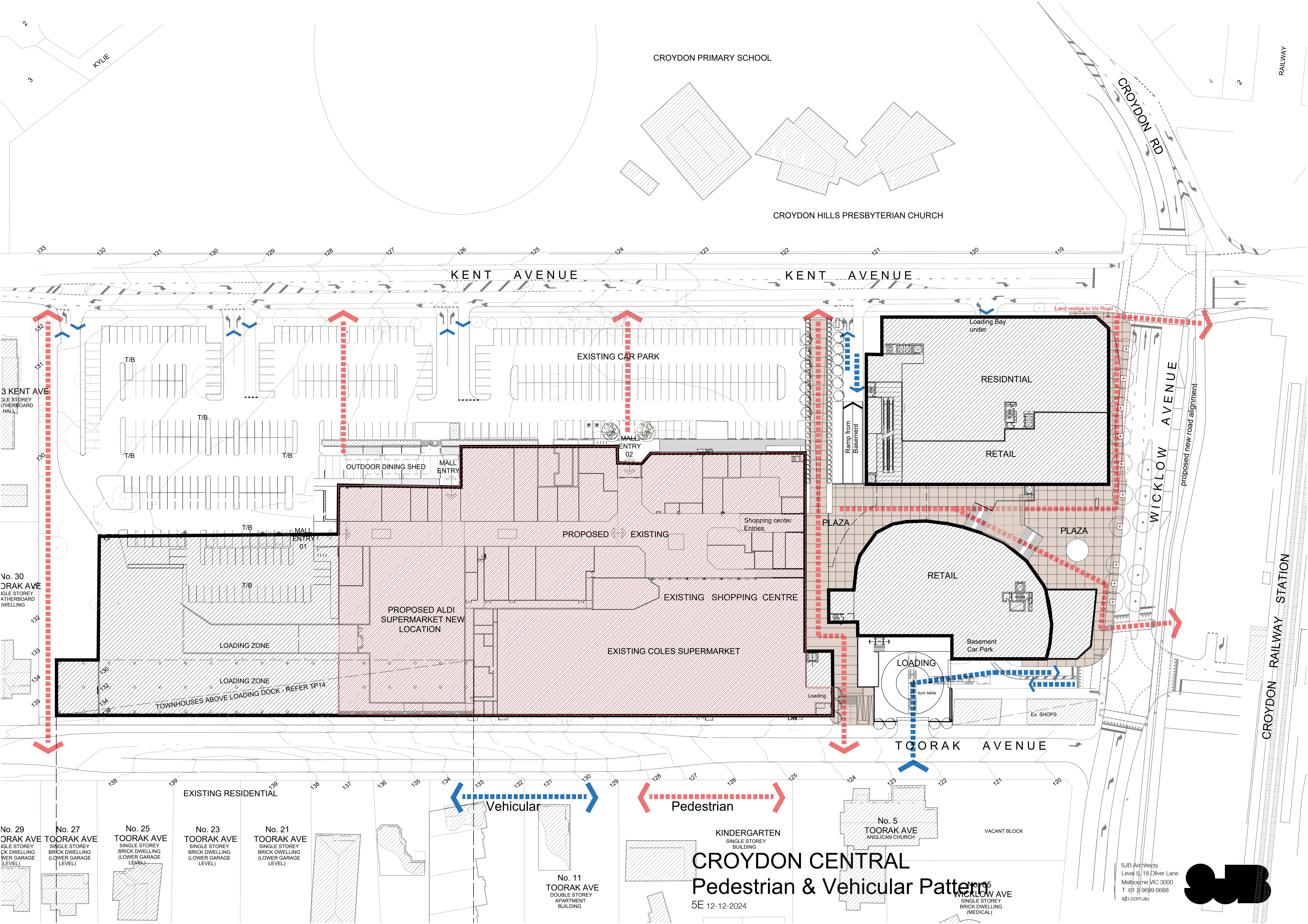




Appendix A

Concept Plans of Proposed Development



CROYDON PRIMARY SCHOOL

CROYDON HILLS PRESBYTERIAN CHURCH

KENT AVENUE

KENT AVENUE

EXISTING CAR PARK

RESIDENTIAL

RETAIL

OUTDOOR DINING SHED

MALL ENTRY

MALL ENTRY 02

Ramp from Basement

Loading Bay under

Land vestige to Vic Road

WICKLOW AVENUE

proposed new road alignment

PROPOSED EXISTING

Shopping center Entries

PLAZA

PLAZA

RETAIL

EXISTING SHOPPING CENTRE

PROPOSED ALDI SUPERMARKET NEW LOCATION

EXISTING COLES SUPERMARKET

LOADING

Basement Car Park

Ex SHOPS

LOADING ZONE

LOADING ZONE

TOWNHOUSES ABOVE LOADING DOCK - REFER TP14

MALL ENTRY 01

TOORAK AVENUE

EXISTING RESIDENTIAL

Vehicular

Pedestrian

CROYDON CENTRAL Pedestrian & Vehicular Pattern

5E 12-12-2024

No. 3 KENT AVE
SINGLE STOREY
OTHERBOARD
HALL

No. 30
TOORAK AVE
SINGLE STOREY
OTHERBOARD
DWELLING

No. 29
TOORAK AVE
SINGLE STOREY
CK DWELLING
W/ER GARAGE
LEVEL

No. 27
TOORAK AVE
SINGLE STOREY
BRICK DWELLING
(LOWER GARAGE
LEVEL)

No. 25
TOORAK AVE
SINGLE STOREY
BRICK DWELLING
(LOWER GARAGE
LEVEL)

No. 23
TOORAK AVE
SINGLE STOREY
BRICK DWELLING
(LOWER GARAGE
LEVEL)

No. 21
TOORAK AVE
SINGLE STOREY
BRICK DWELLING
(LOWER GARAGE
LEVEL)

No. 11
TOORAK AVE
DOUBLE STOREY
APARTMENT
BUILDING

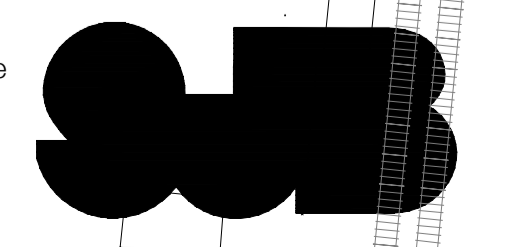
KINDERGARTEN
SINGLE STOREY
BUILDING

No. 5
TOORAK AVE
ANGELICAN CHURCH

VACANT BLOCK

No. 5
WICKLOW AVE
SINGLE STOREY
BRICK DWELLING
(MEDICAL)

SJB Architects
Level 5, 18 Oliver Lane
Melbourne VIC 3000
T 61 3 9699 6688
sjb.com.au



CROYDON RAILWAY STATION

RAILWAY

CROYDON RD



ISSUE	ISSUE DESCRIPTION	DESIGNER	CHECKED/APPROVED	ISSUE DATE
A	INITIAL ISSUE	T.HO	LF (RPE8297)	23 JUL 2024
B	UPDATED ISSUE	T.HO	LF (RPE8297)	25 OCT 2024
C	UPDATED ISSUE	T.HO	LF (RPE8297)	11 NOV 2024
D	UPDATED ISSUE	T.HO	LF (RPE8297)	25 NOV 2024

GENERAL NOTES

1. BASE INFORMATION SKETCHED FROM LXP PDF LAYOUT
2. CLIENT FILE (HABEN CROYDON - Hohen Croydton - issue to traffic engineer Revision 5b 21-10-2024 DWG) / AERIAL PHOTOGRAPH (SOURCE: NEARMAP OCT 2024)
3. ALL DIMENSIONS ARE TO FACE OF KERB & CHANNEL
4. MAIN ROAD - WICKLOW AVENUE (SPEED ZONE 50km/h)
5. LOCAL ROAD - KENT AVENUE (SPEED ZONE 60km/h)
6. ALL PROPOSED FOOTPATHS AND PRAM CROSSINGS ARE TO BE CONSTRUCTED WITH TACTILE GROUND SURFACE INDICATORS TO DDA COMPLIANCE GUIDELINES REFER TO AS 1428.4.2009

DESIGNED
T. HO

CHECKED/APPROVED
L. FURNESS

FILE NAME
G32252-02-00.dgn

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CROYDTON CENTRAL SHOPPING CENTRE
WICKLOW AVENUE AND KENT AVENUE INTERSECTION
MAROONDAH CITY COUNCIL
CONCEPT PLAN - AMMENDED DEVELOPMENT PLAN

SCALE 0 2.5 5 7.5 10
1:500 (A3)

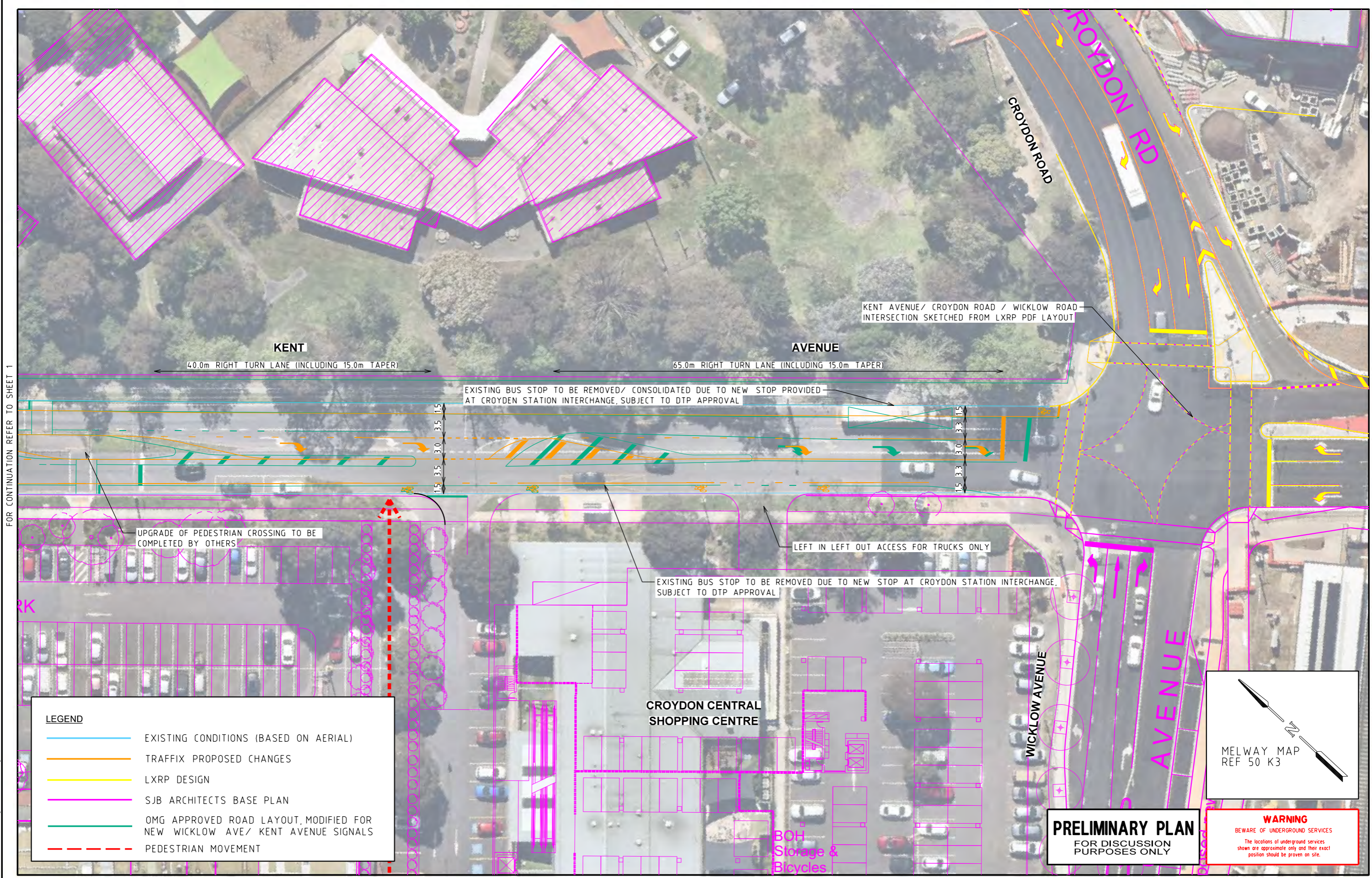
SHEET No. 1/2

DWG No. G32252-02-03

DATE: 26/11/2024
MODEL: G32252-02-03
FILE: P:\Synergy\Projects\G32252-03-Drawings\G32252-02-00.dgn

