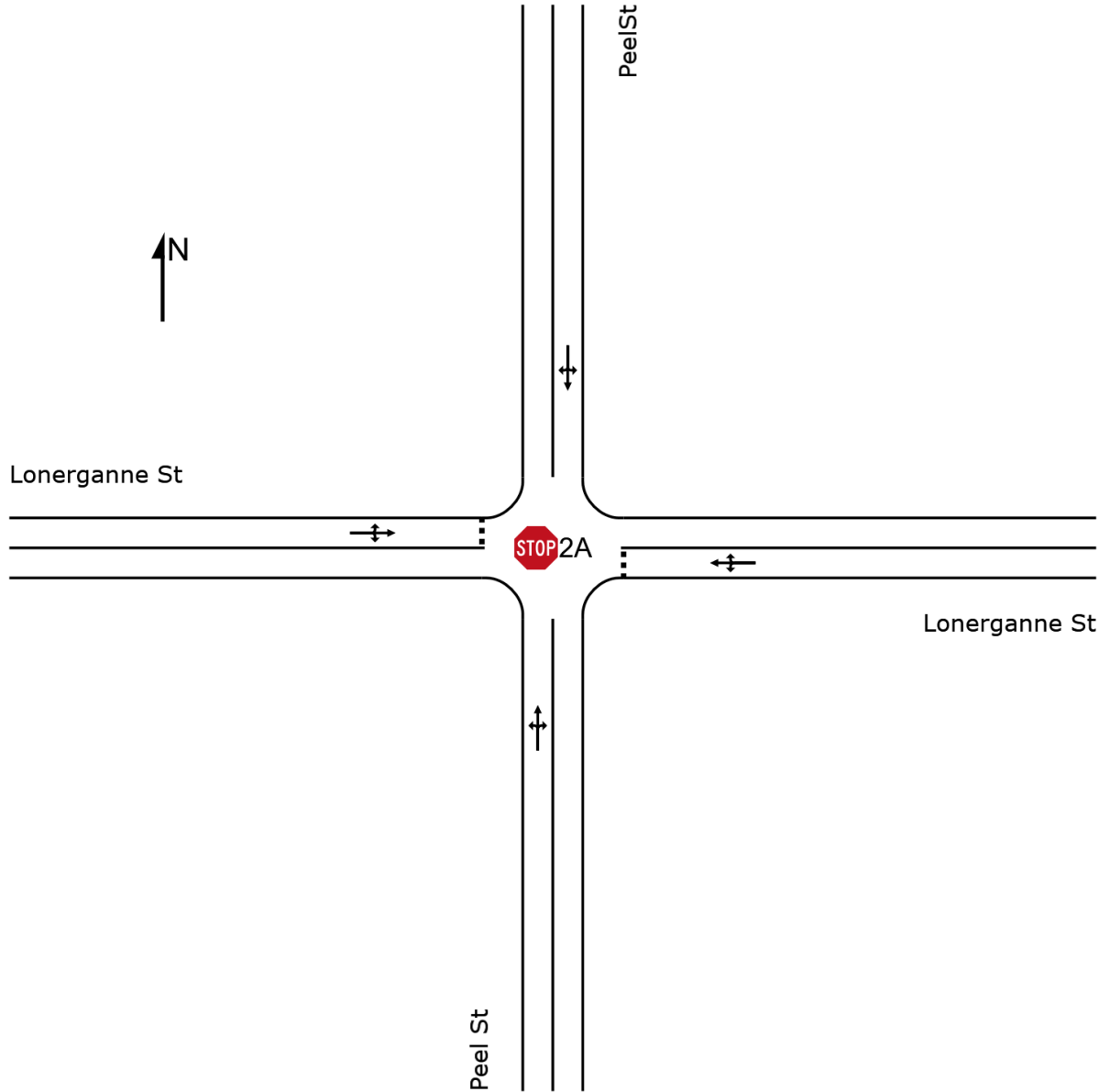
Project: J:\ROSE\ROSE015 TAIHS Masterplan, 57-67 Gorden St, Garbutt\Analysis\Civil\Traffic\ROSE015-SIDRA Analysis.sipx

SITE LAYOUT

 **Site: [2A] Peel St/Lonerganne St intersection (2026**
Background AM peak)

Peel St/Lonerganne St intersection
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

STOP Site: [2A] Peel St/Lonerganne St intersection (2026 Background AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Peel St/Lonerganne St intersection
 Site Category: Existing Design
 Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]		Rate to Depart		km/h
			veh/h	%	veh/h	%				veh	m				
South: Peel St															
1	L2	All MCs	1	3.0	1	3.0	0.003	4.6	LOS A	0.0	0.0	0.01	0.22	0.01	42.7
2	T1	All MCs	3	3.0	3	3.0	0.003	0.0	LOS A	0.0	0.0	0.01	0.22	0.01	44.5
3	R2	All MCs	1	3.0	1	3.0	0.003	4.6	LOS A	0.0	0.0	0.01	0.22	0.01	42.2
Approach			5	3.0	5	3.0	0.003	1.8	NA	0.0	0.0	0.01	0.22	0.01	43.5
East: Lonerganne St															
4	L2	All MCs	6	3.0	6	3.0	0.007	4.6	LOS A	0.0	0.2	0.02	0.52	0.02	38.8
5	T1	All MCs	1	3.0	1	3.0	0.007	3.2	LOS A	0.0	0.2	0.02	0.52	0.02	41.7
6	R2	All MCs	3	3.0	3	3.0	0.007	4.6	LOS A	0.0	0.2	0.02	0.52	0.02	38.3
Approach			10	3.0	10	3.0	0.007	4.5	LOS A	0.0	0.2	0.02	0.52	0.02	39.0
North: PeelSt															
7	L2	All MCs	1	3.0	1	3.0	0.002	4.6	LOS A	0.0	0.0	0.02	0.27	0.02	42.0
8	T1	All MCs	2	3.0	2	3.0	0.002	0.0	LOS A	0.0	0.0	0.02	0.27	0.02	43.3
9	R2	All MCs	1	3.0	1	3.0	0.002	4.6	LOS A	0.0	0.0	0.02	0.27	0.02	41.4
Approach			4	3.0	4	3.0	0.002	2.3	NA	0.0	0.0	0.02	0.27	0.02	42.3
West: Lonerganne St															
10	L2	All MCs	5	3.0	5	3.0	0.014	4.6	LOS A	0.0	0.3	0.04	0.52	0.04	38.7
11	T1	All MCs	2	3.0	2	3.0	0.014	3.2	LOS A	0.0	0.3	0.04	0.52	0.04	41.7
12	R2	All MCs	10	3.0	10	3.0	0.014	4.6	LOS A	0.0	0.3	0.04	0.52	0.04	38.3
Approach			17	3.0	17	3.0	0.014	4.4	LOS A	0.0	0.3	0.04	0.52	0.04	38.9
All Vehicles			36	3.0	36	3.0	0.014	3.8	NA	0.0	0.3	0.03	0.45	0.03	39.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control 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

