APPENDIX E

PICADY Capacity Output
Site Access – Belgard Square East Junction

Summary PICADY Results in Order as included herein

Modelled Scenario	*Period Max RFC*	*Period Mean Max Q (PCUs)*
Opening Year 2028 AM Peak Hr	0.22	0.3
Opening Year 2028 PM Peak Hr	0.32	0.5
Design Year 2043 AM Peak Hr	0.22	0.3
Design Year 2043 PM Peak Hr	0.33	0.5

All Results Above are below the recommended RFC of 0.85 Capacity and therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues.

NB - Any Small Changes to Selected Opening Year 2028 or Design Year 2043, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study.

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: Site Access Junction 2028 & 2043.j10
Path: C:\Users\BrianMc\OneDrive\OneDrive - NRB Consulting Engineers Ltd\Documents\2024\24-115 Belgard LRD\Calculations\Stage 3 Calcs\Junction Analysis\01 Site Access
Report generation date: 03/11/2025 21:23:25

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2028											
Stream B-AC	D1	0.3	9.49	0.22	A	135 % [Stream B-AC]	D2	0.5	12.34	0.32	B	65 % [Stream B-AC]
Stream C-AB		0.2	5.28	0.11	A			0.3	6.50	0.17	A	
	2043											
Stream B-AC	D3	0.3	9.68	0.22	A	126 % [Stream B-AC]	D4	0.5	12.91	0.33	B	58 % [Stream B-AC]
Stream C-AB		0.2	5.19	0.11	A			0.3	6.45	0.18	A	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	18/03/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office-LT\BrianMc
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15
D2	2028	PM	ONE HOUR	16:45	18:15	15
D3	2043	AM	ONE HOUR	07:45	09:15	15
D4	2043	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.97	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	135	Stream B-AC	1.97	A

Arms

Arms

Arm	Name	Description	Arm type
A	Belgard Square East (North Arm)		Major
B	Site Access		Minor
C	Belgard Square East (Southern Arm)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			45.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	45	45

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	514	0.088	0.222	0.140	0.318
B-C	652	0.094	0.237	-	-
C-B	600	0.218	0.218	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	197	100.000
B		✓	98	100.000
C		✓	370	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	43	154
	B	49	0	49
	C	327	43	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.22	9.49	0.3	A
C-AB	0.11	5.28	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	516	0.143	73	0.2	8.116	A
C-AB	49	736	0.066	48	0.1	5.265	A
C-A	230			230			
A-B	32			32			
A-C	116			116			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	88	504	0.175	88	0.2	8.647	A
C-AB	63	764	0.083	63	0.2	5.175	A
C-A	270			270			
A-B	39			39			
A-C	138			138			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	108	487	0.221	108	0.3	9.472	A
C-AB	86	802	0.107	86	0.2	5.070	A
C-A	321			321			
A-B	47			47			
A-C	170			170			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	108	487	0.221	108	0.3	9.486	A
C-AB	86	802	0.108	86	0.2	5.078	A
C-A	321			321			
A-B	47			47			
A-C	170			170			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	88	504	0.175	88	0.2	8.668	A
C-AB	63	764	0.083	63	0.2	5.189	A
C-A	269			269			
A-B	39			39			
A-C	138			138			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	516	0.143	74	0.2	8.150	A
C-AB	49	736	0.066	49	0.1	5.279	A
C-A	230			230			
A-B	32			32			
A-C	116			116			

2028, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.51	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	65	Stream B-AC	2.51	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	451	100.000
B		✓	126	100.000
C		✓	291	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	65	386
	B	63	0	63
	C	226	65	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.32	12.34	0.5	B
C-AB	0.17	6.50	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	95	477	0.199	94	0.2	9.367	A
C-AB	66	646	0.103	66	0.2	6.235	A
C-A	153			153			
A-B	49			49			
A-C	291			291			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	113	458	0.247	113	0.3	10.433	B
C-AB	85	657	0.129	85	0.2	6.329	A
C-A	177			177			
A-B	58			58			
A-C	347			347			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	139	430	0.322	138	0.5	12.292	B
C-AB	114	673	0.169	114	0.3	6.486	A
C-A	206			206			
A-B	72			72			
A-C	425			425			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	139	430	0.322	139	0.5	12.341	B
C-AB	114	673	0.170	114	0.3	6.501	A
C-A	206			206			
A-B	72			72			
A-C	425			425			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	113	458	0.248	114	0.3	10.490	B
C-AB	85	657	0.129	85	0.2	6.349	A
C-A	177			177			
A-B	58			58			
A-C	347			347			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	95	477	0.199	95	0.3	9.435	A
C-AB	67	647	0.103	67	0.2	6.252	A
C-A	152			152			
A-B	49			49			
A-C	291			291			

2043, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.88	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	126	Stream B-AC	1.88	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2043	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	212	100.000
B		✓	98	100.000
C		✓	403	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	43	169
	B	49	0	49
	C	360	43	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.22	9.68	0.3	A
C-AB	0.11	5.19	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	511	0.144	73	0.2	8.210	A
C-AB	51	751	0.067	50	0.1	5.171	A
C-A	253			253			
A-B	32			32			
A-C	127			127			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	88	498	0.177	88	0.2	8.775	A
C-AB	66	782	0.085	66	0.2	5.070	A
C-A	296			296			
A-B	39			39			
A-C	152			152			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	108	480	0.225	108	0.3	9.663	A
C-AB	92	825	0.111	91	0.2	4.957	A
C-A	352			352			
A-B	47			47			
A-C	186			186			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	108	480	0.225	108	0.3	9.679	A
C-AB	92	825	0.111	92	0.2	4.962	A
C-A	352			352			
A-B	47			47			
A-C	186			186			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	88	498	0.177	88	0.2	8.798	A
C-AB	66	782	0.085	67	0.2	5.085	A
C-A	296			296			
A-B	39			39			
A-C	152			152			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	74	511	0.144	74	0.2	8.243	A
C-AB	51	751	0.068	51	0.1	5.186	A
C-A	253			253			
A-B	32			32			
A-C	127			127			

2043, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.45	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	58	Stream B-AC	2.45	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2043	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	490	100.000
B		✓	126	100.000
C		✓	314	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	65	425
	B	63	0	63
	C	249	65	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.33	12.91	0.5	B
C-AB	0.18	6.45	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	95	469	0.202	94	0.3	9.580	A
C-AB	69	653	0.105	68	0.2	6.186	A
C-A	168			168			
A-B	49			49			
A-C	320			320			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	113	447	0.253	113	0.3	10.753	B
C-AB	88	665	0.133	88	0.2	6.279	A
C-A	194			194			
A-B	58			58			
A-C	382			382			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	139	418	0.332	138	0.5	12.851	B
C-AB	120	683	0.176	120	0.3	6.442	A
C-A	226			226			
A-B	72			72			
A-C	468			468			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	139	418	0.332	139	0.5	12.908	B
C-AB	120	683	0.176	120	0.3	6.453	A
C-A	226			226			
A-B	72			72			
A-C	468			468			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	113	447	0.253	114	0.3	10.816	B
C-AB	89	665	0.133	89	0.2	6.302	A
C-A	194			194			
A-B	58			58			
A-C	382			382			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	95	469	0.202	95	0.3	9.653	A
C-AB	69	653	0.106	69	0.2	6.213	A
C-A	167			167			
A-B	49			49			
A-C	320			320			

APPENDIX F

LinSig Capacity Output
Belgard Square East / Old Blessington Rd

Summary LinSig Results in Order as included herein

Modelled Scenario	*Period Mean Max Q (PCUs)*	*Period Max DoS*
Opening Year 2028 AM Peak Hr	5.3	34.2%
Opening Year 2028 PM Peak Hr	6.1	39.6%
Design Year 2043 AM Peak Hr	5.7	36.5%
Design Year 2043 PM Peak Hr	6.9	43.4%

All Results Above are below the recommended DoS of 90% Capacity and therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues.

NB - Any Small Changes to Selected Opening Year 2028 or Design Year 2043, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study.

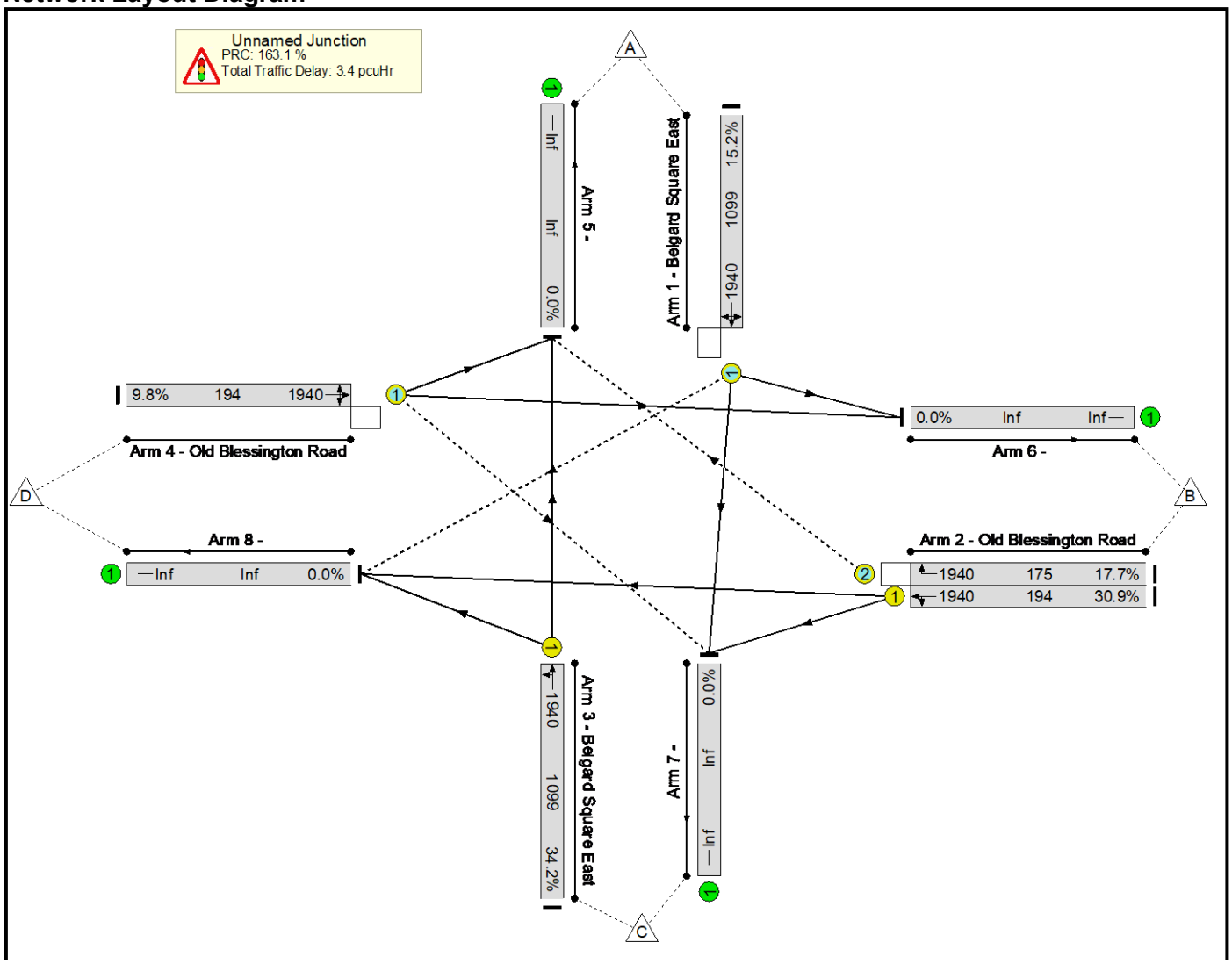
Basic Results Summary

User and Project Details

File name:	Belgard Sq East - Old Blessington Rd AMPM.lsg3x

Scenario 1: 'AM 2028' (FG1: 'AM 2028', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

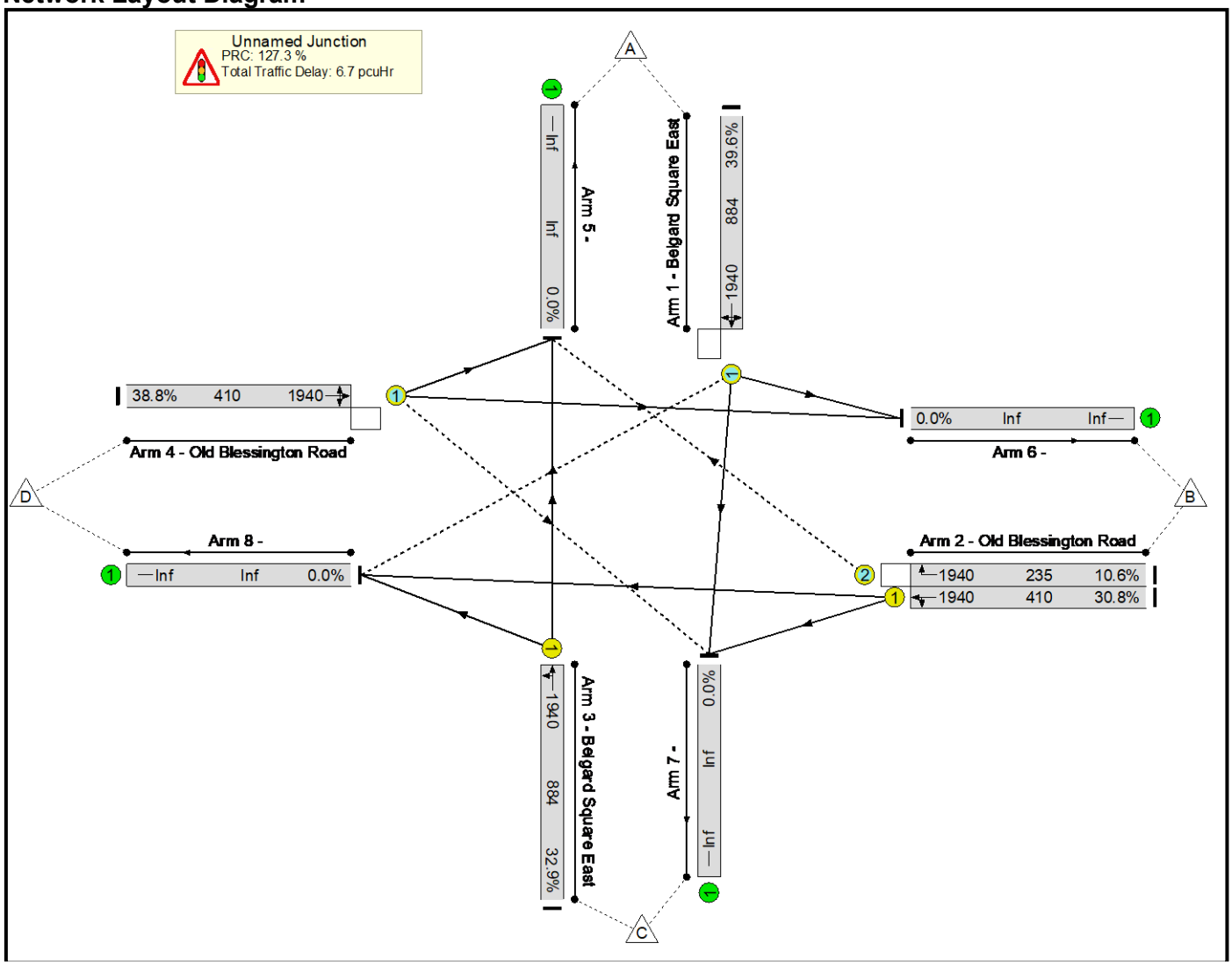
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**34.2%**	**42**	**0**	**0**	**3.4**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**34.2%**	**42**	**0**	**0**	**3.4**	-	-
1/1	Belgard Square East Left Ahead Right	O	A		1	50	-	167	1940	1099	15.2%	9	0	0	0.5	11.4	2.0
2/1	Old Blessington Road Left Ahead	U	B		1	8	-	60	1940	194	30.9%	-	-	-	0.9	51.0	1.6
2/2	Old Blessington Road Right	O	B		1	8	-	31	1940	175	17.7%	31	0	0	0.4	50.7	0.8
3/1	Belgard Square East Ahead Left	U	C		1	50	-	376	1940	1099	34.2%	-	-	-	1.4	13.0	5.3
4/1	Old Blessington Road Left Ahead Right	O	D		1	8	-	19	1940	194	9.8%	2	0	0	0.3	47.4	0.5

C1 PRC for Signalled Lanes (%): 163.1 Total Delay for Signalled Lanes (pcuHr): 3.42 Cycle Time (s): 90
PRC Over All Lanes (%): 163.1 Total Delay Over All Lanes(pcuHr): 3.42

Basic Results Summary

Scenario 2: 'PM 2028' (FG2: 'PM 2028', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**39.6%**	**96**	**0**	**0**	**6.7**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**39.6%**	**96**	**0**	**0**	**6.7**	-	-
1/1	Belgard Square East Left Ahead Right	O	A		1	40	-	350	1940	884	39.6%	27	0	0	1.9	19.9	6.1
2/1	Old Blessington Road Left Ahead	U	B		1	18	-	126	1940	410	30.8%	-	-	-	1.3	36.3	2.8
2/2	Old Blessington Road Right	O	B		1	18	-	25	1940	235	10.6%	25	0	0	0.3	42.4	0.6
3/1	Belgard Square East Ahead Left	U	C		1	40	-	291	1940	884	32.9%	-	-	-	1.5	18.7	4.9
4/1	Old Blessington Road Left Ahead Right	O	D		1	18	-	159	1940	410	38.8%	44	0	0	1.7	38.4	3.7

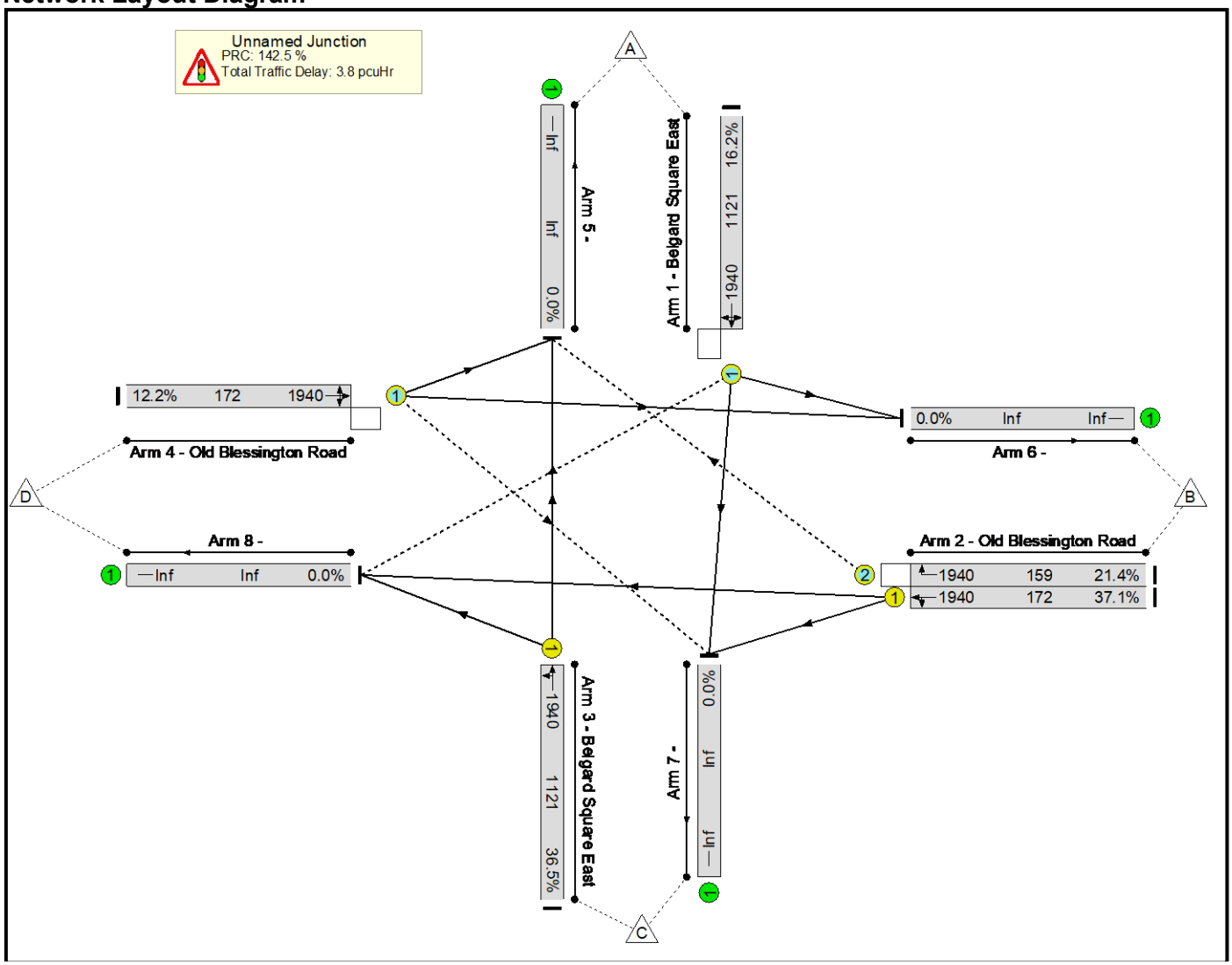
C1 PRC for Signalled Lanes (%): 127.3 Total Delay for Signalled Lanes (pcuHr): 6.71 Cycle Time (s): 90

PRC Over All Lanes (%): 127.3 Total Delay Over All Lanes(pcuHr): 6.71

Basic Results Summary

Scenario 3: 'AM 2043' (FG3: 'AM 2043', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

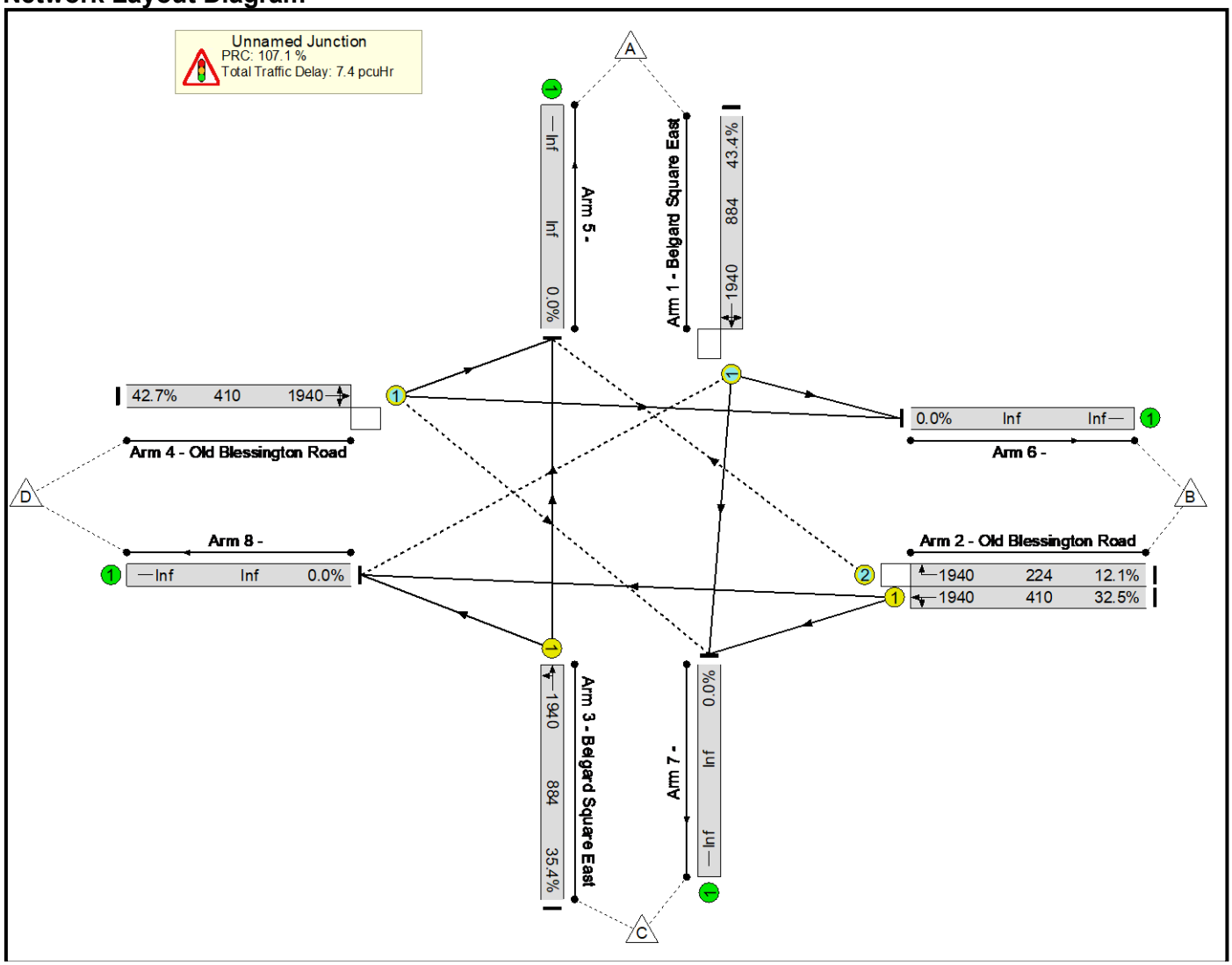
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**37.1%**	**45**	**0**	**0**	**3.8**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**37.1%**	**45**	**0**	**0**	**3.8**	-	-
1/1	Belgard Square East Left Ahead Right	O	A		1	51	-	182	1940	1121	16.2%	9	0	0	0.6	11.0	2.2
2/1	Old Blessington Road Left Ahead	U	B		1	7	-	64	1940	172	37.1%	-	-	-	1.0	55.2	1.8
2/2	Old Blessington Road Right	O	B		1	7	-	34	1940	159	21.4%	34	0	0	0.5	53.6	0.9
3/1	Belgard Square East Ahead Left	U	C		1	51	-	409	1940	1121	36.5%	-	-	-	1.4	12.7	5.7
4/1	Old Blessington Road Left Ahead Right	O	D		1	7	-	21	1940	172	12.2%	2	0	0	0.3	50.0	0.5

C1 PRC for Signalled Lanes (%): 142.5 Total Delay for Signalled Lanes (pcuHr): 3.78 Cycle Time (s): 90
PRC Over All Lanes (%): 142.5 Total Delay Over All Lanes(pcuHr): 3.78

Basic Results Summary

Scenario 4: 'PM 2043' (FG4: 'PM 2043', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**43.4%**	**104**	**0**	**0**	**7.4**	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	**43.4%**	**104**	**0**	**0**	**7.4**	-	-
1/1	Belgard Square East Left Ahead Right	O	A		1	40	-	384	1940	884	43.4%	29	0	0	2.2	20.5	6.9
2/1	Old Blessington Road Left Ahead	U	B		1	18	-	133	1940	410	32.5%	-	-	-	1.4	36.6	3.0
2/2	Old Blessington Road Right	O	B		1	18	-	27	1940	224	12.1%	27	0	0	0.3	43.7	0.6
3/1	Belgard Square East Ahead Left	U	C		1	40	-	313	1940	884	35.4%	-	-	-	1.7	19.1	5.3
4/1	Old Blessington Road Left Ahead Right	O	D		1	18	-	175	1940	410	42.7%	48	0	0	1.9	39.2	4.2

C1 PRC for Signalled Lanes (%): 107.1 Total Delay for Signalled Lanes (pcuHr): 7.42 Cycle Time (s): 90
PRC Over All Lanes (%): 107.1 Total Delay Over All Lanes(pcuHr): 7.42

APPENDIX G

PICADY Capacity Output
Belgard Square East / The Square
Priority Controlled Junction

Summary PICADY Results in Order as included herein

Modelled Scenario	*Period Max RFC*	*Period Mean Max Q (PCUs)*
Opening Year 2028 AM Peak Hr	0.09	0.1
Opening Year 2028 PM Peak Hr	0.29	0.4
Design Year 2043 AM Peak Hr	0.10	0.2
Design Year 2043 PM Peak Hr	0.32	0.5

All Results Above are below the recommended RFC of 0.85 Capacity and therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues.

NB - Any Small Changes to Selected Opening Year 2028 or Design Year 2043, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study.

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: BSE - Square Junction 2028 & 2043.j10
Path: C:\Users\BrianMc\OneDrive\OneDrive - NRB Consulting Engineers Ltd\Documents\2024\24-115 Belgard LRD\Calculations\Stage 3 Calcs\Junction Analysis\03 The Square Junction
Report generation date: 03/11/2025 21:49:16

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2028											
Stream B-AC	D1	0.0	7.99	0.04	A	223 % [Stream B-AC]	D2	0.4	10.72	0.29	B	91 % [Stream B-AC]
Stream C-AB		0.1	6.25	0.09	A			0.2	4.95	0.09	A	
	2043											
Stream B-AC	D3	0.0	8.26	0.05	A	195 % [Stream B-AC]	D4	0.5	11.46	0.32	B	76 % [Stream B-AC]
Stream C-AB		0.2	6.32	0.10	A			0.2	4.89	0.10	A	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	18/03/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office-LT\BrianMc
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15
D2	2028	PM	ONE HOUR	16:45	18:15	15
D3	2043	AM	ONE HOUR	07:45	09:15	15
D4	2043	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.73	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	223	Stream B-AC	0.73	A

Arms

Arms

Arm	Name	Description	Arm type
A	Belgard Square East (Southern Arm)		Major
B	The Square		Minor
C	Belgard Square East (Northern Arm)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			45.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	45	45

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	514	0.088	0.222	0.140	0.318
B-C	652	0.094	0.237	-	-
C-B	600	0.218	0.218	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	392	100.000
B		✓	17	100.000
C		✓	202	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	32	360
	B	7	0	10
	C	165	37	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	7.99	0.0	A
C-AB	0.09	6.25	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	507	0.025	13	0.0	7.277	A
C-AB	35	623	0.056	34	0.1	6.139	A
C-A	117			117			
A-B	24			24			
A-C	271			271			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	491	0.031	15	0.0	7.560	A
C-AB	44	628	0.069	44	0.1	6.182	A
C-A	138			138			
A-B	29			29			
A-C	324			324			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	469	0.040	19	0.0	7.988	A
C-AB	57	636	0.090	57	0.1	6.248	A
C-A	165			165			
A-B	35			35			
A-C	396			396			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	469	0.040	19	0.0	7.988	A
C-AB	57	637	0.090	57	0.1	6.254	A
C-A	165			165			
A-B	35			35			
A-C	396			396			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	491	0.031	15	0.0	7.562	A
C-AB	44	628	0.069	44	0.1	6.196	A
C-A	138			138			
A-B	29			29			
A-C	324			324			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	507	0.025	13	0.0	7.284	A
C-AB	35	623	0.056	35	0.1	6.154	A
C-A	117			117			
A-B	24			24			
A-C	271			271			

2028, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.00	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	91	Stream B-AC	2.00	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	247	100.000
B		✓	123	100.000
C		✓	449	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	22	225
	B	57	0	66
	C	416	33	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.29	10.72	0.4	B
C-AB	0.09	4.95	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	93	507	0.183	92	0.2	8.654	A
C-AB	42	775	0.054	41	0.1	4.944	A
C-A	296			296			
A-B	17			17			
A-C	169			169			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	111	492	0.225	110	0.3	9.425	A
C-AB	55	811	0.068	55	0.1	4.806	A
C-A	348			348			
A-B	20			20			
A-C	202			202			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	135	471	0.287	135	0.4	10.696	B
C-AB	78	861	0.090	78	0.2	4.643	A
C-A	416			416			
A-B	24			24			
A-C	248			248			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	135	471	0.287	135	0.4	10.724	B
C-AB	78	861	0.091	78	0.2	4.647	A
C-A	416			416			
A-B	24			24			
A-C	248			248			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	111	492	0.225	111	0.3	9.463	A
C-AB	55	811	0.068	56	0.1	4.815	A
C-A	348			348			
A-B	20			20			
A-C	202			202			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	93	507	0.183	93	0.2	8.705	A
C-AB	42	775	0.054	42	0.1	4.953	A
C-A	296			296			
A-B	17			17			
A-C	169			169			

2043, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.77	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	195	Stream B-AC	0.77	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2043	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	428	100.000
B		✓	19	100.000
C		✓	218	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	35	393
	B	8	0	11
	C	177	41	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.05	8.26	0.0	A
C-AB	0.10	6.32	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	498	0.029	14	0.0	7.433	A
C-AB	39	624	0.063	39	0.1	6.179	A
C-A	125			125			
A-B	26			26			
A-C	296			296			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	481	0.036	17	0.0	7.760	A
C-AB	49	630	0.079	49	0.1	6.233	A
C-A	147			147			
A-B	31			31			
A-C	353			353			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	457	0.046	21	0.0	8.257	A
C-AB	65	638	0.102	65	0.2	6.318	A
C-A	175			175			
A-B	39			39			
A-C	433			433			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	457	0.046	21	0.0	8.259	A
C-AB	65	638	0.102	65	0.2	6.323	A
C-A	175			175			
A-B	39			39			
A-C	433			433			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	481	0.036	17	0.0	7.764	A
C-AB	49	630	0.079	50	0.1	6.246	A
C-A	146			146			
A-B	31			31			
A-C	353			353			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	498	0.029	14	0.0	7.441	A
C-AB	39	624	0.063	39	0.1	6.195	A
C-A	125			125			
A-B	26			26			
A-C	296			296			

2043, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.14	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	76	Stream B-AC	2.14	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2043	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	266	100.000
B		✓	135	100.000
C		✓	488	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	25	241
	B	62	0	73
	C	452	36	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.32	11.46	0.5	B
C-AB	0.10	4.89	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	102	502	0.203	101	0.3	8.957	A
C-AB	48	791	0.060	47	0.1	4.878	A
C-A	320			320			
A-B	19			19			
A-C	181			181			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	121	485	0.250	121	0.3	9.872	A
C-AB	64	831	0.077	63	0.1	4.736	A
C-A	375			375			
A-B	22			22			
A-C	217			217			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	149	463	0.321	148	0.5	11.419	B
C-AB	91	886	0.103	91	0.2	4.579	A
C-A	446			446			
A-B	28			28			
A-C	265			265			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	149	463	0.321	149	0.5	11.458	B
C-AB	91	886	0.103	91	0.2	4.583	A
C-A	446			446			
A-B	28			28			
A-C	265			265			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	121	485	0.250	122	0.3	9.918	A
C-AB	64	831	0.077	64	0.1	4.751	A
C-A	375			375			
A-B	22			22			
A-C	217			217			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	102	501	0.203	102	0.3	9.018	A
C-AB	48	792	0.060	48	0.1	4.890	A
C-A	320			320			
A-B	19			19			
A-C	181			181			

APPENDIX H

PICADY Capacity Output
Belgard Square East / McDs Access Priority Controlled Junction
(Modelled as a single junction)

Summary PICADY Results in Order as included herein

Modelled Scenario	*Period Max RFC*	*Period Mean Max Q (PCUs)*
Opening Year 2028 AM Peak Hr	0.18	0.2
Opening Year 2028 PM Peak Hr	0.23	0.3
Design Year 2043 AM Peak Hr	0.21	0.3
Design Year 2043 PM Peak Hr	0.26	0.4

All Results Above are below the recommended DoS of 0.85 Capacity and therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues.