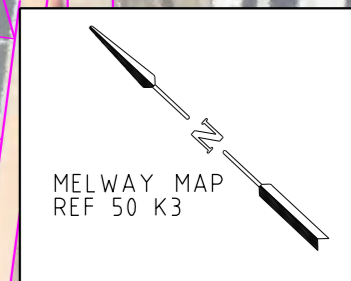
FOR CONTINUATION REFER TO SHEET 1

DATE: 26/11/2024
 MODEL: G32252-02-04
 FILE: P:\Synergy\Projects\G32252-02-04-Drawings\G32252-02-00.dgn



LEGEND

- EXISTING CONDITIONS (BASED ON AERIAL)
- TRAFFIX PROPOSED CHANGES
- LXP DESIGN
- SJB ARCHITECTS BASE PLAN
- OMG APPROVED ROAD LAYOUT, MODIFIED FOR NEW WICKLOW AVE/ KENT AVENUE SIGNALS
- PEDESTRIAN MOVEMENT



PRELIMINARY PLAN
 FOR DISCUSSION
 PURPOSES ONLY

WARNING
 BEWARE OF UNDERGROUND SERVICES
 The locations of underground services shown are approximate only and their exact position should be proven on site.

ISSUE	ISSUE DESCRIPTION	DESIGNER	CHECKED/APPROVED	ISSUE DATE
A	INITIAL ISSUE	T.HO	LF (RPE8297)	23 JUL 2024
B	UPDATED ISSUE	T.HO	LF (RPE8297)	25 OCT 2024
C	UPDATED ISSUE	T.HO	LF (RPE8297)	11 NOV 2024
D	UPDATED ISSUE	T.HO	LF (RPE8297)	25 NOV 2024

GENERAL NOTES

1. BASE INFORMATION SKETCHED FROM LXP PDF LAYOUT
2. CLIENT FILE (HABEN CROYDON - Hablen Croydon - issue to traffic engineer Revision 5b 21-10-2024 DWG) / AERIAL PHOTOGRAPH (SOURCE: NEARMAP OCT 2024)
3. ALL DIMENSIONS ARE TO FACE OF KERB & CHANNEL
4. MAIN ROAD - WICKLOW AVENUE (SPEED ZONE 50km/h)
5. LOCAL ROAD - KENT AVENUE (SPEED ZONE 60km/h)
6. ALL PROPOSED FOOTPATHS AND PRAM CROSSINGS ARE TO BE CONSTRUCTED WITH TACTILE GROUND SURFACE INDICATORS TO DDA COMPLIANCE GUIDELINES REFER TO AS 1428 4.2009

DESIGNED
T. HO

CHECKED/APPROVED
L. FURNESS

FILE NAME
G32252-02-00.dgn

Traffix Group

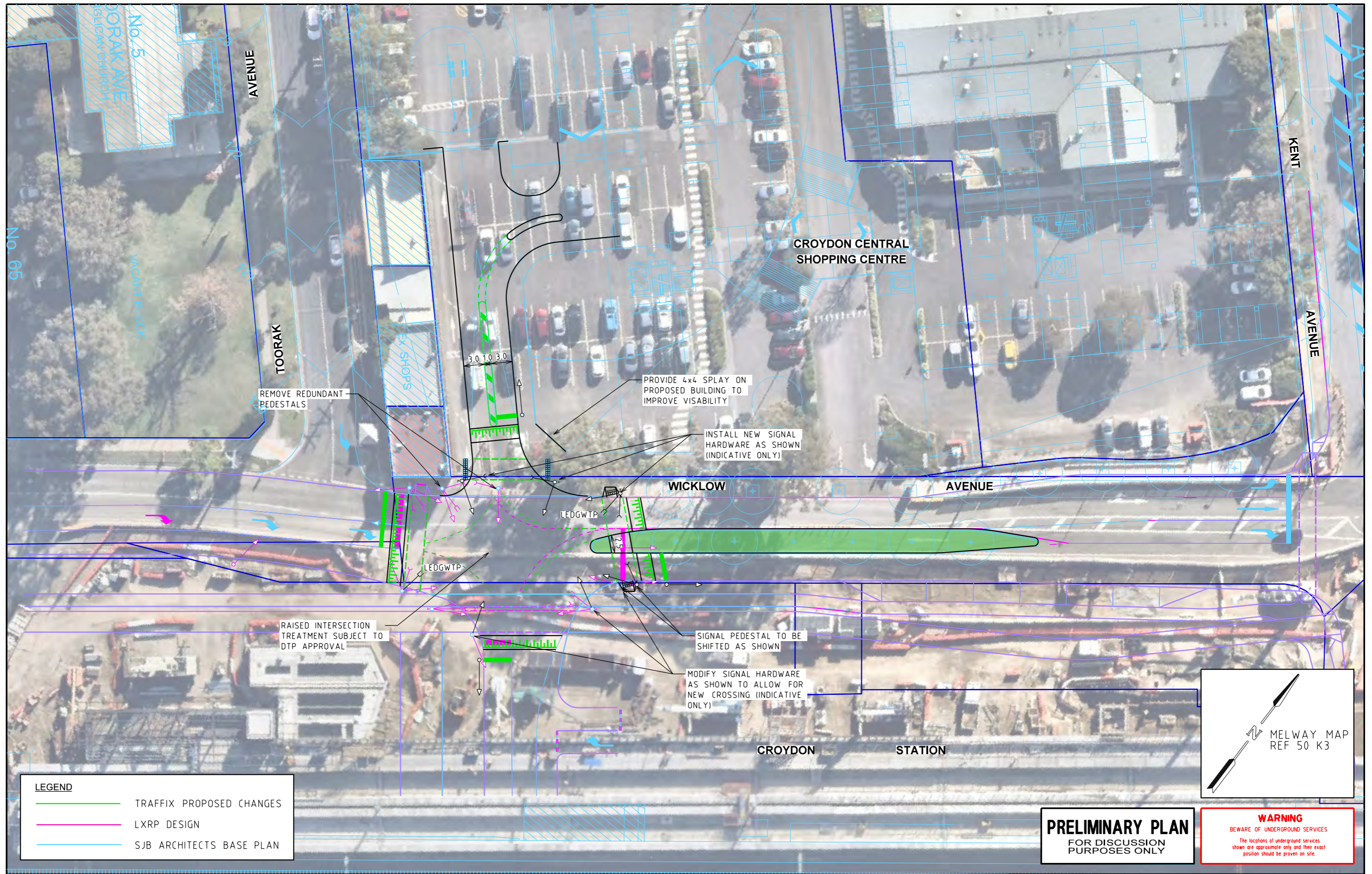
Level 28, 459 Collins Street
 Melbourne, Victoria 3000
 +61 3 9822 2888
 www.traffixgroup.com.au

CROYDON CENTRAL SHOPPING CENTRE
 WICKLOW AVENUE AND KENT AVENUE INTERSECTION
 MAROONDAH CITY COUNCIL
 CONCEPT PLAN - AMMENDED DEVELOPMENT PLAN

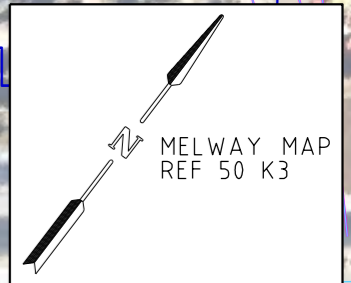
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 1:500 (A3)

SHEET No. 2/2

DWG No. G32252-02-04



LEGEND	
—	TRAFFIX PROPOSED CHANGES
—	LXP DESIGN
—	SJB ARCHITECTS BASE PLAN



PRELIMINARY PLAN
FOR DISCUSSION
PURPOSES ONLY

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services shown are approximate only and their exact position should be proven on site.

DATE: 23/07/2024
MODEL: G32252-02-01
FILE: P:\Synergy\Projects\G32252-02-01-Drawings\G32252-02-00.dgn

ISSUE	ISSUE DESCRIPTION	DESIGNER	CHECKED/APPROVED	ISSUE DATE
A	INITIAL ISSUE	SOK	LF (RPE8297)	04 DEC 2023
B	UPDATED ISSUE	T.H	LF (RPE8297)	28 MAY 2024
C	RSA COMMENTS	T.H	LF (RPE8297)	23 JUL 2024

GENERAL NOTES

- BASE INFORMATION SKETCHED FROM LXP PDF LAYOUT (COOLSTORE ROAD - CIVIL LAYOUT PLAN - DRAWING CDN C3000 A - 8.9.2022) / CLIENT FILE (HABEN CROYDON - ISSUE TO TRAFFIC ENGINEER REV1001 16092022 DWG) / AERIAL PHOTOGRAPH (SOURCE: NEARMAP NOV 2022)
- ALL DIMENSIONS ARE TO FACE OF KERB & CHANNEL
- MAIN ROAD - WICKLOW AVENUE (SPEED ZONE 50km/h)
LOCAL ROAD - KENT AVENUE (SPEED ZONE 50km/h)
- ALL PROPOSED FOOTPATHS AND PRAM CROSSINGS ARE TO BE CONSTRUCTED WITH TACTILE GROUND SURFACE INDICATORS TO DDA COMPLIANCE GUIDELINES REFER TO AS 1428.4.2009