STOP Site: [2B] Peel St/Lonerganne St intersection (2026
Developed AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Peel St/Lonerganne St intersection
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Peel St															
1	L2	All MCs	1	3.0	1	3.0	0.010	4.6	LOS A	0.0	0.1	0.01	0.09	0.01	44.6
2	T1	All MCs	16	3.0	16	3.0	0.010	0.0	LOS A	0.0	0.1	0.01	0.09	0.01	47.6
3	R2	All MCs	2	3.0	2	3.0	0.010	4.6	LOS A	0.0	0.1	0.01	0.09	0.01	44.0
Approach			19	3.0	19	3.0	0.010	0.7	NA	0.0	0.1	0.01	0.09	0.01	46.8
East: Lonerganne St															
4	L2	All MCs	14	3.0	14	3.0	0.018	4.6	LOS A	0.1	0.5	0.06	0.49	0.06	39.0
5	T1	All MCs	8	3.0	8	3.0	0.018	3.3	LOS A	0.1	0.5	0.06	0.49	0.06	41.9
6	R2	All MCs	3	3.0	3	3.0	0.018	4.7	LOS A	0.1	0.5	0.06	0.49	0.06	38.6
Approach			25	3.0	25	3.0	0.018	4.2	LOS A	0.1	0.5	0.06	0.49	0.06	40.0
North: PeelSt															
7	L2	All MCs	1	3.0	1	3.0	0.010	4.6	LOS A	0.0	0.3	0.06	0.27	0.06	41.7
8	T1	All MCs	9	3.0	9	3.0	0.010	0.0	LOS A	0.0	0.3	0.06	0.27	0.06	42.9
9	R2	All MCs	8	3.0	8	3.0	0.010	4.6	LOS A	0.0	0.3	0.06	0.27	0.06	41.2
Approach			18	3.0	18	3.0	0.010	2.3	NA	0.0	0.3	0.06	0.27	0.06	41.9
West: Lonerganne St															
10	L2	All MCs	18	3.0	18	3.0	0.024	4.6	LOS A	0.1	0.6	0.08	0.51	0.08	38.5
11	T1	All MCs	4	3.0	4	3.0	0.024	3.3	LOS A	0.1	0.6	0.08	0.51	0.08	41.5
12	R2	All MCs	10	3.0	10	3.0	0.024	4.8	LOS A	0.1	0.6	0.08	0.51	0.08	38.1
Approach			32	3.0	32	3.0	0.024	4.5	LOS A	0.1	0.6	0.08	0.51	0.08	38.8
All Vehicles			94	3.0	94	3.0	0.024	3.3	NA	0.1	0.6	0.06	0.37	0.06	40.8

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control 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

STOP Site: [2C] Peel St/Lonerganne St intersection (2036 Background AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Peel St/Lonerganne St intersection
 Site Category: Existing Design
 Stop (Two-Way)
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]		Rate to Depart		km/h
			veh/h	%	veh/h	%				veh	m				
South: Peel St															
1	L2	All MCs	1	3.0	1	3.0	0.003	4.6	LOS A	0.0	0.0	0.01	0.22	0.01	42.7
2	T1	All MCs	3	3.0	3	3.0	0.003	0.0	LOS A	0.0	0.0	0.01	0.22	0.01	44.5
3	R2	All MCs	1	3.0	1	3.0	0.003	4.6	LOS A	0.0	0.0	0.01	0.22	0.01	42.2
Approach			5	3.0	5	3.0	0.003	1.8	NA	0.0	0.0	0.01	0.22	0.01	43.5
East: Lonerganne St															
4	L2	All MCs	6	3.0	6	3.0	0.007	4.6	LOS A	0.0	0.2	0.02	0.52	0.02	38.8
5	T1	All MCs	1	3.0	1	3.0	0.007	3.2	LOS A	0.0	0.2	0.02	0.52	0.02	41.7
6	R2	All MCs	3	3.0	3	3.0	0.007	4.6	LOS A	0.0	0.2	0.02	0.52	0.02	38.3
Approach			10	3.0	10	3.0	0.007	4.5	LOS A	0.0	0.2	0.02	0.52	0.02	39.0
North: PeelSt															
7	L2	All MCs	1	3.0	1	3.0	0.002	4.6	LOS A	0.0	0.0	0.02	0.27	0.02	42.0
8	T1	All MCs	2	3.0	2	3.0	0.002	0.0	LOS A	0.0	0.0	0.02	0.27	0.02	43.3
9	R2	All MCs	1	3.0	1	3.0	0.002	4.6	LOS A	0.0	0.0	0.02	0.27	0.02	41.4
Approach			4	3.0	4	3.0	0.002	2.3	NA	0.0	0.0	0.02	0.27	0.02	42.3
West: Lonerganne St															
10	L2	All MCs	5	3.0	5	3.0	0.014	4.6	LOS A	0.0	0.3	0.04	0.52	0.04	38.7
11	T1	All MCs	2	3.0	2	3.0	0.014	3.2	LOS A	0.0	0.3	0.04	0.52	0.04	41.7
12	R2	All MCs	10	3.0	10	3.0	0.014	4.6	LOS A	0.0	0.3	0.04	0.52	0.04	38.3
Approach			17	3.0	17	3.0	0.014	4.4	LOS A	0.0	0.3	0.04	0.52	0.04	38.9
All Vehicles			36	3.0	36	3.0	0.014	3.8	NA	0.0	0.3	0.03	0.45	0.03	39.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control 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