NB - Any Small Changes to Selected Opening Year 2028 or Design Year 2043, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study.

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: McDs Access Junction 2028 & 2043.j10
Path: C:\Users\BrianMc\OneDrive\OneDrive - NRB Consulting Engineers Ltd\Documents\2024\24-115 Belgard LRD\Calculations\Stage 3 Calcs\Junction Analysis\04 McDs Access
Report generation date: 03/11/2025 21:41:10

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2028											
Stream B-AC	D1	0.2	8.67	0.18	A	157 % [Stream B-AC]	D2	0.3	10.94	0.23	B	87 % [Stream B-AC]
Stream C-AB		0.3	5.12	0.14	A			0.2	6.07	0.13	A	
	2043											
Stream B-AC	D3	0.3	9.03	0.21	A	136 % [Stream B-AC]	D4	0.4	11.75	0.26	B	72 % [Stream B-AC]
Stream C-AB		0.4	5.09	0.16	A			0.3	6.15	0.14	A	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	18/03/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office-LT\BrianMc
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15
D2	2028	PM	ONE HOUR	16:45	18:15	15
D3	2043	AM	ONE HOUR	07:45	09:15	15
D4	2043	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.76	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	157	Stream B-AC	1.76	A

Arms

Arms

Arm	Name	Description	Arm type
A	Belgard Square East (North Arm)		Major
B	McDs Site Access		Minor
C	Belgard Square East (Southern Arm)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.40			45.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	45	45

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	514	0.088	0.222	0.140	0.318
B-C	652	0.094	0.237	-	-
C-B	600	0.218	0.218	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	173	100.000
B		✓	85	100.000
C		✓	447	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	32	141
	B	32	0	53
	C	394	53	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.18	8.67	0.2	A
C-AB	0.14	5.12	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	64	536	0.119	63	0.1	7.605	A
C-AB	65	774	0.084	64	0.2	5.109	A
C-A	272			272			
A-B	24			24			
A-C	106			106			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	76	525	0.146	76	0.2	8.023	A
C-AB	85	809	0.105	85	0.2	5.016	A
C-A	317			317			
A-B	29			29			
A-C	127			127			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	94	509	0.184	93	0.2	8.665	A
C-AB	119	858	0.138	118	0.3	4.919	A
C-A	374			374			
A-B	35			35			
A-C	155			155			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	94	509	0.184	94	0.2	8.675	A
C-AB	119	858	0.138	119	0.3	4.925	A
C-A	373			373			
A-B	35			35			
A-C	155			155			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	76	525	0.146	77	0.2	8.038	A
C-AB	85	809	0.105	86	0.2	5.029	A
C-A	317			317			
A-B	29			29			
A-C	127			127			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	64	536	0.119	64	0.1	7.629	A
C-AB	65	774	0.084	65	0.2	5.124	A
C-A	272			272			
A-B	24			24			
A-C	106			106			

2028, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.67	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	87	Stream B-AC	1.67	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	471	100.000
B		✓	90	100.000
C		✓	293	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	43	428
	B	43	0	47
	C	246	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.23	10.94	0.3	B
C-AB	0.13	6.07	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	68	477	0.142	67	0.2	8.777	A
C-AB	49	654	0.075	49	0.1	5.981	A
C-A	171			171			
A-B	32			32			
A-C	322			322			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	81	456	0.177	81	0.2	9.578	A
C-AB	63	666	0.095	63	0.2	6.006	A
C-A	200			200			
A-B	39			39			
A-C	385			385			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	99	428	0.231	99	0.3	10.919	B
C-AB	86	685	0.126	86	0.2	6.058	A
C-A	237			237			
A-B	47			47			
A-C	471			471			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	99	428	0.231	99	0.3	10.942	B
C-AB	86	685	0.126	86	0.2	6.069	A
C-A	237			237			
A-B	47			47			
A-C	471			471			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	81	456	0.177	81	0.2	9.608	A
C-AB	64	667	0.095	64	0.2	6.025	A
C-A	200			200			
A-B	39			39			
A-C	385			385			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	68	476	0.142	68	0.2	8.817	A
C-AB	50	654	0.076	50	0.1	5.997	A
C-A	171			171			
A-B	32			32			
A-C	322			322			

2043, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.87	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	136	Stream B-AC	1.87	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2043	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	185	100.000
B		✓	94	100.000
C		✓	488	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	35	150
	B	35	0	59
	C	429	59	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.21	9.03	0.3	A
C-AB	0.16	5.09	0.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	71	532	0.133	70	0.2	7.777	A
C-AB	75	790	0.095	74	0.2	5.069	A
C-A	292			292			
A-B	26			26			
A-C	113			113			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	85	520	0.163	84	0.2	8.263	A
C-AB	100	829	0.120	99	0.2	4.981	A
C-A	339			339			
A-B	31			31			
A-C	135			135			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	103	502	0.206	103	0.3	9.018	A
C-AB	140	882	0.159	140	0.4	4.903	A
C-A	397			397			
A-B	39			39			
A-C	165			165			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	103	502	0.206	103	0.3	9.030	A
C-AB	141	883	0.159	141	0.4	4.914	A
C-A	397			397			
A-B	39			39			
A-C	165			165			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	85	520	0.163	85	0.2	8.279	A
C-AB	100	829	0.120	100	0.3	4.998	A
C-A	339			339			
A-B	31			31			
A-C	135			135			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	71	532	0.133	71	0.2	7.805	A
C-AB	75	791	0.095	76	0.2	5.088	A
C-A	292			292			
A-B	26			26			
A-C	113			113			

2043, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		1.80	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	72	Stream B-AC	1.80	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2043	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	512	100.000
B		✓	99	100.000
C		✓	316	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	47	465
	B	47	0	52
	C	264	52	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.26	11.75	0.4	B
C-AB	0.14	6.15	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	75	468	0.159	74	0.2	9.109	A
C-AB	56	658	0.085	56	0.1	6.012	A
C-A	182			182			
A-B	35			35			
A-C	350			350			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	89	446	0.199	89	0.2	10.067	B
C-AB	73	671	0.108	72	0.2	6.056	A
C-A	212			212			
A-B	42			42			
A-C	418			418			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	109	415	0.262	109	0.3	11.720	B
C-AB	99	691	0.144	99	0.3	6.136	A
C-A	249			249			
A-B	52			52			
A-C	512			512			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	109	415	0.263	109	0.4	11.754	B
C-AB	99	691	0.144	99	0.3	6.147	A
C-A	249			249			
A-B	52			52			
A-C	512			512			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	89	446	0.200	89	0.3	10.106	B
C-AB	73	671	0.108	73	0.2	6.075	A
C-A	211			211			
A-B	42			42			
A-C	418			418			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	75	468	0.159	75	0.2	9.158	A
C-AB	56	658	0.086	57	0.1	6.034	A
C-A	182			182			
A-B	35			35			
A-C	350			350			

APPENDIX I

ARCADY Capacity Output
Belgard Square East / Belgard Walk Roundabout Junction

Summary ARCADY Results in Order as included herein

Modelled Scenario	*Period Max RFC*	*Period Mean Max Q (PCUs)*
Opening Year 2028 AM Peak Hr	0.77	3.4
Opening Year 2028 PM Peak Hr	0.74	2.8
Design Year 2043 AM Peak Hr	0.85	5.3
Design Year 2043 PM Peak Hr	0.83	4.5

All Results Above are below the recommended DoS of 0.85 Capacity and therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues.

NB - Any Small Changes to Selected Opening Year 2028 or Design Year 2043, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study.

Junctions 10

ARCADY 10 - Roundabout Module

Filename: Belgard Sq East Rdbt 2028 & 2043.j10
Path: C:\Users\BrianMc\OneDrive\OneDrive - NRB Consulting Engineers Ltd\Documents\2024\24-115 Belgard LRD\Calculations\Stage 3 Calcs\Junction Analysis\05 Belgard Sqaure East
Report generation date: 03/11/2025 22:01:45

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2028											
Arm 1	D1	0.4	6.47	0.26	A	13 % [Arm 2]	D2	2.8	19.47	0.74	C	13 % [Arm 1]
Arm 2		3.4	19.31	0.77	C			1.7	12.90	0.63	B	
Arm 3		1.1	12.01	0.52	B			0.4	7.14	0.28	A	
Arm 4		0.1	7.01	0.08	A			0.5	7.67	0.32	A	
	2043											
Arm 1	D3	0.4	6.77	0.28	A	4 % [Arm 2]	D4	4.5	28.70	0.83	D	3 % [Arm 1]
Arm 2		5.3	28.23	0.85	D			2.3	15.70	0.70	C	
Arm 3		1.4	14.59	0.59	B			0.5	7.65	0.32	A	
Arm 4		0.1	7.49	0.10	A			0.6	8.33	0.36	A	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	18/03/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office-LT\BrianMc
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15
D2	2028	PM	ONE HOUR	16:45	18:15	15
D3	2043	AM	ONE HOUR	07:45	09:15	15
D4	2043	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	14.77	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	13	Arm 2	14.77	B

Arms

Arms

Arm	Name	Description	No give-way line
1	Belgard Square East		
2	Belgard Walk		
3	Belgard Sqaure South		
4	The Square		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	3.00	3.00	0.0	12.0	32.0	30.0		
2	3.00	3.00	0.0	12.0	32.0	30.0		
3	3.00	3.00	0.0	12.0	32.0	30.0		
4	3.00	3.00	0.0	12.0	32.0	30.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.478	879
2	0.478	879
3	0.478	879
4	0.478	879

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	183	100.000
2		✓	588	100.000
3		✓	301	100.000
4		✓	42	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	104	48	31
	2	317	0	158	113
	3	85	186	0	30
	4	18	20	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	2	2	2
	2	2	0	2	2
	3	2	2	0	2
	4	2	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.26	6.47	0.4	A
2	0.77	19.31	3.4	C
3	0.52	12.01	1.1	B
4	0.08	7.01	0.1	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	138	157	804	0.171	137	0.2	5.495	A
2	443	62	850	0.521	438	1.1	8.836	A
3	227	344	715	0.317	225	0.5	7.462	A
4	32	439	670	0.047	31	0.1	5.752	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	165	188	789	0.208	164	0.3	5.874	A
2	529	75	844	0.627	526	1.7	11.483	B
3	271	413	682	0.397	270	0.7	8.892	A
4	38	527	627	0.060	38	0.1	6.225	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	201	230	769	0.262	201	0.4	6.458	A
2	647	91	836	0.775	641	3.2	18.281	C
3	331	503	639	0.519	330	1.1	11.817	B
4	46	643	572	0.081	46	0.1	6.982	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	201	231	769	0.262	201	0.4	6.471	A
2	647	91	836	0.775	647	3.4	19.313	C
3	331	507	637	0.520	331	1.1	12.013	B
4	46	647	570	0.081	46	0.1	7.011	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	165	190	789	0.209	165	0.3	5.890	A
2	529	75	844	0.627	535	1.8	12.130	B
3	271	419	679	0.399	272	0.7	9.063	A
4	38	533	624	0.060	38	0.1	6.264	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	138	159	803	0.171	138	0.2	5.521	A
2	443	63	849	0.521	445	1.1	9.140	A
3	227	349	712	0.318	227	0.5	7.585	A
4	32	445	667	0.047	32	0.1	5.782	A

2028, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	13.71	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	13	Arm 1	13.71	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	491	100.000
2		✓	447	100.000
3		✓	185	100.000
4		✓	208	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	312	145	34
	2	157	0	174	116
	3	48	121	0	16
	4	41	150	17	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	2	2	2
	2	2	0	2	2
	3	2	2	0	2
	4	2	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.74	19.47	2.8	C
2	0.63	12.90	1.7	B
3	0.28	7.14	0.4	A
4	0.32	7.67	0.5	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	370	215	776	0.476	366	0.9	8.873	A
2	337	146	809	0.416	334	0.7	7.672	A
3	139	229	770	0.181	138	0.2	5.807	A
4	157	244	763	0.205	156	0.3	6.037	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	441	258	756	0.584	439	1.4	11.536	B
2	402	175	795	0.505	401	1.0	9.270	A
3	166	275	748	0.222	166	0.3	6.309	A
4	187	292	740	0.253	187	0.3	6.637	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	541	316	728	0.743	535	2.7	18.531	C
2	492	214	777	0.633	489	1.7	12.641	B
3	204	336	719	0.283	203	0.4	7.118	A
4	229	358	708	0.323	228	0.5	7.641	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	541	317	728	0.743	540	2.8	19.471	C
2	492	216	776	0.634	492	1.7	12.902	B
3	204	338	718	0.284	204	0.4	7.142	A
4	229	359	708	0.324	229	0.5	7.669	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	441	260	755	0.584	447	1.5	12.108	B
2	402	178	794	0.506	405	1.1	9.489	A
3	166	278	746	0.223	167	0.3	6.338	A
4	187	294	739	0.253	188	0.3	6.672	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	370	217	775	0.477	372	0.9	9.143	A
2	337	148	808	0.416	338	0.7	7.826	A
3	139	232	768	0.181	140	0.2	5.843	A
4	157	246	762	0.206	157	0.3	6.077	A

2043, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	20.26	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	4	Arm 2	20.26	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2043	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	196	100.000
2		✓	642	100.000
3		✓	331	100.000
4		✓	47	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	111	51	34
	2	344	0	174	124
	3	94	204	0	33
	4	20	22	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	2	2	2
	2	2	0	2	2
	3	2	2	0	2
	4	2	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.28	6.77	0.4	A
2	0.85	28.23	5.3	D
3	0.59	14.59	1.4	B
4	0.10	7.49	0.1	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	148	172	797	0.185	147	0.2	5.638	A
2	483	67	847	0.571	478	1.3	9.814	A
3	249	374	701	0.356	247	0.6	8.057	A
4	35	478	651	0.054	35	0.1	5.966	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	176	207	780	0.226	176	0.3	6.072	A
2	577	81	841	0.686	574	2.1	13.587	B
3	298	449	665	0.448	297	0.8	9.946	A
4	42	574	605	0.070	42	0.1	6.528	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	216	253	758	0.285	215	0.4	6.755	A
2	707	99	832	0.850	696	4.9	25.088	D
3	364	545	619	0.589	362	1.4	14.161	B
4	52	699	545	0.095	52	0.1	7.438	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	216	254	758	0.285	216	0.4	6.774	A
2	707	99	832	0.850	705	5.3	28.234	D
3	364	552	616	0.592	364	1.4	14.594	B
4	52	706	542	0.096	52	0.1	7.492	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	176	209	779	0.226	177	0.3	6.096	A
2	577	81	841	0.687	589	2.3	15.197	C
3	298	460	659	0.451	300	0.9	10.279	B
4	42	586	599	0.071	42	0.1	6.593	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	148	175	796	0.185	148	0.2	5.668	A
2	483	68	847	0.571	487	1.4	10.313	B
3	249	381	697	0.357	250	0.6	8.237	A
4	35	486	647	0.055	35	0.1	6.006	A

2043, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	18.18	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	3	Arm 1	18.18	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2043	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	534	100.000
2		✓	485	100.000
3		✓	204	100.000
4		✓	230	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	339	157	38
	2	166	0	191	128
	3	53	133	0	18
	4	45	166	19	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	2	2	2
	2	2	0	2	2
	3	2	2	0	2
	4	2	2	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.83	28.70	4.5	D
2	0.70	15.70	2.3	C
3	0.32	7.65	0.5	A
4	0.36	8.33	0.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	402	238	766	0.525	398	1.1	9.864	A
2	365	159	803	0.455	362	0.8	8.260	A
3	154	248	761	0.202	153	0.3	6.026	A
4	173	263	754	0.230	172	0.3	6.300	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	480	285	743	0.646	477	1.8	13.680	B
2	436	191	788	0.553	434	1.2	10.341	B
3	183	297	737	0.249	183	0.3	6.624	A
4	207	316	728	0.284	206	0.4	7.029	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	588	349	712	0.825	578	4.2	25.737	D
2	534	232	768	0.695	530	2.2	15.159	C
3	225	363	706	0.318	224	0.5	7.612	A
4	253	386	695	0.364	253	0.6	8.287	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	588	350	712	0.826	587	4.5	28.701	D
2	534	235	767	0.696	534	2.3	15.703	C
3	225	365	705	0.319	225	0.5	7.648	A
4	253	387	694	0.365	253	0.6	8.329	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	480	287	742	0.647	490	1.9	15.091	C
2	436	196	786	0.555	440	1.3	10.738	B
3	183	302	735	0.249	184	0.3	6.669	A
4	207	318	727	0.284	207	0.4	7.076	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	402	240	765	0.526	405	1.2	10.303	B
2	365	162	802	0.455	367	0.9	8.477	A
3	154	251	759	0.202	154	0.3	6.068	A
4	173	266	752	0.230	174	0.3	6.349	A

APPENDIX J

ARCADY Capacity Output
Belgard Road / Belgard Walk Roundabout Junction

Summary ARCADY Results in Order as included herein

Modelled Scenario	*Period Max RFC*	*Period Mean Max Q (PCUs)*
Opening Year 2028 AM Peak Hr	0.43	0.8
Opening Year 2028 PM Peak Hr	0.75	2.9
Design Year 2043 AM Peak Hr	0.48	0.9
Design Year 2043 PM Peak Hr	0.84	4.9

All Results Above are below the recommended DoS of 0.85 Capacity and therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues.

NB - Any Small Changes to Selected Opening Year 2028 or Design Year 2043, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study.

Junctions 10

ARCADY 10 - Roundabout Module

Filename: Belgard Rd Rdb 2028 & 2043.j10
Path: C:\Users\BrianMc\OneDrive\OneDrive - NRB Consulting Engineers Ltd\Documents\2024\24-115 Belgard LRD\Calculations\Stage 3 Calcs\Junction Analysis\06 Belgard Road Rdb
Report generation date: 03/11/2025 22:39:09

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2028											
Arm 1	D1	0.8	2.25	0.43	A	55 %	D2	0.4	1.83	0.30	A	15 %
Arm 2		0.7	7.60	0.42	A			2.9	15.17	0.75	C	
Arm 3		0.4	3.76	0.29	A	[Arm 2]		1.3	7.21	0.56	A	[Arm 2]
	2043											
Arm 1	D3	0.9	2.44	0.47	A	42 %	D4	0.5	1.92	0.33	A	5 %
Arm 2		0.9	8.82	0.48	A			4.9	23.71	0.84	C	
Arm 3		0.5	3.99	0.33	A	[Arm 2]		1.7	9.02	0.63	A	[Arm 2]

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	03/11/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office-LT\BrianMc
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15
D2	2028	PM	ONE HOUR	16:45	18:15	15
D3	2043	AM	ONE HOUR	07:45	09:15	15
D4	2043	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	3.50	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	55	Arm 2	3.50	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Belgard Road (South)		
2	Belgard Walk		
3	Belgard Road (North)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1	8.50	9.50	10.0	20.0	35.0	20.0		
2	3.25	4.00	4.5	30.0	35.0	30.0		
3	4.00	5.00	10.0	100.0	35.0	20.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.906	2902
2	0.545	1151
3	0.643	1548

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2028	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1102	100.000
2		✓	314	100.000
3		✓	366	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	549	553
	2	244	0	70
	3	292	74	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	2
	2	0	0	0
	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.43	2.25	0.8	A
2	0.42	7.60	0.7	A
3	0.29	3.76	0.4	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	830	56	2852	0.291	828	0.4	1.794	A
2	236	415	925	0.256	235	0.3	5.207	A
3	276	183	1430	0.193	275	0.2	3.160	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	991	66	2842	0.349	990	0.5	1.963	A
2	282	497	880	0.321	282	0.5	6.008	A
3	329	219	1407	0.234	329	0.3	3.391	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1213	81	2829	0.429	1212	0.8	2.248	A
2	346	608	820	0.422	345	0.7	7.566	A
3	403	268	1376	0.293	403	0.4	3.756	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1213	81	2829	0.429	1213	0.8	2.250	A
2	346	609	819	0.422	346	0.7	7.599	A
3	403	269	1375	0.293	403	0.4	3.761	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	991	67	2842	0.349	992	0.5	1.966	A
2	282	498	880	0.321	283	0.5	6.044	A
3	329	220	1406	0.234	329	0.3	3.396	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	830	56	2852	0.291	830	0.4	1.800	A
2	236	417	924	0.256	237	0.3	5.241	A
3	276	184	1430	0.193	276	0.2	3.172	A

2028, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	7.72	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	15	Arm 2	7.72	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2028	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	766	100.000
2		✓	646	100.000
3		✓	579	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	426	340
	2	569	0	77
	3	502	77	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	2
	2	0	0	0
	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.30	1.83	0.4	A
2	0.75	15.17	2.9	C
3	0.56	7.21	1.3	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	577	58	2850	0.202	576	0.3	1.596	A
2	486	256	1012	0.481	483	0.9	6.755	A
3	436	425	1274	0.342	434	0.5	4.346	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	689	69	2840	0.242	688	0.3	1.687	A
2	581	306	985	0.590	579	1.4	8.822	A
3	521	510	1220	0.427	520	0.7	5.223	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	843	85	2826	0.298	843	0.4	1.830	A
2	711	374	947	0.751	706	2.8	14.546	B
3	637	621	1148	0.555	635	1.2	7.122	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	843	85	2826	0.298	843	0.4	1.831	A
2	711	374	947	0.751	711	2.9	15.172	C
3	637	626	1145	0.557	637	1.3	7.211	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	689	69	2839	0.243	689	0.3	1.690	A
2	581	306	985	0.590	587	1.5	9.171	A
3	521	517	1216	0.428	522	0.8	5.300	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	577	58	2850	0.202	577	0.3	1.599	A
2	486	256	1012	0.481	488	0.9	6.906	A
3	436	430	1271	0.343	437	0.5	4.395	A

2043, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	3.88	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	42	Arm 2	3.88	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2043	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1209	100.000
2		✓	343	100.000
3		✓	403	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	600	609
	2	266	0	77
	3	322	81	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	2
	2	0	0	0
	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.47	2.44	0.9	A
2	0.48	8.82	0.9	A
3	0.33	3.99	0.5	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	910	61	2847	0.320	908	0.5	1.873	A
2	258	458	902	0.286	257	0.4	5.566	A
3	303	199	1420	0.214	302	0.3	3.269	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1087	73	2836	0.383	1086	0.6	2.077	A
2	308	547	853	0.361	308	0.6	6.593	A
3	362	239	1394	0.260	362	0.4	3.542	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1331	89	2822	0.472	1330	0.9	2.436	A
2	378	670	786	0.480	376	0.9	8.754	A
3	444	292	1360	0.326	443	0.5	3.985	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1331	89	2822	0.472	1331	0.9	2.439	A
2	378	671	786	0.481	378	0.9	8.819	A
3	444	293	1360	0.326	444	0.5	3.993	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1087	73	2836	0.383	1088	0.6	2.082	A
2	308	548	853	0.362	310	0.6	6.650	A
3	362	240	1393	0.260	363	0.4	3.552	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	910	61	2847	0.320	911	0.5	1.880	A
2	258	459	901	0.287	259	0.4	5.610	A
3	303	201	1419	0.214	304	0.3	3.282	A

2043, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	11.05	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	5	Arm 2	11.05	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2043	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	838	100.000
2		✓	707	100.000
3		✓	638	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	463	375
	2	622	0	85
	3	553	85	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	2
	2	0	0	0
	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.33	1.92	0.5	A
2	0.84	23.71	4.9	C
3	0.63	9.02	1.7	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	631	64	2845	0.222	630	0.3	1.639	A
2	532	282	998	0.533	528	1.1	7.590	A
3	480	464	1249	0.385	478	0.6	4.732	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	753	76	2833	0.266	753	0.4	1.745	A
2	636	337	968	0.657	633	1.9	10.652	B
3	574	557	1190	0.482	572	0.9	5.918	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	923	93	2818	0.327	922	0.5	1.915	A
2	778	413	926	0.840	767	4.6	21.305	C
3	702	675	1114	0.631	699	1.7	8.779	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	923	94	2818	0.327	923	0.5	1.915	A
2	778	413	926	0.840	777	4.9	23.706	C
3	702	684	1108	0.634	702	1.7	9.019	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	753	77	2833	0.266	754	0.4	1.746	A
2	636	337	967	0.657	647	2.0	11.622	B
3	574	569	1182	0.485	577	1.0	6.084	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	631	64	2844	0.222	631	0.3	1.643	A
2	532	282	997	0.534	536	1.2	7.850	A
3	480	471	1245	0.386	482	0.6	4.806	A

APPENDIX K

Preliminary Planning Stage
Mobility Management Plan

consulting engineers

NRB

Mobility Management Plan
(*Travel Plan*)

Appendix K

For

Proposed Large Scale Residential Development

At

Belgard Square East, Tallaght, Dublin 24.

SUBMISSION ISSUE

5th Floor, 40 Mespil Road, Dublin 4
Tel: +353 1 292 1941, E-mail: info@nrb.ie, Web: www.nrb.ie

Registered in Ireland No. 491679

Contents

1.0 INTRODUCTION

1.1 NRB Consulting Engineers have been commissioned to prepare a Travel Plan in support of a Large-Scale Residential Development (LRD) on suitably zoned lands at Belgard Square East, Tallaght, Dublin 24. This report explains the applicant's commitment to the promotion of more sustainable and cost-effective travel habits among the end occupiers/residents of the scheme. In this case, sustainable travel is supported by reduced provision of car parking for the development, and generous cycle parking provision.

1.2 **Of course, it should be recognised that, until residents are actually in place, a Travel Plan (TP) or Mobility Management Plan (MMP) prepared at Planning Stage can only outline the current and proposed alternative transport services and set out strategies that will be deployed to encourage future residents to use alternative modes of travel. A working MMP requires residents mode of travel to be measured to allow target modal splits to then be set. In these terms this Planning Stage MMP is considered 'Preliminary'**.

What is a Travel Plan?

1.3 Originally and elsewhere called Mobility Management Plans (MMPs), they originated in the United States and the Netherlands in the late 1980s. In the US, employers over a certain size (generally over 100 employees) were required to implement 'Trip Reduction Plans' in order to reduce single-occupancy car commuting trips, and to increase car occupancy.

1.4 A MMP or Travel Plan (TP) consists of a package of measures put in place by an organisation to encourage and support more sustainable travel patterns among staff and other visitors. Such a plan usually concentrates on staff commuting patterns. In essence, a TP is useful not only to reduce the attractiveness of private car use, but also for the ability to promote and support the use of more sustainable transport modes such as walking, cycling, shared transport, and mass transit such as buses and trains.

Aims and Objectives of this Travel Plan

1.5 The package generally includes measures to promote and improve the attractiveness of using public transport, cycling, walking, car sharing, flexible working, or a combination of these as alternatives to single-occupancy car journeys to work. A TP can consider all travel associated with the residential or work site, including business travel, fleet management, customer access and deliveries. It should be considered as a dynamic process where a package of measures and campaigns are identified, piloted, and monitored on an on-going basis.

1.6 The changes which are being sought as part of any plan may be as simple as car sharing one-day per week, or walking on Wednesdays, or taking the bus on days which do not conflict with other commitments, leisure, or work activities.

1.7 It is envisaged that once in place, the Travel Plan will enable the following benefits to be realised for the Development:

- Reduced residential car parking demand and reduced congestion on the local road network due to lower demand for private transport and/or more efficient use of private motor vehicles,
- Improved safety for cyclists and pedestrians,
- Direct financial savings for those taking part in the developed initiatives, through higher-than-average vehicle occupancy rates,
- A reduction in car parking and car set-down demand, resulting in improved operational efficiency and safety for all,
- Improved social networking between all those participating in the shared initiatives,
- Improved environmental consideration and performance,
- Improved public image for the development, which sets an example to the broader community and may lead to residents making better travel decisions in the future,
- Improved health and well-being for those using active non-car transport modes,
- Regular liaison with the Local Authority and public transport providers to maintain, improve, and support transportation services to and from the site,
- Improved attractiveness of the development to prospective residents,
- Optimal levels of safety for all residents, staff & visitors.

Methodology

1.8 As part of this Travel Plan, reference has been made to the following documents:

- Your Step-By-Step Guide To Travel Plans (NTA 2012),
- Achieving Effective Workplace Travel Plans (NTA 2011),
- Traffic and Transport Assessment Guidelines (TII),
- Traffic Management Guidelines (DoELG, 2003),
- Mobility Management Plans – DTO Advice Note (DTO, 2002),
- The Route to Sustainable Commuting (DTO 2001),
- Smarter Travel: A Sustainable Transport Future (DOT).

1.9 Consultation with key stakeholders is an essential part of any Travel Plan. As discussed below, as part of the operational phase of this development, a Travel Plan Coordinator Role will be appointed from within the Management Company responsible for the Apartments. Following on, once occupied, residents will be asked to complete detailed questionnaires on essential data in relation to their existing travel patterns. This information will be used to inform the ongoing implementation, monitoring and review of the plan for this development.