DESIGNED
S. O'KEEFE

CHECKED/APPROVED
L. FURNESS

FILE NAME
G32252-02-00.dgn

Traffix Group

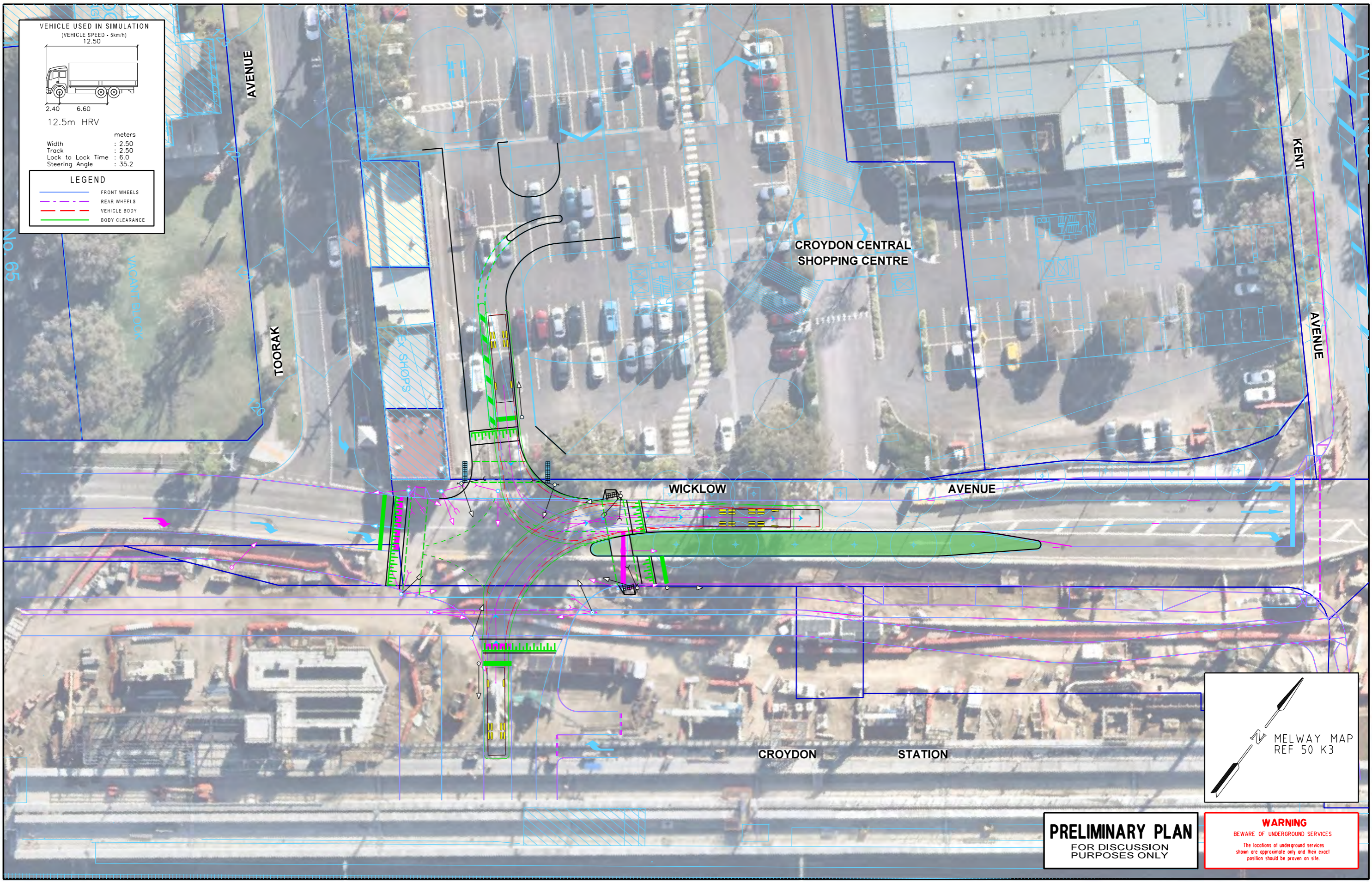
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+61 3 9822 2888
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CROYDON CENTRAL SHOPPING CENTRE
WICKLOW AVENUE AND KENT AVENUE
MAROONDAH CITY COUNCIL
CONCEPT PLAN - AMMENDED DEVELOPMENT PLAN

SCALE 0 2.5 5 7.5 10
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SHEET No. 1

DWG No. G32252-02-01



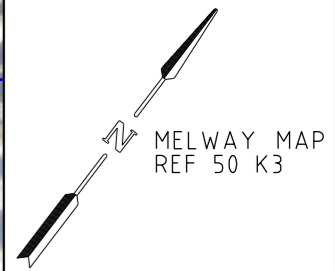
VEHICLE USED IN SIMULATION
(VEHICLE SPEED - 5km/h)
12.50

2.40 6.60
12.5m HRV

meters
Width : 2.50
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 35.2

LEGEND

- FRONT WHEELS
- REAR WHEELS
- VEHICLE BODY
- BODY CLEARANCE



PRELIMINARY PLAN
FOR DISCUSSION
PURPOSES ONLY

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services shown are approximate only and their exact position should be proven on site.

DATE: 23/07/2024
MODEL: G32252-02-02
FILE: P:\Synergy\Projects\G32252-02-02-Drawings\G32252-02-02.dgn

ISSUE	ISSUE DESCRIPTION	DESIGNER	CHECKED/APPROVED	ISSUE DATE
A	INITIAL ISSUE	SOK	LF (RPE8297)	04 DEC 2023
B	UPDATED ISSUE	T.H	LF (RPE8297)	28 MAY 2024
C	RSA COMMENTS	T.H	LF (RPE8297)	22 JUL 2024

GENERAL NOTES

- BASE INFORMATION SKETCHED FROM LXRP PDF LAYOUT (COOLSTORE ROAD - CIVIL LAYOUT PLAN - DRAWING CDN C3000 A - 8 9 2022) / CLIENT FILE (HABEN CROYDON - ISSUE TO TRAFFIC ENGINEER REV1001 16092022 DWG) / AERIAL PHOTOGRAPH (SOURCE: NEARMAP NOV 2022)
- ALL DIMENSIONS ARE TO FACE OF KERB & CHANNEL
- MAIN ROAD - WICKLOW AVENUE (SPEED ZONE 50km/h)
LOCAL ROAD - KENT AVENUE (SPEED ZONE 50km/h)
- ALL PROPOSED FOOTPATHS AND PRAM CROSSINGS ARE TO BE CONSTRUCTED WITH TACTILE GROUND SURFACE INDICATORS TO DDA COMPLIANCE GUIDELINES REFER TO AS 1428 4-2009

DESIGNED
S. O'KEEFE

CHECKED/APPROVED
L. FURNESS

FILE NAME
G32252-02-00.dgn

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CROYDON CENTRAL SHOPPING CENTRE
WICKLOW AVENUE AND KENT AVENUE
MAROONDAH CITY COUNCIL

CONCEPT PLAN - AMMENDED DEVELOPMENT PLAN SWEEP PATH 12.5m HRV

SCALE 0 2.5 5 7.5 10
1:500 (A3)