STOP Site: [2D] Peel St/Lonerganne St intersection (2036
Developed AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Peel St/Lonerganne St intersection
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.	Dist]		Rate to Depart		km/h
			veh/h	%	veh/h	%				veh	m				
South: Peel St															
1	L2	All MCs	1	3.0	1	3.0	0.010	4.6	LOSA	0.0	0.1	0.01	0.09	0.01	44.6
2	T1	All MCs	16	3.0	16	3.0	0.010	0.0	LOSA	0.0	0.1	0.01	0.09	0.01	47.6
3	R2	All MCs	2	3.0	2	3.0	0.010	4.6	LOSA	0.0	0.1	0.01	0.09	0.01	44.0
Approach			19	3.0	19	3.0	0.010	0.7	NA	0.0	0.1	0.01	0.09	0.01	46.8
East: Lonerganne St															
4	L2	All MCs	14	3.0	14	3.0	0.018	4.6	LOSA	0.1	0.5	0.06	0.49	0.06	39.0
5	T1	All MCs	8	3.0	8	3.0	0.018	3.3	LOSA	0.1	0.5	0.06	0.49	0.06	41.9
6	R2	All MCs	3	3.0	3	3.0	0.018	4.7	LOSA	0.1	0.5	0.06	0.49	0.06	38.6
Approach			25	3.0	25	3.0	0.018	4.2	LOSA	0.1	0.5	0.06	0.49	0.06	40.0
North: PeelSt															
7	L2	All MCs	1	3.0	1	3.0	0.010	4.6	LOSA	0.0	0.3	0.06	0.27	0.06	41.7
8	T1	All MCs	9	3.0	9	3.0	0.010	0.0	LOSA	0.0	0.3	0.06	0.27	0.06	42.9
9	R2	All MCs	8	3.0	8	3.0	0.010	4.6	LOSA	0.0	0.3	0.06	0.27	0.06	41.2
Approach			18	3.0	18	3.0	0.010	2.3	NA	0.0	0.3	0.06	0.27	0.06	41.9
West: Lonerganne St															
10	L2	All MCs	18	3.0	18	3.0	0.024	4.6	LOSA	0.1	0.6	0.08	0.51	0.08	38.5
11	T1	All MCs	4	3.0	4	3.0	0.024	3.3	LOSA	0.1	0.6	0.08	0.51	0.08	41.5
12	R2	All MCs	10	3.0	10	3.0	0.024	4.8	LOSA	0.1	0.6	0.08	0.51	0.08	38.1
Approach			32	3.0	32	3.0	0.024	4.5	LOSA	0.1	0.6	0.08	0.51	0.08	38.8
All Vehicles			94	3.0	94	3.0	0.024	3.3	NA	0.1	0.6	0.06	0.37	0.06	40.8

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control 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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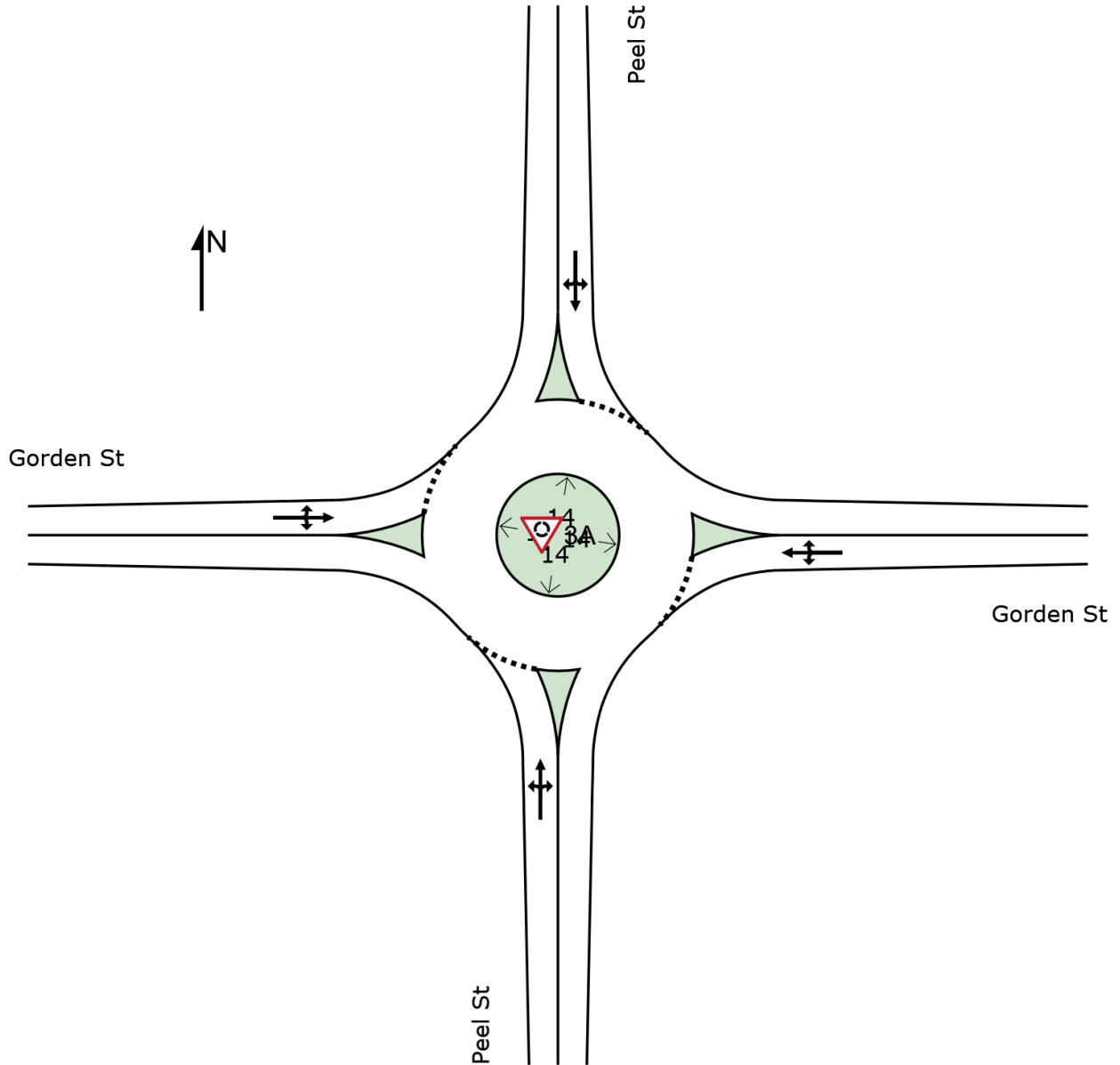
Project: J:\ROSE\ROSE015 TAIHS Masterplan, 57-67 Gorden St, Garbutt\Analysis\Civil\Traffic\ROSE015-SIDRA Analysis.sipx