1.10 This information has been used herein as the basis for the assessment, conclusions, and recommendations.

2.0 ACCESS TO THE SITE - BY MODE

2.1 The development consists of a total of 199 residential apartment units, arranged in blocks together with ancillary/supporting facilities. The site is within close proximity to high quality alternative modes of transport, being adjacent the Luas and the Tallaght-City Centre Core Bus Corridor with secure off-street parking areas for bicycles and a reduced number of private cars proposed along with bins storage, electrical room, plant enclosures and all associated site works.

2.2 For a apartment-led Development, it is essential for the successful Travel Planning to concentrate on journeys associated with work and school commuting patterns. These are the groups which can most practically be encouraged to use modes of transport other than the car. It should be noted that, being located immediately beside Tallaght Main Street, this contributes to sustainable living, with employment opportunities, retail and leisure all located within reasonable proximity. The measures and initiatives below are relevant and assist in addressing the transportation demands of the proposed scheme.

Cycling and Walking Facilities

2.3 At present, pedestrian/cycle traffic at/to the existing site is served by an extensive network of footpaths and cycle lanes/facilities. These are ever improving, and the GDA cycle network will be rolled out as the nature of the environment changes. There is clearly scope to provide the facilities to create the plan as set out in the NTA's GDA Cycle Network Plan for this area of Dublin. An extract from the plan is as illustrated in ***Figure 2.1*** below.

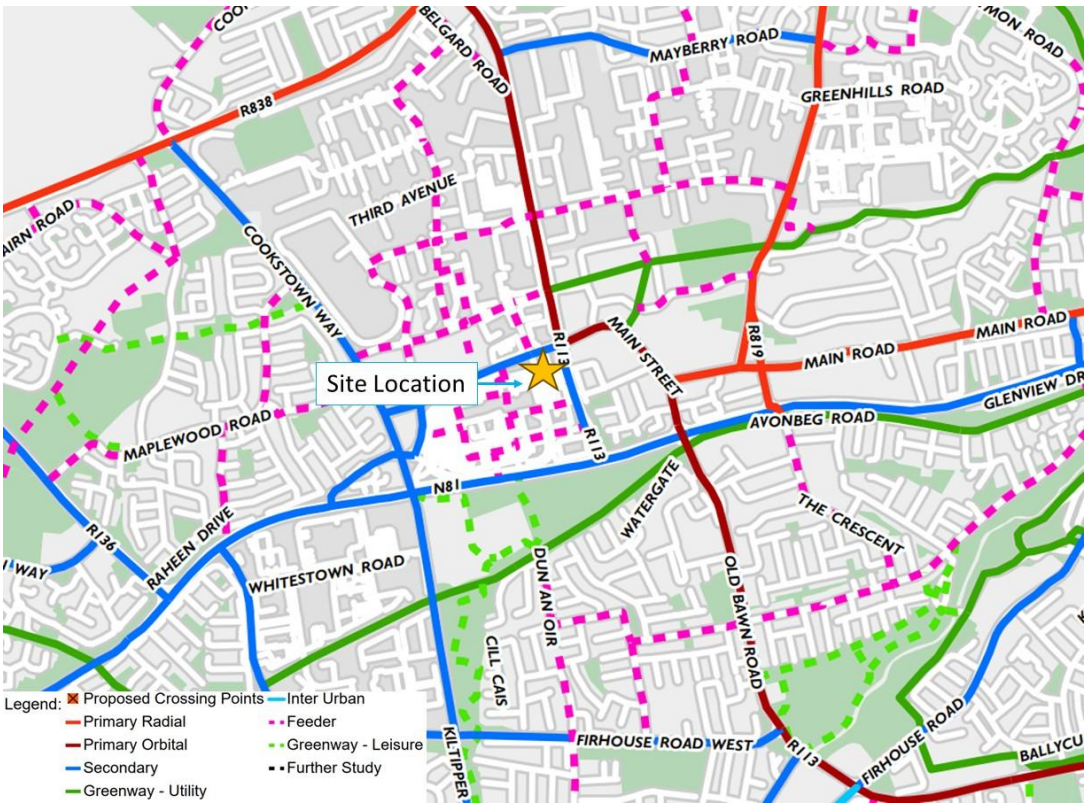


Figure 2.1 – NTA's GDA Cycle Network, Showing Site

2.4 It is clear that the site will be bounded by primary and secondary routes bordering the development site directly, thereby creating a high quality network of cycle routes throughout the local area, which will in turn connect to a comprehensive plan for the GDA outside Tallaght.

2.5 The SDCC vision, as set out in their *Cycle South Dublin* Programme of works, is an ambitious programme of work that reflects the increasing importance of making cycling a realistic and integral part of how people move around the County. It proposes a set of 41 projects that would deliver nearly 210km of new and improved cycle lanes over the next ten years. The programme has been prepared against the backdrop of the Council's commitments to Sustainable Travel; Climate Change; Building Stronger Local Economies and Improving Personal Health and Wellbeing. There are proposals to upgrade many of the cycle facilities close to the site, including those on the Belgard Road as shown in ***Figure 2.2***.

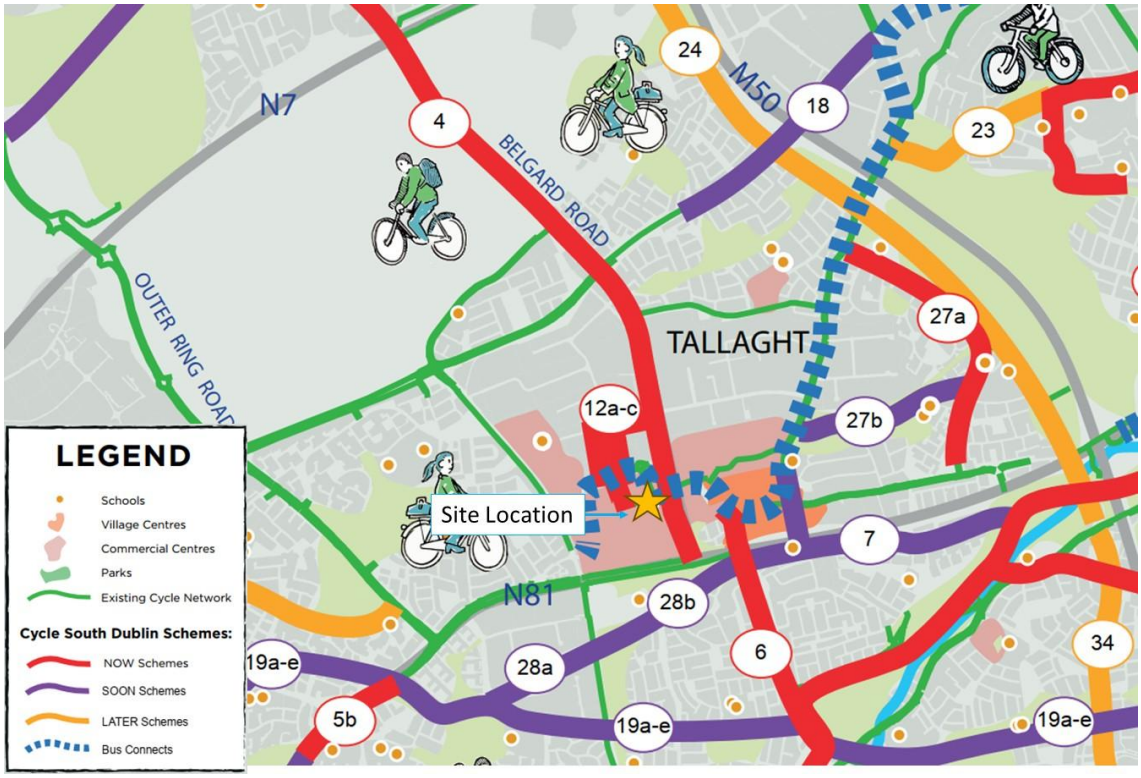


Figure 2.2 – Cycle South Dublin Programme

2.6 The Section 38 Tallaght to Clondalkin Cycle Scheme Phase 1 (Belgard Road and Airton Road), forms part of Route No. 4 which links Tallaght to Clondalkin. This Phase 1 on Belgard Road is between Old Belgard Road Junction (to the northeast of the proposed development) and Cookstown Road Junction, and on Airton Road between Belgard Road Junction and Greenhills Road. Public consultation took place in Summer 2024 and is due to go to construction in 2025/2026. The proposals on the Old Belgard Road Junction as shown below in Figure 2.3.

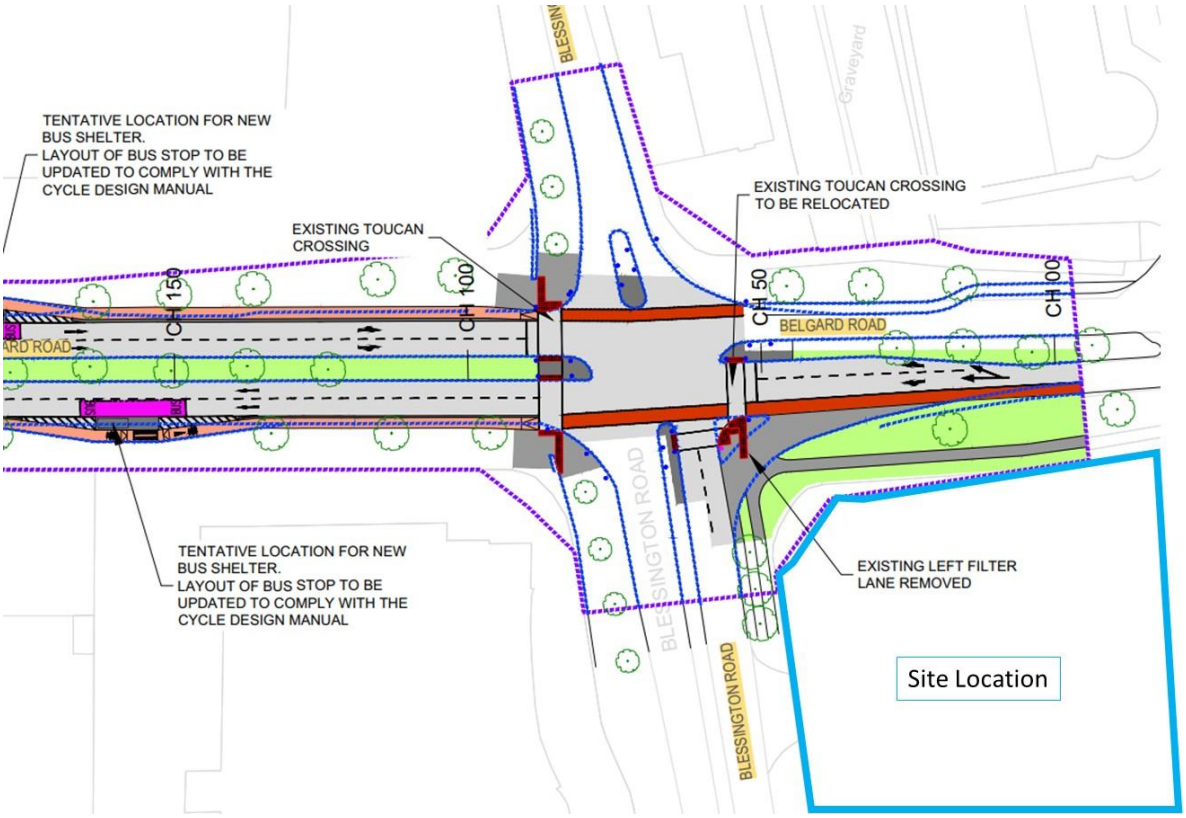


Figure 2.3 – SDCC's Tallaght to Clondalkin Cycle Scheme

2.7 The site will be bounded by primary and secondary routes bordering it directly, thereby creating a high quality network of cycle routes throughout the local area, which will in turn connect to a comprehensive plan for the GDA outside Tallaght.

2.8 The key to cycle accessibility is convenient safe links, with secure and carefully sited cycle parking. Cycling is ideal for shorter journeys. The provision of cycle parking for the site is addressed in more detail within ***Section 2.0*** of the ***TA Report***.

2.9 For journeys greater than 8km, it is recognised that a modal shift to cycling could be achievable for some, but not all, and options such as public transport and car sharing should be considered. Journeys up to 8km could be undertaken by bicycle and journeys up to 3-4km could be undertaken by walking or cycling.

2.10 To illustrate the extent of the GDA accessible by both Bicycle (8km) and on foot (2km) we have included below approximate 'Iso-Distance Mapping' for an 8km and 2km Radius from the site. These illustrate the extent of the employment, retail, and schools within sustainable travel distance of the site, as ***Figure 2.4*** and ***Figure 2.5***. In these terms, residents would not have a requirement to own a car, supporting sustainable living.

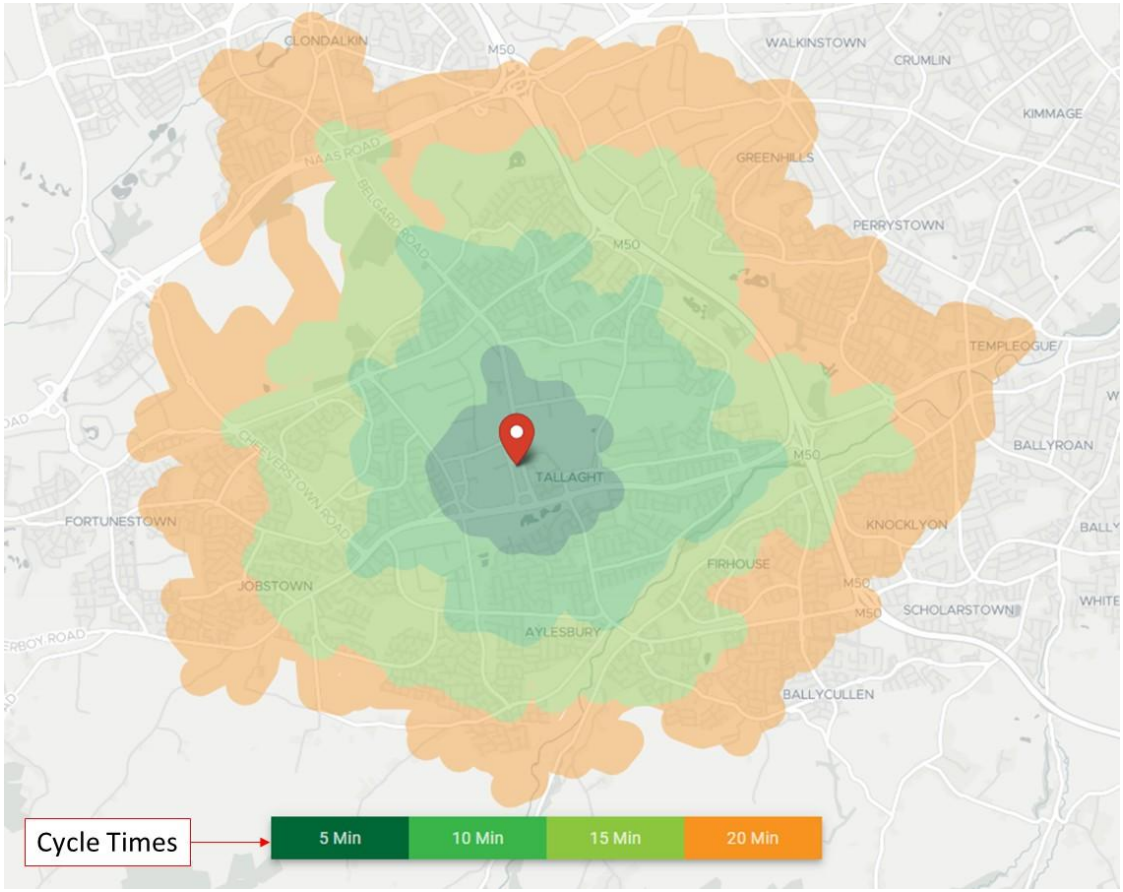


Figure 2.4 – Cycle Distance From Proposed Development (20 Mins)

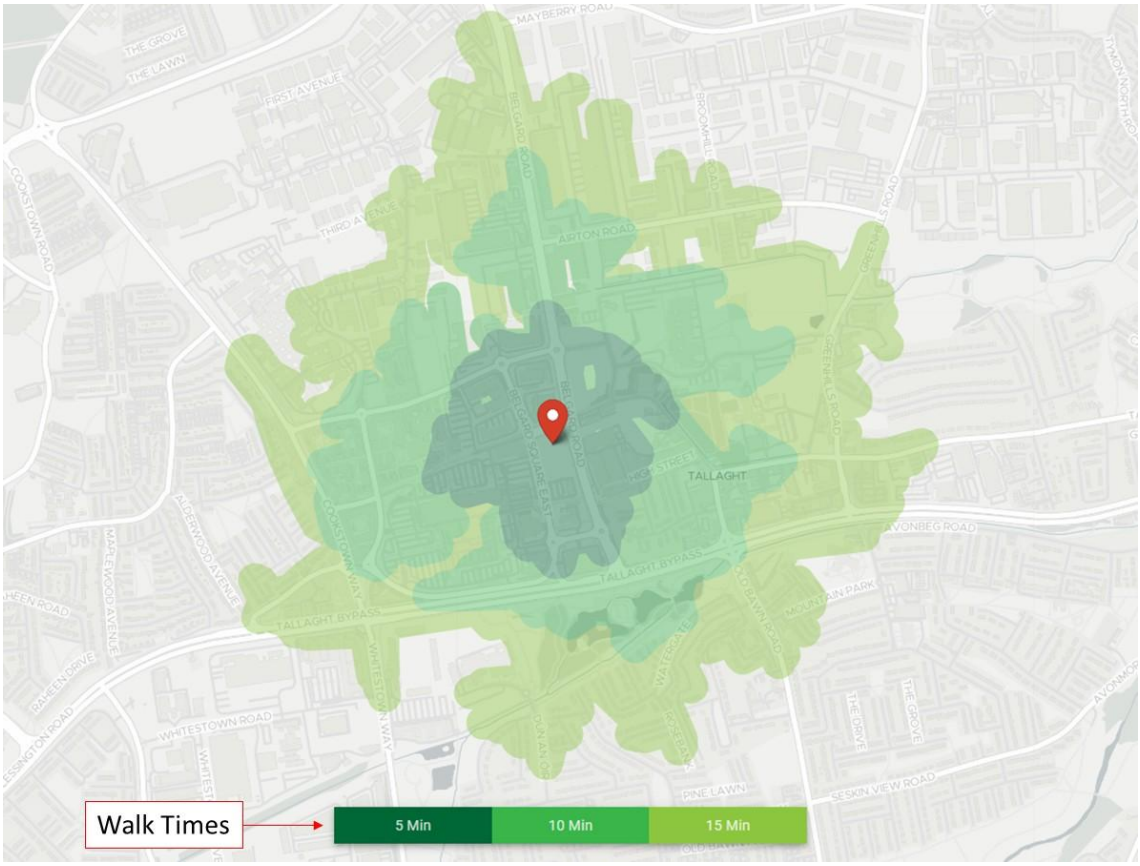


Figure 2.5 – Walk Distance From Proposed Development (15 Mins)

2.11 The proposed site clearly can support sustainable living in terms of cycle and walking accessibility to schools, employment, and services as set out above.

2.12 Bicycle sharing facilities are becoming ever more popular with Public Bicycle Sharing initiatives spreading ever further throughout the City and into Suburbs. These facilities offer a bicycle sharing alternative mode of transport and are easily accessible from the site.

Cycle Parking

2.13 Given the clear accessibility of the location as demonstrated above, it is anticipated that a significant number of residents can be encouraged to cycle to work and school etc. with the safe links and secure parking which are in place (and that is reflected in the provision of a total of 557 dedicated cycle parking spaces. This number is considered appropriate in terms of published policy documents.

2.14 The SDCC Development Plan and Policy Documents vision is to cultivate a cycling culture, through the implementation of appropriate infrastructure and promotional measures, which positively encourages all members of the community to cycle at all life stages and abilities as a mode of sustainable transport that delivers environmental, health and economic benefits to both the individual and the community.

BUS ACCESSIBILITY

2.15 The development is well placed to take advantage of the existing and future Dublin Bus and services, with existing stops within easy walking distance of the site. The location and proximity to the established existing bus stops and services (NB accurate at the time of writing) are illustrated on ***Figure 2.6*** below.

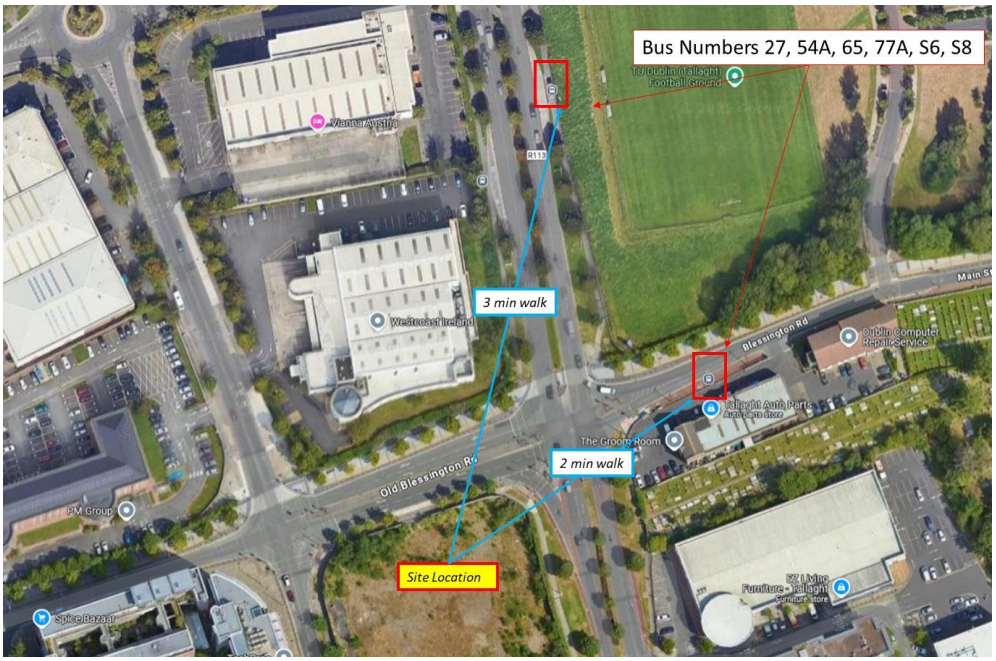


Figure 2.6 – Existing Dublin Bus Services

2.16 The stops adjacent the site on Belgard Road & Blessington Road are served by the frequent #27, #54A, #65 and #77A Dublin Bus Services, which all serve Dublin City Centre. The recently introduced #S6 and #S8 are new Orbital routes, with the #S6 serving Dundrum and Blackrock, and the #S8 Sandyford and Dun Laoghaire.

2.17 All of the Dublin Bus routes passing the development are operated using new low-floor wheelchair accessible city buses. Details of route, timetables and fares are provided on www.dublinbus.ie and on the Transport for Ireland National Journey Planner App.

2.18 With the associated connections to the City and the Mainline Stations, the site is therefore highly accessible to a wide range of national mainline rail services serving all destinations around Ireland, and of course linking to Dublin Airport. The ***Airport Hopper*** Tallaght Mini Bus Service operates between The Square Tallaght Town Centre, the Village and Dublin Airport, on an approximate hourly basis over the course of the working day.

2.19 In terms of **Future Planned Services**, the NTA are promoting the plans for the overall bus network for the GDA, by way of the Core Bus Connects projects and the 'New Dublin Area Network' - showing Spine Routes, Feeder and Orbital Routes. An extract from the NTA Plans showing the site location is included below as ***Figure 2.8.***

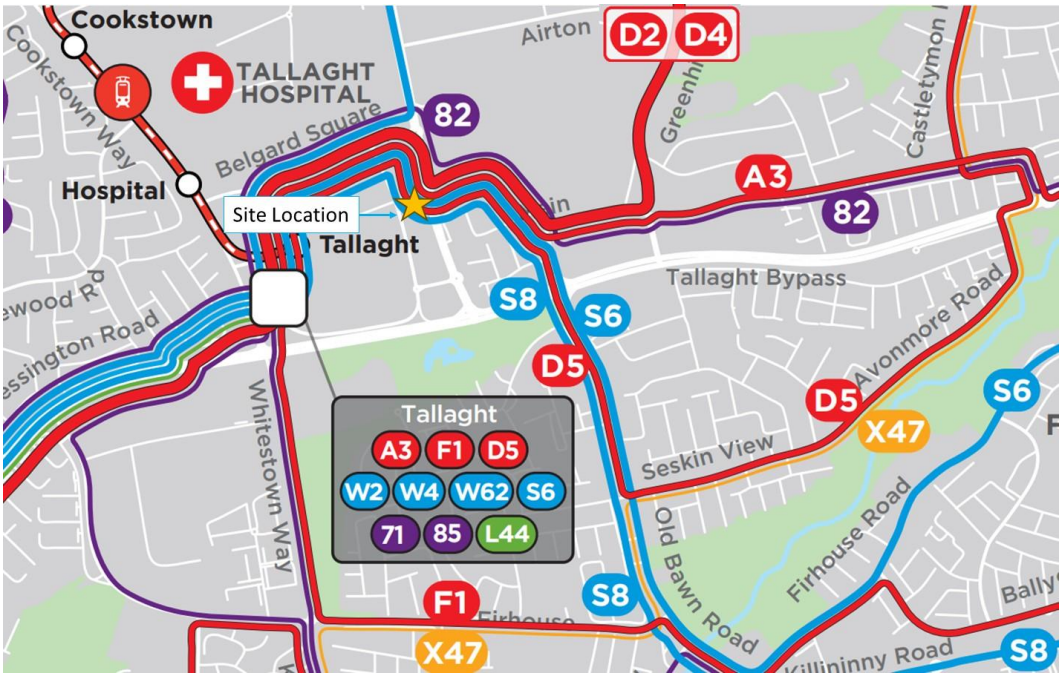


Figure 2.8 – NTA GDA New Dublin Area Network - Bus Services

2.20 This future network shows that the site's accessibility to bus services will be further enhanced, with a high frequency and permeable service to be provided via 4 'Main Spine Routes' provided on Old Blessington Road, as part of the recently approved Tallaght to City Centre scheme.

LUAS

2.21 The LUAS Terminus Red Line stop (Tallaght P&R) is very accessible from the site. LUAS has become a highly successful travel mode linking Tallaght with local areas and onwards to the city centre. It is a semi-segregated light rail tram service operating at street level but generally gets priority over motorised vehicles at junctions.

2.22 The LUAS Red Line serving the site provides a regular service between the 3 Arena/Connolly Station and Tallaght/Saggart with intermediate stops at key locations including Busarus, Heuston Station, Red Cow and City West. The normal day to day operating times are 05:30-24:00. The extended Green Line now provides a good degree of connectivity with the Red Line and their respective stops intersecting at O'Connell Street and Abbey Street.

2.23 The Green Line provides a service between Sandyford and Broombridge with intermediate stops at St Stephens Green, Westmoreland, Cabra, Phibsborough and Broadstone DIT. LUAS runs on a frequency of service which changes depending upon the time of day to adequately cater for demand. The proximity to LUAS by foot (being 5-6 mins cycle) is illustrated below as ***Figure 2.9.***

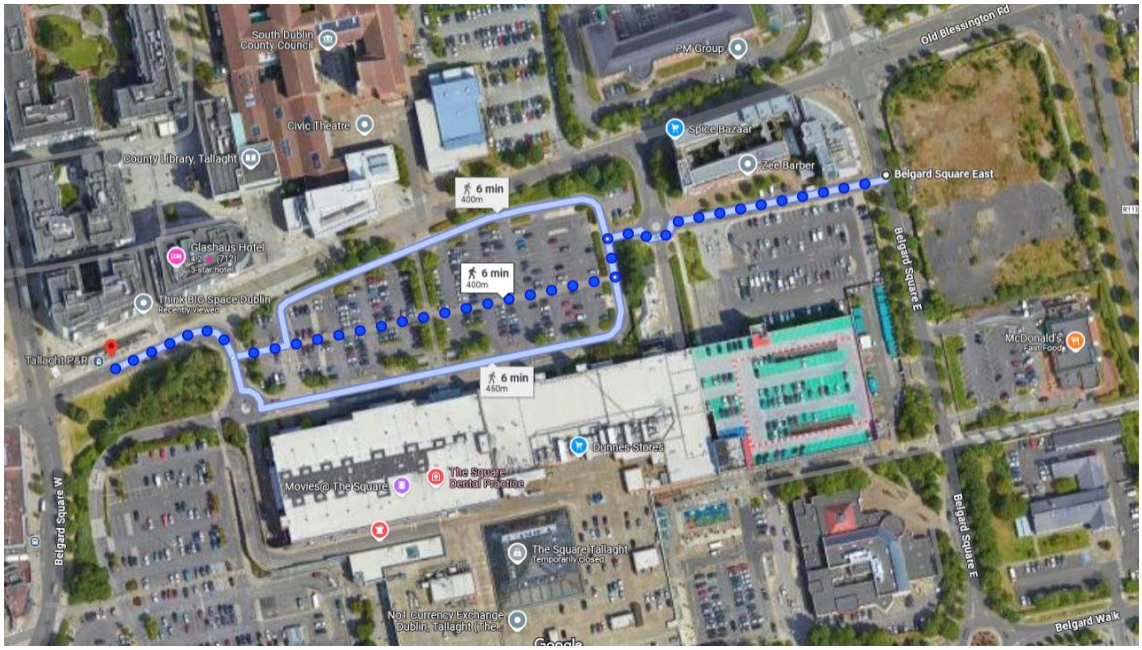


Figure 2.9 – 6 min Walk Distance/Proximity to LUAS Services at Tallaght

MAINLINE BUS AND RAIL

2.24 Of course, with the high frequency existing and proposed Bus & LUAS services to/from the city, the site is therefore also within easy reach of the mainline Nationwide Bus & Train Services - trains via Connolly & Heuston Stations and Buses via Busarus Terminus.

2.25 With ease of accessibility by Bus and Rail, and in particular with the high frequency existing bus services, and with the clear accessibility for walking and cycling, it is therefore considered that the proposed development is highly sustainable in terms of public transport accessibility. The proximity

of the development to existing public transport services means that end occupiers/residents will have viable alternatives to the private car for accessing the site and will not be reliant whatsoever upon the car as a primary mode of travel.

TAXI ACCESSIBILITY

2.26 In terms of taxis, modern communication devices (e.g., 'FreeNow' and 'Lynk') now allow taxis to be ordered on a demand-basis, without any requirement for formal taxi ranks or dedicated taxi holding areas.

WALKING

2.27 The permeability locally for walking by residents is addressed above – and of course, being within close proximity to the major employment district of Tallaght and The Square (amongst others), this means that a very significant number of Schools, Services, Employment Destinations and Offices are within an easy and acceptable walk-commute of the site.

2.28 The site is also within the heart of the Tallaght Community and is therefore within the catchment for local Primary and Secondary Schools.

2.29 In these terms we believe that walking will represent the most popular mode of home-work-home and home-school-home travel for residents of the Apartments.

RESIDENTS COMMUNICATION

2.30 Prior to moving in, the Management Company will issue welcome packs to all residents. These packs include details of the development and how it is run, advice on moving in, public transport information, useful local information, the restricted availability of on-site parking and can require confirmation of a timeslot to move in. The preparation of this information ensures residents are familiar with the operation of the development before moving in.

2.31 In terms of number of transport alternatives easily available to Residents, it is considered that the proposed development is very highly sustainable in terms of public and alternative transport accessibility. The proximity of the development to existing public transport services means that all residents will have viable alternatives to the private car for accessing the site and will not be reliant upon the car as a primary mode of travel.

2.32 Direct and high-quality pedestrian linkages are provided between the site and the existing pedestrian facilities on the surrounding road network. The entrances to the site will be well lit, so that people can feel secure in using the facilities and can also be monitored by CCTV.

2.33 Public transport maps and timetables can be provided in prominent locations on site and the information will be kept up to date by the appointed Travel Plan Coordinator, a role for the Management Company.

2.34 Working Residents are generally now offered the opportunity to purchase public transport commuter tickets under the current ‘Employer Pass’ and ‘TaxSaver’ programmes, by individual Employers. Under these schemes the employer applies to Iarnród Éireann / Bus Éireann for tax free public transport tickets for their employees as an incentive for them to use public transport to travel to work.