SHEET No. 2

DWG No. G32252-02-02



Appendix C

Existing and Future Traffic Volume Diagrams

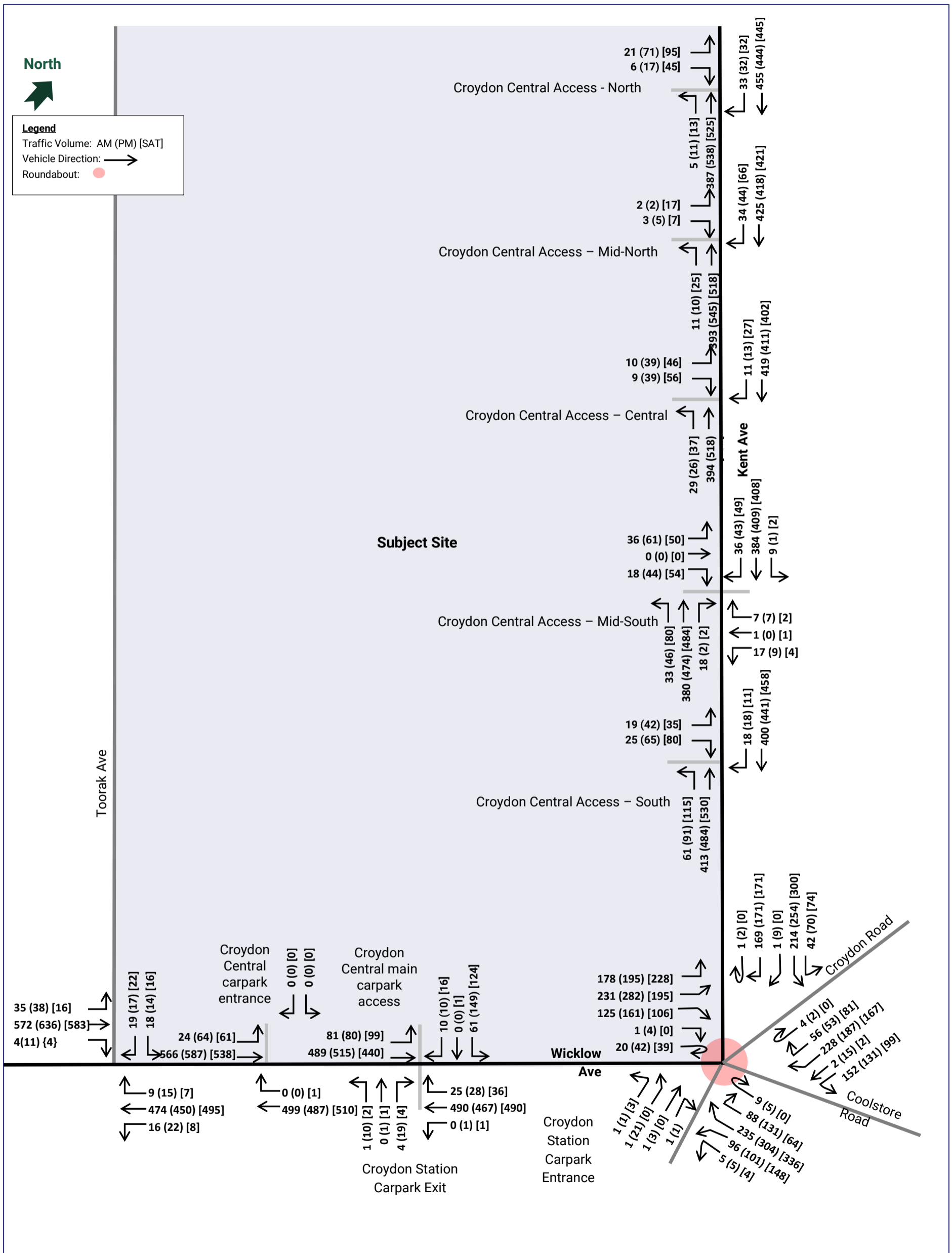


Figure D1: Existing Traffic Volumes

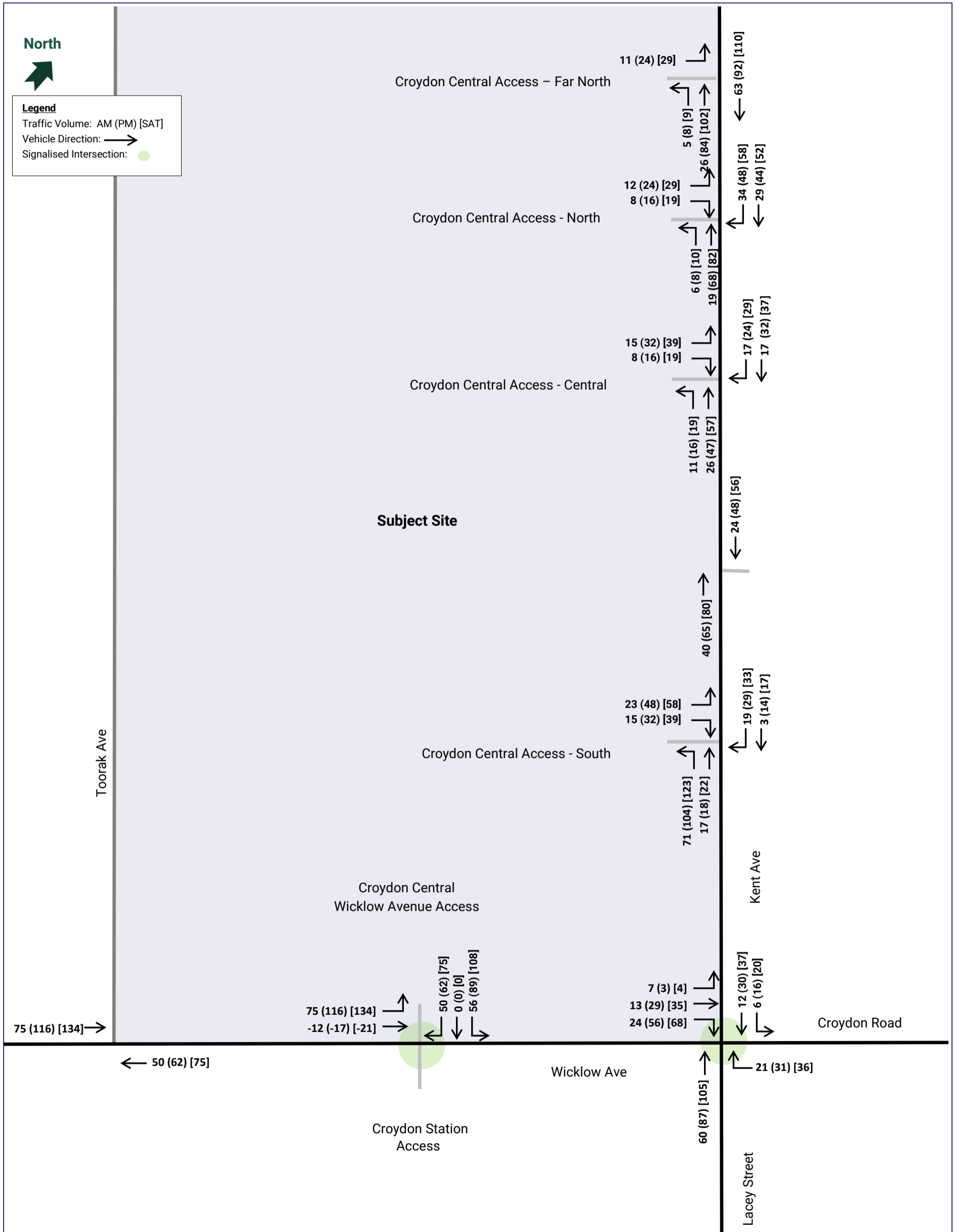


Figure G1: Site Traffic Volumes – post-LXRP Works (including passing trade discounts)

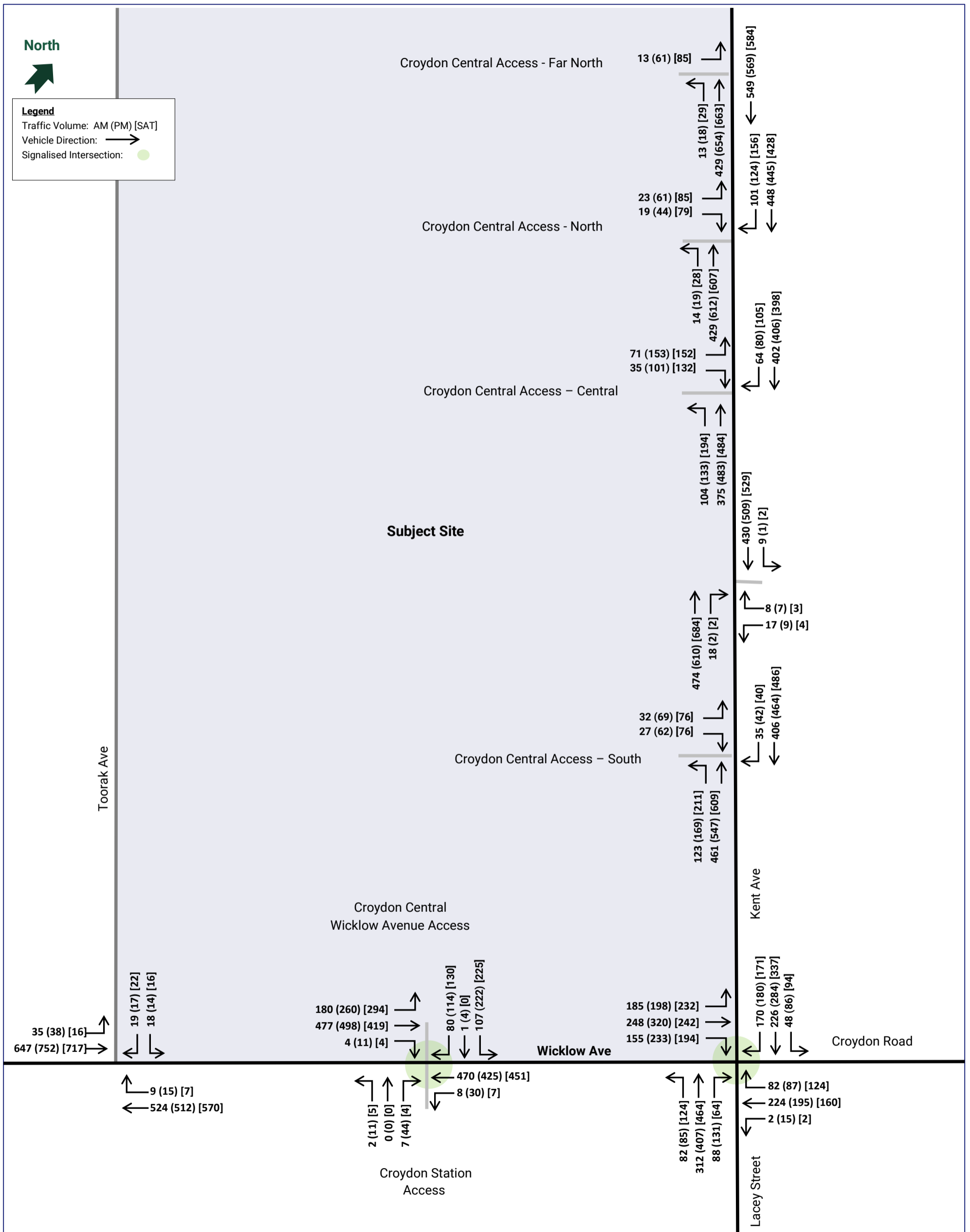


Figure G2: Post Development Traffic Volumes



Appendix D

SIDRA Results

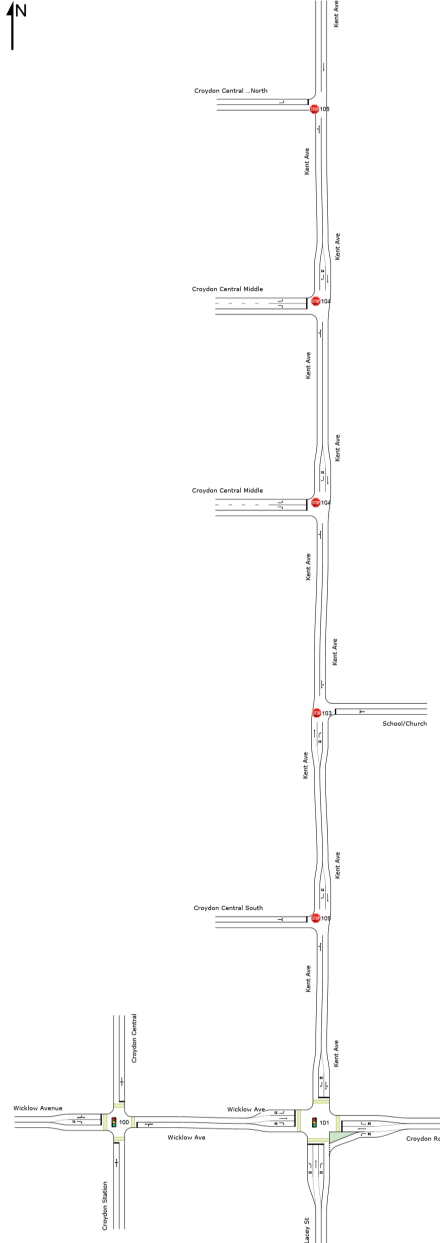
NETWORK LAYOUT

Network: N101 [PM Network (Network Folder: PM Peak)]

New Network

Network Category: (None)

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



SITES IN NETWORK		
Site ID	CCG ID	Site Name
100	NA	Wicklow Avenue/Croydon Central Access - PM
101	NA	Wicklow Ave/Kent Ave/Croydon Rd - PM
109	NA	Kent Ave/Croydon South - PM
103	NA	Kent Ave/Church Access - PM
104	NA	Kent Ave/Croydon Central Middle - PM
104	NA	Kent Ave/Croydon Central North - PM
105	NA	Kent Ave/Croydon Central Far North - PM

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Organisation: TRAFFIX GROUP PTY LTD | Licence: NETWORK / Enterprise Level 3 | Created: Thursday, 19 December 2024 9:50:33 AM

Project: P:\Synergy\Projects\GRP3\GRP32252\May 2024 Council Response\Scenario 1\Dec 2024\Nov 2024 - Traffix Scheme (new entry with RT at north).sip9

PHASING SUMMARY

Site: 100 [Wicklow Avenue/Croydon Central Access - PM (Site Folder: PM Peak)]

Network: N101 [PM Network (Network Folder: PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Wicklow Avenue/Croydon Central Access

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Leading Right Turn

Input Phase Sequence: A, E*, D

Output Phase Sequence: A, E*, D

Reference Phase: Phase A

Offset: 0 seconds (User)