SITE LAYOUT

 Site: [3A] Peel St/Gorden St intersection (2026 Background AM peak)

Peel St/Gorden St intersection
Site Category: Existing Design
Roundabout
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

 Site: [3A] Peel St/Gorden St intersection (2026 Background AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Peel St/Gorden St intersection
 Site Category: Existing Design
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Peel St															
1	L2	All MCs	2	3.0	2	3.0	0.014	3.3	LOS A	0.1	0.5	0.06	0.40	0.06	40.8
2	T1	All MCs	15	3.0	15	3.0	0.014	3.3	LOS A	0.1	0.5	0.06	0.40	0.06	38.3
3	R2	All MCs	2	3.0	2	3.0	0.014	7.1	LOS A	0.1	0.5	0.06	0.40	0.06	40.0
Approach			19	3.0	19	3.0	0.014	3.7	LOS A	0.1	0.5	0.06	0.40	0.06	38.9
East: Gorden St															
4	L2	All MCs	11	3.0	11	3.0	0.014	3.3	LOS A	0.1	0.5	0.08	0.49	0.08	39.5
5	T1	All MCs	2	3.0	2	3.0	0.014	3.3	LOS A	0.1	0.5	0.08	0.49	0.08	42.1
6	R2	All MCs	6	3.0	6	3.0	0.014	7.2	LOS A	0.1	0.5	0.08	0.49	0.08	35.4
Approach			19	3.0	19	3.0	0.014	4.5	LOS A	0.1	0.5	0.08	0.49	0.08	38.4
North: Peel St															
7	L2	All MCs	1	3.0	1	3.0	0.004	3.3	LOS A	0.0	0.1	0.08	0.43	0.08	40.2
8	T1	All MCs	3	3.0	3	3.0	0.004	3.3	LOS A	0.0	0.1	0.08	0.43	0.08	37.6
9	R2	All MCs	1	3.0	1	3.0	0.004	7.2	LOS A	0.0	0.1	0.08	0.43	0.08	39.5
Approach			5	3.0	5	3.0	0.004	4.1	LOS A	0.0	0.1	0.08	0.43	0.08	38.6
West: Gorden St															
10	L2	All MCs	5	3.0	5	3.0	0.013	3.4	LOS A	0.1	0.4	0.10	0.53	0.10	38.2
11	T1	All MCs	2	3.0	2	3.0	0.013	3.4	LOS A	0.1	0.4	0.10	0.53	0.10	41.0
12	R2	All MCs	10	3.0	10	3.0	0.013	7.2	LOS A	0.1	0.4	0.10	0.53	0.10	38.0
Approach			17	3.0	17	3.0	0.013	5.6	LOS A	0.1	0.4	0.10	0.53	0.10	38.5
All Vehicles			60	3.0	60	3.0	0.014	4.5	LOS A	0.1	0.5	0.08	0.47	0.08	38.6

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: [3B] Peel St/Gorden St intersection (2026 Developed AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Peel St/Gorden St intersection
 Site Category: Existing Design
 Roundabout
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h		veh/h					veh	m				
South: Peel St															
1	L2	All MCs	10	3.0	10	3.0	0.026	3.4	LOS A	0.1	0.9	0.11	0.40	0.11	40.6
2	T1	All MCs	22	3.0	22	3.0	0.026	3.4	LOS A	0.1	0.9	0.11	0.40	0.11	38.1
3	R2	All MCs	2	3.0	2	3.0	0.026	7.2	LOS A	0.1	0.9	0.11	0.40	0.11	39.9
Approach			34	3.0	34	3.0	0.026	3.6	LOS A	0.1	0.9	0.11	0.40	0.11	39.1
East: Gorden St															
4	L2	All MCs	11	3.0	11	3.0	0.026	3.4	LOS A	0.1	0.9	0.14	0.49	0.14	38.7
5	T1	All MCs	9	3.0	9	3.0	0.026	3.5	LOS A	0.1	0.9	0.14	0.49	0.14	41.5
6	R2	All MCs	14	3.0	14	3.0	0.026	7.3	LOS A	0.1	0.9	0.14	0.49	0.14	34.9
Approach			34	3.0	34	3.0	0.026	5.0	LOS A	0.1	0.9	0.14	0.49	0.14	37.9
North: Peel St															
7	L2	All MCs	3	3.0	3	3.0	0.015	3.4	LOS A	0.1	0.5	0.12	0.38	0.12	40.6
8	T1	All MCs	16	3.0	16	3.0	0.015	3.4	LOS A	0.1	0.5	0.12	0.38	0.12	38.1
9	R2	All MCs	1	3.0	1	3.0	0.015	7.2	LOS A	0.1	0.5	0.12	0.38	0.12	39.8
Approach			20	3.0	20	3.0	0.015	3.6	LOS A	0.1	0.5	0.12	0.38	0.12	38.7
West: Gorden St															
10	L2	All MCs	5	3.0	5	3.0	0.025	3.4	LOS A	0.1	0.8	0.14	0.55	0.14	37.5
11	T1	All MCs	4	3.0	4	3.0	0.025	3.5	LOS A	0.1	0.8	0.14	0.55	0.14	40.4
12	R2	All MCs	23	3.0	23	3.0	0.025	7.3	LOS A	0.1	0.8	0.14	0.55	0.14	37.3
Approach			32	3.0	32	3.0	0.025	6.2	LOS A	0.1	0.8	0.14	0.55	0.14	37.8
All Vehicles			120	3.0	120	3.0	0.026	4.7	LOS A	0.1	0.9	0.13	0.46	0.13	38.3