2.35 With this in mind, the main focus of this Preliminary Travel Plan will be to promote and support the use of alternative modes to the private car.

3.0 COLLECTION OF BASELINE INFORMATION

Possible Travel Pattern Questionnaires

3.1 Once occupied, and when the Travel Plan Coordinator is appointed, the occupiers of the proposed development will be encouraged to regularly monitor the Travel Plan initiatives in order to maximise on their success.

3.2 Shortly after occupation of the new development, a detailed travel-questionnaire will be compiled and distributed to residents for completion. The aim of the travel questionnaire will be to establish travel patterns between work and home and school among other travel demands. The information gathered from this survey will be used to inform the further development of the Travel Plan.

3.3 The Baseline Survey information will also allow the Travel Plan Coordinator for the development to set realistic modal-split targets for the development.

3.4 It is anticipated that, given the very-much town centre location and good transport links at this development, combined with the lack of car parking on site, there will be a high percentage of use via public and alternative transport. The Travel Plan will need to maintain this positive modal split and improve it, where possible. It is informative to note that the "Smarter Travel: A Sustainable Transport Future" (DOT) Objective for 2020 is to achieve a reduced work-related commuting by car modal share of 65% to 45%.

4.0 THE TRAVEL PLAN

4.1 The successful implementation of a Travel Plan will ensure that, in-so-far-as-possible, the impacts of this traffic are reduced and minimised where practical, while providing a number of environmental and economic advantages detailed below.

4.2 The following sub-sections detail the available initiatives which will serve to better manage travel demand, and therefore the traffic impact of work-related journeys, focused on the movement of residents during peak times.

Walking - Key Information	
Approx. Zone of Influence	3.5km
Percentage of Residents / Staff travelling in area of influence	TBC in each survey when occupied
Percentage of Residents / Staff interested in Walking	TBC in each survey when occupied

Table 4.1 – Key Information: Walking

4.3 There are many local, global, and personal benefits to walking, a few of which are listed following:

- **W** - Wake Up! - Studies have shown that people who walk are more awake and find it easier to concentrate.
- **A** - Always one step ahead - Walking makes people more aware of road safety issues and helps them develop stronger personal safety skills.
- **L** - Less congestion - If you leave the car at home and walk, there are fewer cars on the road which makes it safer for those who walk and cycle.
- **K** - Kinder to the environment - By leaving the car at home you are reducing the amount of CO 2 produced and helping to reduce the effects of climate change and air pollution.
- **I** - Interpersonal skills - Walking can be a great way to meet other walkers, share the experience, and develop personal skills.
- **N** - New adventures - Walking is a great way to learn about your local environment and community. It's also a fun way to learn about the weather, landscape, and local ecosystems.
- **G** - Get fit and stay active - Walking helps people incorporate physical activity into their daily routines. Research shows that regular physical activity can benefit your body and mind.

4.4 Most adults will consider walking a maximum of 3.5 km (Approx. 30/40 minutes). Residents working within a 3.5 km radius of the site will be encouraged to walk as often as their schedule permits.

4.5 The following initiatives and incentives can be used to encourage walking:

- Take part in a 'Pedometer Challenge' which is organised through the Irish Heart Foundation or Smarter Travel Workplaces,
- Organise special events such as a 'Walk to work/school on Wednesdays' where participants are rewarded for their participation,
- Keep umbrellas in public areas on a deposit system for use when raining,
- Display Smarter Travel Workplaces Accessibility Walking maps on notice boards areas so residents can plan journeys,
- Organise lunch time or afternoon walks as part of a health and well-being programme,
- Highlight the direct savings gained due to reduced use of private vehicles.

Cycling – Key Information	
Approx. zone of influence	10km
Percentage of Residents / Staff travelling in area of influence	TBC in each survey when occupied
Percentage of Residents / Staff interested in cycling	TBC in each survey when occupied

Table 4.2: Key Information - Cycling

4.6 Research suggests that cycling is a viable mode of transport for people who live up to 10 km from work or school.

4.7 Cycling is a great way to travel. It helps foster independence, raises awareness of road safety, and helps the environment.

4.8 Some positive aspects of cycling are listed following:

- **C** - Cycling is fun! - Cycling is a great form of transport but it's also a great recreational activity. Cycling is a skill that stays with you for life and it's a fantastic way to explore your local community,
- **Y** - You save time & money - cycling reduces the need to travel by car thus reducing fuel costs and freeing up road space for more cyclists,
- **C** - Confidence building - travelling as an independent cyclist can give people increased confidence proving beneficial in all aspects of life,
- **L** - Less congestion - If you leave the car at home and cycle there are fewer cars on the road which makes it safer for those who cycle and walk,
- **I** - Interpersonal skills - Cycling can be a great way to meet other cyclists and share the experience,
- **N** - New adventures - Cycling is a great way to learn about your local environment

and community. It helps people to understand where they live and how their actions affect their local environment,

- **G** - Get fit and stay active - cycling helps people incorporate physical activity into their daily routines. Research shows that regular physical activity can benefit your body and mind.

4.9 The provision of enhanced and attractive cycle parking facilities at the site will clearly play a critical role in promoting journeys by bicycle.

4.10 The following initiatives and incentives can be used to encourage cycling:

- New cycle parking installed within the development, secure and well lit,
- Publicise cycle parking availability by way of signage and on notice boards,
- Display maps on notice boards areas so people can plan journeys,
- The development can provide free cycle accessories (panniers, lights, visi-vests, helmets) in periodic draws for cyclists,
- The Travel Plan Coordinator can organise cycle training sessions on site on the rules of the road and the specific risks associated with the locality,
- The Travel Plan Coordinator can invite bike suppliers on site for a 'Green Day' or 'Green Week' so that people can try bikes before buying,
- The Travel Plan Coordinator can set up a Bicycle User Group (BUG) to promote cycling,
- The Travel Plan Coordinator can highlight the direct savings gained due to reduced use of private vehicles,
- The Travel Plan Coordinator can encourage residents to take part in National Bike Week, see www.bikeweek.ie.

Public Transport – Key Information	
Approx. zone of influence	All Residents
Percentage of Residents / Staff travelling in area of influence	100%
Percentage of Residents / Staff using Public Transport	TBC in each survey when occupied

Table 4.3: Key Information: Public Transport

4.11 There are many benefits to taking public transport, some of which include:

- Personal Opportunities – Public transportation provides personal mobility and freedom,
- Saving fuel – Every full standard bus can take more than 50 cars off the road, resulting in fuel savings from reduced congestion,
- Reducing congestion – The more people who travel on public transport, especially during peak periods, the less people travelling by private car,

- Saving money – Taking public transport is a lot cheaper than travelling by car and saves the cost of buying, maintaining, and running a vehicle,
- Reducing fuel consumption – A full standard bus uses significantly less fuel per passenger than the average car,
- Reducing carbon footprint – Public transport is at least twice as energy efficient as private cars. Buses produce less than half the CO2 emissions per passenger kilometre compared to cars and a full bus produces 377 times less carbon monoxide than a full car,
- Get fit and stay active - Walking to public transport helps people incorporate physical activity into their daily routines. Research shows that regular physical activity can benefit your body and mind,
- Less stress – Using public transport can be less stressful than driving yourself, allowing you to relax, read, or listen to music.

4.12 The following initiatives and incentives can be used to encourage people to take public transport:

- Publicise Employee Tax Saver Commuter tickets, which offer savings to employers in PSRI per ticket sold and significant savings to employees in marginal tax rate and levies on the price of their ticket,
- Encourage public transport use for travel by promoting smart cards, advertising the availability of these tickets to residents,
- Publicise the availability of Real Time Information. Real Time Information shows when your bus is due to arrive at your bus stop so you can plan your journey more accurately,
- Provide maps of local bus routes and the nearest bus stops and the length of time it takes to walk to them.

Car Sharing – Key Information	
Approx. zone of influence	All Residents
Percentage of Residents / Staff travelling in area of influence	100%
Percentage of Residents / Staff Car Sharing	TBC in each survey when occupied

Table 4.4: Key Information - Go-Car/Car Sharing

4.13 Every day thousands of commuters drive to work or to school on the same routes to the same destinations, at the same time as their colleagues. By car sharing just once a week, a commuter's fuel costs can be reduced by 20%, and in a similar fashion, the demand for work place parking can be reduced by 20%. If every single-occupancy driver carried another driver, there would be 50% less cars on the road at peak times.

4.14 Although use of the car to get to work or to school is essential for some people, car sharing schemes such as GoCar (which are active in Dublin) have the potential to deliver a significant reduction in private vehicle trips by promoting higher than average occupancy rates for each vehicle.

4.15 Car sharing often happens informally, however some participants often prefer a formal scheme such as a GoCar facility which will normally generate a higher take-up for car sharing, and more efficiency in terms of increased occupancy rates.

4.16 Encouraging more residents to share car journeys to work rather than driving alone as well as encouraging more to set up and take part in car sharing/pooling would prove a very effective means of reducing daily car trips to and from the site.

4.17 The following initiatives and incentives can be used to encourage car sharing:

- Draw up a car-sharing policy for how the scheme will operate,
- Highlight to drivers that they do not have to share with a person that doesn't suit them – allow choice based on gender, route, smoking or non-smoking,
- Clarify the financial implications of the scheme – those accepting a lift could contribute towards fuel costs,
- Use existing online databases for car sharing. For example, the development could set up its own private car sharing site using www.carsharing.ie.

4.18 Other travel planning measures such as the use of technology, flexible working arrangements and video conferencing facilities will and are used as part of this development to minimise travel requirements and allow people to use alternative means of transport.

Action Plan Summary Table

4.19 The Summary Action Plan is described in the Table below. Modal Split Targets will be determined following on from the first survey shortly after full occupation, typically within the first six months. This will be part of the role of the Travel Plan Coordinator. This will show existing travel patterns with realistic targets set to improve the modal split of Residents.

	Initiative	Impact on Delivery	Difficulty Delivering	Current Modal Split	Target MS
Residents Initiatives	Walking	Medium	Low	TBC	TBC
	Cycling	Medium	Medium	TBC	TBC
	Public Transport	High	Low	TBC	TBC
	Other	Medium	Medium	TBC	TBC
	Car - Sharing	Medium	Medium	TBC	TBC
	Cars - 1 Passenger Only	High - Negative	High	TBC	TBC
Promoting the TP	Marketing the Plan	High	Low	Driven By TP Coordinator	
	Measuring Success	High	Medium	Annual Surveys	

Action Plan Summary Table

5.0 IMPLEMENTING THE PLAN

Background

5.1 Setting realistic targets and a sustained approach to the promotion of the Travel Plan is important if the measures are to be successful. The objectives and benefits of the Plan will be made clear and broadcast during the full lifecycle of the Plan.

5.2 The implementation of a successful Travel plan will require the upfront investment of resources. As well as reviewing objectives and initiatives regularly, it is equally important to measure results. This provides an indication of any Plan's success and ensures that the targets remain realistic.

The Travel Plan Coordinator

5.3 The key objective of this Travel Plan is to ensure that the traffic impacts and car usage associated with the operation of development are minimised. Achieving this objective will result in a wide array of benefits for the development and its stakeholders.

5.4 To ensure the plan is effective it is essential for a Travel Plan Coordinator to be appointed for the Development upon occupation.

5.5 The nominated person and their contact details will be provided to the Planning Authority upon occupation of the development.

5.6 It is envisaged that the Coordinator will work closely with residents to enthusiastically promote and market the Travel Plan. As Residents will be the focus of the plan; their involvement must be sought from the outset.

5.7 To support the Travel Plan Coordinator's efforts, the Operator must ensure that they have sufficient time to carry out their duties. In addition, it is essential that the powers of decision making are bestowed upon him/her, along with a suitable budget and programme for implementation.

Promoting the Travel Plan

5.8 Active promotion and marketing is needed if the Travel Plan is to have a positive impact on stakeholder travel patterns to and from the site.

5.9 All marketing initiatives should be focused on areas where there is willingness to change. Such information has been extracted from the questionnaires and has been described in Section 3 of this Plan.

- **Identify the Aim** – e.g., to reduce low occupancy car commuting, school, and business travel & to promote active travel, public transport & alternatives to travelling by car.

- **Brand the Plan** – as part of communicating the Travel Plan, visually brand all work relating to it with a consistent look, slogan, identity, or logo.
- **Identify the Target Audience** – 'segment the audience' (e.g., shift workers, school travel, sedentary workers, people travelling long/ short distances, mode used, members of a walking club or green team) so you can target the message and events towards these different groups.

5.10 As part of the marketing process, the Travel Plan coordinator can personalise a plan for the Development, drawing attention to the benefits of participation and support for its implementation.

5.11 The Coordinator can identify communication tools and networks used by the different audiences in the development and use these to communicate about travel.

5.12 Promotional material regardless of its quality is only as good as its distribution network; material incentives assist greatly in introducing people to alternative modes of commuting.

5.13 The Coordinator can promote positive messages associated with a plan, for example, reduced tax/PRSI payments, getting fit and active, reducing congestion, reducing CO2 emissions and so on, and encourage people to start small – changing one day per week for example, to explore their options.

5.14 Marketing drives which feature individual residents who have reduced their car use can carry a strong message. This will serve to raise not only the profile of the Plan, but also send a clear message in relation to the Residents commitment to the Plan.

6.0 CONCLUSIONS

6.1 The development forming the subject of this application accords with the principles of sustainable development, being located within a developing well serviced residential neighbourhood within clear and easy access to alternative modes of travel. With reduced car parking provided this also acts as a travel demand management measure. The Operator, once the development is occupied, will utilise pragmatic measures that encourage safe and viable alternatives to the private car for accessing the development.

6.2 Good Travel Planning is not a one-off event, it is instead an on-going iterative process requiring continued effort. This report assists these efforts by forming an outline framework and providing guidance for its success. Monitoring and reviewing the initiatives set out within the plan will form a far greater part of the working Travel Plan itself.

6.3 The key to the Plans success will be the appointment of a ***Travel Plan Coordinator*** for the development, once occupied. They will be vested with total responsibility for implementing the plan. They should be granted the authority and time to execute the Plan and be provided with sufficient resources to realise the Plans success.

6.4 As Residents are the focus of the plan; their involvement should be sought from the outset following occupation. To this end, the Plan Coordinator should be assisted and supported by the Operator and Residents. This will serve to spread the work load, and also give the Residents a valuable input into the operation of the Plan.

6.5 Successful Travel Plans require marketing **and** regular review. The measures set out in the Action Plan Summary Table (Chapter 4) should form the basis of a sound, realistic Plan and should be clearly set out and be fully transparent to all users.

6.6 Residents also have an essential responsibility in terms of co-operating with and taking an active part in the plan. They are, after all, the plan's primary focus.

6.7 It is recommended that the working Travel Plan be set in motion full residential / staff occupation. The plan should evolve and develop with the development, taking into account changing Residents and their travel preferences and needs.

6.8 Annual reviews of the Plan should include a full stakeholder survey, providing valuable information for target setting and marketing target groups. It is emphasised that failing to meet initial targets should not be seen as failure, as the preliminary 12 to 18 months of the plan should be viewed as a calibration exercise for target setting.

APPENDIX L

Car & Bicycle Parking Management Plan

consulting engineers

NRB

CAR & BICYCLE PARKING MANAGEMENT PLAN

For

Proposed Large Scale Residential Development

At

Belgard Square East, Tallaght, Dublin 24.

SUBMISSION ISSUE

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Registered in Ireland No. 491679

Contents

1.0 INTRODUCTION

1.1 This Car & Bicycle Parking Management Plan has been prepared by NRB Consulting Engineers Ltd and sets out the proposed car parking management strategy for the proposed Large-Scale Residential Development (LRD) residential development on zoned development lands on Belgard Square East, Tallaght, Dublin 24.

1.2 The local area contains a mixture of services, commercial, schools & residential developments within easy walking or cycling distance, and in these terms has very well established urban transportation characteristics in its own right. The proposed development, being on a prominent & highly accessible site should be considered in this context. A site location plan for the site is included below as ***Figure 1.1***.

Figure 1.1 - Site Location

1.3 The proposed development provides a residential scheme of 199 residential apartments with 2,123 sqm of non-residential floor space.

1.4 The proposed vehicular access arrangement from the local roads consists of a simple priority T-junction from Belgard Square East, leading to the area containing the main area of controlled development parking.

1.5 An image extract from the Architects Layout Plans showing the parking provision within the dedicated ground and basement floor are included as ***Figures 1.2*** for ease of reference.

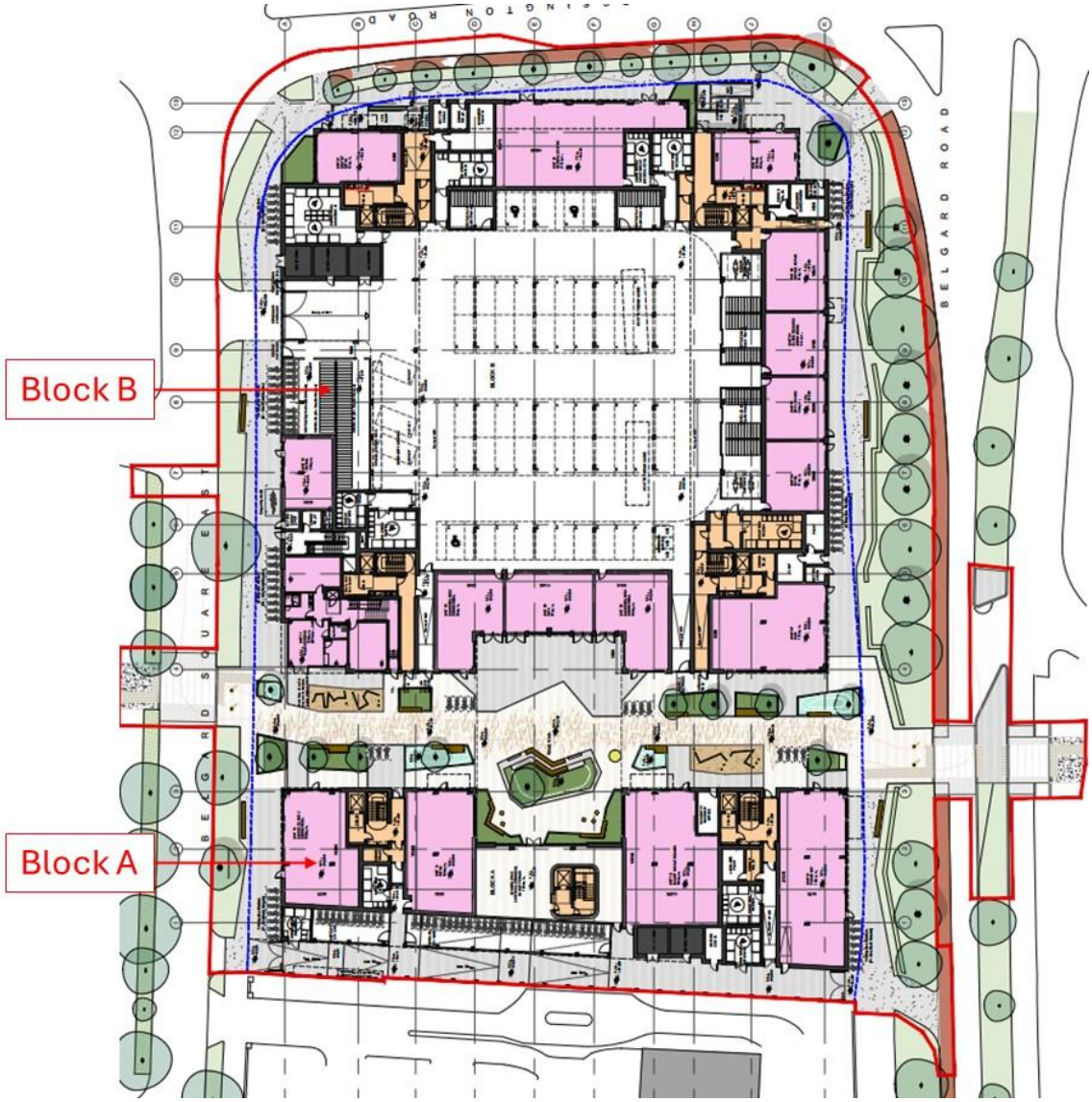

Figure 1.2 –Ground Floor Car & Bicycle Parking

1.6 This document presents the rationale behind the provision of vehicle parking (including mobility impaired parking, motorcycle parking, and service vehicle parking) and cycle parking being proposed as part of the subject site development proposals. The Report sets out the management measures which will be implemented to allocate the use and control the parking provided at the site.

1.7 The document also sets out the principles of the parking management strategy proposed at the development, and should be read in conjunction with the following complementary reports;

- The Traffic & Transportation Assessment (TTA),
- The Planning Stage Mobility Management Plan (MMP).

1.8 The TTA and the MMP set out the details of the multi-modal accessibility of the site, together with providing details of the existing conditions pertaining.

2.0 POLICY CONTEXT AND STANDARDS

CAR PARKING POLICY

2.1 **SDCC Development Plan Standards** - We have reviewed the car parking provision in terms of the maximum requirements of the SDCC Development Plan 2022-2028 (Table 12.26), for the entire development. The site is within SDCC Zone 2.

2.2 The car parking standards confirms that the MAXIMUM Parking provision for residential apartment uses is 0.75 parking space per 1 bed, 1 parking space per 2 bed, and 1.25 parking space per 3 bed+ within Zone 2. If this parking standard were applied, this suggests the provision of a max of 197 parking spaces as being the maximum permissible for 199 apartments.

Table 12.26: Maximum Parking Rates (Residential Development)

Dwelling Type	No. of Bedrooms	Zone 1	Zone 2
Apartment Duplex	1 Bed	1 space	0.75 space
	2 Bed	1.25 spaces	1 space
	3 Bed+	1.5 spaces	1.25 spaces
House	1 Bed	1 space	1 space
	2 Bed	1.5 spaces	1.25 spaces
	3 Bed+	2 spaces	1.5 spaces

Figure 2.1 – Annotated Extract Table 2, Parking Standards

2.3 As these standards are clearly stated as being "**maximum**" in the Development Plan, the delivery of parking below these levels would generally be expected. We believe that given the intended uses and location, with improving public and active transport measures, the proposed development meets the criteria for a reduction of maximum car parking standards.

2.4 A total of 58 residential private car parking spaces are being provided as part of the development. With 199 apartments, this represents a **car parking 'Ratio' of 0.29** parking spaces per unit. This level of parking is considered appropriate given the highly sustainable location characteristics of the apartment scheme, and in consideration of National Guidance.

2.5 **Compact Settlement Guidelines** - The requirements are now supplanted by the recent Compact Settlement Guidelines (CSG) which set out the three different areas & density categories for Dublin City namely City Centre, City-Urban Neighbourhoods

and City - Suburban / Urban Extension. Having reviewed the site location we believe that the site, falls within "City – Urban Neighbourhoods", noting that this category includes (iii) a town centre and (iv) lands around existing high-capacity public transport nodes. The relevant extract is included below as ***Figure 2.3***.

Table 3.1 - Areas and Density Ranges Dublin and Cork City and Suburbs

City - Centre The city centres of Dublin and Cork, comprising the city core and immediately surrounding neighbourhoods[6], are the most central and accessible urban locations nationally with the greatest intensity of land uses, including higher order employment, recreation, cultural, education, commercial and retail uses. It is a policy and objective of these Guidelines that residential densities in the range 100 dph to 300 dph (net) shall generally be applied in the centres of Dublin and Cork.
City - Urban Neighbourhoods The city urban neighbourhoods category includes: (i) the compact medium density residential neighbourhoods around the city centre that have evolved overtime to include a greater range of land uses, (ii) strategic and sustainable development locations[7], (iii) town centres designated in a statutory development plan, and (iv) lands around existing or planned high-capacity public transport nodes or interchanges (defined in Table 3.8) – all within the city and suburbs area. These are highly accessible urban locations with good access to employment, education and institutional uses and public transport. It is a policy and objective of these Guidelines that residential densities in the range 50 dph to 250 dph (net) shall generally be applied in urban neighbourhoods of Dublin and Cork.
City - Suburban/Urban Extension Suburban areas are the lower density car-orientated residential suburbs constructed at the edge of cities in the latter half of the 20th and early 21st century, while urban extension refers to the greenfield lands at the edge of the existing built up footprint that are zoned for residential or mixed-use (including residential) development[8]. It is a policy and objective of these Guidelines that residential densities in the range 40 dph to 80 dph (net) shall generally be applied at suburban and urban extension locations in Dublin and Cork, and that densities of up to 150 dph (net) shall be open for consideration at 'accessible' suburban / urban extension locations (as defined in Table 3.8).

Figure 2.2 – Extract Table 3.1 – Areas and Density Ranges from the CSG

2.6 The site can best be described as an Urban Neighbourhood solely in the context of the CSG definitions for calculating appropriate car parking provision. We include below the associated Parking Provision *SPPR 3 – Car Parking* extract from the CSG as ***Figure 2.4***.

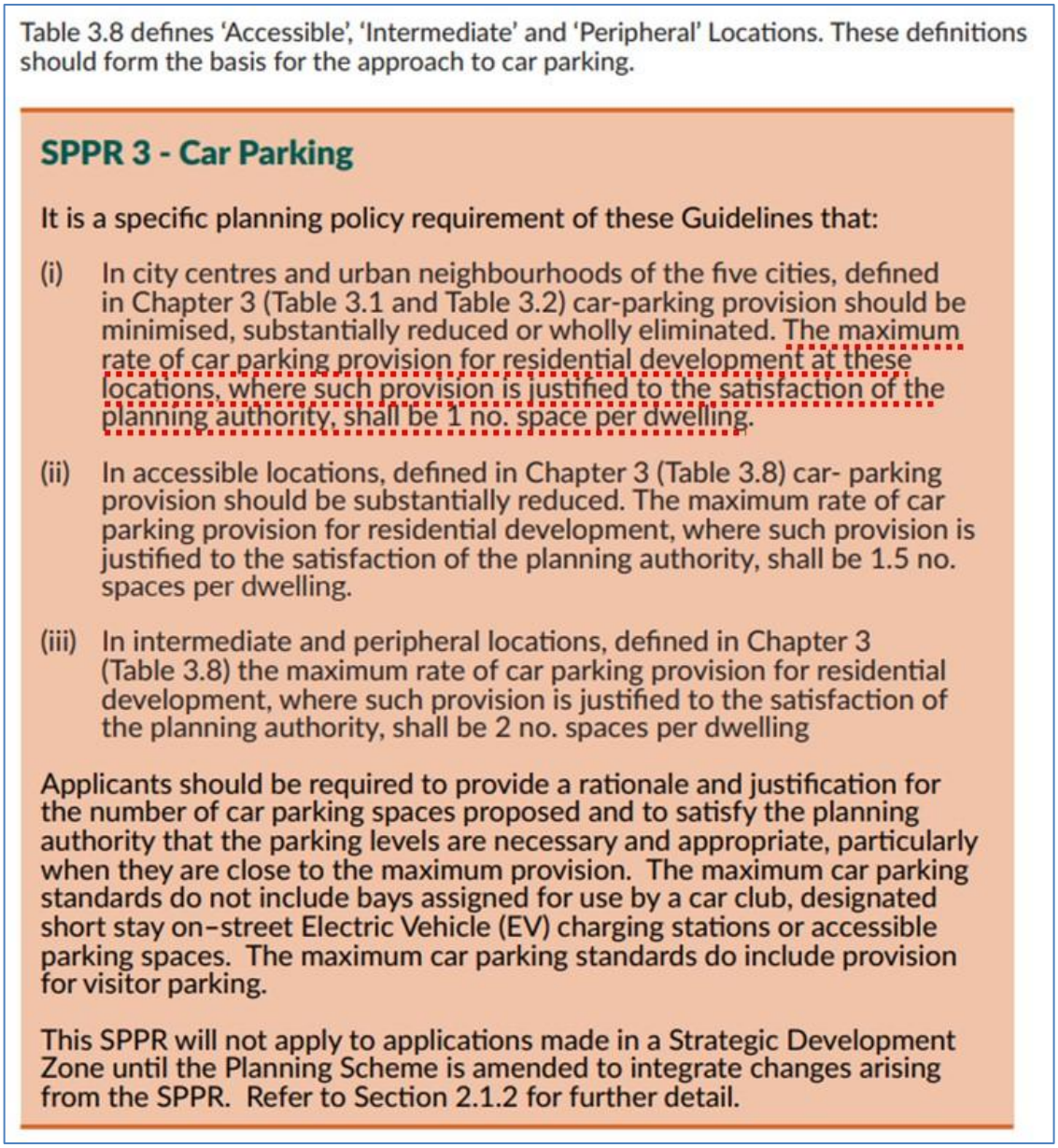

Table 3.8 defines 'Accessible', 'Intermediate' and 'Peripheral' Locations. These definitions should form the basis for the approach to car parking.

SPPR 3 - Car Parking

It is a specific planning policy requirement of these Guidelines that:

(i) In city centres and urban neighbourhoods of the five cities, defined in Chapter 3 (Table 3.1 and Table 3.2) car-parking provision should be minimised, substantially reduced or wholly eliminated. The maximum rate of car parking provision for residential development at these locations, where such provision is justified to the satisfaction of the planning authority, shall be 1 no. space per dwelling.

(ii) In accessible locations, defined in Chapter 3 (Table 3.8) car- parking provision should be substantially reduced. The maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 1.5 no. spaces per dwelling.

(iii) In intermediate and peripheral locations, defined in Chapter 3 (Table 3.8) the maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 2 no. spaces per dwelling

Applicants should be required to provide a rationale and justification for the number of car parking spaces proposed and to satisfy the planning authority that the parking levels are necessary and appropriate, particularly when they are close to the maximum provision. The maximum car parking standards do not include bays assigned for use by a car club, designated short stay on-street Electric Vehicle (EV) charging stations or accessible parking spaces. The maximum car parking standards do include provision for visitor parking.

This SPPR will not apply to applications made in a Strategic Development Zone until the Planning Scheme is amended to integrate changes arising from the SPPR. Refer to Section 2.1.2 for further detail.

Figure 2.3 – NRB Annotated Extract SPRR3 of CSG Parking Provision

2.7 ***The 'Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities'***, updates previous guidance in the context of greater evidence and knowledge of current and likely future housing demand in Ireland taking account of the Housing Agency's National Statement on Housing Demand and Supply, the Government's action programme on housing and homelessness Rebuilding Ireland and Project Ireland 2040 and the National Planning Framework.

2.8 These guidelines address Apartment Design Parameters, including cycle and car. Under Car Parking - Section 4.6 the guidelines acknowledge that the quantum of car parking or the requirement for any such provision for apartment developments will

vary, having regard to the types of location in cities and towns that may be suitable for apartment development, broadly based on proximity and accessibility criteria.

2.9 We are also mindful of the guidance provided within the Guidelines in relation to a 'location in cities or towns', as the site close to both Tallaght Village and the Square Shopping Centre (benefitting from a host of services and amenities and employment opportunities). Under Section 4.6 the guidelines note that in larger scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for car parking provision to be wholly eliminated or substantially reduced. Specifically, Section 4.6 states; -

> **Having regard to the types of location in cities and towns that may be suitable for apartment development, car parking ratios should be minimised, substantially reduced or wholly eliminated at locations that have good access to urban services and to public transport.**

2.10 In terms of the stated Policy, the subject site meets all the requirements for significantly reducing the provision of Private Car Parking, under the headings;

High Density Development	✓
Comprising Wholly of Apartments	✓
Proximity to Town Centre	✓
Well Served by Public Transport	✓
High Frequency Bus Services	✓
Implementation of Travel Plan	✓

2.11 The National Apartment Guidance states (Section 4.6);

> ***For all types of location, where it is sought to eliminate or reduce car parking provision, it is necessary to ensure, where possible, the provision of an appropriate number of drop off, service, visitor parking spaces and parking for the mobility impaired. On-site or proximate spaces should also be prioritised for use by mobility impaired persons and leased on a demonstrated needs basis rather than being sold with units. Provision is also to be made for alternative mobility solutions including facilities for car sharing club vehicles. 'Car free' development is permissible and if developed, must be fully***

communicated as part of subsequent apartment sales and marketing processes.