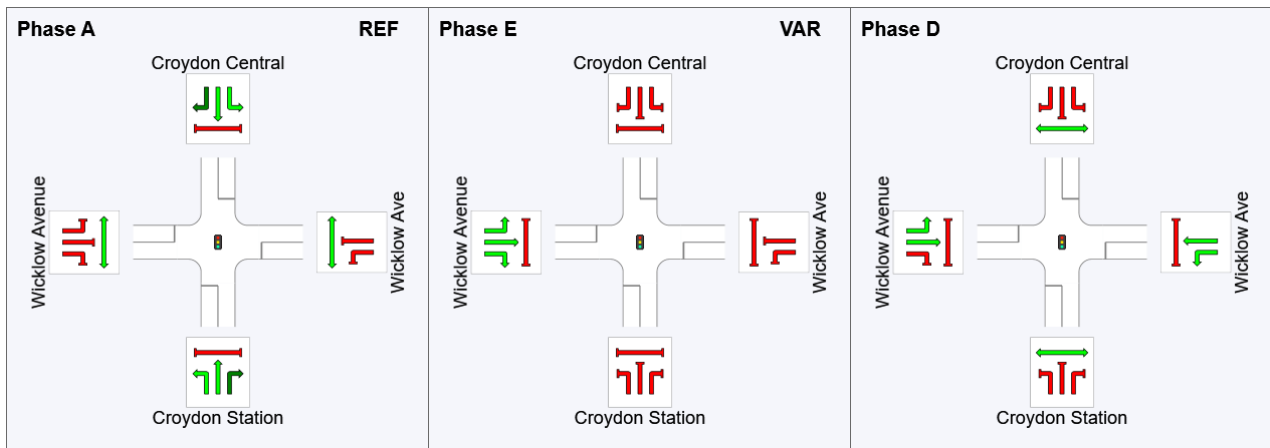
(* Variable Phase)

Phase Timing Summary

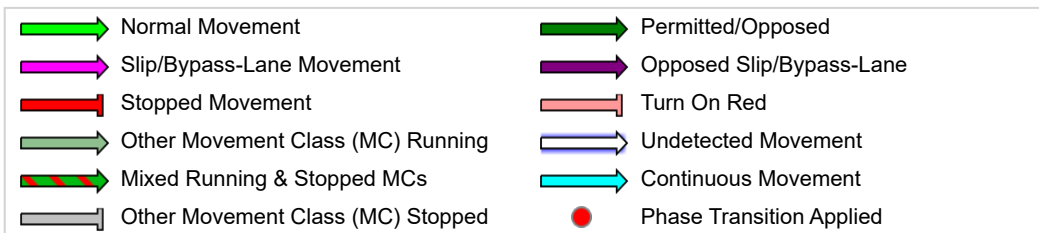
Phase	A	E	D
Phase Change Time (sec)	0	37	49
Green Time (sec)	31	6	45
Phase Time (sec)	37	12	51
Phase Split	37%	12%	51%
Phase Frequency (%)	100.0	100.0	100.0

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase



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Organisation: TRAFFIX GROUP PTY LTD | Licence: NETWORK / Enterprise Level 3 | Processed: Tuesday, 17 December 2024 3:09:28 PM

Project: P:\Synergy\Projects\GRP3\GRP32252\May 2024 Council Response\Scenario 1\Dec 2024\Nov 2024 - Traffix Scheme (new entry with RT at north).sip9

PHASING SUMMARY

Site: 101 [Wicklow Ave/Kent Ave/Croydon Rd - PM (Site Folder: PM Peak)]

Network: N101 [PM Network (Network Folder: PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Wicklow Ave/Kent Ave/Croydon Rd

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog

Phase Times determined by the program

Downstream lane blockage effects included in determining phase times

Phase Sequence: Leading Right Turn

Input Phase Sequence: A, B, C, C1, D

Output Phase Sequence: A, B, C, C1, D

Reference Phase: Phase B

Offset: 0 seconds (User)

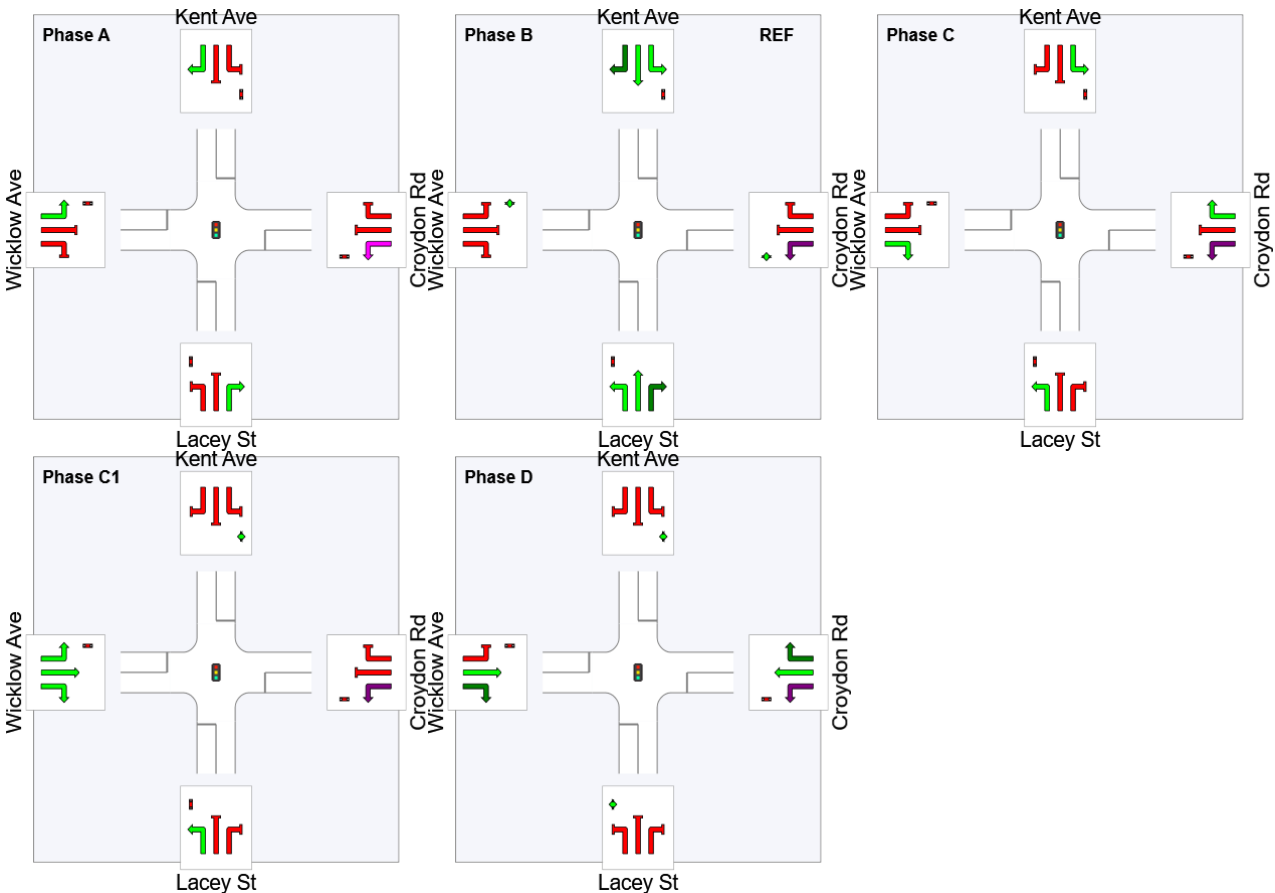
Phase Timing Summary

Phase	A	B	C	C1	D
Phase Change Time (sec)	82	0	36	48	62
Green Time (sec)	12	30	6	8	14
Phase Time (sec)	18	36	12	14	20
Phase Split	18%	36%	12%	14%	20%
Phase Frequency (%)	100.0 ⁴	100.0 ⁴	100.0 ⁴	100.0 ⁴	100.0 ⁴












See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

⁴ Phase Frequency specified by the user (phase times not specified).

Output Phase Sequence



REF: Reference Phase
VAR: Variable Phase

	Normal Movement		Permitted/Opposed
	Slip/Bypass-Lane Movement		Opposed Slip/Bypass-Lane
	Stopped Movement		Turn On Red
	Other Movement Class (MC) Running		Undetected Movement
	Mixed Running & Stopped MCs		Continuous Movement
	Other Movement Class (MC) Stopped		Phase Transition Applied

LANE SUMMARY

Site: 100 [Wicklow Avenue/Croydon Central Access - PM (Site Folder: PM Peak)]

Network: N101 [PM Network (Network Folder: PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Wicklow Avenue/Croydon Central Access

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
South: Croydon Station															
Lane 1	59	3.0	59	3.0	209	0.282	100	45.1	LOS A	2.6	18.8	Full	500	-6.8 ^{N3}	0.0
Approach	59	3.0	59	3.0		0.282		45.1	LOS A	2.6	18.8				
East: Wicklow Ave															
Lane 1	479	3.0	479	3.0	858	0.558	100	19.0	LOS A	15.8	113.7	Full	100	0.0	16.6
Approach	479	3.0	479	3.0		0.558		19.0	LOS A	15.8	113.7				
North: Croydon Central															
Lane 1	358	3.0	358	3.0	450	0.794	100	43.9	LOS C	17.6	126.6	Full	500	-5.7 ^{N3}	0.0
Approach	358	3.0	358	3.0		0.794		43.9	LOS C	17.6	126.6				
West: Wicklow Avenue															
Lane 1	798	3.0	798	3.0	1003 ¹	0.795	100	26.7	LOS C	31.1	223.0	Full	500	-5.8 ^{N3}	0.0
Lane 2	12	3.0	12	3.0	109	0.106	100	61.4	LOS A	0.6	4.1	Short	70	0.0	NA
Approach	809	3.0	809	3.0		0.795		27.2	LOS C	31.1	223.0				
All Vehicles	1705	3.0	1705	3.0		0.795		29.0	LOS C	31.1	223.0				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

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 Green.

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.