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: [3C] Peel St/Gorden St intersection (2036 Background AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Peel St/Gorden St intersection
 Site Category: Existing Design
 Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Peel St															
1	L2	All MCs	2	3.0	2	3.0	0.014	3.3	LOS A	0.1	0.5	0.06	0.40	0.06	40.8
2	T1	All MCs	15	3.0	15	3.0	0.014	3.3	LOS A	0.1	0.5	0.06	0.40	0.06	38.3
3	R2	All MCs	2	3.0	2	3.0	0.014	7.1	LOS A	0.1	0.5	0.06	0.40	0.06	40.0
Approach			19	3.0	19	3.0	0.014	3.7	LOS A	0.1	0.5	0.06	0.40	0.06	38.9
East: Gorden St															
4	L2	All MCs	11	3.0	11	3.0	0.014	3.3	LOS A	0.1	0.5	0.08	0.49	0.08	39.5
5	T1	All MCs	2	3.0	2	3.0	0.014	3.3	LOS A	0.1	0.5	0.08	0.49	0.08	42.1
6	R2	All MCs	6	3.0	6	3.0	0.014	7.2	LOS A	0.1	0.5	0.08	0.49	0.08	35.4
Approach			19	3.0	19	3.0	0.014	4.5	LOS A	0.1	0.5	0.08	0.49	0.08	38.4
North: Peel St															
7	L2	All MCs	1	3.0	1	3.0	0.004	3.3	LOS A	0.0	0.1	0.08	0.43	0.08	40.2
8	T1	All MCs	3	3.0	3	3.0	0.004	3.3	LOS A	0.0	0.1	0.08	0.43	0.08	37.6
9	R2	All MCs	1	3.0	1	3.0	0.004	7.2	LOS A	0.0	0.1	0.08	0.43	0.08	39.5
Approach			5	3.0	5	3.0	0.004	4.1	LOS A	0.0	0.1	0.08	0.43	0.08	38.6
West: Gorden St															
10	L2	All MCs	5	3.0	5	3.0	0.013	3.4	LOS A	0.1	0.4	0.10	0.53	0.10	38.2
11	T1	All MCs	2	3.0	2	3.0	0.013	3.4	LOS A	0.1	0.4	0.10	0.53	0.10	41.0
12	R2	All MCs	10	3.0	10	3.0	0.013	7.2	LOS A	0.1	0.4	0.10	0.53	0.10	38.0
Approach			17	3.0	17	3.0	0.013	5.6	LOS A	0.1	0.4	0.10	0.53	0.10	38.5
All Vehicles			60	3.0	60	3.0	0.014	4.5	LOS A	0.1	0.5	0.08	0.47	0.08	38.6

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: [3D] Peel St/Gorden St intersection (2036 Developed AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Peel St/Gorden St intersection
 Site Category: Existing Design
 Roundabout
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Cycles to Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.	Dist]				km/h
			veh/h		veh/h					veh	m				
South: Peel St															
1	L2	All MCs	10	3.0	10	3.0	0.026	3.4	LOS A	0.1	0.9	0.11	0.40	0.11	40.6
2	T1	All MCs	22	3.0	22	3.0	0.026	3.4	LOS A	0.1	0.9	0.11	0.40	0.11	38.1
3	R2	All MCs	2	3.0	2	3.0	0.026	7.2	LOS A	0.1	0.9	0.11	0.40	0.11	39.9
Approach			34	3.0	34	3.0	0.026	3.6	LOS A	0.1	0.9	0.11	0.40	0.11	39.1
East: Gorden St															
4	L2	All MCs	11	3.0	11	3.0	0.026	3.4	LOS A	0.1	0.9	0.14	0.49	0.14	38.7
5	T1	All MCs	9	3.0	9	3.0	0.026	3.5	LOS A	0.1	0.9	0.14	0.49	0.14	41.5
6	R2	All MCs	14	3.0	14	3.0	0.026	7.3	LOS A	0.1	0.9	0.14	0.49	0.14	34.9
Approach			34	3.0	34	3.0	0.026	5.0	LOS A	0.1	0.9	0.14	0.49	0.14	37.9
North: Peel St															
7	L2	All MCs	3	3.0	3	3.0	0.015	3.4	LOS A	0.1	0.5	0.12	0.38	0.12	40.6
8	T1	All MCs	16	3.0	16	3.0	0.015	3.4	LOS A	0.1	0.5	0.12	0.38	0.12	38.1
9	R2	All MCs	1	3.0	1	3.0	0.015	7.2	LOS A	0.1	0.5	0.12	0.38	0.12	39.8
Approach			20	3.0	20	3.0	0.015	3.6	LOS A	0.1	0.5	0.12	0.38	0.12	38.7
West: Gorden St															
10	L2	All MCs	5	3.0	5	3.0	0.025	3.4	LOS A	0.1	0.8	0.14	0.55	0.14	37.5
11	T1	All MCs	4	3.0	4	3.0	0.025	3.5	LOS A	0.1	0.8	0.14	0.55	0.14	40.4
12	R2	All MCs	23	3.0	23	3.0	0.025	7.3	LOS A	0.1	0.8	0.14	0.55	0.14	37.3
Approach			32	3.0	32	3.0	0.025	6.2	LOS A	0.1	0.8	0.14	0.55	0.14	37.8
All Vehicles			120	3.0	120	3.0	0.026	4.7	LOS A	0.1	0.9	0.13	0.46	0.13	38.3