2.12 Conscious that the scheme is intended to be actively marketed as Reduced Car Dependency, the layout has been designed with the above issues in mind. For the proposed development it is anticipated that there will be an associated lower car ownership and dependency. Given the restrictions on the number of spaces being provided, the entire scheme will be actively marketed and promoted as a "***Reduced Car Dependency***" scheme, and this will be communicated from the outset as part of sales and marketing. The development will also be managed on an on-going basis to ensure that the Reduced Car Dependency nature of the development is continually promoted and enhanced.

2.13 The multi-modal accessibility of the site is demonstrated and addressed in the accompanying Preliminary Mobility Management Plan (Section 2.0).

Bicycle Parking

2.14 The SDCC DP sets out cycle parking standards and requirements within Table 12.23 requiring 1 residential cycle parking space per bedroom and 1 visitor parking space per 2 Apartment units (Refer extract below as ***Figure 2.4***).

Table 12.23: Minimum Bicycle Parking / Storage Rates

Category	Land-Use	Long Term	Short Stay
Accommodation	Hotel[1]	1 per 5 staff	1 per 10 bedrooms
	Nursing Home	1 per 5 staff	1 per 10 residents
	Residential Apartment	1 per bedroom	1 per two apartments
	Student Accommodation	1 per bedroom	1 per 5 bedrooms

Figure 2.4 – Extract Table 12.23 – Cycle Parking Accommodation Uses

2.15 Similar to the Development Plan, the Department of Housing Planning & Local Government "***Sustainable Urban Housing Design Standards for New Apartments***" includes recommendations on the appropriate level of Bicycle Parking. An extract from the Guidance is included below as ***Figure 2.5.***

- *Quantity* – a general minimum standard of 1 cycle storage space per bedroom shall be applied. For studio units, at least 1 cycle storage space shall be provided. Visitor cycle parking shall also be provided at a standard of 1 space per 2 residential units. Any deviation from these standards shall be at the discretion of the planning authority and shall be justified with respect to factors such as location, quality of facilities proposed, flexibility for future enhancement/enlargement, etc.

Figure 2.5 - Extract from National Apartment Guidelines

2.16 With 393 no. bedrooms within the 199 no. apartments, the Policy therefore requires the provision of 393 no. Residential bicycle spaces and 100 no. visitor bicycle spaces. The total policy-requirement for the residential element is therefore 493 Bicycle Parking Spaces, as shown in ***Table 2.1***.

Table 2.1: Minimum Residential Bicycle Parking as per SDCC Development Plan

Element	***SDCC Min Parking Rate***		***Requires***	
	Long Term	Short Stay	Long Stay	Short Stay
53no. 1-bed Apartments	1/Bedroom	1/2 units	53	27
98no. 2-bed Apartments	1/Bedroom	1/2 units	196	49
48no. 3-bed Apartments	1/Bedroom	1/2 units	144	24
Total			**393**	**100**
Total Min Cycle Parking Required Under SDCC Plan			***493***	

2.17 There are additional cycle parking requirements for the medical, restaurants, cafes, creches and retail elements. The SDCC DP sets out cycle parking standards and requirements within Table 12.23 requiring 1 long term cycle parking space per 5 staff, and various standards for the short term spaces (Refer extract below as Figure 2.6).

2.18 The non-residential elements of the scheme require a provision of 1 staff bicycle parking space per 5 staff members, plus a short-term visitor cycle parking per 50sqm GFA for Retail, 1 per 10 Seats for the Café/Restaurants, 1 per 10 Children for the Creche, and 1 per 2 Consulting Rooms for Medical. This requires 17no. staff (or long term) bicycle parking spaces and 42 visitor (short term) bicycle parking spaces for Commercial units. There are additional cycle parking requirements for the Retail, Café/Restaurants, Creche and Medical elements of the proposed scheme, and this is included below as ***Table 2.2***.

Table 2.2: Minimum Commercial Bicycle Parking as per SDCC Development Plan

Element	*SDCC Min Parking Rate*		*Requires*	
	Long Term	Short Stay	Long Stay	Short Stay
Retail comparison	1 per 5 staff	1 per 50sqm	2	8
Retail convenience	1 per 5 staff	1 per 50sqm	7	17
Café/Restaurants	1 per 5 staff	1 per 10 seats	2	4
Creche	1 per 5 staff	1 per 10 Kids	3	7
Medical	1 per 5 staff	1 per 2 Rooms	3	6
Total			**17**	**42**
Total Min Cycle Parking Required Under SDCC Plan			***59***	

2.19 In total, the bicycle requirement for the apartments, and Commercial elements is 410 long-term spaces and a total of 142 short term spaces, a total of 552. With a total of 557 bicycle spaces proposed, 412 Long Term Spaces (including 5no. cargo spaces) and 145no. short-term spaces (73no. Sheffield Stands), this is in excess of the minimum guideline.

2.20 The development includes 557 Bicycle Parking Spaces, in excess of the minimum requirements of the Development Plan, to include an allowance for the use of the commercial units at GF Level.

Land-Use	Long Term	Short Stay
Clinics and Group Practices	1 per 5 staff	0.5 per consulting room
Hospital	1 per 5 staff	1 per 10 beds
Café Restaurant	1 per 5 staff	1 per 10 seats
Bar Club[2]	1 per 5 staff	1 per 150 sq m GFA
Retail Convenience	1 per 5 staff	1 per 50 sq m GFA

Figure 2.6 - Extract Table 12.23 – Cycle Parking Non-Residential Uses

3.0 CAR PARKING PROVISION

Overview

3.1 The car parking provision is provided in ***Blocks B***. A summary parking schedule has been extracted from the planning information and is included below as ***Figure 3.1.***

Figure 3.1 – Location of Car Parking

3.2 All of the car parking spaces have been designed with accessibility in mind, having being designed in accordance with best practice and current design guidance. The parking spaces have been TRACKed using proprietary swept path software to ensure ease of accessibility. Whilst 12 of the spaces are defined as EV Spaces, it is proposed that Electric Vehicle (EV) charging will be provided for in a flexible manner as outlined below.

3.3 All of the remaining car parking spaces provided can easily be upgraded to also allow conversion to **Electric Vehicle** charge spaces. In the case of a residential apartment development of the nature proposed, with specific spaces ultimately dedicated to specific apartments, it is considered appropriate to facilitate the retrofitting of spaces, based on demand following occupation, rather than a % of spaces being defined as such and provided from the outset.

3.4 The entire car park of the subject scheme is therefore to be ducted ready to accept future cabling to serve a charging point for every car space, as demanded. Within

the ground floor and basement parking area, conduits can be run on the walls where charging points can also be mounted.

3.5 Where residents request a charging point to be installed, the relevant charging point will be pre-wired back to their home electricity meter in the designated meter location. The socket point will have a lockable cover on it so that only that resident may use the power point. This provision around the entire parking area allows future charging points to be installed at any of the car parking spaces with minimum works as and when required.

3.6 There are 3no. service/van/delivery spaces provided in the undercroft area to aid deliveries to the commercial units in addition to home deliveries for the residential elements.

4.0 BICYCLE PARKING

4.1 It is anticipated that a very significant number of residents can be encouraged to cycle to work and school etc., with the safe links and secure parking which will be in place. There are a total of 412 no. bicycle parking spaces for residential uses. These are by way of two-tiered & Sheffield stands (408 spaces) and cargo spaces (4 spaces). The number of spaces provided exceeds the requirements as set out in the National Apartment Guidelines. An extract showing the bicycle storage area in the ground level, which is compliant with the NTA CDM Design Guidance is included below as ***Figures 4.1 & 4.2.***

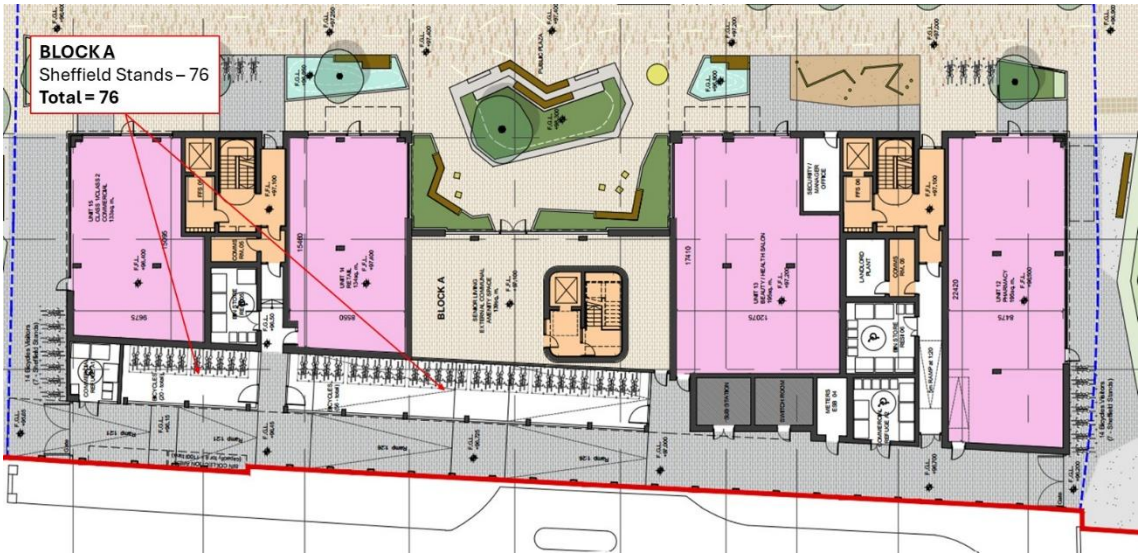

Figure 4.1 – Schedule of Cycle Parking Block A

Figure 4.2 – Schedule of Cycle Parking Block B

4.2 The residential cycle parking spaces are within fob controlled storage areas with locking facilities internally. They are beneficially in areas subject to passive surveillance and they will of course also be monitored by CCTV.

4.3 The visitor parking spaces, in the public realm (total no.145 including 1no. cargo space), are all provided in the form of traditional 'Sheffield Stands' avoiding double stack systems. All of the visitor bicycle parking is accessible to all.

4.4 It is acknowledged that for visitors, cyclists need to be confident that their cycles will not be tampered with, and in these terms the cycle storage are in secure areas, all of which will be monitored through a combination of passive surveillance or by CCTV. An extract showing the visitor bicycle storage areas in the public realm, which is compliant with the NTA CDM Design Guidance is included below as ***Figures 4.3 & 4.4.***

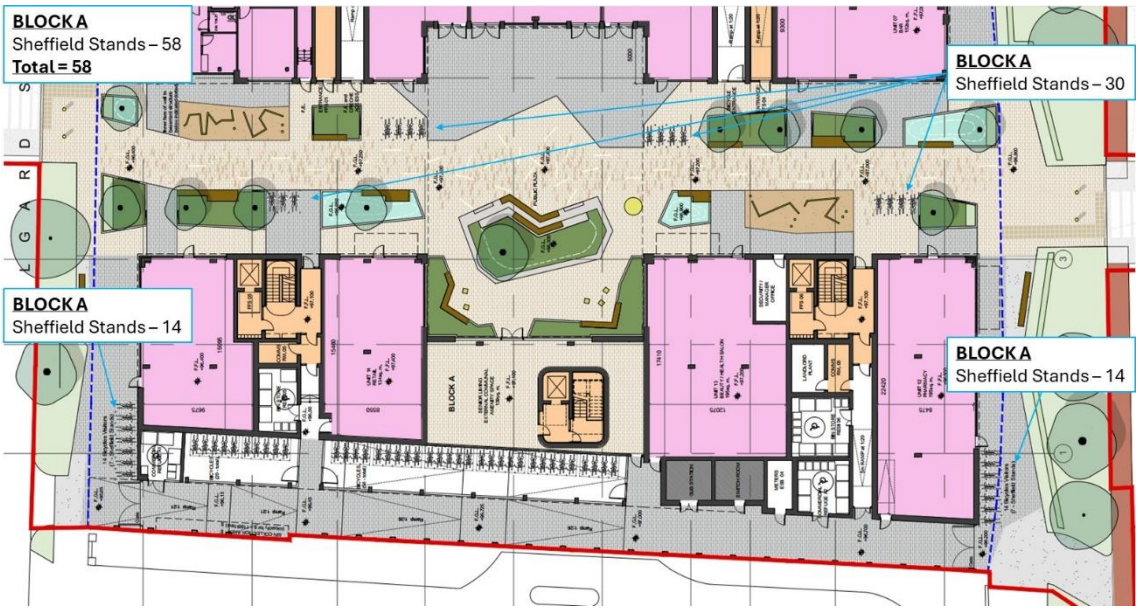

Figure 4.3 – Provision of Visitor Bicycle Parking at Block A

Figure 4.4 – Provision of Visitor Bicycle Parking at Block B

4.5 It is important to cultivate a cycling culture, through the implementation of appropriate infrastructure and promotional measures, which positively encourages all members of the community to cycle at all life stages and abilities as a mode of sustainable transport that delivers environmental, health and economic benefits to both the individual and the community.

5.0 INITIATIVES FOR SUSTAINABLE TRAVEL

5.1 It is acknowledged that residents may require a vehicle of some sort for purposes other than commuting on an everyday basis, and simply reducing car parking would not be realistic without implementing alternative measures to accommodate residents and visitors alike. Therefore the following alternative arrangements are proposed in support of the slightly reduced car parking and car ownership levels within the development;

- A working Mobility Management Plan once Residents are in place,
- Increased & Well Designed Cycle Parking Provision,
- Parking Management and Control (Refer enclosed drawing and details below),
- Dedicated legal controls within Sales or Letting Agreements associated with all Residential Apartments, and
- Provision of dedicated *Go-Car* Spaces within the Site subject to agreement with a service provider.

Mobility Management Plan

5.2 A revised outline MMP has been prepared and should be read in conjunction with this Parking Strategy Report. Separate MMPs will be further developed at occupation & operational stage by the Development Management Company.

Increased Bicycle Parking

5.3 Increased bicycle parking provides a realistic alternative transport mode when there is restricted car parking provision. As previously set out, the bicycle parking provision exceeds the requirements of the National Apartment Guidelines. With 199 apartments the provision of bicycle parking represents a net provision of c.2.5 bicycle parking spaces per apartment. Copious visitor bicycle parking is also provided at ground floor level.

Parking Management Strategy

5.4 A key component in ensuring the efficient controlled operation of any car parking is an active and enforced parking management strategy. In this case, this strategy will be managed by the Development Management Company with the specific details as set out in a revised Section 6.0 of this Report.

Legal Controls – Sales/Letting Agreements

5.5 Dedicated Clauses can and will be contained within Sales or Letting Agreements for all Residential Apartments, which specifically address both Car & Bicycle Parking.

In the event where a parking space is an entitlement as part of a Sale or Letting Agreement, this will be clearly enunciated by way of a dedicated clause, with the specific numbered space or spaces referenced with mapping provided to illustrate the relevant space.

6.0 MANAGEMENT OF PARKING FACILITIES

Introduction

6.1 A key component in the effective operation of on-site car parking is an active and enforced parking management strategy. This strategy will be implemented by both the Developer and the Management Company. The Management Company will be charged with responsibility for the control of parking and access within the internal surface and basement level parking.

6.2 It is intended that the entire proposed development will be actively marketed as 'Reduced Car Dependency'. Consequently, all marketing material for the development will make it clear that the apartments have reduced car parking availability and will also highlight the alternatives available.

6.3 Dedicated Clauses can and will be contained within Sales or Letting Agreements for all Residential Apartments and for the commercial tenants, which specifically address Car Parking. In the event where a parking space is an entitlement as part of a Sale or Letting Agreement, this will be clearly enunciated by way of a dedicated clause, with the specific space or spaces referenced in Agreements, with mapping provided & referenced therein to identify the relevant space.

6.4 Accordingly, unless they are dedicated to individual Residential Apartments or the commercial elements, on-site parking will otherwise remain in the control of the Management Company. A car parking management regime will be implemented by the Management Company to control and manage access to the car parking bays, thereby actively managing the availability of on-site car parking for each of the following user profiles;

- Residents of the Apartments,
- Staff based at the proposed development (Commercial, Management Company and Maintenance),
- Deliveries (eg E-Shopping).

Car Parking Allocation

6.5 As stated above, all residents will be advised that unless it is otherwise stated in the Lease or Sales Agreement, there will be no car parking available on the site.

6.6 In the event that a parking space is part of a Legal Agreement, the apartment resident will have a parking permit for the particular dedicated space to display in the vehicle window.

6.7 The Management Company will be responsible for the day-to-day management of car parking operations.

Car Parking Access/Control

6.8 If necessary in the longer term, access to the parking areas can be controlled by a combination of barriers and shutters to ensure that only permitted vehicles can gain access. If required, a barrier can be safely located at the access, set back sufficiently so as not to result in any hazard or obstruction (but this is considered unnecessary at this stage).

6.9 In such circumstances, access to approved users can then be facilitated by coded keypad entry/fob control or Automated Number Plate Recognition (ANPR) technology which only permits registered permitted vehicles to enter.

6.10 A clamping enforcement regime will also be in place within the entire site to ensure that parking restrictions are adhered to.

7.0 CONCLUSION

Based on the information contained within this Parking Strategy Report, it is considered that the car and bicycle parking provision at the subject development is appropriate and sufficient. This is supported by a high number of bicycle parking spaces at the development, combined with controls that are to be put in place to manage use of the spaces, including Working Mobility Management Plans, Legal Allocation of Spaces to Residents and Commercial elements and the day-to-day management / clamping of parking being a role for the management company.

APPENDIX M

DMURS Statement of Consistency

consulting engineers

NRB

DMURS Design Compliance Statement Technical Note

Appendix M

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1.0 INTRODUCTION

1.1 It is NRB's opinion that the proposed residential development is consistent with both the principles and guidance outlined within the *Design Manual for Urban Roads and Streets* (DMURS) 2013 as amended in 2019. The scheme proposals are the outcome of an integrated design approach by the entire Design Team, to address the integration of a mixed-use development into this area. This approach sought to implement a sustainable community connected by well-designed links, layout and accesses - which combined deliver attractive, convenient and safe access in addition to promoting modal shift and viable alternatives to car based journeys.

1.2 The following section discusses design features which are incorporated within the proposed residential scheme with the objective of delivering a design that is consistent with the principles of DMURS.

2.0 DESIGN ATTRIBUTES

2.1 The proposed layout strategy seeks to maximise connectivity between key local destinations through the provision of a high level of **permeability and legibility** for all journeys, particularly for sustainable forms of travel (cycling and walking). The proposed mixed-use apartment development delivers greater mode & route choices along direct, attractive and safe linkages to local amenities and schools/service destinations.

2.2 High Quality Connections link the development and the local roads and public transport services as set out in the preliminary Mobility Management Plan. The external perimeter setting itself been designed to deliver a hierarchy which provides safe access within / across the proposed new residential community. The external perimeter design serves to link the site & community with the established and proposed local network. Safe well - designed routes are provided for pedestrians and for cyclists, with easy access to both Belgard Square East and Belgard Road.

2.3 As part of the development, the movement function is designed to respect the different levels of motorised traffic whilst optimising access to/from alternative transport and catering for higher number of pedestrians & cyclists. In parallel, the adopted design philosophy has sought to consider the context / place status of the scheme in terms of level of connectivity provided, the quality of the proposed design, the level of pedestrian / cyclists activity and vulnerable users requirements, whilst also identifying appropriate

‘transition’ solutions particularly at the access internally and at the Belgard Square East intersection.

2.4 The layout of the proposed development seeks to maximise permeability and enhances legibility, and the design of appropriately sized blocks actively contributes to a highly permeable and accessible community for both pedestrians and cyclists.

2.5 The proposed layout seeks to successfully create an appropriate balance between the functional requirements of different network users whilst enhancing the 'sense of place'. Design attributes of the proposed layout which contribute to achieving this ***DMURS objective*** include:

a) A shared pedestrian and cycle link is proposed through the proposed site, which will create a stronger pedestrian & cycle desire line between Tallaght Town Centre and The Square.

b) 2 No. Combined Zebra Crossings (as per TL605 of the Cycle Design Manual) are proposed at Belgard Square East and Belgard Road, linking to the shared pedestrian and cycle link through the proposed site.

c) With the car free zone and landscaped plans for this link it offers a well-connected and permeable network to link to Belgard Square East and Belgard Road to the east.

d) The access proposed is by way of a simple priority controlled T junction from Belgard Square East, with tight corner radii.

e) The vehicular access from Belgard Square East is raised and will be in a different material to clearly define the changed environment for car drivers.

f) A speed table is proposed where the road meets the main pedestrian plaza, to further reduce vehicle speeds.

g) With the objective of encouraging low vehicle speeds and maximising pedestrian safety and convenience, corner radii at the site access junction are proposed as 3m in line with DMURS guidance.

h) Appropriate clear unobstructed visibility splays, as per DMURS requirements, are provided at the site access junctions to the external road network, and internally within the site.

i) The design deliberately seeks to specify minimal signage and line markings on the internal layout, with such treatments used sensitively throughout and predominately at key nodes and ‘transition’ areas.

j) Footpaths no less than 1.8m (generally 2.0m or wider) will be provided throughout the scheme with connections and tie-ins to existing external pedestrian networks.

k) In the event of any upstand kerbs are required, heights will be typically 60mm in accordance with the objectives of DMURS.

l) Within the development, as required, cyclists will share the carriageway with other street users as per the Cycle Design Manual guidance for such situations and best practice for residential streets of this nature.

m) Any required street signage and road markings will be in accordance with the Department of Transport Traffic Signs Manual, and the location and form will be agreed in advance with South Dublin County Council.

NRB consulting engineers

APPENDIX N

Public Transport Capacity Assessment Report

consulting engineers

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Public Transport Capacity Assessment Report

(Appendix N)

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SUBMISSION ISSUE

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1.0 INTRODUCTION

1.1 NRB Consulting Engineers Ltd were appointed to address the Bus & LUAS Demand and capacity associated with a planning application for a Large-Scale Residential Development (LRD) residential development on zoned development lands on Belgard Square East, Tallaght, Dublin 24.

1.2 The development consists of a total of 199 Residential Apartments and some commercial units, with a full-total residential capacity of **456** People (for the purposes of this assessment we have added the effect of 74 staff within the commercial units). The scheme includes access works, hard & soft landscaping, car/bicycle parking, refuse storage etc.

1.3 Clearly, the adjacent employment uses have long-established transportation demands associated with their usage (which are most likely to have been significant compared with the now-proposed use as a residential-led mixed-use development within easy multi-modal access to the local area). Accordingly, this report has been prepared as if the Bus & LUAS Demand created is additional new demand for these services.

1.4 The NRB commission on the project includes this assessment of current & future Public Transport capacity (effectively a 'Bus & LUAS Capacity Assessment Report').

1.5 Whilst this Report contains an assessment of Bus & LUAS Capacity and demand, it should be remembered that Transport Service Providers are commercial in nature, running their businesses based on current demand rather than medium to longer term future demand. In simple terms, transport services are generally provided based on actual existing footfall rather than potential future possible demand. If there is an increased demand for services with full or over-capacity services in place, Operators then generally react to improve facilities, if it makes commercial sense to do so. More customers means more revenue generated by the services.

1.6 Notwithstanding the above, the purpose of this Study is to review the potential impact of the development upon the existing & future bus & LUAS services in the vicinity of the site.

1.7 The analysis of the existing and future services is based on an assessment methodology which includes trip generation assessment, modal split assumptions, and assignment/distribution. These assumptions have been based on real data extracted from the Central Statistics Office (CSO) Small Area Map Data, available through the SAP online mapping tool based on the 2022 Census. This data was used to quantify the anticipated

demand for services as a result of the proposed development locally, based on the local population in the Tallaght – Springfield Electoral Area.

1.8 The first step was to review the current and future planned services. The bus stops within an easy walking distance of the subject site were identified, with the current bus services, bus service frequency and capacity studied and assessed. Similarly, the demand for Red Line LUAS services was assessed based on current provision.

1.9 *Bus Connects* is expected to be fully implemented within a relatively short timeframe. This initiative will reconfigure the bus services for the Greater Dublin Area completely. This Study therefore considers both the existing bus network and the planned *Bus Connects* Network.

1.10 The Study focuses on the peak commuter periods for the development, and in particular the busiest weekday AM commuter peak demand for services – this represents the period of highest demand on the network consistent with the TII Traffic & Transport Assessment Guidelines (May 2014). The methodology assumes that the trips will be assigned to the nearest available bus stops and of course to LUAS (Tallaght P&R, which is closest LUAS Station and which has good alternative transports links already in place).

2.0 BUS/LUAS LOCATIONS & SERVICES (CURRENT & FUTURE)

CURRENT SERVICES

2.1 For commuting, a walk distance to/ from Bus Stops of up to 1km is generally considered to be acceptable. However, for the purposes of this assessment, we have assumed a 5-7min walk time as being appropriate (reflecting a distance of 500-600m depending on speed of walking).

2.2 The site is well served by frequent Bus Services, and this is illustrated below within ***Figure 2.1*** which illustrates the existing bus services & stops within acceptable walking distance of the site. Clearly, the 27, 54A, 65, 77A, S6 and the S8 service passes the site directly on the Belgard Road and the Old Blessington Road.

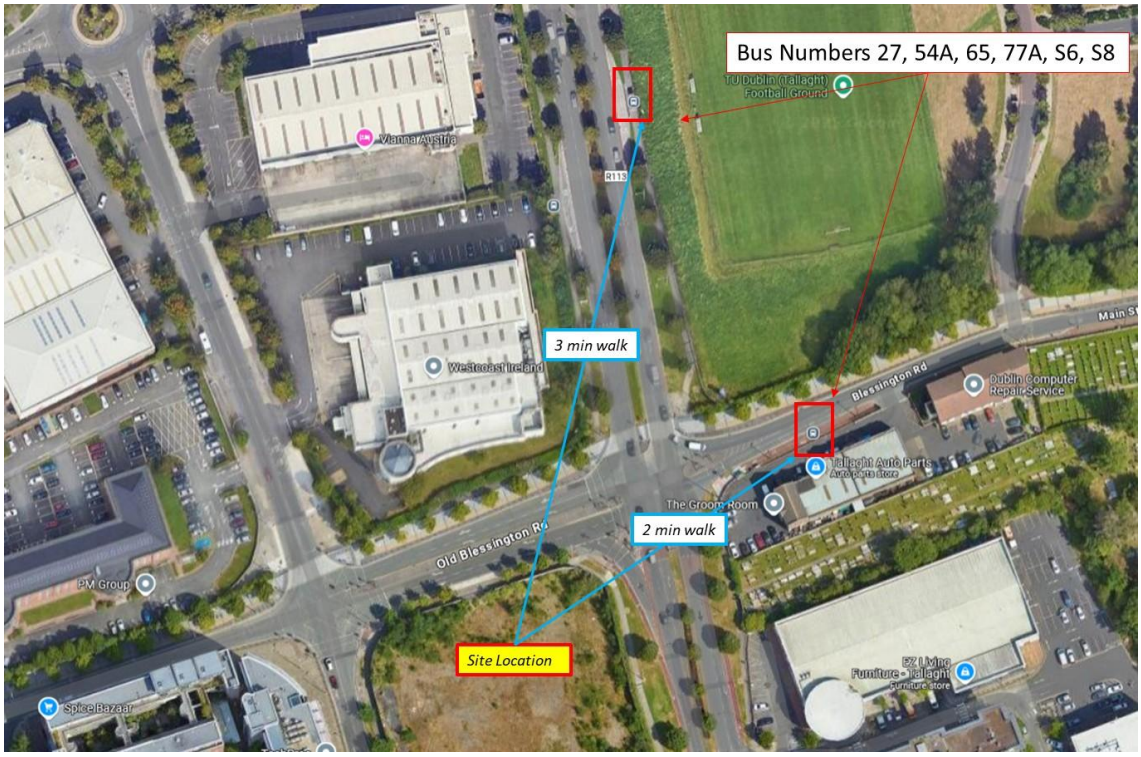

Figure 2.1 – Existing Bus Stops adjacent the Site

2.3 As an illustration of walk time to LUAS, we include below the *Google* walk time & cycle time to the Red Line LUAS Services at Tallaght P&R as ***Figure 2.2*** and the cycling/walking distance to/from LUAS will ensure it is a viable active travel alternative for use by residents.

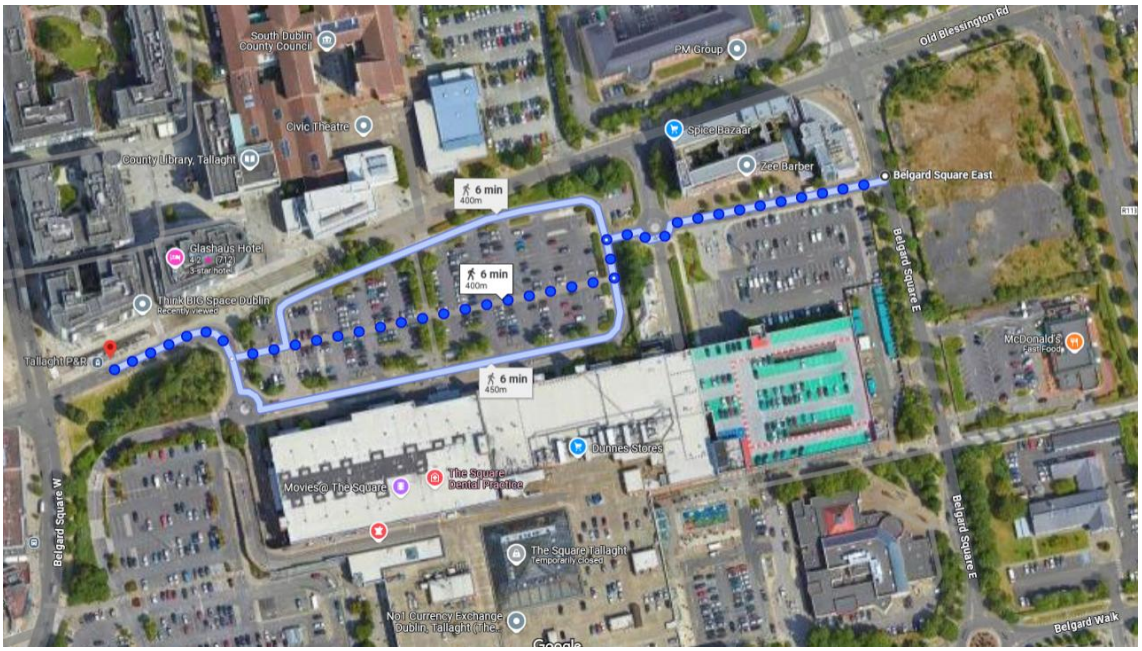

Figure 2.2 – Walk Time & Cycle Time to Belgard LUAS

2.4 In terms of the Existing Bus Service Provision and Service Frequency, the Timetables for the #27, #54A, #65 and #77A Dublin Bus Services, and the #S6 and #S8 Orbital routes which passes the site is included herein as ***Appendix A***. These details have been collated and are summarised below as ***Table 2.1,*** extracting information relating to the busy 7-9am weekday AM Commuter Period.

Table 2.1; - Buses within Easy Walk Distance, 7-9am Approx Capacity.

Service #	Route (& Return)	No. Buses 7-9am (Mon - Fri)	Total Person Capacity (7-9am)	Thru City Core (Y/N)
27	Jobstown - Clarehall - Return	28	2,548	Y
54A	Pearse St. – Ellensborough - Return	9	819	N
65	Poolbeg St. - Blessington/Ballymore - Return	5	455	N
77A	Citywest - Ringsend Rd - Return	17	1,547	Y
S6	Tallaght - Blackrock Station via UCD - Return	17	1,547	N
S8	Citywest - Dun Laoghaire via Sandyford - Return	14	1,274	N
NOTE - The Above are based on a Standard DD Bus having a Capacity of 91 Persons				
Total (7-9am) All Routes, within Easy Walk		**90**	**8,190**	**Seats**
Total (7-9am) Routes Via City Centre, within Easy Walk		**45**	**4,095**	**Seats**

2.5 The above demonstrates that the site is clearly accessible to a significant and high capacity existing bus provision, with a capacity of c.8,190 bus seats (Each Way) during the 7-9am commuter peak period, all passing close to the site.