¹ Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

^{N3} Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)										
South: Croydon Station										
Mov.	L2	T1	R2	Total	%HV		Deg. Satn	Lane Util.	Prob. SL	Ov. Lane
From S						Cap. veh/h	v/c	%	%	No.
To Exit:	W	N	E							
Lane 1	12	1	46	59	3.0	209	0.282	100	NA	NA
Approach	12	1	46	59	3.0		0.282			
East: Wicklow Ave										
Mov.	L2	T1	Total	%HV		Deg. Satn	Lane Util.	Prob. SL	Ov. Lane	
From E					Cap. veh/h	v/c	%	%	No.	
To Exit:	S	W								
Lane 1	32	447	479	3.0	858	0.558	100	NA	NA	

Approach	32	447	479	3.0			0.558			
North: Croydon Central										
Mov. From N To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
	E	S	W							
Lane 1	234	4	120	358	3.0	450	0.794	100	NA	NA
Approach	234	4	120	358	3.0		0.794			
West: Wicklow Avenue										
Mov. From W To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
	N	E	S							
Lane 1	274	524	-	798	3.0	1003 ¹	0.795	100	NA	NA
Lane 2	-	-	12	12	3.0	109	0.106	100	0.0	1
Approach	274	524	12	809	3.0		0.795			
Total %HV Deg. Satn (v/c)										
All Vehicles	1705	3.0					0.795			

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

- 1 Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

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

Variable Demand Analysis				
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Croydon Station				
Lane 1	0.0	0.0	0.0	0.0
East: Wicklow Ave				
Lane 1	0.0	0.0	0.0	0.0
North: Croydon Central				
Lane 1	0.0	0.0	0.0	0.0
West: Wicklow Avenue				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

Site: 101 [Wicklow Ave/Kent Ave/Croydon Rd - PM (Site Folder: PM Peak)]

Network: N101 [PM Network (Network Folder: PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Wicklow Ave/Kent Ave/Croydon Rd

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Optimum Cycle Time - Minimum Delay)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h	HV %	[Total veh/h	HV %						[Veh	Dist] m				
South: Lacey St															
Lane 1	89	3.0	89	3.0	849	0.105	100	35.6	LOS A	2.0	14.5	Short	30	-16.6 ^{N3}	NA
Lane 2	428	3.0	428	3.0	457 ¹	0.938	100	86.0	LOS D	26.8	192.2	Full	500	0.0	0.0
Lane 3	138	3.0	138	3.0	362	0.380	100	51.0	LOS A	4.0	28.4	Short	20	0.0	NA
Approach	656	3.0	656	3.0		0.938		71.8	LOS D	26.8	192.2				
East: Croydon Rd															
Lane 1	16	3.0	16	3.0	1031	0.015	100	9.6	LOS A	0.2	1.7	Short	60	0.0	NA
Lane 2	205	3.0	205	3.0	223	0.919	100	63.0	LOS D	12.3	88.1	Full	500	-16.6 ^{N3}	0.0
Lane 3	92	3.0	92	3.0	255	0.359	100	30.1	LOS A	3.1	22.0	Short	60	0.0	NA
Approach	313	3.0	313	3.0		0.919		50.6	LOS D	12.3	88.1				
North: Kent Ave															
Lane 1	389	3.0	389	3.0	545 ¹	0.714	100	39.2	LOS C	17.2	123.4	Full	80	0.0	44.7
Lane 2	189	3.0	189	3.0	245	0.774	100	38.9	LOS C	6.6	47.6	Short	60	-16.6 ^{N3}	NA
Approach	579	3.0	579	3.0		0.774		39.1	LOS C	17.2	123.4				
West: Wicklow Ave															
Lane 1	208	3.0	208	3.0	364	0.573	100	39.0	LOS A	6.7	48.2	Short	35	0.0	NA
Lane 2	337	3.0	337	3.0	439 ¹	0.767	100	42.0	LOS C	14.5	104.0	Full	100	0.0	8.5
Lane 3	245	3.0	245	3.0	423	0.580	100	38.2	LOS A	8.7	62.1	Short	40	0.0	NA
Approach	791	3.0	791	3.0		0.767		40.0	LOS C	14.5	104.0				
All Vehicles	2338	3.0	2338	3.0		0.938		50.1	LOS D	26.8	192.2				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Lane LOS values are based on degree of saturation per lane.

Intersection and Approach LOS values are based on worst degree of saturation for any lane.

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 Green.

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.

¹ Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes.

Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

^{N3} Capacity Adjustment due to downstream lane blockage determined by the program.

Approach Lane Flows (veh/h)											
South: Lacey St											
Mov. From S To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL %	Ov. Lane No.	
	W	N	E								
Lane 1	89	-	-	89	3.0	849	0.105	100	0.0	2	

Lane 2	-	428	-	428	3.0	457 ¹	0.938	100	NA	NA
Lane 3	-	-	138	138	3.0	362	0.380	100	37.1	2
Approach	89	428	138	656	3.0		0.938			
East: Croydon Rd										
Mov. From E To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
	S	W	N							
Lane 1	16	-	-	16	3.0	1031	0.015	100	0.0	2
Lane 2	-	205	-	205	3.0	223	0.919	100	NA	NA
Lane 3	-	-	92	92	3.0	255	0.359	100	0.0	2
Approach	16	205	92	313	3.0		0.919			
North: Kent Ave										
Mov. From N To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
	E	S	W							
Lane 1	91	299	-	389	3.0	545 ¹	0.714	100	NA	NA
Lane 2	-	-	189	189	3.0	245	0.774	100	0.0	1
Approach	91	299	189	579	3.0		0.774			
West: Wicklow Ave										
Mov. From W To Exit:	L2	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
	N	E	S							
Lane 1	208	-	-	208	3.0	364	0.573	100	34.1	2
Lane 2	-	337	-	337	3.0	439 ¹	0.767	100	NA	NA
Lane 3	-	-	245	245	3.0	423	0.580	100	45.3	2
Approach	208	337	245	791	3.0		0.767			
Total %HV Deg. Satn (v/c)										
All Vehicles	2338	3.0		0.938						

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

- ¹ Reduced capacity due to a short lane effect. Short lane queues may extend into the full-length lanes. Delay and stops experienced by drivers upstream of short lane entry have been accounted for.

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

Variable Demand Analysis				
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Lacey St				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0
East: Croydon Rd				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

North: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Wicklow Ave				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
Lane 3	0.0	0.0	0.0	0.0

To Exit:	N	S			veh/h	v/c	%	%	No.
Lane 1	73	65	138	3.0	240	0.575	100	NA	NA
Approach	73	65	138	3.0		0.575			
Total %HV Deg. Satn (v/c)									
All Vehicles	1424	3.0				0.575			

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

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

Variable Demand Analysis				
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
North: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Croydon Central South				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

 Site: 103 [Kent Ave/Church Access - PM (Site Folder: PM Peak)]

 Network: N101 [PM Network (Network Folder: PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kent Ave/Church Access
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Kent Ave															
Lane 1	642	3.0	642	3.0	1913	0.336	100	0.0	LOS A	0.0	0.0	Full	90	0.0	0.0
Lane 2	2	3.0	2	3.0	990	0.002	100	7.5	LOS A	0.0	0.1	Short	25	0.0	NA
Approach	644	3.0	644	3.0		0.336		0.0	LOS A	0.0	0.1				
East: School/Church															
Lane 1	17	3.0	17	3.0	265	0.063	100	20.2	LOS A	0.2	1.4	Full	500	0.0	0.0
Approach	17	3.0	17	3.0		0.063		20.2	LOS A	0.2	1.4				
North: Kent Ave															
Lane 1	537	3.0	537	3.0	1913	0.281	100	0.0	LOS A	0.0	0.0	Full	15	0.0	0.0
Approach	537	3.0	537	3.0		0.281		0.0	LOS A	0.0	0.0				
All Vehicles	1198	3.0	1198	3.0		0.336		0.3	LOS A	0.2	1.4				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Lane LOS values are based on degree of saturation per lane.

Minor Road Approach LOS values are based on worst degree of saturation for any lane.

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 Flows (veh/h)										
South: Kent Ave										
Mov.	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL	Prob. Ov.	Ov. Lane No.
From S To Exit:	N	E			veh/h	v/c	%	%		
Lane 1	642	-	642	3.0	1913	0.336	100	NA	NA	
Lane 2	-	2	2	3.0	990	0.002	100	0.0	1	
Approach	642	2	644	3.0		0.336				
East: School/Church										
Mov.	L2	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL	Prob. Ov.	Ov. Lane No.
From E To Exit:	S	N			veh/h	v/c	%	%		
Lane 1	9	7	17	3.0	265	0.063	100	NA	NA	
Approach	9	7	17	3.0		0.063				
North: Kent Ave										
Mov.	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL	Prob. Ov.	Ov. Lane No.
From N To Exit:	E	S			veh/h	v/c	%	%		

Lane 1	1	536	537	3.0	1913	0.281	100	NA	NA
Approach	1	536	537	3.0		0.281			
Total %HV Deg. Satn (v/c)									
All Vehicles	1198	3.0		0.336					

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

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

Variable Demand Analysis				
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
East: School/Church				
Lane 1	0.0	0.0	0.0	0.0
North: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

 Site: 104 [Kent Ave/Croydon Central Middle - PM (Site Folder: PM Peak)]

 Network: N101 [PM Network (Network Folder: PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kent Ave/Croydon Central South
 Site Category: (None)
 Stop (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Kent Ave															
Lane 1	648	3.0	648	3.0	1891	0.343	100	0.5	LOS A	0.0	0.0	Full	15	0.0	0.0
Approach	648	3.0	648	3.0		0.343		0.5	LOS A	0.0	0.0				
North: Kent Ave															
Lane 1	427	3.0	427	3.0	1913	0.223	100	0.0	LOS A	0.0	0.0	Full	60	0.0	0.0
Lane 2	84	3.0	84	3.0	842	0.100	100	7.5	LOS A	0.4	2.9	Short	35	0.0	NA
Approach	512	3.0	512	3.0		0.223		1.2	LOS A	0.4	2.9				
West: Croydon Central Middle															
Lane 1	161	3.0	161	3.0	779	0.207	100	10.0	LOS A	0.8	5.9	Full	500	0.0	0.0
Lane 2	106	3.0	106	3.0	183	0.580	100	37.0	LOS A	2.5	17.7	Full	500	0.0	0.0
Approach	267	3.0	267	3.0		0.580		20.7	LOS A	2.5	17.7				
All Vehicles	1427	3.0	1427	3.0		0.580		4.6	LOS A	2.5	17.7				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Lane LOS values are based on degree of saturation per lane.

Minor Road Approach LOS values are based on worst degree of saturation for any lane.

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 Flows (veh/h)										
South: Kent Ave										
Mov. From S To Exit:	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	W	N								
Lane 1	140	508	648	3.0	1891	0.343	100	NA	NA	
Approach	140	508	648	3.0		0.343				
North: Kent Ave										
Mov. From N To Exit:	T1	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	S	W								
Lane 1	427	-	427	3.0	1913	0.223	100	NA	NA	
Lane 2	-	84	84	3.0	842	0.100	100	0.0	1	
Approach	427	84	512	3.0		0.223				
West: Croydon Central Middle										
Mov. From W	L2	R2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	

To Exit:	N	S		veh/h	v/c	%	%	No.	
Lane 1	161	-	161	3.0	779	0.207	100	NA	NA
Lane 2	-	106	106	3.0	183	0.580	100	NA	NA
Approach	161	106	267	3.0		0.580			
Total %HV Deg.Satn (v/c)									
All Vehicles	1427	3.0		0.580					

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

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

Variable Demand Analysis				
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
North: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Croydon Central Middle				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

 Site: 104 [Kent Ave/Croydon Central North - PM (Site Folder: PM Peak)]

 Network: N101 [PM Network (Network Folder: PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kent Ave/Croydon Central South
 Site Category: (None)
 Stop (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	[HV %]	[Total veh/h]	[HV %]						[Veh]	[Dist]				
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Kent Ave															
Lane 1	664	3.0	664	3.0	1910	0.348	100	0.1	LOS A	0.0	0.0	Full	60	0.0	0.0
Approach	664	3.0	664	3.0		0.348		0.1	LOS A	0.0	0.0				
North: Kent Ave															
Lane 1	468	3.0	468	3.0	1913	0.245	100	0.0	LOS A	0.0	0.0	Full	55	0.0	0.0
Lane 2	131	3.0	131	3.0	821	0.159	100	7.6	LOS A	0.6	4.6	Short	35	0.0	NA
Approach	599	3.0	599	3.0		0.245		1.7	LOS A	0.6	4.6				
West: Croydon Central Middle															
Lane 1	64	3.0	64	3.0	627	0.102	100	11.1	LOS A	0.4	2.6	Full	500	0.0	0.0
Lane 2	46	3.0	46	3.0	128	0.360	100	40.7	LOS A	1.2	8.5	Full	500	0.0	0.0
Approach	111	3.0	111	3.0		0.360		23.5	LOS A	1.2	8.5				
All Vehicles	1374	3.0	1374	3.0		0.360		2.7	LOS A	1.2	8.5				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Lane LOS values are based on degree of saturation per lane.