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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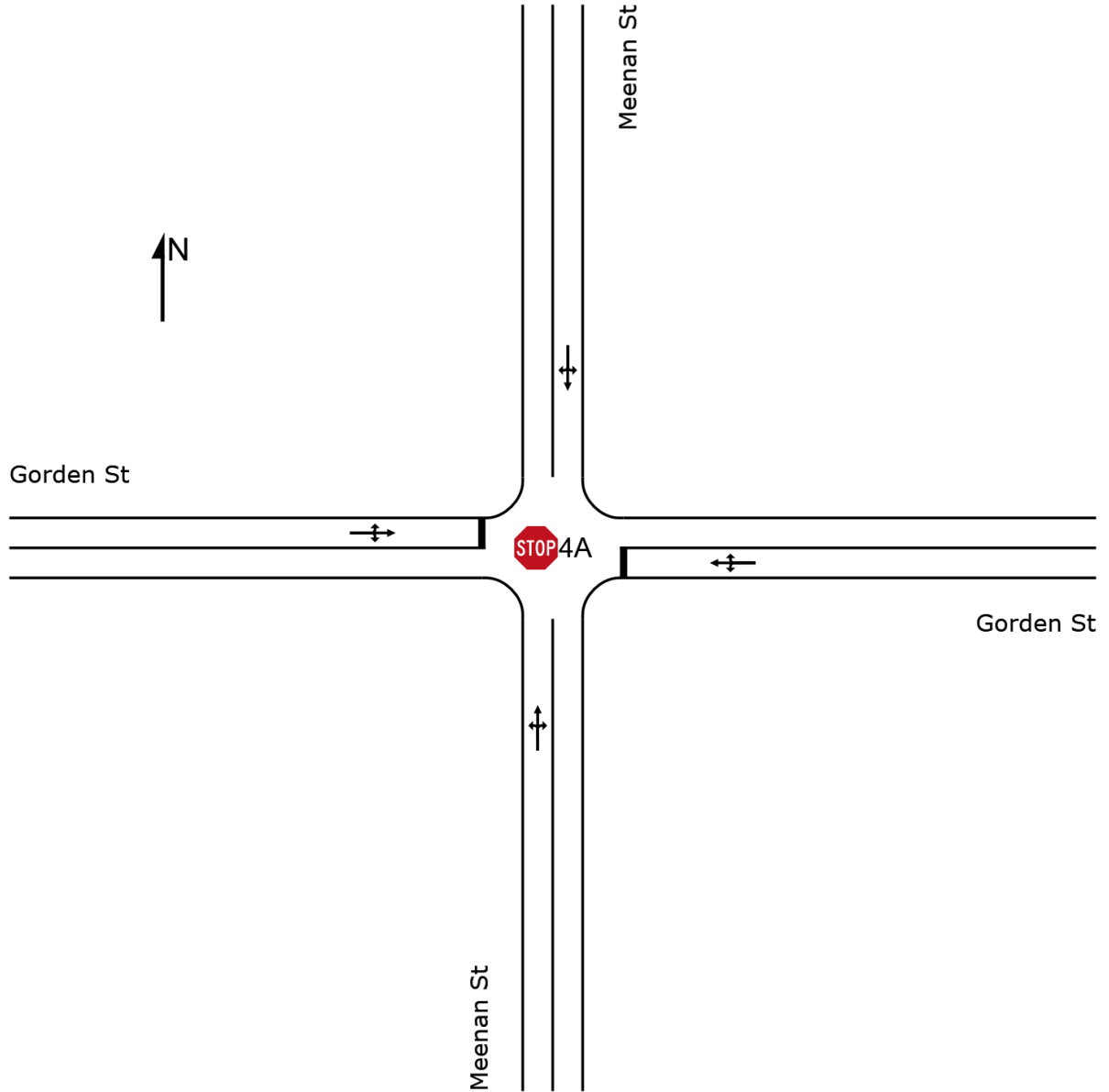
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SITE LAYOUT

 Site: [4A] Meenan St/Gorden St intersection (2026 Background AM peak)

Meenan St/Gorden St intersection
Site Category: Existing Design
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

STOP Site: [4A] Meenan St/Gorden St intersection (2026 Background AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Meenan St/Gorden St intersection
 Site Category: Existing Design
 Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]				km/h
			veh/h	%	veh/h	%				veh	m				
South: Meenan St															
1	L2	All MCs	11	6.0	11	6.0	0.124	6.0	LOS A	0.1	0.6	0.04	0.07	0.04	49.5
2	T1	All MCs	210	6.0	210	6.0	0.124	0.1	LOS A	0.1	0.6	0.04	0.07	0.04	57.2
3	R2	All MCs	7	6.0	7	6.0	0.124	6.6	LOS A	0.1	0.6	0.04	0.07	0.04	48.6
Approach			228	6.0	228	6.0	0.124	0.5	NA	0.1	0.6	0.04	0.07	0.04	56.2
East: Gorden St															
4	L2	All MCs	10	3.0	10	3.0	0.022	8.7	LOS A	0.1	0.6	0.43	0.87	0.43	34.0
5	T1	All MCs	2	3.0	2	3.0	0.022	10.6	LOS B	0.1	0.6	0.43	0.87	0.43	36.9
6	R2	All MCs	5	3.0	5	3.0	0.022	11.1	LOS B	0.1	0.6	0.43	0.87	0.43	33.6
Approach			17	3.0	17	3.0	0.022	9.6	LOS A	0.1	0.6	0.43	0.87	0.43	34.3
North: Meenan St															
7	L2	All MCs	7	6.0	7	6.0	0.158	6.2	LOS A	0.1	0.8	0.04	0.06	0.04	49.7
8	T1	All MCs	273	6.0	273	6.0	0.158	0.1	LOS A	0.1	0.8	0.04	0.06	0.04	57.7
9	R2	All MCs	11	6.0	11	6.0	0.158	6.3	LOS A	0.1	0.8	0.04	0.06	0.04	48.8
Approach			291	6.0	291	6.0	0.158	0.4	NA	0.1	0.8	0.04	0.06	0.04	56.8
West: Gorden St															
10	L2	All MCs	7	3.0	7	3.0	0.038	8.4	LOS A	0.1	0.9	0.46	0.89	0.46	33.3
11	T1	All MCs	3	3.0	3	3.0	0.038	10.6	LOS B	0.1	0.9	0.46	0.89	0.46	36.3
12	R2	All MCs	14	3.0	14	3.0	0.038	11.2	LOS B	0.1	0.9	0.46	0.89	0.46	32.9
Approach			24	3.0	24	3.0	0.038	10.3	LOS B	0.1	0.9	0.46	0.89	0.46	33.5
All Vehicles			560	5.8	560	5.8	0.158	1.2	NA	0.1	0.9	0.07	0.12	0.07	52.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control 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

