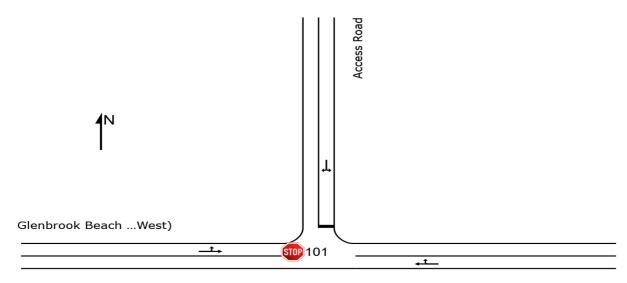
SITE LAYOUT

Site: 101 [GBR Access - AM Peak (Site Folder: Without Right Turn Bay)]

New Site Site Category: (None) Stop (Two-Way)

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



Glenbrook Beach ...East)

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise Level 5 | Created: Wednesday, September 27, 2023 9:29:29 AM

Project: \Nz4105-ppfss01\shared_projects\310103911\technical\Transport\SIDRA_Modelling\372_GBR_Access.sip9

MOVEMENT SUMMARY

Site: 101 [GBR Access - AM Peak (Site Folder: Without Right Turn Bay)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

Reprocess the Site in this Version to see the selected Movement Class results. All results may be affected by reprocessing compared with Version 9.0 results.

New Site

Site Category: (None) Stop (Two-Way)

Vehic	cle M	ovemen	t Perfo	rmai	nce										
Mov ID	Turn	Mov Class		ows HV]		rival ows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of Jeue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East:	Glenb	rook Bea	ich Road	d (Ea	st)										
5	T1	All MCs	289	8.0	289	8.0	0.224	1.3	LOSA	0.8	6.0	0.28	0.12	0.28	75.3
6	R2	All MCs	55	4.0	55	4.0	0.224	10.9	LOS B	0.8	6.0	0.28	0.12	0.28	57.4
Appro	oach		344	7.4	344	7.4	0.224	2.8	NA	8.0	6.0	0.28	0.12	0.28	71.7
North	: Acce	ss Road													
7	L2	All MCs	7 2	29.0	7 :	29.0	0.019	14.2	LOS B	0.1	0.5	0.64	0.94	0.64	43.7
9	R2	All MCs	1	0.0	1	0.0	0.019	16.5	LOS C	0.1	0.5	0.64	0.94	0.64	48.4
Appro	oach		8 2	25.4	8 2	25.4	0.019	14.5	LOS B	0.1	0.5	0.64	0.94	0.64	44.2
West	Glent	orook Bea	ach Roa	d (W	est)										
10	L2	All MCs	1	0.0	1	0.0	0.353	7.0	LOSA	0.0	0.0	0.00	0.00	0.00	74.4
11	T1	All MCs	653	8.0	653	8.0	0.353	0.1	LOSA	0.0	0.0	0.00	0.00	0.00	79.7
Appro	oach		654	8.0	654	8.0	0.353	0.1	NA	0.0	0.0	0.00	0.00	0.00	79.7
All Ve	hicles		1006	7.9	1006	7.9	0.353	1.1	NA	0.8	6.0	0.10	0.05	0.10	76.3

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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise Level 5 | Processed: Wednesday, September 27, 2023 9:00:54 AM

Project: \Nz4105-ppfss01\shared projects\310103911\technical\Transport\SIDRA Modelling\372 GBR Access.sip9

MOVEMENT SUMMARY

Site: 101 [GBR Access - PM Peak (Site Folder: Without Right Turn Bay)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

Reprocess the Site in this Version to see the selected Movement Class results. All results may be affected by reprocessing compared with Version 9.0 results.