2.6 All bus services provide for connectivity to Public Transports Hubs and Interchanges (Rail, Intercity Bus Services, LUAS etc) located within the City Core.

2.7 The **LUAS Red Line** Service runs via Tallaght P&R Terminus to the west of the site. The Red Line is one of the two lines of Dublin's Luas light rail system. The Red Line runs in an east–west direction through the city centre, north of the River Liffey, before travelling southwest to Tallaght, with a fork to Citywest and Saggart. The service operates on a continual basis throughout the day, with Trams running on an approximate average 5 minute interval basis during the morning and evening peaks (in both directions). The approximate LUAS capacity 7-9am is then illustrated below as ***Table 2.2***.

Table 2.2; - LUAS Approximate Existing Capacity Each Way (7-9am)

Details	No. 7-9am	People Capacity
LUAS Trams (Red Line)*	20	916
Total LUAS People Capacity 7-9am	5160	

2.8 The Transport for Ireland and LUAS (and Mobile Phone Apps) now provide a service that allows customers access up to date real information for arrivals and departures on a stop-by-stop basis. This information on Arrivals and Departures allows customers to plan their arrivals and departures & associated walk/cycle times accurately, facilitating efficient journey planning (and minimising congestion on platforms or stops).

2.9 The LUAS Trams are modern and of high quality. Almost all of Dublin Bus & Go-Ahead Bus Services consist of fleets of high quality comfortable 'Double Decker' Buses, being accessible buses with 'low-floor' technology incorporated into their design.

2.10 Transport for Ireland also provides an interactive online tool that enables the user to plan journeys, with real time information on Bus & Rail services on a nationwide basis.

2.11 We have also set out below details of the proposed bus service improvements locally as part of Bus Connects.

FUTURE BUS SERVICES

2.12 In terms of **Future Planned Services**, the NTA have published details of the overall bus network for the GDA, the 'New Dublin Area Network' - showing Spine Routes, Feeder and Orbital Routes. An extract from the NTA Plans showing the site location is included below as ***Figure 2.3***.

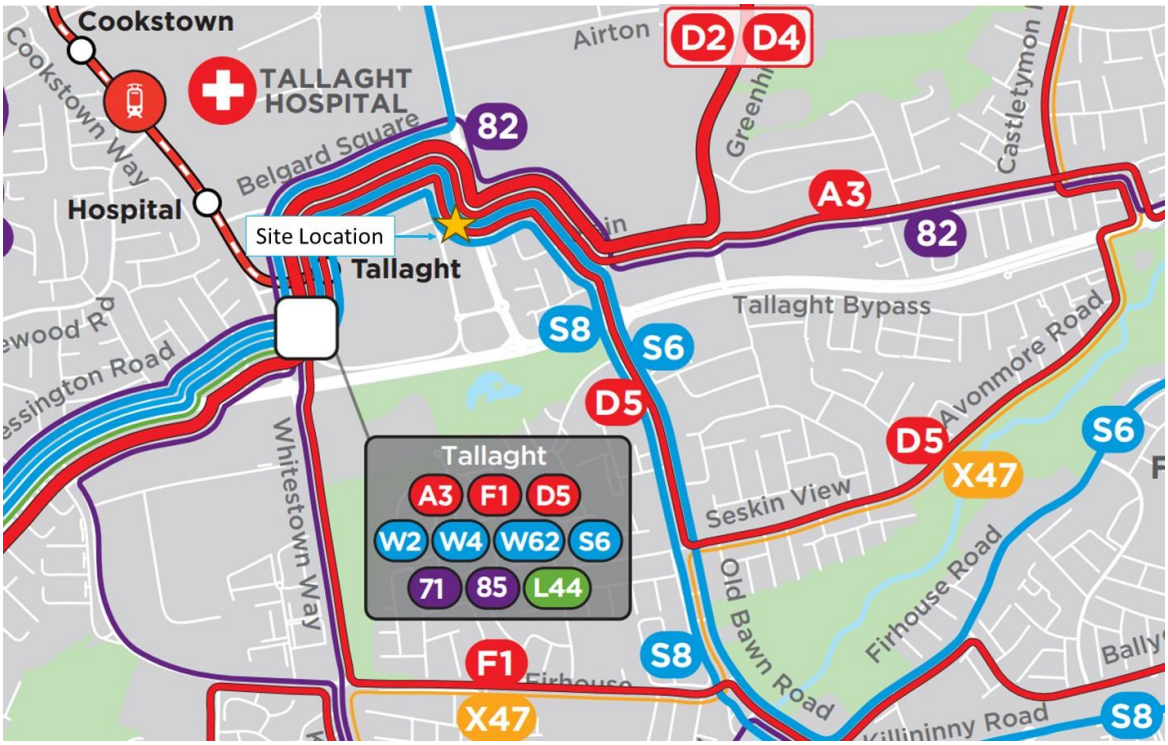

Figure 2.3 – Extract Current NTA Network Plans & Site

2.13 This future network shows that the site's accessibility to bus services will be further enhanced, being a short distance from D Spine (Red) with a high frequency and permeable service to be provided. The expected frequency of these services as illustrated in extracts included ***Figure 2.4*** below.

Spines & Branches		Weekday																	
Route no.	To and From	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
A3	DCU - City Centre - Tallaght	30	15	12	12	12	12	12	12	12	12	12	12	12	12	15	15	15	15	30
D-SPINE	Malahide Rd - City Centre - Crumlin	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	8
D1	Clongriffin - City Centre - Grange Castle	30	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	30
D2	Clare Hall - City Centre - Citywest	30	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	30
D3	Clongriffin - City Centre - Clondalkin	30	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	30
D4	Swords Road - City Centre - Killinarden	60	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	60
D5	Edenmore - City Centre - Tallaght	60	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	60

Figure 2.4 – Extract NTA Core Bus Network GDA, Spine Route Frequencies

2.14 The site is therefore also ideally placed in terms of future high frequency bus availability, based on the NTAs published Plans.

2.15 In terms of **Bus Passenger Capacity**, a typical double decker bus has a capacity to accommodate ~91 passengers. However, it should be noted Dublin Bus are introducing

new hybrid buses, some of which have extra capacity e.g. the new Wrightbus StreetDeck HEV 96 double-decker buses.

3.0 BUS & LUAS USE PREDICTIONS, CAPACITY & DEMAND

3.1 We have used the CSO Local Small Area Mapping tool, extracting data for the Electoral Area of Tallaght / Springfield, to establish the proportion of Bus & LUAS Users within the local area surrounding the site in order to estimate the additional demand for services, utilising real data rather than estimations of modal split. An annotated extract from the CSO Database Small Area Mapping 2022 Census used for this purpose is below as ***Figure 3.1***.

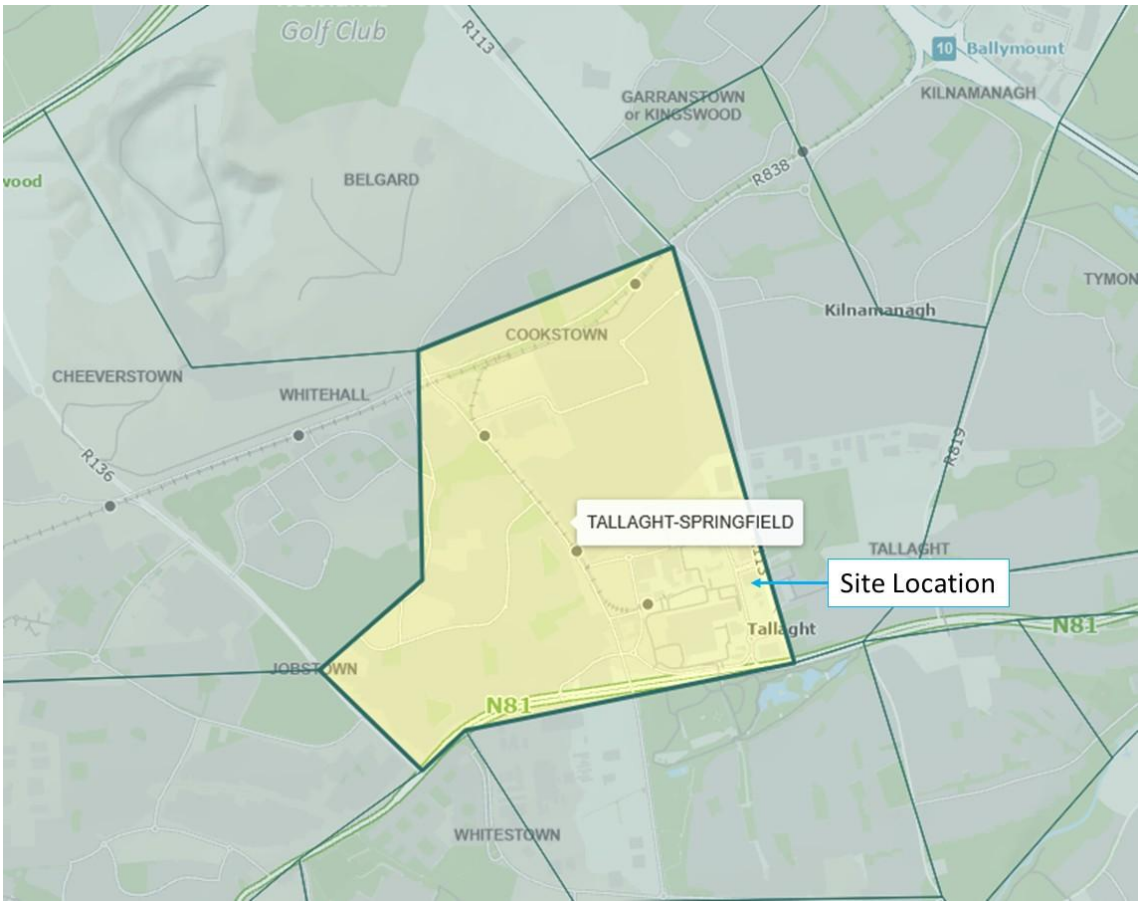

Figure 3.1 – Collated CSO Local Area Data (Tallaght / Springfield)

3.2 We have extracted information from the Census Data for the Electoral Area to calculate the additional demand for Bus & LUAS during the busy weekday AM Commuter period, and this is illustrated below as ***Table 3.1***.

Table 3.1 –Services Bus/LUAS Demand Based on CSO Data & Development Proposals

Electoral Area	Total Population	Total Commuters Age 5+ to Work, School or College	No. of Train/LUAS Users	No. of Bus Users	No. of Commuters Leaving Home 7-9am to Work/Schl or College
Tallaght - Springfield	11,297	7,510	556	883	3,612
CALCULATION OF BUS & LUAS DEMAND DUE TO DEVELOPMENT					
Percentage of Total Population in Area Commuting =					66.5%
Percentage of Total Population in Area Commuting By Train/LUAS =					4.9%
Percentage of Total Population in Area Commuting By Bus =					7.8%
Percentage of Commuters Leaving Home 7-9am =					48.1%
456	New Residents in Proposed Development (*Including an allowance of 76 staff in units*)				
22	LUAS/Train Commuters (Consistent with the Local Area Census Data)				
15	**Total Additional LUAS/Train Commuters Between 7am and 9am Due to Dev**				
36	Bus Commuters (Consistent with the Local Area Census Data)				
24	**Total Additional Bus Commuters Between 7am and 9am Due to Dev**				

BUS/LUAS CAPACITY & DEMAND

3.3 Based on existing travel patterns in the locality, the above confirms that the completed development will create an additional worst case demand for approximately 24 seats on bus services between 7am & 9am. There will be an additional worst case demand for 15 LUAS seats on Red Line Services between 7am and 9am. Of course, it is not possible to accurately predict the commuting destination of future residents or staff. Although being a residential & employment site within a short walk and cycle of Tallaght, this is expected to be the destination for the majority of commuters.

3.4 The predicted increased service demand should be considered in terms of the capacity locally, for both Buses and LUAS.

3.5 In terms of **Buses**, the demand is illustrated in ***Table 3.2*** below - with c.8,190 bus seats available on the local bus services during the weekday AM commuter peak period, all within a short walk of the subject site. There are a similar number of services and seats during the weekday PM Peak period 4pm-6pm, however demand is greater during the weekday AM Peak (due to 'peak spreading' that occurs in the evenings, with much more significant staggered departure times from work or College locations during evenings).

Table 3.2; Total Peak Demand for Bus Seats Due to Development (Existing Services)

Details	Buses	People/Seats
Total Number of Buses on (7-9am) Local Routes	90	8,190
Total Demand for Seats Created by Proposed Development (7-9am)		24
Percentage Impact Upon Existing #27 Service (Route Via City)		**0.29%**

3.6 At 0.29% the resulting increased demand for bus seats is way less than 1% of the total available seat capacity locally. This is considered negligible, and we believe it can easily be accommodated within the current service provision. **We undertook a sample observations survey of occupancy over a number of days during February 2025 and this revealed that the majority of the local buses passing the site between 7-9am had 60-70% occupancy on-average.**

3.7 In terms of **LUAS** services at Tallaght, the demand associated with the development is illustrated in ***Table 3.3*** below, and this has then been used to calculate the demand and impact upon services.

Table 3.3; Total Peak Demand for LUAS Seats Due to Development

Details	No. 7-9am	People Capacity
LUAS Trams (Red Line)*	20	916
Total LUAS People Capacity 7-9am	8160	
Total Demand Created by Proposed Development	15	
% Additional Demand Created	**0.18%**	
* *Based on New Extended Trams introduced in 2019, with Tram capacity increased by 30%, High Av Frequency at Time of Writing*		

3.8 The proposed development will therefore also create an additional demand for LUAS seats, equating to 0.18% (0.18 of 1% ie being significantly less than 1%) of the current LUAS carrying capacity. This is also considered negligible and we believe it can easily be accommodated within the current service provision based on our observation of service occupancy.

3.9 In terms of **Future Bus Services**, with A3, D2, D4, D5, S6, & S8 routes planned as passing the site, the impact upon future services is as illustrated as ***Table 3.4*** and ***Table 3.5*** below. We highlight that the Bus Connects Publications state that the frequency of future services ***"is subject to adjustment in line with future passenger numbers***", which reinforces our stated view that operators adjust services based on demand at the time.

Table 3.4 – Future Bus Service Provision (A, D and S Routes)

Service #	Route (& Return)	No. Buses 7-9am (Mon - Fri)	Total Person Capacity (7-9am)	Thru City Core (Y/N)
A3	Future Bus Connects Service	20	1820	Y
D2	Future Bus Connects Service	16	1456	Y
D4	Future Bus Connects Service	8	728	Y
D5	Future Bus Connects Service	8	728	Y
S6	Tallaght - Blackrock Station via UCD - Return	17	1,547	N
S8	Citywest - Dun Laoghaire via Sandyford - Return	14	1,274	N
Total Services		**83**	**7,553**	

Table 3.5 – Impact Upon Future Bus Service Provision (D2 and D4 Spines)

Details	Buses	People/Seats
Total Number of Future Services (7-9am)	83	7,553
Total Demand for Seats Created by Proposed Development (7-9am)		24
Percentage Impact Upon Future Routes (%)		0.3%

3.10 We conclude that this very small additional demand for LUAS and Bus services can easily be accommodated within the existing and future services. In future, there are additional services to be created as part of Bus Connects as set out above. There will also be more than adequate capacity on the further improved services locally.

3.11 The analysis is based on 2022 Census Data extracting travel patterns from the CSO data, and whilst the development seeks to encourage modal shift, given the small increase in predicted bus and LUAS demand, any possible future changes in demand due to improved active travel & modal shift (walking, cycling, increased working from home and public transport etc) will still have negligible impact on bus & LUAS capacity here.

4.0 CONCLUSIONS

4.1 NRB Consulting Engineers Ltd were appointed to address the Bus & LUAS Demand and capacity associated with a planning application for a Large-Scale Residential Development (LRD) residential development on zoned development lands on Belgard Square East, Tallaght, Dublin 24.

4.2 The development consists of a total of 199 Residential Apartments and some commercial units, with a full-total residential capacity of **456** People (for the purposes of this assessment we have added the effect of 76 staff within the commercial units). The scheme includes access works, hard & soft landscaping, car/bicycle parking, refuse storage etc.

4.3 The analysis of the existing and future Bus/LUAS services has been undertaken based on an assessment methodology which includes trip generation assessment, modal split assumptions, and assignment/distribution. These assumptions have been based on real data extracted from the Central Statistics Office (CSO) Small Area Map Data, available through the CSO online mapping tool. This data was used to quantify the anticipated demand for Bus/LUAS as a result of the proposed development in this particular location, utilising current local modal shift patterns & statistics for the Tallaght - Springfield Electoral Area.

4.4 This Report contains details of current and future Bus Services and Bus Capacity serving the site and the local area.

4.5 The assessment confirms that the completion and full occupation of the development will result in an increased demand for Bus/LUAS seats, with an additional 24 Bus customers and 15 LUAS customers during the weekday AM Commuter Peak 7-9am (and less during the PM Commuter peak period). This represents a total of way less than 1% of the Bus or LUAS seating capacity available locally during this AM Period. We conclude that the additional demand for Bus/LUAS trips as a result of the proposed development can be accommodated on the existing and future improved services in the area without any noticeable effect based on observed usage.

4.6 Whilst this Report contains an assessment of current capacity, it should be remembered that service providers are commercial in nature, running their businesses based on existing demand at the time. Bus/LUAS services are provided based on real demand rather than potential demand. If there is an increased demand for services, or indeed if there is a deficit in a service provision, operators generally react to improve facilities if it makes commercial sense to do so. More customers means more revenue generated.

27

From Jobstown Towards Clare Hall

Baile na Miontáin, Tamhlacht (An Chearnóg), Crois Bhaile Bhailcín, An Carnán, Cé Éidin, Fionnradharc, Timpeallán Ard Aidhin, Halla Chláir

Buses leave terminus at

Route Variations

- **v** Via Crumlin Village to city centre
- **e** From Eden Quay to Clare Hall
- **c** To city centre
- **t** From Jobstown via Cookstown Rd., Kingswood Heights, Belgard Rd., Castletymon Rd. and Tallaght Community College during term time only

Monday – Friday				Saturday				Sunday			
05:15c	05:35	05:55v	06:00	05:30	06:00	06:30	07:00	08:00	08:30	09:00	09:20
06:05e	06:10	06:20	06:30	07:30	08:00	08:20	08:40	09:40	10:00	10:20	10:40
06:40	06:50	07:00	07:10	09:00	09:10	09:20	09:30	11:00	11:15	11:30	11:45
07:20	07:30	07:40	07:45t	then every 10 minutes until 19:00				then every 15 minutes until 19:00			
07:50t	07:50	08:00	08:10								
then every 10 minutes until 19:30				19:20	19:40	20:00	20:20	19:20	19:40	20:00	20:20
				20:40	21:00	21:20	21:40	20:40	21:00	21:20	21:40
19:50	20:10	20:30	20:50	22:00	22:20	22:40	23:00c	22:00	22:20	22:40	23:00c
21:10	21:30	21:50	22:10	23:30c				23:30c			
22:30	22:50c	23:10c	23:30c								

Jobstown » 12mins » Tallaght (The Square) » 13mins » Walkinstown Cross (The Kestrel) » 17mins » Dolphin's Barn Cross » 14mins » Eden Quay » 10mins » Fairview » 14mins » Artane Roundabout » 16mins » Clare Hall

All times are off peak estimates

Fare stages

55	45	**Jobstown**	
56	44	**Blessington Rd.** (Raheen Rd.)	
57	43	**Tallaght** (The Square)	
58	42	**Greenhills Rd.** (Airton Rd.)	
59	41	**Greenhills Rd.** (Mayberry Rd.)	
60	40	**Greenhills Rd.** (Cuckoo's Nest)	
61	39	**Greenhills Rd.** (Ballymount Rd. Upr.)	
62	38	**Greenhills Rd.** (Green Park)	
63	37	**Greenhills Rd.** (O'Malley's)	
64	36	**Walkinstown Cross** (The Kestrel)	
65	35	**Drimnagh Rd.** (Halfway House)	
66	34	**Crumlin Rd.** (Cooley Rd.)	
67	33	**Crumlin Rd.** (Bangor Drive)	
68	32	**Crumlin Rd.** (Loreto Convent)	
69	31	**Dolphin's Barn Cross**	
70	30	**Cork St.** (Coombe Hospital)	
71	29	**Cork St.** (Donore Ave.)	
72	28	**Cork St.** (Ardee St.)	
73	27	**Kevin St.** (Patrick St.) / Patrick St.	
74	26	**Werburgh St. / Lord Edward St.**	
75	25	**Eden Quay**	
76	24	**Connolly Rail Station**	
77	23	**Newcomen Bridge**	
78	22	**Annesley Bridge Rd.**	
79	21	**Fairview** (St. Joseph's School)	
80	20	**Malahide Rd.** (Griffith Ave.)	
81	19	**Malahide Rd.** (Donnycarney Church)	
82	18	**Malahide Rd.** (Killester Park)	
83	17	**St. Brigid's Rd.** (Roundabout)	
84	16	**Brookville Rd.** (Ascal Measc)	
85	15	**Greencastle Rd. / Greencastle Ave.**	
86	14	**Glin Rd. / Greencastle Rd.**	
87	13	**Priorswood Rd.**	
88	12	**Malahide Rd.** (N32)	
89	11	**Clare Hall**	

27

From Clare Hall Towards Jobstown

Halla Chláir, Timpeallán Ard Aidhin, Fionnradharc, Cé Éidin, An Carnán, Crois Bhaile Bhailcín, Tamhlacht (An Chearnóg), Baile na Miontáin

Buses leave terminus at

Monday – Friday				Saturday				Sunday			
05:15	05:30r	05:45	05:55r	05:30	06:00	06:30	07:00	08:00	08:30	09:00	09:20
06:00	06:10	06:15r	06:20	07:30	08:00	08:20	08:40	09:40	10:00	10:20	10:40
06:30	06:30r	06:40	06:50	09:00	09:10	09:20	09:30	11:00	11:15	11:30	11:45
then every 10 minutes until 19:30				then every 10 minutes until 19:00				then every 15 minutes until 19:00			
19:50	20:10	20:30	20:50	19:20	19:40	20:00	20:20	19:20	19:40	20:00	20:20
21:10	21:30	21:50	22:10	20:40	21:00	21:20	21:40	20:40	21:00	21:20	21:40
22:30	22:50	23:10c	23:30c	22:00	22:20	22:40	23:00	22:00	22:20	22:40	23:00
				23:30c				23:30c			

Route Variations

c To city centre

r From Ringsend to Jobstown

Clare Hall » 16mins » Artane Roundabout » 14mins » Fairview » 10mins » Eden Quay » 14mins » Dolphin's Barn Cross » 17mins » Walkinstown Cross (The Kestrel) » 13mins » Tallaght (The Square) » 12mins » Jobstown

All times are off peak estimates

Fare stages

89	11	**Clare Hall**	
88	12	**Malahide Rd.** (N32)	
87	13	**Priorswood Rd.**	
86	14	**Glin Rd. / Greencastle Rd.**	
85	15	**Greencastle Rd. / Greencastle Ave.**	
84	16	**Brookville Rd.** (Ascal Measc)	
83	17	**St. Brigid's Rd.** (Roundabout)	
82	18	**Malahide Rd.** (Killester Park)	
81	19	**Malahide Rd.** (Donnycarney Church)	
80	20	**Malahide Rd.** (Griffith Ave.)	
79	21	**Fairview** (St. Joseph's School)	
78	22	**Annesley Bridge Rd.**	
77	23	**Newcomen Bridge**	
76	24	**Connolly Rail Station**	
75	25	**Eden Quay**	
74	26	**Werburgh St. / Lord Edward St.**	
73	27	**Kevin St.** (Patrick St.) / Patrick St.	
72	28	**Cork St.** (Ardee St.)	
71	29	**Cork St.** (Donore Ave.)	
70	30	**Cork St.** (Coombe Hospital)	
69	31	**Dolphin's Barn Cross**	
68	32	**Crumlin Rd.** (Loreto Convent)	
67	33	**Crumlin Rd.** (Bangor Drive)	
66	34	**Crumlin Rd.** (Cooley Rd.)	
65	35	**Drimnagh Rd.** (Halfway House)	
64	36	**Walkinstown Cross** (The Kestrel)	
63	37	**Greenhills Rd.** (O'Malley's)	
62	38	**Greenhills Rd.** (Green Park)	
61	39	**Greenhills Rd.** (Ballymount Rd. Upr.)	
60	40	**Greenhills Rd.** (Cuckoo's Nest)	
59	41	**Greenhills Rd.** (Mayberry Rd.)	
58	42	**Greenhills Rd.** (Airton Rd.)	
57	43	**Tallaght** (The Square)	
56	44	**Blessington Rd.** (Raheen Rd.)	
55	45	**Jobstown**	

54a

From Pearse St. Towards Ellensborough/Kiltipper Way

Sráid an Phiarsaigh, Faiche Chrois Araild, Tobair na Spá,
Seanbhóthar Bhaile Coimín, Buirg Eibhlin/An Bealach Choill Tobair

Buses leave terminus at

Monday – Friday				Saturday				Sunday			
06:30	07:00	07:30	08:00	07:15	08:15	09:15	09:45	10:00	11:00	12:00	13:00
08:30	09:00	09:30	10:00	10:15	10:45	11:15	11:45	14:00	15:00	16:00	17:00
10:30	11:00	11:30	12:00	12:15	12:45	13:15	13:45	18:00	19:00	20:00	21:00
12:30	13:00	13:30	14:00	14:15	14:45	15:15	15:45	22:00	23:00		
14:30	15:00	15:30	16:00	16:15	16:45	17:15	17:45				
16:30	17:00	17:30	17:45	18:15	19:00	19:45	21:00				
18:00	18:30	19:00	19:30	22:15	23:30						
20:00	20:30	21:10	22:20								
23:30											

Pearse St. » 20 mins » **Harold's Cross Green** » 20 mins » **Spawell** » 20 mins » **Old Blesssington Rd. (The Square)** » 10 mins » **Ellensborough/Kiltipper Way**

54a

From Ellensborough/Kiltipper Way Towards Pearse St.

Buirg Eibhlin/An Bealach Choill Tobair, Seanbhóthar Bhaile Coimín,
Tobair na Spá, Faiche Chrois Araild, Sráid an Phiarsaigh

Buses leave terminus at

Monday – Friday				Saturday				Sunday			
06:30	07:00	07:20	07:40	07:30	08:30	09:30	10:30	09:00	10:00	11:00	12:00
08:00	08:30	09:00	09:30	11:00	11:30	12:00	12:30	13:00	14:00	15:00	16:00
10:00	10:30	11:00	11:30	13:00	13:30	14:00	14:30	17:00	18:00	19:00	20:00
12:00	12:30	13:00	13:30	15:00	15:30	16:00	16:30	21:00	22:00	23:00	
14:00	14:30	15:00	15:30	17:00	17:30	18:00	18:30				
16:00	16:30	17:00	17:30	19:15	20:00	21:00	22:15				
18:00	18:30	19:00	19:30	23:30							
20:00	20:30	21:00	21:30								
22:30	23:30										

Ellensborough/Kiltipper Way » 10 mins » **Old Blesssington Rd. (The Square)** » 20 mins » **Spawell** » 20 mins » **Harold's Cross Green** » 20 mins » **Pearse St.**

All times are off peak estimates

Areas served

Pearse St.
Lord Edward St./Nicholas St.
Patrick St. (Dean St.)
Clanbrassil St. (Lombard St. West)
Leonard's Corner
Harold's Cross Green West
Lwr. Kimmage Rd. (Sundrive Rd.)
Lwr. Kimmage Rd. (Ravensdale Park)
Kimmage Cross Rd.
Wainsfort Rd.
Fortfield Park
Willington Rd. Roundabout
Wellington Lane (St. Judes GAA Club)
Tallaght Rd. (Spawell Bridge)
Tallaght Rd. (Spawell Golf Range)
Tallaght Rd. (Firhouse Bridge)
Tallaght Rd. (Balrothery/Castle Park)
Tallaght Rd. (Newtown Park)
Tallaght Village
Old Blesssington Rd. (The Square)
Blessington Rd. (Raheen)
Killinarden (Community Centre)
Kiltipper Way (Ellensborough/Marfield)

65

From Blessington / Ballymore Towards Poolbeg St.

Baile Coimín / Baile Mór, Crois an tSéipéil, Tamhlacht (An Chearnóg), Teach Mealóg, Tír an Iúir, Ráth Maonais, Sráid Camden, Sráid an Phoill Bhig

Buses leave terminus at

Route Variations
k From Ballyknockan
b From Ballymore
t During term time only

Monday – Friday				Saturday				Sunday			
06:30	07:00k	07:10b	07:30t	07:10b	08:30	09:30b	11:30	09:30	11:30b	13:30b	15:30
08:00	09:30b	11:30	13:30	13:30b	15:30b	17:00	19:00b	17:00b	19:00b	20:00	22:00b
15:30	17:30	18:30	19:45k	20:00b	22:00	23:00b	00:20	23:00b	00:20		
20:30b	21:30	23:15	00:15b								

Blessington / Ballymore » 15 mins » **Cross Chapel** » 20 mins » **Tallaght (The Square)** » 15 mins » **Templeogue** » 15 mins » **Terenure** » 15 mins » **Rathmines** » 10 mins » **Camden St.** » 10 mins » **Poolbeg St.**

All times are off peak estimates

Areas served

Saggart Rd.
De Selby Quarries
Jobstown
Blessington Rd. (Raheen)
Old Blesssington Rd. (The Square)
Tallaght Village
Tallaght Rd. (Newtown Park)
Tallaght Rd. (Balrothery)
Tallaght Rd. (Firhouse Bridge)
Tallaght Rd. (Spawell Golf Range)
Tallaght Rd. (Spawell Bridge)
Tallaght (Cheeverstown House)
Templeogue Bridge
Templeogue Post Office
Templeogue Rd. (Fortfield Rd.)
Templeogue Rd. (Rathdown Park)
Terenure
Rathgar Rd. (Frankfort Ave.)
Rathmines Rd. (Rathgar Rd.)
Rathmines Rd. Lwr. (Richmond Hill)
Richmond St. South
Aungier St. (Bishop St.)
St. Great George's St.
Poolbeg St.

65

From Poolbeg St. Towards Blessington / Ballymore

Sráid an Phoill Bhig, Sráid Camden, Ráth Maonais, Tír an Iúir, Teach Mealóg, Tamhlacht (An Chearnóg), Crois an tSéipéil, Baile Coimín / Baile Mór

Buses leave terminus at

Route Variations

k To Ballyknockan

b To Ballymore

t From Poolbeg St., during term time only. Please note on Wednesday bus departs at 12:50 instead of 15:40

Monday – Friday				Saturday				Sunday			
05:30k	05:40b	06:40	07:45b	05:40b	07:00	08:00b	09:30	08:00	09:30b	11:30b	13:30
09:30	11:30	13:30	15:30	11:30b	13:30b	15:30	17:30b	15:30b	17:30b	18:30	20:30b
15:40t	16:30	17:30k	18:30b	18:30b	20:30	21:30b	23:15	21:30b	23:15		
20:00	21:30	23:00b									

Poolbeg St. » 10 mins » **Camden St.** » 10 mins » **Rathmines** » 15 mins » **Terenure** » 15 mins » **Templeogue** » 15 mins » **Tallaght (The Square)** » 20 mins » **Cross Chapel** » 15 mins » **Blessington / Ballymore**

All times are off peak estimates

Areas served

Poolbeg St.
St. Great George's St.
Aungier St. (Bishop St.)
Richmond St. South
Rathmines Rd. Lwr. (Richmond Hill)
Rathmines Rd. (Rathgar Rd.)
Rathgar Rd. (Frankfort Ave.)
Terenure
Templeogue Rd. (Rathdown Park)
Templeogue Rd. (Fortfield Rd.)
Templeogue Post Office
Templeogue Bridge
Tallaght (Cheeverstown House)
Tallaght Rd. (Spawell Bridge)
Tallaght Rd. (Spawell Golf Range)
Tallaght Rd. (Firhouse Bridge)
Tallaght Rd. (Balrothery)
Tallaght Rd. (Newtown Park)
Tallaght Village
Old Blesssington Rd. (The Square)
Blessington Rd. (Raheen)
Jobstown
De Selby Quarries
Saggart Rd.