STOP Site: [4B] Meenan St/Gorden St intersection (2026 Developed AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Meenan St/Gorden St intersection
 Site Category: Existing Design
 Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	%	[Total HV]	%	v/c	sec		[Veh.]	[Dist]		Rate to Depart		km/h
			veh/h		veh/h					veh	m				
South: Meenan St															
1	L2	All MCs	11	6.0	11	6.0	0.143	6.5	LOS A	0.3	2.2	0.14	0.17	0.14	47.5
2	T1	All MCs	210	6.0	210	6.0	0.143	0.2	LOS A	0.3	2.2	0.14	0.17	0.14	53.6
3	R2	All MCs	32	6.0	32	6.0	0.143	6.6	LOS A	0.3	2.2	0.14	0.17	0.14	46.8
Approach			253	6.0	253	6.0	0.143	1.3	NA	0.3	2.2	0.14	0.17	0.14	51.9
East: Gorden St															
4	L2	All MCs	19	3.0	19	3.0	0.044	8.8	LOS A	0.2	1.1	0.44	0.89	0.44	33.8
5	T1	All MCs	4	3.0	4	3.0	0.044	10.9	LOS B	0.2	1.1	0.44	0.89	0.44	36.7
6	R2	All MCs	10	3.0	10	3.0	0.044	11.5	LOS B	0.2	1.1	0.44	0.89	0.44	33.4
Approach			33	3.0	33	3.0	0.044	9.9	LOS A	0.2	1.1	0.44	0.89	0.44	34.1
North: Meenan St															
7	L2	All MCs	7	6.0	7	6.0	0.158	6.2	LOS A	0.1	0.8	0.04	0.06	0.04	49.7
8	T1	All MCs	273	6.0	273	6.0	0.158	0.1	LOS A	0.1	0.8	0.04	0.06	0.04	57.7
9	R2	All MCs	11	6.0	11	6.0	0.158	6.3	LOS A	0.1	0.8	0.04	0.06	0.04	48.8
Approach			291	6.0	291	6.0	0.158	0.4	NA	0.1	0.8	0.04	0.06	0.04	56.8
West: Gorden St															
10	L2	All MCs	7	3.0	7	3.0	0.039	8.4	LOS A	0.1	0.9	0.47	0.89	0.47	33.0
11	T1	All MCs	3	3.0	3	3.0	0.039	10.9	LOS B	0.1	0.9	0.47	0.89	0.47	36.0
12	R2	All MCs	14	3.0	14	3.0	0.039	11.6	LOS B	0.1	0.9	0.47	0.89	0.47	32.7
Approach			24	3.0	24	3.0	0.039	10.6	LOS B	0.1	0.9	0.47	0.89	0.47	33.3
All Vehicles			601	5.7	601	5.7	0.158	1.7	NA	0.3	2.2	0.12	0.19	0.12	50.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control 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

STOP Site: [4C] Meenan St/Gorden St intersection (2036 Background AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Meenan St/Gorden St intersection
 Site Category: Existing Design
 Stop (Two-Way)
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]		Rate		km/h
			veh/h	%	veh/h	%				veh	m				
South: Meenan St															
1	L2	All MCs	11	6.0	11	6.0	0.116	6.0	LOS A	0.1	0.5	0.04	0.07	0.04	49.4
2	T1	All MCs	196	6.0	196	6.0	0.116	0.1	LOS A	0.1	0.5	0.04	0.07	0.04	57.1
3	R2	All MCs	7	6.0	7	6.0	0.116	6.5	LOS A	0.1	0.5	0.04	0.07	0.04	48.5
Approach			214	6.0	214	6.0	0.116	0.6	NA	0.1	0.5	0.04	0.07	0.04	56.0
East: Gorden St															
4	L2	All MCs	10	3.0	10	3.0	0.022	8.7	LOS A	0.1	0.5	0.42	0.87	0.42	34.1
5	T1	All MCs	2	3.0	2	3.0	0.022	10.4	LOS B	0.1	0.5	0.42	0.87	0.42	37.0
6	R2	All MCs	5	3.0	5	3.0	0.022	10.9	LOS B	0.1	0.5	0.42	0.87	0.42	33.7
Approach			17	3.0	17	3.0	0.022	9.5	LOS A	0.1	0.5	0.42	0.87	0.42	34.4
North: Meenan St															
7	L2	All MCs	7	6.0	7	6.0	0.154	6.1	LOS A	0.1	0.8	0.04	0.06	0.04	49.6
8	T1	All MCs	266	6.0	266	6.0	0.154	0.0	LOS A	0.1	0.8	0.04	0.06	0.04	57.6
9	R2	All MCs	11	6.0	11	6.0	0.154	6.3	LOS A	0.1	0.8	0.04	0.06	0.04	48.8
Approach			284	6.0	284	6.0	0.154	0.4	NA	0.1	0.8	0.04	0.06	0.04	56.7
West: Gorden St															
10	L2	All MCs	7	3.0	7	3.0	0.037	8.4	LOS A	0.1	0.9	0.45	0.89	0.45	33.4
11	T1	All MCs	3	3.0	3	3.0	0.037	10.4	LOS B	0.1	0.9	0.45	0.89	0.45	36.4
12	R2	All MCs	14	3.0	14	3.0	0.037	11.0	LOS B	0.1	0.9	0.45	0.89	0.45	33.1
Approach			24	3.0	24	3.0	0.037	10.1	LOS B	0.1	0.9	0.45	0.89	0.45	33.7
All Vehicles			539	5.8	539	5.8	0.154	1.2	NA	0.1	0.9	0.07	0.13	0.07	52.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
 Two-Way Sign Control 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