New Site

Site Category: (None) Stop (Two-Way)

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Dem Fl [Total veh/h	lows HV]	F	rival lows HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service		Back Of leue Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
East:	Glenb	rook Bea	ch Roa	d (Ea	st)										
5	T1	All MCs	678	8.0	678	8.0	0.374	0.1	LOSA	0.2	1.2	0.02	0.01	0.03	79.7
6	R2	All MCs	7	29.0	7	29.0	0.374	11.0	LOS B	0.2	1.2	0.02	0.01	0.03	59.2
Appro	ach		685	8.2	685	8.2	0.374	0.2	NA	0.2	1.2	0.02	0.01	0.03	79.4
North	: Acce	ss Road													
7	L2	All MCs	55	4.0	55	4.0	0.068	10.5	LOS B	0.3	1.8	0.49	0.91	0.49	50.5
9	R2	All MCs	1	0.0	1	0.0	0.068	20.7	LOS C	0.3	1.8	0.49	0.91	0.49	50.2
Appro	oach		56	3.9	56	3.9	0.068	10.7	LOS B	0.3	1.8	0.49	0.91	0.49	50.5
West	Glent	orook Bea	ich Roa	ıd (W	est)										
10	L2	All MCs	1	0.0	1	0.0	0.232	7.0	LOSA	0.0	0.0	0.00	0.00	0.00	74.5
11	T1	All MCs	429	8.0	429	8.0	0.232	0.0	LOSA	0.0	0.0	0.00	0.00	0.00	79.8
Appro	ach		431	8.0	431	8.0	0.232	0.1	NA	0.0	0.0	0.00	0.00	0.00	79.8
All Ve	hicles		1172	7.9	1172	7.9	0.374	0.6	NA	0.3	1.8	0.04	0.05	0.04	77.4

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.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise Level 5 | Processed: Wednesday, September 27, 2023 9:00:55 AM

 $Project: $$ \Po SDRA_Modelling \end{center} Projects $$ 10103911 \end{cen$

LANE SUMMARY

🧓 Site: 101 [GBR Access - AM Peak (Site Folder: Without Right

Turn Bay)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

New Site

Site Category: (None) Stop (Two-Way)

Lane Use	and F	Perfori	mance												
	Dem Flo [Total veh/h	WS	Arrival [Total veh/h		Cap.	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% Ba Que [Veh		Lane Config	Lane Length m	Cap. P Adj. B %	
East: Glen					VOII/II	V/ O	70	- 500					- '''	70	70
Lane 1	344	7.4	344	7.4	1537	0.224	100	2.8	LOS A	0.8	6.0	Full	500	0.0	0.0
Approach	344	7.4	344	7.4		0.224		2.8	NA	0.8	6.0				
North: Acc	ess Ro	ad													
Lane 1	8	25.4	8	25.4	446	0.019	100	14.5	LOS B	0.1	0.5	Full	500	0.0	0.0
Approach	8	25.4	8	25.4		0.019		14.5	LOS B	0.1	0.5				
West: Glei	nbrook l	Beach	Road (\	Nest)											
Lane 1	654	8.0	654	8.0	1854	0.353	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	654	8.0	654	8.0		0.353		0.1	NA	0.0	0.0				
All Vehicles	1006	7.9	1006	7.9		0.353		1.1	NA	0.8	6.0				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Lane LOS values are based on average delay per lane.

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

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.

Approach	Lane Flo	ows (v	eh/h)						
East: Glenb)					
Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c		Prob. SL Ov. %	Ov. Lane No.
Lane 1	289	55	344	7.4	1537	0.224	100	NA	NA
Approach	289	55	344	7.4		0.224			
North: Acce	ss Road								
Mov. From N To Exit:	L2 E	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	7	1	8	25.4	446	0.019	100	NA	NA
Approach	7	1	8	25.4		0.019			
West: Glenk	orook Bea	ch Roa	ad (Wes	st)					
Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	653	654	8.0	1854	0.353	100	NA	NA

Approach	1	653	654	8.0	0.353
	Total	%HVD	eg.Satr	ı (v/c)	
All Vehicles	1006	7.9		0.353	

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

Merge Analysis												
Exit	Short	Percent Opposing	Critical	Follow-up Lane Ca	pacity	Deg.	Min.	Merge				
Lane	Lane	Opng in Flow Rate	Gap	Headway Flow		Satn [Delay	Delay				
Number	Length	Lane		Rate								
	m	% veh/h pcu/h	sec	sec veh/h	veh/h	v/c	sec	sec				
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demar	nd Analysis			
	Initial	Residual	Time for	Duration
	Queued	Queued	Residual	of
	Demand	Demand	Demand to Clear	Oversatn
	veh	veh	sec	sec
East: Glenbrook E	Beach Road (Ea	ast)		
Lane 1	0.0	0.0	0.0	0.0
North: Access Ro	ad			
Lane 1	0.0	0.0	0.0	0.0
West: Glenbrook	Beach Road (V	Vest)		
Lane 1	0.0	0.0	0.0	0.0