77a

From Citywest Towards Ringsend Rd.

Iarthar na Cathrach, Tamhlacht (An Chearnóg), Baile an Ridire, Crois Bhaile Bhailcín, An Carnán, Bóthar na Rinne

Buses leave terminus at

Monday – Friday				Saturday				Sunday			
06:00	06:20	06:40	07:00	06:20	06:50	07:20	07:50	08:00	08:30	09:00	09:30
07:20	07:30	07:30t	07:40	08:10	08:30	08:50	09:10	10:00	10:30	11:00	11:30
07:50	08:00	08:10	08:20	09:30	09:50	10:10	10:30	12:00	12:30	13:00	13:30
08:30	08:40	09:00	09:20	10:50	11:10	11:30	11:50	14:00	14:30	15:00	15:30
09:40	10:00	10:20	10:40	12:10	12:30	12:50	13:10	16:00	16:30	17:00	17:30
11:00	11:20	11:40	12:00	13:30	13:50	14:10	14:30	18:00	18:30	19:00	19:30
12:20	12:40	13:00	13:20	14:50	15:10	15:30	15:50	20:00	20:30	21:00	21:30
13:40	14:00	14:20	14:40	16:10	16:30	16:50	17:10	22:00	22:30	23:00	23:30
15:00	15:20	15:40	15:55	17:30	17:50	18:10	18:30				
16:10	16:20	16:30	16:45	18:50	19:20	19:50	20:20				
17:00	17:15	17:30	17:45	20:50	21:20	21:50	22:20				
18:00	18:20	18:40	19:00	22:50	23:20						
19:30	20:00	20:30	21:00								
21:30	22:00	22:30	23:00								
23:30											

Route Variations

t From Kilinarden Community School via Mayberry Rd., St. Peter's Rd., and St. Paul's school Limekiln Ave during term time only

Citywest » 12 mins » **Tallaght (The Square)** » 15 mins » **Balrothery** » 15 mins » **Walkinstown Cross** » 22 mins » **Dolphin's Barn** » 22 mins » **Ringsend Rd.**

All times are off peak estimates

Areas served

Citywest
De Selby Quarries
Jobstown
Blessington Rd. (Raheen)
Tallaght (The Square)
Old Bawn Rd.
Seskin View Rd.
Balrothery (Castle Park)
Castle Lawns
Tymon Park
Greenhills Rd. (Cuckoo's Nest)
Greenhills Rd. (Ballymount Rd. Upr.)
Greenhills Rd. (Green Park)
Greenhills Rd. (O'Malley's)
Walkinstown Cross (The Kestrel)
Drimnagh Rd. (Halfway House)
Crumlin Rd. (Cooley Rd.)
Crumlin Rd. (Bangor Drive)
Crumlin Rd. (Loreto Convent)
Dolphin's Barn Cross
Cork St. (Coombe Hospital)
Cork St. (Donore Ave.)
Cork St. (Ardee St.)
Kevin St. (Patrick St.)/Patrick St.
Werburgh St./Lord Edward St.
College St./Townsend St.
Pearse St. (Lombard St.)
Pearse St. (Macken St.)
Ringsend Rd. (Barrow St.)

77a

From Ringsend Rd. Towards Citywest

Bóthar na Rinne, An Carnán, Crois Bhaile Bhailcín, Baile an Ridire, Tamhlacht (An Chearnóg), Iarthar na Cathrach

Buses leave terminus at

Monday – Friday				Saturday				Sunday			
05:40	06:00	06:20	06:40	05:55	06:30	07:00	07:30	07:00	07:30	08:00	08:30
07:00	07:20	07:40	08:00	08:00	08:20	08:40	09:00	09:00	09:30	10:00	10:30
08:20	08:40	09:00	09:20	09:20	09:40	10:00	10:20	11:00	11:30	12:00	12:30
09:40	10:00	10:20	10:40	10:40	11:00	11:20	11:40	13:00	13:30	14:00	14:30
11:00	11:20	11:40	12:00	12:00	12:20	12:40	13:00	15:00	15:30	16:00	16:30
12:20	12:40	13:00	13:20	13:20	13:40	14:00	14:20	17:00	17:30	18:00	18:30
13:40	14:00	14:20	14:40	14:40	15:00	15:20	15:40	19:00	19:30	20:00	20:30
15:00	15:20	15:40	16:00	16:00	16:20	16:40	17:00	21:00	21:30	22:00	22:30
16:20	16:40	16:55	17:10	17:20	17:40	18:00	18:30	23:00	23:30		
17:25	17:40	17:55	18:10	19:00	19:30	20:00	20:30				
18:30	18:50	19:10	19:30	21:00	21:30	22:00	22:30				
20:00	20:30	21:00	21:30	23:00	23:25						
22:00	22:30	23:00	23:25								

Ringsend Rd. » 22 mins » **Dolphin's Barn** » 22 mins » **Walkinstown Cross** » 15 mins » **Balrothery** » 15 mins » **Tallaght (The Square)** » 12 mins » **Citywest**

All times are off peak estimates

Areas served

Ringsend Rd. (Barrow St.)
Pearse St. (Macken St.)
Pearse St. (Lombard St.)
College St./Townsend St.
Werburgh St./Lord Edward St.
Kevin St. (Patrick St.)/Patrick St.
Cork St. (Ardee St.)
Cork St. (Donore Ave.)
Cork St. (Coombe Hospital)
Dolphin's Barn Cross
Crumlin Rd. (Loreto Convent)
Crumlin Rd. (Bangor Drive)
Crumlin Rd. (Cooley Rd.)
Drimnagh Rd. (Halfway House)
Walkinstown Cross (The Kestrel)
Greenhills Rd. (O'Malley's)
Greenhills Rd. (Green Park)
Greenhills Rd. (Ballymount Rd. Upr.)
Greenhills Rd. (Cuckoo's Nest)
Tymon Park
Castle Lawns
Balrothery (Castle Park)
Seskin View Rd.
Old Bawn Rd.
Tallaght (The Square)
Blessington Rd. (Raheen)
Jobstown
De Selby Quarries
Citywest

from **21st April 2024**

Tallaght - Blackrock Station via UCD — S6

Mondays to Fridays except Public Holidays

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 4342	The Square	05:30	06:00	06:15	06:30	06:38	06:45	07:00	07:08	07:15	07:30	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00
stop 2540	Old Bawn Centre	05:40	06:10	06:25	06:40	06:50	06:59	07:14	07:22	07:31	07:46	08:01	08:15	08:30	08:45	09:00	09:14	09:28	09:43	09:58	10:12	10:27	10:42	10:58	11:13
stop 6128	Ballycullen Avenue	05:42	06:13	06:28	06:43	06:54	07:03	07:18	07:26	07:35	07:50	08:05	08:20	08:35	08:50	09:05	09:18	09:32	09:47	10:02	10:15	10:30	10:45	11:01	11:16
stop 1305	Willbrook Road	05:53	06:25	06:40	06:55	07:07	07:19	07:34	07:42	07:53	08:08	08:23	08:37	08:52	09:07	09:22	09:34	09:46	10:01	10:16	10:29	10:44	10:59	11:16	11:31
stop 1310	Nutgrove Retail Pk	05:58	06:29	06:44	06:59	07:12	07:25	07:40	07:48	08:00	08:15	08:30	08:44	08:59	09:14	09:29	09:40	09:52	10:07	10:22	10:35	10:50	11:05	11:22	11:37
stop 7719	Taney Park	06:03	06:35	06:50	07:05	07:18	07:33	07:48	07:56	08:09	08:24	08:39	08:53	09:08	09:23	09:38	09:48	10:00	10:15	10:30	10:41	10:56	11:11	11:29	11:44
stop 765	UCD	06:10	06:42	06:57	07:12	07:27	07:42	07:57	08:05	08:20	08:35	08:50	09:03	09:18	09:33	09:48	09:57	10:08	10:23	10:38	10:49	11:04	11:19	11:37	11:52
stop 3085	Blackrock Station	06:22	06:55	07:10	07:25	07:43	08:00	08:15	08:27	08:40	08:55	09:10	09:23	09:38	09:53	10:08	10:15	10:24	10:39	10:54	11:05	11:20	11:35	11:53	12:08

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 4342	The Square	11:15	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00
stop 2540	Old Bawn Centre	11:28	11:43	11:58	12:13	12:28	12:44	12:59	13:14	13:29	13:44	13:59	14:14	14:29	14:44	14:59	15:15	15:30	15:45	16:00	16:14	16:29	16:44	16:59	17:14
stop 6128	Ballycullen Avenue	11:31	11:46	12:01	12:17	12:32	12:48	13:03	13:18	13:33	13:48	14:03	14:18	14:33	14:48	15:03	15:19	15:34	15:49	16:04	16:18	16:33	16:48	17:03	17:18
stop 1305	Willbrook Road	11:46	12:01	12:16	12:32	12:47	13:03	13:18	13:33	13:48	14:03	14:18	14:34	14:49	15:04	15:19	15:35	15:50	16:05	16:20	16:35	16:50	17:05	17:20	17:35
stop 1310	Nutgrove Retail Pk	11:52	12:07	12:22	12:39	12:54	13:10	13:25	13:40	13:55	14:10	14:25	14:40	14:55	15:10	15:25	15:42	15:57	16:12	16:27	16:41	16:56	17:11	17:26	17:41
stop 7719	Taney Park	11:59	12:14	12:29	12:46	13:01	13:18	13:33	13:48	14:03	14:18	14:33	14:48	15:03	15:18	15:33	15:50	16:05	16:20	16:35	16:49	17:04	17:19	17:34	17:49
stop 765	UCD	12:07	12:22	12:37	12:55	13:10	13:27	13:42	13:57	14:12	14:27	14:42	14:57	15:12	15:27	15:42	16:00	16:15	16:30	16:45	16:59	17:14	17:29	17:44	17:59
stop 3085	Blackrock Station	12:23	12:38	12:53	13:12	13:27	13:44	13:59	14:14	14:29	14:44	14:59	15:15	15:30	15:45	16:00	16:18	16:33	16:48	17:03	17:17	17:32	17:47	18:02	18:17

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 4342	The Square	17:15	17:30	17:45	18:00	18:15	18:30	18:45	19:00	19:15	19:30	19:45	20:00	20:15	20:30	20:45	21:00	21:15	21:30	21:45	22:00	22:15	22:30	22:45	23:00
stop 2540	Old Bawn Centre	17:29	17:44	17:59	18:13	18:28	18:42	18:56	19:11	19:26	19:41	19:56	20:10	20:25	20:40	20:55	21:10	21:24	21:39	21:54	22:09	22:23	22:38	22:53	23:08
stop 6128	Ballycullen Avenue	17:33	17:48	18:03	18:17	18:32	18:46	19:00	19:15	19:29	19:44	19:59	20:13	20:28	20:43	20:58	21:13	21:27	21:42	21:57	22:12	22:26	22:41	22:55	23:10
stop 1305	Willbrook Road	17:50	18:05	18:20	18:32	18:47	18:59	19:13	19:28	19:41	19:56	20:11	20:25	20:40	20:54	21:09	21:24	21:38	21:53	22:07	22:22	22:35	22:50	23:04	23:19
stop 1310	Nutgrove Retail Pk	17:56	18:11	18:26	18:38	18:53	19:05	19:18	19:33	19:46	20:01	20:16	20:29	20:44	20:58	21:13	21:28	21:42	21:57	22:11	22:26	22:39	22:54	23:08	23:23
stop 7719	Taney Park	18:04	18:19	18:34	18:45	19:00	19:12	19:25	19:40	19:52	20:07	20:22	20:35	20:50	21:04	21:19	21:34	21:48	22:03	22:17	22:32	22:44	22:59	23:13	23:28
stop 765	UCD	18:14	18:29	18:44	18:54	19:09	19:20	19:32	19:47	19:59	20:14	20:29	20:42	20:57	21:11	21:26	21:41	21:54	22:09	22:23	22:38	22:50	23:05	23:18	23:33
stop 3085	Blackrock Station	18:32	18:47	19:02	19:10	19:25	19:36	19:47	20:02	20:13	20:28	20:43	20:55	21:10	21:23	21:38	21:53	22:06	22:21	22:34	22:49	23:01	23:16	23:29	23:44

continues below

	Route Number	S6
stop 4342	The Square	23:30
stop 2540	Old Bawn Centre	23:38
stop 6128	Ballycullen Avenue	23:40
stop 1305	Willbrook Road	23:49
stop 1310	Nutgrove Retail Pk	23:52
stop 7719	Taney Park	23:57
stop 765	UCD	00:02
stop 3085	Blackrock Station	00:12

from **21st April 2024**

Blackrock Station - Tallaght via UCD — S6

Mondays to Fridays except Public Holidays

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 3085	Blackrock Station	05:30	06:00	06:15	06:30	06:35	06:50	07:05	07:15	07:30	07:45	08:00	08:15	08:30	08:45	09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00	11:15
stop 765	UCD	05:39	06:11	06:26	06:41	06:49	07:04	07:25	07:31	07:46	08:01	08:16	08:31	08:45	09:00	09:13	09:28	09:43	09:58	10:12	10:27	10:43	10:58	11:13	11:28
stop 10160	Taney Park	05:45	06:17	06:32	06:48	06:57	07:12	07:33	07:41	07:56	08:11	08:25	08:40	08:54	09:09	09:21	09:36	09:51	10:06	10:20	10:35	10:50	11:05	11:21	11:36
stop 7965	Nutgrove Retail Park	05:50	06:23	06:38	06:54	07:04	07:19	07:40	07:49	08:04	08:19	08:34	08:49	09:02	09:17	09:28	09:43	09:58	10:13	10:26	10:41	10:57	11:12	11:28	11:43
stop 1329	St Mary's School	05:54	06:28	06:43	06:59	07:10	07:25	07:46	07:56	08:11	08:26	08:41	08:56	09:08	09:23	09:34	09:49	10:04	10:19	10:32	10:47	11:03	11:18	11:34	11:49
stop 2517	Green Acre Court	06:02	06:37	06:52	07:08	07:22	07:37	07:58	08:10	08:25	08:40	08:54	09:09	09:21	09:36	09:45	10:00	10:15	10:30	10:42	10:57	11:14	11:29	11:46	12:01
stop 2532	Old Bawn Centre	06:07	06:43	06:58	07:15	07:30	07:45	08:06	08:20	08:35	08:50	09:04	09:19	09:30	09:45	09:53	10:08	10:23	10:38	10:50	11:05	11:21	11:36	11:54	12:09
stop 4342	The Square	06:17	06:55	07:10	07:27	07:45	08:00	08:21	08:37	08:52	09:07	09:21	09:36	09:46	10:01	10:07	10:22	10:37	10:52	11:03	11:18	11:35	11:50	12:08	12:23

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 3085	Blackrock Station	11:30	11:45	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15
stop 765	UCD	11:43	11:58	12:14	12:29	12:45	13:00	13:15	13:30	13:45	14:00	14:16	14:31	14:47	15:02	15:17	15:32	15:47	16:02	16:17	16:32	16:47	17:02	17:16	17:31
stop 10160	Taney Park	11:51	12:06	12:23	12:38	12:53	13:08	13:24	13:39	13:54	14:09	14:25	14:40	14:56	15:11	15:27	15:42	15:57	16:12	16:27	16:42	16:57	17:12	17:26	17:41
stop 7965	Nutgrove Retail Park	11:58	12:13	12:30	12:45	13:01	13:16	13:32	13:47	14:02	14:17	14:34	14:49	15:05	15:20	15:36	15:51	16:06	16:21	16:36	16:51	17:06	17:21	17:35	17:50
stop 1329	St Mary's School	12:04	12:19	12:36	12:51	13:07	13:22	13:38	13:53	14:09	14:24	14:41	14:56	15:12	15:27	15:44	15:59	16:14	16:29	16:44	16:59	17:14	17:29	17:42	17:57
stop 2517	Green Acre Court	12:16	12:31	12:48	13:03	13:20	13:35	13:51	14:06	14:22	14:37	14:54	15:09	15:26	15:41	15:58	16:13	16:28	16:43	16:58	17:13	17:28	17:43	17:56	18:11
stop 2532	Old Bawn Centre	12:24	12:39	12:57	13:12	13:28	13:43	14:00	14:15	14:31	14:46	15:04	15:19	15:36	15:51	16:08	16:23	16:38	16:53	17:08	17:23	17:38	17:53	18:05	18:20
stop 4342	The Square	12:38	12:53	13:12	13:27	13:44	13:59	14:16	14:31	14:47	15:02	15:21	15:36	15:54	16:09	16:27	16:42	16:57	17:12	17:27	17:42	17:57	18:12	18:23	18:38

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 3085	Blackrock Station	17:30	17:45	18:00	18:15	18:30	18:45	19:00	19:15	19:30	19:45	20:00	20:15	20:30	20:45	21:00	21:15	21:30	21:45	22:00	22:15	22:30	22:45	23:00	23:30
stop 765	UCD	17:46	18:01	18:16	18:29	18:43	18:58	19:12	19:27	19:42	19:56	20:11	20:26	20:41	20:55	21:10	21:25	21:40	21:54	22:09	22:24	22:39	22:54	23:09	23:38
stop 10160	Taney Park	17:55	18:10	18:25	18:37	18:51	19:06	19:19	19:34	19:49	20:03	20:18	20:32	20:47	21:01	21:16	21:31	21:46	22:00	22:15	22:29	22:44	22:59	23:14	23:43
stop 7965	Nutgrove Retail Park	18:04	18:19	18:34	18:45	18:58	19:13	19:26	19:41	19:56	20:09	20:24	20:38	20:53	21:07	21:22	21:36	21:51	22:05	22:20	22:34	22:49	23:03	23:18	23:48
stop 1329	St Mary's School	18:11	18:26	18:41	18:51	19:04	19:19	19:31	19:46	20:01	20:14	20:29	20:43	20:58	21:11	21:26	21:41	21:56	22:09	22:24	22:38	22:53	23:07	23:22	23:52
stop 2517	Green Acre Court	18:24	18:39	18:54	19:03	19:16	19:31	19:42	19:57	20:12	20:23	20:38	20:52	21:07	21:20	21:35	21:49	22:04	22:17	22:32	22:46	23:01	23:15	23:30	23:59
stop 2532	Old Bawn Centre	18:34	18:49	19:04	19:11	19:24	19:39	19:49	20:04	20:19	20:30	20:45	20:58	21:13	21:26	21:41	21:55	22:10	22:22	22:37	22:51	23:06	23:20	23:35	00:04
stop 4342	The Square	18:51	19:06	19:21	19:26	19:38	19:53	20:02	20:17	20:32	20:42	20:57	21:10	21:25	21:37	21:52	22:06	22:21	22:32	22:47	23:01	23:16	23:29	23:44	00:13

from **21st April 2024**

Tallaght - Blackrock Station via UCD **S6**

Saturdays

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 4342	The Square	06:00	06:20	06:40	07:00	07:20	07:40	08:00	08:20	08:40	09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30
stop 2540	Old Bawn Centre	06:08	06:28	06:49	07:09	07:29	07:49	08:10	08:30	08:50	09:12	09:27	09:42	09:57	10:12	10:27	10:42	10:57	11:14	11:29	11:44	11:59	12:14	12:29	12:44
stop 6128	Ballycullen Avenue	06:10	06:30	06:51	07:12	07:32	07:52	08:12	08:32	08:52	09:15	09:30	09:45	10:00	10:15	10:30	10:46	11:01	11:18	11:33	11:48	12:03	12:17	12:32	12:47
stop 1305	Willbrook Road	06:20	06:40	07:02	07:22	07:42	08:02	08:23	08:43	09:03	09:29	09:44	09:59	10:14	10:29	10:44	10:59	11:14	11:34	11:49	12:04	12:19	12:33	12:48	13:03
stop 1310	Nutgrove Retail Pk	06:24	06:44	07:06	07:26	07:46	08:06	08:28	08:48	09:08	09:34	09:49	10:05	10:20	10:35	10:50	11:05	11:20	11:40	11:55	12:11	12:26	12:39	12:54	13:09
stop 7719	Taney Park	06:28	06:48	07:11	07:32	07:52	08:12	08:33	08:53	09:13	09:41	09:56	10:11	10:26	10:41	10:56	11:12	11:27	11:48	12:03	12:19	12:34	12:47	13:02	13:17
stop 765	UCD	06:34	06:54	07:17	07:38	07:58	08:18	08:40	09:00	09:20	09:49	10:04	10:19	10:34	10:49	11:04	11:20	11:35	11:57	12:12	12:28	12:43	12:56	13:11	13:26
stop 3085	Blackrock Station	06:45	07:05	07:28	07:49	08:09	08:29	08:52	09:12	09:32	10:04	10:19	10:35	10:50	11:05	11:20	11:36	11:51	12:15	12:30	12:46	13:01	13:13	13:28	13:43

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 4342	The Square	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30
stop 2540	Old Bawn Centre	12:59	13:14	13:29	13:44	13:59	14:13	14:28	14:43	14:58	15:14	15:29	15:44	15:59	16:13	16:28	16:43	16:58	17:12	17:27	17:42	17:57	18:11	18:26	18:41
stop 6128	Ballycullen Avenue	13:02	13:18	13:33	13:48	14:03	14:17	14:32	14:47	15:02	15:17	15:32	15:47	16:02	16:17	16:32	16:47	17:02	17:15	17:30	17:45	18:00	18:15	18:30	18:44
stop 1305	Willbrook Road	13:18	13:34	13:49	14:03	14:18	14:32	14:47	15:02	15:17	15:33	15:48	16:03	16:18	16:32	16:47	17:02	17:17	17:29	17:44	17:58	18:13	18:28	18:43	18:57
stop 1310	Nutgrove Retail Pk	13:24	13:40	13:55	14:10	14:25	14:39	14:54	15:09	15:24	15:39	15:54	16:09	16:24	16:39	16:54	17:08	17:23	17:35	17:50	18:04	18:19	18:33	18:48	19:02
stop 7719	Taney Park	13:32	13:48	14:03	14:18	14:33	14:46	15:01	15:16	15:31	15:47	16:02	16:17	16:32	16:46	17:01	17:16	17:31	17:41	17:56	18:10	18:25	18:40	18:55	19:08
stop 765	UCD	13:41	13:57	14:12	14:27	14:42	14:55	15:10	15:25	15:40	15:56	16:11	16:26	16:41	16:55	17:10	17:25	17:40	17:49	18:04	18:18	18:33	18:47	19:02	19:16
stop 3085	Blackrock Station	13:58	14:15	14:30	14:44	14:59	15:12	15:27	15:42	15:57	16:13	16:28	16:43	16:58	17:12	17:27	17:41	17:56	18:05	18:20	18:33	18:48	19:02	19:17	19:30

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 4342	The Square	18:45	19:00	19:20	19:40	20:00	20:20	20:40	21:00	21:20	21:40	22:00	22:20	22:40	23:00	23:30
stop 2540	Old Bawn Centre	18:56	19:10	19:30	19:50	20:10	20:30	20:49	21:09	21:29	21:48	22:08	22:28	22:48	23:08	23:38
stop 6128	Ballycullen Avenue	18:59	19:13	19:33	19:53	20:12	20:32	20:52	21:12	21:32	21:50	22:10	22:30	22:50	23:10	23:40
stop 1305	Willbrook Road	19:12	19:25	19:45	20:05	20:23	20:43	21:02	21:22	21:42	22:00	22:20	22:40	22:59	23:19	23:49
stop 1310	Nutgrove Retail Pk	19:17	19:30	19:50	20:10	20:28	20:48	21:06	21:26	21:46	22:04	22:24	22:44	23:03	23:23	23:53
stop 7719	Taney Park	19:23	19:36	19:56	20:16	20:33	20:53	21:12	21:32	21:52	22:08	22:28	22:48	23:08	23:28	23:58
stop 765	UCD	19:31	19:43	20:03	20:23	20:40	21:00	21:18	21:38	21:58	22:14	22:34	22:54	23:13	23:33	00:03
stop 3085	Blackrock Station	19:45	19:56	20:16	20:36	20:52	21:12	21:29	21:49	22:09	22:25	22:45	23:05	23:24	23:44	00:14

from **21st April 2024**

Blackrock Station - Tallaght via UCD — S6

Saturdays

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 3085	Blackrock Station	06:00	06:20	06:40	07:00	07:20	07:40	08:00	08:20	08:40	09:00	09:15	09:30	09:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00	12:15	12:30
stop 765	UCD	06:09	06:29	06:49	07:09	07:29	07:49	08:11	08:31	08:51	09:11	09:27	09:42	09:58	10:13	10:28	10:43	10:58	11:14	11:29	11:44	11:59	12:15	12:30	12:45
stop 10160	Taney Park	06:14	06:34	06:54	07:14	07:35	07:55	08:17	08:37	08:58	09:18	09:34	09:49	10:05	10:20	10:35	10:51	11:06	11:22	11:37	11:53	12:08	12:24	12:39	12:54
stop 7965	Nutgrove Retail Park	06:19	06:39	06:59	07:19	07:40	08:00	08:22	08:42	09:04	09:24	09:40	09:55	10:12	10:27	10:42	10:57	11:12	11:30	11:45	12:00	12:15	12:32	12:47	13:02
stop 1329	St Mary's School	06:23	06:43	07:03	07:23	07:44	08:04	08:27	08:47	09:09	09:29	09:45	10:00	10:18	10:33	10:48	11:03	11:18	11:36	11:51	12:06	12:21	12:38	12:53	13:08
stop 2517	Green Acre Court	06:30	06:50	07:11	07:31	07:52	08:12	08:36	08:56	09:19	09:39	09:55	10:10	10:29	10:44	10:59	11:14	11:29	11:48	12:03	12:18	12:33	12:51	13:06	13:21
stop 2532	Old Bawn Centre	06:36	06:56	07:16	07:36	07:57	08:17	08:43	09:03	09:26	09:46	10:02	10:17	10:36	10:51	11:06	11:22	11:37	11:56	12:11	12:27	12:42	13:00	13:15	13:30
stop 4342	The Square	06:45	07:05	07:26	07:46	08:07	08:27	08:54	09:14	09:38	09:58	10:14	10:29	10:50	11:05	11:20	11:36	11:51	12:11	12:26	12:42	12:57	13:16	13:31	13:46

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 3085	Blackrock Station	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30
stop 765	UCD	13:00	13:14	13:29	13:44	13:59	14:14	14:29	14:44	14:59	15:13	15:28	15:43	15:59	16:14	16:29	16:44	16:59	17:13	17:28	17:43	17:58	18:12	18:27	18:42
stop 10160	Taney Park	13:09	13:23	13:38	13:53	14:08	14:22	14:37	14:52	15:07	15:21	15:36	15:51	16:07	16:22	16:37	16:52	17:07	17:21	17:36	17:50	18:05	18:20	18:35	18:49
stop 7965	Nutgrove Retail Park	13:17	13:30	13:45	14:00	14:15	14:29	14:44	14:59	15:14	15:28	15:43	15:58	16:14	16:29	16:44	16:59	17:14	17:27	17:42	17:57	18:12	18:26	18:41	18:55
stop 1329	St Mary's School	13:23	13:37	13:52	14:06	14:21	14:35	14:50	15:05	15:20	15:34	15:49	16:04	16:20	16:35	16:50	17:05	17:20	17:33	17:48	18:03	18:18	18:32	18:47	19:00
stop 2517	Green Acre Court	13:36	13:49	14:04	14:18	14:33	14:46	15:01	15:16	15:31	15:46	16:01	16:16	16:31	16:46	17:01	17:16	17:31	17:44	17:59	18:14	18:29	18:42	18:57	19:10
stop 2532	Old Bawn Centre	13:45	13:57	14:12	14:27	14:42	14:54	15:09	15:24	15:39	15:54	16:09	16:24	16:39	16:54	17:09	17:24	17:39	17:52	18:07	18:21	18:36	18:50	19:05	19:17
stop 4342	The Square	14:01	14:13	14:28	14:42	14:57	15:09	15:24	15:39	15:54	16:08	16:23	16:38	16:54	17:09	17:24	17:39	17:54	18:06	18:21	18:35	18:50	19:03	19:18	19:30

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 3085	Blackrock Station	18:45	19:00	19:20	19:40	20:00	20:20	20:40	21:00	21:20	21:40	22:00	22:20	22:40	23:00	23:30
stop 765	UCD	18:57	19:11	19:31	19:51	20:11	20:31	20:50	21:10	21:30	21:49	22:09	22:29	22:49	23:09	23:39
stop 10160	Taney Park	19:04	19:18	19:38	19:57	20:17	20:37	20:56	21:16	21:36	21:54	22:14	22:34	22:54	23:14	23:44
stop 7965	Nutgrove Retail Park	19:10	19:24	19:44	20:03	20:23	20:43	21:01	21:21	21:41	21:59	22:19	22:39	22:59	23:19	23:49
stop 1329	St Mary's School	19:15	19:29	19:49	20:08	20:28	20:48	21:06	21:26	21:46	22:03	22:23	22:43	23:03	23:23	23:53
stop 2517	Green Acre Court	19:25	19:38	19:58	20:17	20:37	20:57	21:14	21:34	21:54	22:11	22:31	22:51	23:10	23:30	24:00
stop 2532	Old Bawn Centre	19:32	19:45	20:05	20:23	20:43	21:03	21:20	21:40	22:00	22:16	22:36	22:56	23:16	23:36	00:06
stop 4342	The Square	19:45	19:57	20:17	20:35	20:55	21:15	21:31	21:51	22:11	22:26	22:46	23:06	23:25	23:45	00:15

from **21st April 2024**

Tallaght - Blackrock Station via UCD — S6

Sundays & Bank Holiday Mondays

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 4342	The Square	07:30	08:00	08:30	09:00	09:30	10:00	10:20	10:40	11:00	11:20	11:40	12:00	12:20	12:40	13:00	13:20	13:40	14:00	14:20	14:40	15:00	15:20	15:40	16:00
stop 2540	Old Bawn Centre	07:39	08:10	08:40	09:10	09:40	10:11	10:31	10:52	11:12	11:32	11:53	12:13	12:33	12:54	13:14	13:34	13:54	14:13	14:33	14:53	15:12	15:32	15:52	16:12
stop 6128	Ballycullen Avenue	07:42	08:12	08:42	09:13	09:43	10:14	10:34	10:55	11:15	11:35	11:57	12:17	12:37	12:58	13:18	13:38	13:58	14:16	14:36	14:56	15:15	15:35	15:55	16:15
stop 1305	Willbrook Road	07:52	08:23	08:53	09:24	09:55	10:26	10:46	11:08	11:28	11:49	12:12	12:32	12:52	13:13	13:33	13:53	14:13	14:31	14:51	15:11	15:29	15:49	16:09	16:28
stop 1310	Nutgrove Retail Pk	07:56	08:28	08:58	09:28	10:00	10:31	10:51	11:14	11:34	11:55	12:18	12:38	12:58	13:20	13:40	14:00	14:20	14:37	14:57	15:17	15:35	15:55	16:15	16:34
stop 7719	Taney Park	08:02	08:33	09:03	09:34	10:06	10:37	10:57	11:20	11:40	12:01	12:25	12:45	13:05	13:28	13:48	14:08	14:28	14:44	15:04	15:24	15:41	16:01	16:21	16:40
stop 765	UCD	08:08	08:40	09:10	09:41	10:13	10:44	11:04	11:28	11:48	12:09	12:34	12:54	13:14	13:37	13:57	14:17	14:37	14:52	15:12	15:32	15:49	16:09	16:29	16:48
stop 3085	Blackrock Station	08:19	08:52	09:22	09:53	10:26	10:57	11:18	11:43	12:03	12:25	12:50	13:10	13:30	13:54	14:14	14:34	14:54	15:08	15:28	15:48	16:05	16:25	16:45	17:03