Minor Road Approach LOS values are based on worst degree of saturation for any lane.

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 Flows (veh/h)										
South: Kent Ave										
Mov. From S To Exit:	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL	Prob. Ov.	Ov. Lane No.
	W	N			veh/h	v/c	%	%		
Lane 1	20	644	664	3.0	1910	0.348	100	NA	NA	
Approach	20	644	664	3.0		0.348				
North: Kent Ave										
Mov. From N To Exit:	T1	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL	Prob. Ov.	Ov. Lane No.
	S	W			veh/h	v/c	%	%		
Lane 1	468	-	468	3.0	1913	0.245	100	NA	NA	
Lane 2	-	131	131	3.0	821	0.159	100	0.0	1	
Approach	468	131	599	3.0		0.245				
West: Croydon Central Middle										
Mov. From W	L2	R2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL	Prob. Ov.	Ov. Lane

To Exit:	N	S			veh/h	v/c	%	%	No.
Lane 1	64	-	64	3.0	627	0.102	100	NA	NA
Lane 2	-	46	46	3.0	128	0.360	100	NA	NA
Approach	64	46	111	3.0		0.360			
Total %HV Deg.Satn (v/c)									
All Vehicles	1374	3.0		0.360					

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

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

Variable Demand Analysis				
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
North: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0
West: Croydon Central Middle				
Lane 1	0.0	0.0	0.0	0.0
Lane 2	0.0	0.0	0.0	0.0

LANE SUMMARY

 Site: 105 [Kent Ave/Croydon Central Far North - PM (Site Folder: PM Peak)]

 Network: N101 [PM Network (Network Folder: PM Peak)]

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

Kent Ave/Croydon Central South
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h	HV %	[Total veh/h	HV %						[Veh	Dist]				
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Kent Ave															
Lane 1	707	3.0	707	3.0	1910	0.370	100	0.1	LOS A	0.0	0.0	Full	55	0.0	0.0
Approach	707	3.0	707	3.0		0.370		0.1	LOS A	0.0	0.0				
North: Kent Ave															
Lane 1	599	3.0	599	3.0	1913	0.313	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	599	3.0	599	3.0		0.313		0.1	LOS A	0.0	0.0				
West: Croydon Central Far North															
Lane 1	64	3.0	64	3.0	580	0.111	100	11.7	LOS A	0.4	2.8	Full	500	0.0	0.0
Approach	64	3.0	64	3.0		0.111		11.7	LOS A	0.4	2.8				
All Vehicles	1371	3.0	1371	3.0		0.370		0.7	LOS A	0.4	2.8				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Lane LOS values are based on degree of saturation per lane.

Minor Road Approach LOS values are based on worst degree of saturation for any lane.

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 Flows (veh/h)										
South: Kent Ave										
Mov. From S To Exit:	L2	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
	W	N								
Lane 1	19	688	707	3.0	1910	0.370	100	NA	NA	
Approach	19	688	707	3.0		0.370				
North: Kent Ave										
Mov. From N To Exit:	T1	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.		
	S									
Lane 1	599	599	3.0	1913	0.313	100	NA	NA		
Approach	599	599	3.0		0.313					
West: Croydon Central Far North										
Mov. From W To Exit:	L2	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.		
	N									
Lane 1	64	64	3.0	580	0.111	100	NA	NA		

Approach	64	64	3.0	0.111
Total %HV Deg.Satn (v/c)				
All Vehicles	1371	3.0	0.370	

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

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

Variable Demand Analysis				
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
North: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
West: Croydon Central Far North				
Lane 1	0.0	0.0	0.0	0.0

LANE SUMMARY

 **Site: 105 [Kent Ave/Croydon Central Far North - SAT (Site Folder: Sat Peak)]**

Output produced by SIDRA INTERSECTION Version: 9.1.6.228

 **Network: N101 [Saturday Network (Network Folder: PM Peak)]**

Kent Ave/Croydon Central North
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h]	HV %	[Total veh/h]	HV %						[Veh]	[Dist]				
South: Kent Ave															
Lane 1	728	3.0	728	3.0	1909	0.382	100	0.2	LOS A	0.0	0.0	Full	55	0.0	0.0
Approach	728	3.0	728	3.0		0.382		0.2	LOS A	0.0	0.0				
North: Kent Ave															
Lane 1	615	3.0	615	3.0	1913	0.321	100	0.1	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	615	3.0	615	3.0		0.321		0.1	LOS A	0.0	0.0				
West: Croydon Central Far North															
Lane 1	89	3.0	89	3.0	570	0.157	100	12.0	LOS A	0.6	4.0	Full	500	0.0	0.0
Approach	89	3.0	89	3.0		0.157		12.0	LOS A	0.6	4.0				
All Vehicles	1433	3.0	1433	3.0		0.382		0.9	LOS A	0.6	4.0				

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Override Site Data tab).

Lane LOS values are based on degree of saturation per lane.

Minor Road Approach LOS values are based on worst degree of saturation for any lane.

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 Flows (veh/h)										
South: Kent Ave										
Mov. From S To Exit:	L2	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane No.	
	W	N			veh/h	v/c	%	%		
Lane 1	31	698	728	3.0	1909	0.382	100	NA	NA	
Approach	31	698	728	3.0		0.382				
North: Kent Ave										
Mov. From N To Exit:	T1	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane No.		
	S			veh/h	v/c	%	%			
Lane 1	615	615	3.0	1913	0.321	100	NA	NA		
Approach	615	615	3.0		0.321					
West: Croydon Central Far North										
Mov. From W To Exit:	L2	Total	%HV	Cap.	Deg. Satn	Lane Util.	Prob. SL Ov.	Ov. Lane No.		
	N			veh/h	v/c	%	%			
Lane 1	89	89	3.0	570	0.157	100	NA	NA		

Approach	89	89	3.0	0.157
Total %HV Deg.Satn (v/c)				
All Vehicles	1433	3.0	0.382	

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

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

Variable Demand Analysis				
	Initial Queued Demand veh	Residual Queued Demand veh	Time for Residual Demand to Clear sec	Duration of Oversatn sec
South: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
North: Kent Ave				
Lane 1	0.0	0.0	0.0	0.0
West: Croydon Central Far North				
Lane 1	0.0	0.0	0.0	0.0



Appendix E

Car Parking Surveys

Supervised By: Lily Green
Surveyed By: Sudath Arumaparuma

Survey Dates & Times: See below

NOTE= Area AA (bins occupied 3 car spaces)
red = truck parked over multiple car spaces

Location	Restriction	Capacity Min - Max	Friday 2nd September 2022					
			8am	9am	10am	11am	12pm	
CARPARK								
Map Ref.								
A	Area A	3P	15	0	3	8	9	10
B	Area B	3P	9	2	3	4	5	6
		P Disabled Only	2	0	0	0	1	1
C	Area C	3P	29	0	1	7	12	8
D	Area D	3P	19	1	1	8	17	15
		P Disabled Only	4	0	0	1	1	0
E	Area E	3P	46	2	9	22	20	23
F	Area F	3P	35	8	21	23	33	30
G	Area G	3P	44	4	31	32	38	43
		P Disabled Only	2	0	1	1	2	2
H	Area H	3P	17	2	10	14	15	16
I	Area I	3P	34	4	13	18	30	33
J	Area J	3P	12	0	5	7	9	12
K	Area K	3P	12	0	12	10	11	12
		P Disabled Only	2	0	1	2	2	2
L	Area L	3P	32	4	11	20	17	23
M	Area M	3P	66	16	45	51	50	44
N	Area N	P Disabled Only	3	0	0	2	1	2
		3P	9	5	5	7	8	9
		P Disabled Only	2	0	0	1	2	1
		Pram Parking	2	0	0	0	1	1

Supervised By: Lily Green
Surveyed By: Sudath Arumaparuma

Survey Dates & Times: See below

NOTE= Area AA (bins occupied 3 car spaces)
red = truck parked over multiple car spaces

Location	Restriction	Capacity Min - Max	Friday 2nd September 2022					
			8am	9am	10am	11am	12pm	
O	Area O	3P	13	4	7	8	6	6
		P Disabled Only	3	1	0	2	3	2
P	Area P	3P	3	0	2	2	2	3
Q	Area Q	P Disabled Only	2	0	2	2	2	2
		Pram Parking	1	0	0	1	1	0
R	Area R	3P	20	0	4	5	12	8
S	Area S	3P	25	14	23	25	21	25
T	Area T	3P	24	5	10	18	16	17
U	Area U	3P	25	4	5	8	12	6
V	Area V	3P	26	11	14	20	19	18
W	Area W	3P	13	1	0	6	4	3
X	Area X	Click & Collect	2	0	0	0	0	1
		3P	8	0	4	7	6	8
Y	Area Y	3P	16	10	11	11	12	10
Z	Area Z	3P	27	4	8	8	8	10
AA	Area AA	3P	10	2	5	7	7	7
BB	Area BB	3P	15	2	2	4	6	6
Capacity			629 - 629	629	629	629	629	629
Total Number of Cars Parked				106	269	372	421	425
Total Number of Vacant Spaces				523	360	257	208	204
Percentage Occupancy				17%	43%	59%	67%	68%
SUMMARY => ON-STREET CARPARKING								
Car Parking Supply			629 - 629	629	629	629	629	629
Total Number of Cars Parked				106	269	372	421	425
Total Number of Vacant Spaces				523	360	257	208	204
Percentage Occupancy				17%	43%	59%	67%	68%
Note: Public parking includes spaces that are available to the general public and excludes 'No Stopping', 'Loading Zones' and 'No Parking' areas, etc., during the								
LEGEND: Public Parking								
Not available to the general public								
illegally parked cars included in analysis								
No Stopping/ Other No Parking								

Supervised By: Lily Green
Surveyed By: Sudath Arumaparuma

Survey Dates & Times: See below

NOTE= Area AA (bins occupied 3 car spaces)
red = truck parked over multiple car spaces