STOP Site: [4D] Meenan St/Gorden St intersection (2036 Developed AM peak)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Meenan St/Gorden St intersection
 Site Category: Existing Design
 Stop (Two-Way)
 Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop of Cycles	Number of Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]	v/c	sec		[Veh.]	[Dist]		Rate to Depart		km/h
			veh/h	%	veh/h	%				veh	m				
South: Meenan St															
1	L2	All MCs	11	6.0	11	6.0	0.135	6.5	LOS A	0.3	2.1	0.14	0.18	0.14	47.4
2	T1	All MCs	196	6.0	196	6.0	0.135	0.2	LOS A	0.3	2.1	0.14	0.18	0.14	53.3
3	R2	All MCs	32	6.0	32	6.0	0.135	6.6	LOS A	0.3	2.1	0.14	0.18	0.14	46.6
Approach			239	6.0	239	6.0	0.135	1.4	NA	0.3	2.1	0.14	0.18	0.14	51.5
East: Gorden St															
4	L2	All MCs	19	3.0	19	3.0	0.043	8.7	LOS A	0.2	1.1	0.43	0.89	0.43	33.9
5	T1	All MCs	4	3.0	4	3.0	0.043	10.7	LOS B	0.2	1.1	0.43	0.89	0.43	36.8
6	R2	All MCs	10	3.0	10	3.0	0.043	11.3	LOS B	0.2	1.1	0.43	0.89	0.43	33.5
Approach			33	3.0	33	3.0	0.043	9.7	LOS A	0.2	1.1	0.43	0.89	0.43	34.2
North: Meenan St															
7	L2	All MCs	7	6.0	7	6.0	0.154	6.1	LOS A	0.1	0.8	0.04	0.06	0.04	49.6
8	T1	All MCs	266	6.0	266	6.0	0.154	0.0	LOS A	0.1	0.8	0.04	0.06	0.04	57.6
9	R2	All MCs	11	6.0	11	6.0	0.154	6.3	LOS A	0.1	0.8	0.04	0.06	0.04	48.8
Approach			284	6.0	284	6.0	0.154	0.4	NA	0.1	0.8	0.04	0.06	0.04	56.7
West: Gorden St															
10	L2	All MCs	7	3.0	7	3.0	0.038	8.4	LOS A	0.1	0.9	0.46	0.89	0.46	33.2
11	T1	All MCs	3	3.0	3	3.0	0.038	10.7	LOS B	0.1	0.9	0.46	0.89	0.46	36.2
12	R2	All MCs	14	3.0	14	3.0	0.038	11.4	LOS B	0.1	0.9	0.46	0.89	0.46	32.8
Approach			24	3.0	24	3.0	0.038	10.4	LOS B	0.1	0.9	0.46	0.89	0.46	33.4
All Vehicles			580	5.7	580	5.7	0.154	1.8	NA	0.3	2.1	0.12	0.19	0.12	50.0

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

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).

Two-Way Sign Control 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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APPENDIX G
Traffic impact assessment certification

Certification of Traffic Impact Assessment Report

Registered Professional Engineer of Queensland

For


Project Title	TAIHS Gorden Street Precinct Masterplanning
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As a professional engineer registered by the Board of Professional Engineers of Queensland pursuant to the Professional Engineers Act 2002 as competent in my areas of nominated expertise, I understand and recognise:

- the significant role of engineering as a profession, and that
- the community has a legitimate expectation that my certification affixed to this engineering work can be trusted, and that
- I am responsible for ensuring its preparation has satisfied all necessary standards, conduct and contemporary practice.

As the responsible RPEQ, I certify:

- I am satisfied that all submitted components comprising this traffic impact assessment, listed in the following table, have been completed in accordance with the Guide to Traffic Impact Assessment published by the Queensland Department of Transport and Main Roads and using sound engineering principles, and
- where specialised areas of work have not been under my direct supervision, I have reviewed the outcomes of the work and consider the work and its outcomes as suitable for the purposes of this traffic impact assessment, and that
- the outcomes of this traffic impact assessment are a true reflection of results of assessment, and that
- I believe the strategies recommended for mitigating impacts by this traffic impact assessment, embrace contemporary practice initiatives and will deliver the desired outcomes.

Name:	Daniel Eric Johnstone
RPEQ No:	5892
RPEQ competencies:	Civil
Signature:	
Date:	12/11/25
Postal address:	PO Box 1498 Aitkenvale Qld 4814
Email:	djohnstone@lcjengineers.com.au

Traffic impact assessment components to which this certification applies	
1. Introduction	
Background	✓
Scope and study area	✓
Pre-lodgement meeting notes	
2. Existing Conditions	
Land use and zoning	✓
Adjacent land uses / approvals	✓
Surrounding road network details	✓
Traffic volumes	✓
Intersection and network performance	
Road safety issues	✓
Site access	✓
Public transport (if applicable)	✓
Active transport (if applicable)	
Parking (if applicable)	
Pavement (if applicable)	
Transport infrastructure (if applicable)	
3. Proposed Development Details	
Development site plan	✓
Operational details (including year of opening of each stage and any relevant catchment / market analysis)	✓
Proposed access and parking	✓
4. Development Traffic	
Traffic generation (by development stage if relevant and considering light and heavy vehicle trips)	✓
Trip distribution	✓
Development traffic volumes on the network	✓
5. Impact Assessment and Mitigation	
With and without development traffic volumes	✓
Construction traffic impact assessment and mitigation (if applicable)	
Road safety impact assessment and mitigation	✓
Access and frontage impact assessment and mitigation	✓
Intersection delay impact assessment and mitigation	
Road link capacity assessment and mitigation	
Pavement impact assessment and mitigation	

Traffic impact assessment components to which this certification applies	
Transport infrastructure impact assessment and mitigation	
Other impacts assessment relevant to the specific development type / location (if applicable)	
6. Conclusions and Recommendations	
Summary of impacts and mitigation measures proposed	✓
Certification statement and authorisation	✓