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise Level 5 | Processed: Wednesday, September 27, 2023 9:00:54 ΑM

 $\label{project: $$\Pr(SIDRA_Modelling)372_GBR_Access.sip9$ Project: $$\P(SIDRA_Modelling)372_GBR_Access.sip9$ $$\P(SIDRA_$

LANE SUMMARY

🧓 Site: 101 [GBR Access - PM Peak (Site Folder: Without Right

Turn Bay)]

Output produced by SIDRA INTERSECTION Version: 9.0.3.9771

New Site

Site Category: (None) Stop (Two-Way)

Lane Use	and F	erfor	mance												
	Dem Flo [Total veh/h	WS	Arrival [Total veh/h		Cap.	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% B Que [Veh		Lane Config	Lane Length m	Cap. P Adj. B %	
East: Glen	brook E	Beach I	Road (E	ast)											
Lane 1	685	8.2	685	8.2	1830	0.374	100	0.2	LOSA	0.2	1.2	Full	500	0.0	0.0
Approach	685	8.2	685	8.2		0.374		0.2	NA	0.2	1.2				
North: Acc	ess Ro	ad													
Lane 1	56	3.9	56	3.9	820	0.068	100	10.7	LOS B	0.3	1.8	Full	500	0.0	0.0
Approach	56	3.9	56	3.9		0.068		10.7	LOS B	0.3	1.8				
West: Glei	nbrook l	3each	Road (\	Vest)											
Lane 1	431	8.0	431	8.0	1854	0.232	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	431	8.0	431	8.0		0.232		0.1	NA	0.0	0.0				
All Vehicles	1172	7.9	1172	7.9		0.374		0.6	NA	0.3	1.8				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Lane LOS values are based on average delay per lane.

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

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.

Approach	Lane Flo	ows (v	eh/h)						
East: Glenb	rook Bead	ch Roa	d (East)					
Mov. From E To Exit:	T1 W	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
			005	0.0	4000	0.074	400	NI A	
Lane 1	678	7	685	8.2	1830	0.374	100	NA	NA
Approach	678	7	685	8.2		0.374			
North: Acce	ss Road								
Mov. From N To Exit:	L2 E	R2 W	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	55	1	56	3.9	820	0.068	100	NA	NA
Approach	55	1	56	3.9		0.068			
West: Glent	brook Bea	ch Roa	d (Wes	st)					
Mov. From W To Exit:	L2 N	T1 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	1	429	431	8.0	1854	0.232	100	NA	NA

Approach	1	429	431	8.0	0.232
	Total	%HVD	eg.Satr	n (v/c)	
All Vehicles	1172	7.9		0.374	

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

Merge Analysis												
Exit	Short	Percent Opposing	Critical	Follow-up Lane Ca	pacity	Deg.	Min.	Merge				
Lane	Lane	Opng in Flow Rate	Gap	Headway Flow		Satn [Delay	Delay				
Number	Length	Lane		Rate								
	m	% veh/h pcu/h	sec	sec veh/h	veh/h	v/c	sec	sec				
There are no Exit Short Lanes for Merge Analysis at this Site.												

Variable Demand Analysis										
	Initial	Residual	Time for	Duration						
	Queued Demand	Queued Demand	Residual Demand	of Oversatn						
	Demand	Demand	to Clear	Oversaui						
	veh	veh	sec	sec						
East: Glenbrook	Beach Road (Ea	ast)								
Lane 1	0.0	0.0	0.0	0.0						
North: Access R	oad									
Lane 1	0.0	0.0	0.0	0.0						
West: Glenbrool	k Beach Road (V	Vest)								
Lane 1	0.0	0.0	0.0	0.0						

SIDRA INTERSECTION 9.1 | Copyright © 2000-2023 Akcelik and Associates Pty Ltd | sidrasolutions.com
Organisation: STANTEC NEW ZEALAND | Licence: NETWORK / Enterprise Level 5 | Processed: Wednesday, September 27, 2023 9:00:55 ΑM

 $\label{project: $$\Pr(SIDRA_Modelling)372_GBR_Access.sip9$ Project: $$\P(SIDRA_Modelling)372_GBR_Access.sip9$ $$\P(SIDRA_$