Location	Restriction	Capacity Min - Max	Friday 2nd September 2022								
			1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	
CARPARK											
Map Ref.											
A	Area A	3P	15	6	5	5	6	5	4	0	0
B	Area B	3P	9	3	5	4	4	3	1	0	0
		P Disabled Only	2	0	0	0	0	0	0	0	0
C	Area C	3P	29	10	6	6	8	4	3	1	1
D	Area D	3P	19	16	10	9	10	9	5	2	1
		P Disabled Only	4	3	0	1	0	1	0	0	0
E	Area E	3P	46	27	18	17	13	15	12	3	2
F	Area F	3P	35	33	25	21	20	9	9	5	3
G	Area G	3P	44	41	36	34	31	29	26	16	5
		P Disabled Only	2	2	1	2	1	2	1	0	0
H	Area H	3P	17	17	16	10	10	7	5	2	0
I	Area I	3P	34	33	22	20	19	22	16	7	0
J	Area J	3P	12	11	10	10	7	9	9	3	0
K	Area K	3P	12	10	11	10	7	9	9	5	1
		P Disabled Only	2	2	2	1	0	0	1	1	0
L	Area L	3P	32	20	22	16	17	16	13	8	3
M	Area M	3P	66	55	52	46	47	43	39	17	18
N	Area N	P Disabled Only	3	2	3	1	0	1	0	0	0
		3P	9	5	9	8	9	5	4	5	2
		P Disabled Only	2	2	2	1	1	1	1	1	0
		Pram Parking	2	0	0	0	1	1	1	0	0

Supervised By: Lily Green
Surveyed By: Sudath Arumaparuma

Survey Dates & Times: See below

NOTE= Area AA (bins occupied 3 car spaces)
red = truck parked over multiple car spaces

Location	Restriction	Capacity Min - Max	Friday 2nd September 2022								
			1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	
O	Area O	3P	13	3	5	7	7	8	6	8	5
		P Disabled Only	3	2	3	1	1	0	0	0	0
P	Area P	3P	3	0	2	2	3	3	1	2	1
Q	Area Q	P Disabled Only	2	2	1	1	2	2	2	0	1
		Pram Parking	1	0	1	0	0	1	0	0	0
R	Area R	3P	20	9	11	10	9	8	4	1	0
S	Area S	3P	25	24	25	24	25	25	21	14	10
T	Area T	3P	24	15	18	13	13	13	14	8	5
U	Area U	3P	25	13	13	10	11	11	8	8	6
V	Area V	3P	26	19	20	12	14	9	7	4	9
W	Area W	3P	13	8	7	3	4	3	4	6	5
X	Area X	Click & Collect	2	0	0	1	2	0	0	0	1
		3P	8	5	3	8	6	4	4	3	4
Y	Area Y	3P	16	10	10	7	7	4	3	0	0
Z	Area Z	3P	27	6	5	5	8	6	4	1	0
AA	Area AA	3P	10	6	6	5	4	3	1	0	0
BB	Area BB	3P	15	4	6	4	3	1	1	0	0
Capacity			629 - 629	629	629	629	629	629	629	629	629
Total Number of Cars Parked				424	391	336	330	292	239	131	83
Total Number of Vacant Spaces				205	238	293	299	337	390	498	546
Percentage Occupancy				67%	62%	53%	52%	46%	38%	21%	13%
SUMMARY => ON-STREET CARPARKING											
Car Parking Supply			629 - 629	629	629	629	629	629	629	629	629
Total Number of Cars Parked				424	391	336	330	292	239	131	83
Total Number of Vacant Spaces				205	238	293	299	337	390	498	546
Percentage Occupancy				67%	62%	53%	52%	46%	38%	21%	13%
Note: Public parking includes spaces that are available to the general public and excludes 'relevant enforcement periods											
LEGEND: Public Parking Not available to the general public illegally parked cars included in analysis No Stopping/ Other No Parking											

Supervised By: Lily Green
Surveyed By: Sudath Arumaparuma

Survey Dates & Times: See below

NOTE= Area AA (bins occupied 3 car spaces)
red = truck parked over multiple car spaces

Location	Restriction	Capacity Min - Max	Saturday 3rd September 2022					
			8am	9am	10am	11am	12pm	
CARPARK								
Map Ref.								
A	Area A	3P	15	0	6	6	10	14
B	Area B	3P	9	1	1	3	5	8
		P Disabled Only	2	0	0	0	0	1
C	Area C	3P	29	2	9	11	19	27
D	Area D	3P	19	1	2	15	17	17
		P Disabled Only	4	0	0	0	3	2
E	Area E	3P	46	5	9	25	36	43
F	Area F	3P	35	6	17	31	32	30
G	Area G	3P	44	8	28	35	40	39
		P Disabled Only	2	0	0	2	1	2
H	Area H	3P	17	1	6	10	16	17
I	Area I	3P	34	5	9	23	34	33
J	Area J	3P	12	3	2	10	12	12
K	Area K	3P	12	1	4	9	11	10
		P Disabled Only	2	0	1	2	2	1
L	Area L	3P	32	3	7	21	28	29
M	Area M	3P	66	25	31	49	59	60
N	Area N	P Disabled Only	3	0	0	1	3	3
		3P	9	2	7	8	9	9
		P Disabled Only	2	0	0	2	2	2
		Pram Parking	2	0	0	1	1	2

Supervised By: Lily Green
Surveyed By: Sudath Arumaparuma

Survey Dates & Times: See below

NOTE= Area AA (bins occupied 3 car spaces)
red = truck parked over multiple car spaces

Location	Restriction	Capacity Min - Max	Saturday 3rd September 2022					
			8am	9am	10am	11am	12pm	
O	Area O	3P	13	6	9	8	11	10
		P Disabled Only	3	0	0	3	3	2
P	Area P	3P	3	1	1	2	3	3
Q	Area Q	P Disabled Only	2	0	0	2	1	2
		Pram Parking	1	0	0	0	1	1
R	Area R	3P	20	0	4	5	8	13
S	Area S	3P	25	15	17	23	24	20
T	Area T	3P	24	4	9	18	20	21
U	Area U	3P	25	4	9	10	15	24
V	Area V	3P	26	12	15	14	17	21
W	Area W	3P	13	2	2	6	8	7
X	Area X	Click & Collect	2	0	0	0	0	1
		3P	8	1	3	7	7	8
Y	Area Y	3P	16	0	1	2	3	7
Z	Area Z	3P	27	0	0	0	5	4
AA	Area AA	3P	10	0	0	0	2	2
BB	Area BB	3P	15	0	0	1	3	1
Capacity			629 - 629	629	629	629	629	629
Total Number of Cars Parked				108	209	365	471	508
Total Number of Vacant Spaces				521	420	264	158	121
Percentage Occupancy				17%	33%	58%	75%	81%
SUMMARY => ON-STREET CARPARKING								
Car Parking Supply			629 - 629	629	629	629	629	629
Total Number of Cars Parked				108	209	365	471	508
Total Number of Vacant Spaces				521	420	264	158	121
Percentage Occupancy				17%	33%	58%	75%	81%

Note: Public parking includes spaces that are available to the general public and excludes 'T'

LEGEND: Public Parking	
Not available to the general public	
illegally parked cars included in analysis	
No Stopping/ Other No Parking	

Supervised By: Lily Green
Surveyed By: Sudath Arumaparuma

Survey Dates & Times: See below

NOTE= Area AA (bins occupied 3 car spaces)
red = truck parked over multiple car spaces

Location	Restriction	Capacity Min - Max	Saturday 3rd September 2022								
			1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	
CARPARK											
Map Ref.											
A	Area A	3P	15	12	8	5	6	2	3	2	1
B	Area B	3P	9	8	5	5	4	2	1	0	0
		P Disabled Only	2	0	0	0	0	0	0	0	0
C	Area C	3P	29	18	14	11	7	3	2	1	0
D	Area D	3P	19	17	16	16	11	10	2	2	0
		P Disabled Only	4	3	4	1	0	0	0	0	0
E	Area E	3P	46	41	31	38	19	11	7	6	1
F	Area F	3P	35	34	31	35	26	15	10	6	3
G	Area G	3P	44	44	41	44	37	30	15	10	2
		P Disabled Only	2	2	2	2	2	0	0	0	0
H	Area H	3P	17	14	16	12	7	6	0	0	0
I	Area I	3P	34	33	25	32	27	19	10	3	0
J	Area J	3P	12	9	12	12	9	6	3	1	0
K	Area K	3P	12	10	11	12	12	10	6	3	2
		P Disabled Only	2	2	2	2	0	2	0	0	0
L	Area L	3P	32	22	25	27	18	16	6	3	0
M	Area M	3P	66	51	54	60	53	45	37	21	15
N	Area N	P Disabled Only	3	0	3	0	0	0	0	0	0
		3P	9	9	8	7	9	6	5	5	3
		P Disabled Only	2	2	1	2	0	1	0	1	0
		Pram Parking	2	2	1	2	1	0	0	0	0

Supervised By: Lily Green
Surveyed By: Sudath Arumaparuma

Survey Dates & Times: See below

NOTE= Area AA (bins occupied 3 car spaces)
red = truck parked over multiple car spaces

Location	Restriction	Capacity Min - Max	Saturday 3rd September 2022								
			1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	
O	Area O	3P	13	11	10	8	4	7	8	5	4
		P Disabled Only	3	2	3	2	1	1	0	0	0
P	Area P	3P	3	3	3	3	3	3	2	1	0
Q	Area Q	P Disabled Only	2	2	1	1	2	1	1	1	0
		Pram Parking	1	1	1	1	1	1	0	1	
R	Area R	3P	20	8	8	8	7	5	6	0	0
S	Area S	3P	25	23	24	25	24	19	20	15	7
T	Area T	3P	24	20	19	17	16	14	14	11	7
U	Area U	3P	25	14	13	16	10	8	6	2	2
V	Area V	3P	26	23	19	18	14	11	8	8	7
W	Area W	3P	13	7	6	7	3	3	3	6	6
X	Area X	Click & Collect	2	0	1	0	1	0	0	0	0
		3P	8	8	6	7	6	5	4	0	2
Y	Area Y	3P	16	3	4	2	1	1	0	0	0
Z	Area Z	3P	27	2	1	4	4	2	0	0	0
AA	Area AA	3P	10	1	0	0	0	0	0	0	0
BB	Area BB	3P	15	0	0	1	1	1	1	1	1
Capacity			629 - 629	629	629	629	629	629	629	629	629
Total Number of Cars Parked				461	429	445	346	266	181	114	64
Total Number of Vacant Spaces				168	200	184	283	363	448	515	565
Percentage Occupancy				73%	68%	71%	55%	42%	29%	18%	10%
SUMMARY => ON-STREET CARPARKING											
Car Parking Supply			629 - 629	629	629	629	629	629	629	629	629
Total Number of Cars Parked				461	429	445	346	266	181	114	64
Total Number of Vacant Spaces				168	200	184	283	363	448	515	565
Percentage Occupancy				73%	68%	71%	55%	42%	29%	18%	10%

Note: Public parking includes spaces that are available to the general public and excludes 'T'

LEGEND: Public Parking	
Not available to the general public	
illegally parked cars included in analysis	
No Stopping/ Other No Parking	