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 4342	The Square	16:20	16:40	17:00	17:20	17:40	18:00	18:20	18:40	19:00	19:30	20:00	20:30	21:00	21:30	22:00	22:30	23:00	23:30
stop 2540	Old Bawn Centre	16:32	16:52	17:12	17:31	17:51	18:11	18:31	18:51	19:11	19:40	20:09	20:39	21:08	21:38	22:08	22:38	23:08	23:38
stop 6128	Ballycullen Avenue	16:35	16:55	17:15	17:35	17:55	18:14	18:34	18:54	19:14	19:43	20:12	20:41	21:11	21:41	22:10	22:40	23:10	23:40
stop 1305	Willbrook Road	16:48	17:08	17:28	17:48	18:08	18:26	18:46	19:06	19:26	19:54	20:22	20:52	21:21	21:51	22:19	22:49	23:19	23:49
stop 1310	Nutgrove Retail Pk	16:54	17:14	17:34	17:53	18:13	18:32	18:51	19:11	19:31	19:59	20:26	20:56	21:25	21:55	22:23	22:53	23:23	23:53
stop 7719	Taney Park	17:00	17:20	17:40	18:00	18:20	18:38	18:57	19:17	19:37	20:05	20:32	21:01	21:30	22:00	22:27	22:57	23:27	23:57
stop 765	UCD	17:08	17:28	17:48	18:07	18:27	18:45	19:04	19:24	19:44	20:11	20:38	21:07	21:35	22:05	22:33	23:03	23:33	00:03
stop 3085	Blackrock Station	17:23	17:43	18:03	18:22	18:42	18:59	19:17	19:37	19:57	20:24	20:49	21:18	21:47	22:17	22:43	23:13	23:43	00:13

from **21st April 2024**

Blackrock Station - Tallaght via UCD — S6

Sundays & Bank Holiday Mondays

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 3085	Blackrock Station	07:30	08:00	08:30	09:00	09:30	10:00	10:20	10:40	11:00	11:20	11:40	12:00	12:20	12:40	13:00	13:20	13:40	14:00	14:20	14:40	15:00	15:20	15:40	16:00
stop 765	UCD	07:38	08:10	08:40	09:11	09:41	10:11	10:31	10:52	11:12	11:32	11:52	12:13	12:33	12:53	13:13	13:33	13:53	14:13	14:33	14:53	15:13	15:33	15:53	16:13
stop 10160	Taney Park	07:43	08:15	08:45	09:17	09:48	10:18	10:38	10:59	11:19	11:40	12:00	12:20	12:41	13:01	13:21	13:41	14:01	14:21	14:41	15:01	15:21	15:41	16:01	16:20
stop 7965	Nutgrove Retail Park	07:48	08:20	08:50	09:23	09:53	10:23	10:43	11:05	11:25	11:46	12:06	12:27	12:48	13:08	13:28	13:48	14:08	14:28	14:47	15:07	15:27	15:47	16:07	16:27
stop 1329	St Mary's School	07:52	08:25	08:55	09:28	09:58	10:28	10:48	11:10	11:30	11:52	12:12	12:33	12:54	13:14	13:34	13:54	14:14	14:34	14:53	15:13	15:33	15:53	16:13	16:33
stop 2517	Green Acre Court	07:59	08:33	09:03	09:37	10:08	10:38	10:58	11:20	11:40	12:02	12:22	12:44	13:06	13:26	13:46	14:06	14:26	14:45	15:04	15:24	15:44	16:04	16:24	16:44
stop 2532	Old Bawn Centre	08:04	08:39	09:09	09:43	10:14	10:44	11:04	11:27	11:47	12:10	12:30	12:51	13:14	13:34	13:54	14:14	14:34	14:53	15:12	15:32	15:52	16:12	16:32	16:51
stop 4342	The Square	08:13	08:49	09:19	09:55	10:26	10:56	11:16	11:40	12:00	12:23	12:43	13:05	13:28	13:48	14:08	14:28	14:48	15:07	15:26	15:46	16:06	16:26	16:46	17:05

continues below

	Route Number	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6	S6
stop 3085	Blackrock Station	16:20	16:40	17:00	17:20	17:40	18:00	18:20	18:40	19:00	19:30	20:00	20:30	21:00	21:30	22:00	22:30	23:00	23:30
stop 765	UCD	16:33	16:53	17:13	17:33	17:53	18:12	18:32	18:52	19:11	19:41	20:10	20:40	21:09	21:39	22:09	22:39	23:09	23:39
stop 10160	Taney Park	16:40	17:00	17:21	17:41	18:01	18:19	18:39	18:59	19:17	19:47	20:16	20:46	21:15	21:45	22:14	22:44	23:14	23:44
stop 7965	Nutgrove Retail Park	16:47	17:07	17:27	17:47	18:07	18:25	18:45	19:05	19:23	19:53	20:22	20:52	21:20	21:50	22:18	22:48	23:18	23:48
stop 1329	St Mary's School	16:53	17:13	17:33	17:53	18:13	18:31	18:51	19:11	19:28	19:58	20:26	20:56	21:24	21:54	22:22	22:52	23:22	23:52
stop 2517	Green Acre Court	17:04	17:24	17:44	18:04	18:24	18:41	19:01	19:21	19:37	20:07	20:35	21:05	21:32	22:02	22:30	23:00	23:30	24:00
stop 2532	Old Bawn Centre	17:11	17:31	17:52	18:12	18:32	18:48	19:08	19:28	19:43	20:13	20:41	21:11	21:37	22:07	22:35	23:05	23:35	00:05
stop 4342	The Square	17:25	17:45	18:06	18:26	18:46	19:01	19:21	19:41	19:55	20:25	20:52	21:22	21:47	22:17	22:44	23:14	23:44	00:14

from **21st April 2024**

Citywest - Dun Laoghaire via Sandyford — S8

Mondays to Fridays except Public Holidays

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 6001	Kingswood Avenue	05:00	05:20	05:40	05:50	06:00	06:15	06:25	06:36	06:40	06:55	07:10	07:25	07:40	07:55	08:10	08:25	08:40	09:00	09:20	09:40	10:00	10:20	10:40	11:00
stop 7967	Citywest SC	05:03	05:23	05:43	05:54	06:07	06:22	06:33	06:44	06:48	07:03	07:18	07:33	07:48	08:03	08:18	08:33	08:48	09:08	09:28	09:47	10:08	10:27	10:47	11:07
stop 4348	Tallaght Luas	05:10	05:30	05:50	06:02	06:17	06:34	06:47	06:58	07:05	07:20	07:35	07:50	08:05	08:19	08:34	08:49	09:02	09:22	09:42	09:59	10:22	10:38	10:58	11:18
stop 2540	Old Bawn Centre	05:19	05:39	05:59	06:14	06:32	06:49	07:04	07:17	07:27	07:42	07:57	08:12	08:27	08:40	08:55	09:10	09:22	09:37	09:57	10:14	10:39	10:53	11:13	11:33
stop 10154	Scholarstown Park	05:23	05:43	06:03	06:21	06:39	06:57	07:13	07:26	07:36	07:51	08:06	08:21	08:36	08:49	09:04	09:19	09:31	09:45	10:05	10:22	10:48	11:01	11:21	11:41
stop 2950	Pearse Brothers Pk	05:26	05:46	06:06	06:24	06:42	07:00	07:17	07:30	07:40	07:55	08:10	08:25	08:40	08:53	09:08	09:23	09:35	09:48	10:08	10:25	10:52	11:04	11:24	11:44
stop 2969	Marley Park	05:28	05:48	06:08	06:26	06:44	07:02	07:19	07:32	07:43	07:58	08:13	08:28	08:43	08:56	09:11	09:26	09:38	09:50	10:10	10:27	10:54	11:06	11:26	11:46
stop 3181	Carmanhall Road	05:38	05:58	06:18	06:37	06:56	07:15	07:34	07:47	08:01	08:16	08:31	08:46	09:01	09:13	09:28	09:43	09:55	10:04	10:24	10:40	11:09	11:19	11:39	11:59
stop 5142	Sandyford Luas	05:39	05:59	06:19	06:38	06:58	07:17	07:36	07:50	08:04	08:19	08:34	08:49	09:04	09:16	09:31	09:46	09:58	10:06	10:26	10:42	11:11	11:21	11:41	12:01
stop 7970	Stillorgan Road	05:44	06:04	06:24	06:43	07:04	07:24	07:43	07:58	08:12	08:27	08:42	08:57	09:12	09:24	09:39	09:54	10:06	10:13	10:33	10:49	11:18	11:28	11:48	12:08
stop 7973	National School	05:47	06:07	06:27	06:47	07:08	07:28	07:47	08:03	08:19	08:34	08:49	09:04	09:19	09:29	09:44	09:59	10:11	10:17	10:37	10:53	11:22	11:32	11:52	12:12
stop 3040	Monkstown Crescent	05:52	06:12	06:32	06:53	07:14	07:36	07:55	08:11	08:28	08:43	08:58	09:13	09:28	09:37	09:52	10:07	10:19	10:25	10:45	11:01	11:30	11:39	11:59	12:19
stop 2039	Dun Laoghaire Stn	05:55	06:15	06:35	06:57	07:18	07:40	08:00	08:16	08:35	08:50	09:05	09:20	09:35	09:43	09:58	10:13	10:25	10:30	10:50	11:05	11:35	11:43	12:03	12:23

continues below

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 6001	Kingswood Avenue	11:20	11:40	12:00	12:20	12:40	13:00	13:20	13:40	14:00	14:20	14:40	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00
stop 7967	Citywest SC	11:27	11:48	12:08	12:28	12:48	13:08	13:28	13:48	14:08	14:28	14:48	15:08	15:23	15:38	15:53	16:08	16:23	16:38	16:53	17:08	17:23	17:38	17:53	18:07
stop 4348	Tallaght Luas	11:38	12:02	12:22	12:42	13:02	13:22	13:42	14:02	14:22	14:42	15:02	15:22	15:37	15:52	16:07	16:22	16:37	16:52	17:07	17:22	17:37	17:52	18:07	18:20
stop 2540	Old Bawn Centre	11:53	12:17	12:37	12:57	13:17	13:38	13:58	14:18	14:39	14:59	15:19	15:41	15:56	16:11	16:26	16:41	16:56	17:12	17:27	17:41	17:56	18:09	18:24	18:35
stop 10154	Scholarstown Park	12:01	12:25	12:45	13:05	13:25	13:46	14:06	14:26	14:47	15:07	15:27	15:50	16:05	16:20	16:35	16:50	17:05	17:21	17:36	17:50	18:05	18:18	18:33	18:43
stop 2950	Pearse Brothers Pk	12:04	12:28	12:48	13:08	13:28	13:49	14:09	14:29	14:50	15:10	15:30	15:54	16:09	16:24	16:39	16:54	17:09	17:25	17:40	17:54	18:09	18:22	18:37	18:46
stop 2969	Marley Park	12:06	12:30	12:50	13:10	13:30	13:51	14:11	14:31	14:52	15:12	15:32	15:56	16:11	16:26	16:41	16:56	17:11	17:27	17:42	17:56	18:11	18:24	18:39	18:48
stop 3181	Carmanhall Road	12:19	12:44	13:04	13:24	13:44	14:05	14:25	14:45	15:07	15:27	15:47	16:11	16:26	16:41	16:56	17:11	17:26	17:43	17:58	18:11	18:26	18:39	18:54	19:02
stop 5142	Sandyford Luas	12:21	12:46	13:06	13:26	13:46	14:07	14:27	14:47	15:09	15:29	15:49	16:14	16:29	16:44	16:59	17:14	17:29	17:46	18:01	18:14	18:29	18:41	18:56	19:04
stop 7970	Stillorgan Road	12:28	12:53	13:13	13:33	13:53	14:14	14:34	14:54	15:16	15:36	15:56	16:22	16:37	16:52	17:07	17:22	17:37	17:54	18:09	18:22	18:37	18:48	19:03	19:11
stop 7973	National School	12:32	12:57	13:17	13:37	13:57	14:18	14:38	14:58	15:20	15:40	16:00	16:27	16:42	16:57	17:12	17:27	17:42	17:59	18:14	18:27	18:42	18:52	19:07	19:15
stop 3040	Monkstown Crescent	12:39	13:05	13:25	13:45	14:05	14:26	14:46	15:06	15:28	15:48	16:08	16:35	16:50	17:05	17:20	17:35	17:50	18:07	18:22	18:35	18:50	19:00	19:15	19:23
stop 2039	Dun Laoghaire Stn	12:43	13:10	13:30	13:50	14:10	14:31	14:51	15:11	15:33	15:53	16:13	16:40	16:55	17:10	17:25	17:40	17:55	18:13	18:28	18:40	18:55	19:05	19:20	19:27

continues below

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 6001	Kingswood Avenue	18:20	18:40	19:00	19:30	20:00	20:30	21:00	21:30	22:00	22:30	23:00	23:30
stop 7967	Citywest SC	18:27	18:47	19:06	19:36	20:06	20:36	21:06	21:36	22:06	22:34	23:03	23:33
stop 4348	Tallaght Luas	18:40	19:00	19:15	19:45	20:14	20:44	21:14	21:44	22:13	22:41	23:10	23:40
stop 2540	Old Bawn Centre	18:55	19:15	19:29	19:58	20:26	20:56	21:25	21:54	22:23	22:51	23:19	23:49
stop 10154	Scholarstown Park	19:03	19:23	19:36	20:04	20:32	21:01	21:30	21:58	22:27	22:55	23:23	23:53
stop 2950	Pearse Brothers Pk	19:06	19:26	19:39	20:07	20:35	21:04	21:33	22:01	22:30	22:58	23:26	23:56
stop 2969	Marley Park	19:08	19:28	19:41	20:09	20:37	21:06	21:35	22:03	22:32	23:00	23:28	23:58
stop 3181	Carmanhall Road	19:22	19:42	19:52	20:20	20:48	21:17	21:46	22:14	22:43	23:11	23:38	00:08
stop 5142	Sandyford Luas	19:24	19:44	19:54	20:22	20:49	21:18	21:47	22:15	22:44	23:12	23:39	00:09
stop 7970	Stillorgan Road	19:31	19:51	20:00	20:28	20:55	21:23	21:52	22:20	22:49	23:17	23:44	00:14
stop 7973	National School	19:35	19:55	20:04	20:32	20:58	21:26	21:55	22:23	22:52	23:20	23:47	00:17
stop 3040	Monkstown Crescent	19:43	20:03	20:10	20:38	21:04	21:32	22:01	22:29	22:57	23:25	23:52	00:22
stop 2039	Dun Laoghaire Stn	19:47	20:07	20:14	20:42	21:07	21:35	22:04	22:32	23:00	23:28	23:55	00:25

from **21st April 2024**

Dun Laoghaire - Citywest via Sandyford — S8

Mondays to Fridays except Public Holidays

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 2039	Dun Laoghaire Stn	05:00	05:20	05:40	05:55	06:15	06:30	06:45	06:55	07:15	07:30	07:45	08:00	08:15	08:30	08:45	09:00	09:20	09:40	10:00	10:20	10:40	11:00	11:20	11:40
stop 3073	Monkstown Road	05:05	05:25	05:45	06:01	06:21	06:36	06:51	07:02	07:22	07:38	07:53	08:08	08:23	08:38	08:51	09:06	09:26	09:46	10:06	10:26	10:46	11:07	11:27	11:47
stop 4355	Newtownpark Church	05:07	05:27	05:48	06:04	06:24	06:41	06:55	07:07	07:27	07:44	07:59	08:15	08:30	08:44	08:56	09:11	09:31	09:51	10:11	10:31	10:51	11:12	11:32	11:52
stop 3176	Leopardstown Rd	05:10	05:30	05:51	06:09	06:29	06:46	07:00	07:14	07:34	07:51	08:06	08:23	08:38	08:51	09:02	09:16	09:36	09:56	10:16	10:36	10:56	11:17	11:37	11:57
stop 3181	Carmanhall Road	05:12	05:32	05:55	06:14	06:34	06:52	07:06	07:22	07:42	07:59	08:14	08:31	08:46	08:59	09:10	09:23	09:43	10:03	10:23	10:43	11:03	11:24	11:44	12:04
stop 5142	Sandyford Luas	05:13	05:33	05:57	06:16	06:36	06:54	07:09	07:25	07:45	08:02	08:17	08:34	08:49	09:02	09:13	09:25	09:45	10:05	10:25	10:45	11:05	11:27	11:47	12:07
stop 2979	Marley Park	05:22	05:42	06:06	06:28	06:48	07:08	07:25	07:41	08:01	08:18	08:33	08:53	09:08	09:18	09:29	09:39	09:59	10:19	10:39	10:59	11:19	11:41	12:01	12:21
stop 2983	Pearse Brothers Pk	05:24	05:44	06:09	06:31	06:51	07:11	07:28	07:45	08:05	08:23	08:38	08:58	09:13	09:22	09:33	09:42	10:02	10:22	10:42	11:02	11:22	11:44	12:04	12:24
stop 10105	Scholarstown Park	05:27	05:47	06:12	06:34	06:54	07:14	07:32	07:49	08:09	08:27	08:42	09:02	09:17	09:26	09:37	09:45	10:05	10:25	10:45	11:05	11:25	11:47	12:07	12:27
stop 2532	Old Bawn Centre	05:33	05:53	06:18	06:41	07:01	07:22	07:40	07:58	08:18	08:37	08:52	09:12	09:27	09:35	09:46	09:53	10:13	10:33	10:53	11:13	11:33	11:55	12:15	12:35
stop 4347	Tallaght Luas	05:43	06:03	06:31	06:55	07:15	07:36	07:57	08:17	08:37	08:57	09:12	09:32	09:47	09:55	10:05	10:11	10:31	10:51	11:09	11:29	11:49	12:13	12:33	12:53
stop 7460	Citywest SC	05:51	06:11	06:39	07:03	07:23	07:45	08:06	08:28	08:48	09:08	09:23	09:43	09:58	10:06	10:16	10:21	10:41	11:01	11:19	11:39	11:59	12:23	12:43	13:03
stop 6022	Kingswood Avenue	05:55	06:15	06:44	07:08	07:28	07:50	08:11	08:35	08:55	09:15	09:30	09:50	10:05	10:13	10:23	10:27	10:47	11:07	11:25	11:45	12:05	12:30	12:50	13:10

continues below

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 2039	Dun Laoghaire Stn	12:00	12:20	12:40	13:00	13:20	13:40	14:00	14:20	14:40	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:20	18:40
stop 3073	Monkstown Road	12:07	12:27	12:47	13:08	13:28	13:48	14:08	14:28	14:48	15:10	15:25	15:40	15:55	16:10	16:25	16:40	16:55	17:08	17:23	17:38	17:53	18:07	18:27	18:47
stop 4355	Newtownpark Church	12:12	12:32	12:52	13:14	13:34	13:54	14:15	14:35	14:55	15:19	15:34	15:49	16:04	16:19	16:34	16:49	17:04	17:15	17:30	17:44	17:59	18:12	18:32	18:52
stop 3176	Leopardstown Rd	12:18	12:38	12:58	13:21	13:41	14:01	14:23	14:43	15:03	15:28	15:43	15:58	16:13	16:28	16:43	16:58	17:13	17:23	17:38	17:51	18:06	18:18	18:38	18:58
stop 3181	Carmanhall Road	12:26	12:46	13:06	13:29	13:49	14:09	14:31	14:51	15:11	15:37	15:52	16:07	16:22	16:37	16:52	17:07	17:22	17:31	17:46	17:59	18:14	18:26	18:46	19:06
stop 5142	Sandyford Luas	12:29	12:49	13:09	13:32	13:52	14:12	14:34	14:54	15:14	15:40	15:55	16:10	16:25	16:40	16:55	17:10	17:25	17:34	17:49	18:02	18:17	18:29	18:49	19:09
stop 2979	Marley Park	12:44	13:04	13:24	13:48	14:08	14:28	14:52	15:12	15:32	15:59	16:14	16:29	16:44	16:59	17:14	17:29	17:44	17:52	18:07	18:18	18:33	18:44	19:04	19:24
stop 2983	Pearse Brothers Pk	12:48	13:08	13:28	13:52	14:12	14:32	14:57	15:17	15:37	16:04	16:19	16:34	16:49	17:04	17:19	17:34	17:49	17:57	18:12	18:23	18:38	18:48	19:08	19:28
stop 10105	Scholarstown Park	12:51	13:11	13:31	13:56	14:16	14:36	15:01	15:21	15:41	16:08	16:23	16:38	16:53	17:08	17:23	17:38	17:53	18:01	18:16	18:27	18:42	18:51	19:11	19:31
stop 2532	Old Bawn Centre	12:59	13:19	13:39	14:05	14:25	14:45	15:11	15:31	15:51	16:20	16:35	16:50	17:05	17:20	17:35	17:50	18:05	18:11	18:26	18:37	18:52	18:59	19:19	19:39
stop 4347	Tallaght Luas	13:17	13:37	13:57	14:24	14:44	15:04	15:31	15:51	16:11	16:40	16:55	17:10	17:25	17:40	17:55	18:10	18:25	18:31	18:46	18:57	19:12	19:17	19:37	19:57
stop 7460	Citywest SC	13:28	13:48	14:08	14:35	14:55	15:15	15:42	16:02	16:22	16:52	17:07	17:22	17:37	17:53	18:08	18:23	18:38	18:42	18:57	19:08	19:23	19:28	19:48	20:08
stop 6022	Kingswood Avenue	13:35	13:55	14:15	14:42	15:02	15:22	15:49	16:09	16:29	17:00	17:15	17:30	17:45	18:01	18:16	18:31	18:46	18:49	19:04	19:15	19:30	19:35	19:55	20:15

continues below

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 2039	Dun Laoghaire Stn	19:00	19:30	20:00	20:30	21:00	21:30	22:00	22:30	23:00	23:30
stop 3073	Monkstown Road	19:06	19:36	20:06	20:36	21:05	21:35	22:05	22:35	23:05	23:35
stop 4355	Newtownpark Church	19:11	19:41	20:10	20:39	21:08	21:38	22:08	22:38	23:08	23:38
stop 3176	Leopardstown Rd	19:16	19:46	20:15	20:44	21:12	21:42	22:11	22:41	23:11	23:41
stop 3181	Carmanhall Road	19:22	19:52	20:21	20:49	21:17	21:46	22:15	22:45	23:15	23:45
stop 5142	Sandyford Luas	19:24	19:54	20:23	20:51	21:19	21:48	22:17	22:47	23:17	23:47
stop 2979	Marley Park	19:38	20:08	20:36	21:03	21:30	21:58	22:26	22:56	23:26	23:56
stop 2983	Pearse Brothers Pk	19:41	20:11	20:39	21:06	21:33	22:01	22:29	22:59	23:29	23:59
stop 10105	Scholarstown Park	19:44	20:14	20:42	21:09	21:36	22:04	22:32	23:02	23:32	00:02
stop 2532	Old Bawn Centre	19:52	20:22	20:49	21:16	21:43	22:10	22:38	23:08	23:38	00:08
stop 4347	Tallaght Luas	20:08	20:36	21:03	21:30	21:57	22:23	22:51	23:21	23:50	00:20
stop 7460	Citywest SC	20:17	20:45	21:12	21:38	22:05	22:31	22:59	23:29	23:58	00:28
stop 6022	Kingswood Avenue	20:23	20:50	21:17	21:43	22:10	22:36	23:04	23:34	00:02	00:32

from **21st April 2024**

Citywest - Dun Laoghaire via Sandyford — S8

Saturdays

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 6001	Kingswood Avenue	05:00	05:30	06:00	06:30	07:00	07:30	08:00	08:30	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30
stop 7967	Citywest SC	05:03	05:33	06:03	06:33	07:06	07:36	08:06	08:36	09:07	09:37	10:07	10:37	11:08	11:38	12:08	12:38	13:08	13:38	14:08	14:38	15:08	15:38	16:08	16:38
LUAS stop 4348	Tallaght Luas	05:10	05:40	06:10	06:40	07:13	07:44	08:14	08:44	09:17	09:47	10:18	10:49	11:21	11:51	12:21	12:51	13:21	13:51	14:21	14:51	15:21	15:51	16:21	16:51
stop 2540	Old Bawn Centre	05:18	05:48	06:18	06:48	07:23	07:54	08:26	08:56	09:31	10:01	10:32	11:03	11:39	12:09	12:38	13:08	13:39	14:09	14:38	15:08	15:37	16:07	16:37	17:07
stop 10154	Scholarstown Park	05:22	05:52	06:22	06:52	07:27	07:58	08:31	09:01	09:38	10:08	10:40	11:11	11:47	12:18	12:46	13:16	13:48	14:18	14:46	15:16	15:45	16:15	16:45	17:15
stop 2950	Pearse Brothers Pk	05:25	05:55	06:25	06:55	07:30	08:01	08:34	09:04	09:41	10:11	10:43	11:14	11:51	12:22	12:50	13:20	13:52	14:22	14:50	15:20	15:49	16:19	16:49	17:18
stop 2969	Marley Park	05:27	05:57	06:27	06:57	07:32	08:03	08:36	09:06	09:43	10:13	10:46	11:17	11:54	12:25	12:53	13:23	13:55	14:25	14:53	15:23	15:52	16:22	16:52	17:21
stop 3181	Carmanhall Road	05:36	06:06	06:36	07:06	07:43	08:14	08:47	09:17	09:56	10:26	11:00	11:31	12:09	12:40	13:08	13:38	14:10	14:40	15:08	15:38	16:07	16:37	17:07	17:36
LUAS stop 5142	Sandyford Luas	05:37	06:07	06:37	07:07	07:44	08:15	08:48	09:18	09:58	10:28	11:02	11:33	12:12	12:43	13:10	13:40	14:13	14:43	15:10	15:40	16:09	16:39	17:09	17:38
stop 7970	Stillorgan Road	05:42	06:12	06:42	07:12	07:49	08:20	08:53	09:24	10:04	10:34	11:10	11:41	12:20	12:51	13:18	13:48	14:21	14:51	15:18	15:48	16:17	16:47	17:17	17:46
stop 7973	National School	05:45	06:15	06:45	07:15	07:52	08:23	08:56	09:27	10:08	10:38	11:14	11:45	12:26	12:57	13:24	13:54	14:27	14:57	15:24	15:54	16:23	16:53	17:21	17:50
stop 3040	Monkstown Crescent	05:50	06:20	06:50	07:20	07:58	08:29	09:02	09:33	10:14	10:45	11:22	11:53	12:34	13:05	13:32	14:02	14:35	15:05	15:32	16:02	16:31	17:01	17:29	17:58
stop 2039	Dun Laoghaire Stn	05:53	06:23	06:53	07:23	08:01	08:32	09:05	09:36	10:18	10:49	11:26	11:57	12:39	13:10	13:37	14:07	14:40	15:10	15:37	16:07	16:36	17:06	17:34	18:03

continues below

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 6001	Kingswood Avenue	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00	21:30	22:00	22:30	23:00	23:30
stop 7967	Citywest SC	17:07	17:37	18:07	18:37	19:06	19:36	20:06	20:36	21:06	21:36	22:03	22:33	23:03	23:33
LUAS stop 4348	Tallaght Luas	17:18	17:48	18:18	18:47	19:15	19:44	20:14	20:44	21:14	21:44	22:10	22:40	23:10	23:40
stop 2540	Old Bawn Centre	17:32	18:02	18:32	19:01	19:27	19:56	20:26	20:56	21:24	21:54	22:20	22:49	23:19	23:49
stop 10154	Scholarstown Park	17:40	18:09	18:39	19:08	19:33	20:02	20:31	21:01	21:29	21:58	22:24	22:53	23:23	23:53
stop 2950	Pearse Brothers Pk	17:43	18:12	18:42	19:11	19:36	20:05	20:34	21:04	21:32	22:01	22:27	22:56	23:26	23:56
stop 2969	Marley Park	17:45	18:14	18:44	19:13	19:38	20:07	20:36	21:06	21:34	22:03	22:29	22:58	23:28	23:58
stop 3181	Carmanhall Road	17:59	18:28	18:58	19:26	19:49	20:18	20:47	21:17	21:45	22:14	22:40	23:08	23:38	00:08
LUAS stop 5142	Sandyford Luas	18:01	18:30	19:00	19:28	19:51	20:20	20:48	21:18	21:46	22:15	22:41	23:09	23:39	00:09
stop 7970	Stillorgan Road	18:09	18:37	19:07	19:34	19:57	20:26	20:54	21:24	21:51	22:20	22:46	23:14	23:44	00:14
stop 7973	National School	18:13	18:41	19:11	19:38	20:01	20:30	20:57	21:27	21:54	22:23	22:49	23:17	23:47	00:17
stop 3040	Monkstown Crescent	18:21	18:48	19:18	19:44	20:07	20:36	21:03	21:33	22:00	22:29	22:54	23:22	23:52	00:22
stop 2039	Dun Laoghaire Stn	18:25	18:52	19:22	19:48	20:11	20:40	21:06	21:36	22:03	22:32	22:57	23:25	23:55	00:25

from **21st April 2024**

Dun Laoghaire - Citywest via Sandyford — S8

Saturdays

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 2039	Dun Laoghaire Stn	05:00	05:30	06:00	06:30	07:00	07:30	08:00	08:30	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30
stop 3073	Monkstown Road	05:05	05:35	06:05	06:35	07:05	07:35	08:05	08:35	09:06	09:36	10:07	10:37	11:07	11:37	12:08	12:38	13:07	13:37	14:07	14:37	15:07	15:37	16:07	16:37
stop 4355	Newtownpark Church	05:07	05:37	06:07	06:37	07:08	07:38	08:08	08:38	09:10	09:40	10:12	10:42	11:12	11:42	12:14	12:44	13:12	13:42	14:12	14:42	15:12	15:42	16:12	16:42
stop 3176	Leopardstown Rd	05:10	05:40	06:10	06:40	07:11	07:41	08:12	08:43	09:15	09:45	10:17	10:47	11:19	11:49	12:21	12:51	13:19	13:49	14:19	14:49	15:17	15:47	16:18	16:48
stop 3181	Carmanhall Road	05:13	05:43	06:13	06:43	07:15	07:45	08:17	08:48	09:21	09:51	10:24	10:54	11:27	11:57	12:29	12:59	13:27	13:57	14:27	14:57	15:24	15:54	16:26	16:56
stop 5142	Sandyford Luas	05:14	05:45	06:15	06:45	07:17	07:47	08:19	08:50	09:23	09:53	10:27	10:57	11:30	12:00	12:32	13:02	13:30	14:00	14:30	15:00	15:27	15:57	16:29	16:59
stop 2979	Marley Park	05:23	05:54	06:24	06:54	07:26	07:56	08:30	09:01	09:36	10:06	10:41	11:11	11:45	12:15	12:48	13:18	13:45	14:15	14:45	15:15	15:41	16:11	16:43	17:13
stop 2983	Pearse Brothers Pk	05:25	05:56	06:26	06:56	07:28	07:59	08:33	09:04	09:39	10:09	10:44	11:14	11:49	12:19	12:53	13:23	13:49	14:19	14:49	15:19	15:45	16:15	16:47	17:17
stop 10105	Scholarstown Park	05:28	05:59	06:29	06:59	07:31	08:02	08:36	09:07	09:42	10:12	10:47	11:17	11:53	12:23	12:57	13:27	13:53	14:23	14:52	15:22	15:48	16:18	16:50	17:20
stop 2532	Old Bawn Centre	05:34	06:05	06:35	07:05	07:37	08:08	08:43	09:14	09:49	10:19	10:55	11:25	12:01	12:31	13:07	13:37	14:02	14:32	15:00	15:30	15:56	16:26	16:58	17:28
stop 4347	Tallaght Luas	05:44	06:16	06:47	07:17	07:49	08:20	08:57	09:28	10:03	10:34	11:13	11:43	12:20	12:50	13:27	13:57	14:21	14:51	15:19	15:49	16:14	16:44	17:17	17:47
stop 7460	Citywest SC	05:52	06:24	06:55	07:25	07:57	08:28	09:05	09:36	10:12	10:43	11:23	11:54	12:31	13:01	13:38	14:08	14:32	15:02	15:30	16:00	16:25	16:55	17:28	17:58
stop 6022	Kingswood Avenue	05:56	06:28	06:59	07:29	08:01	08:32	09:10	09:41	10:17	10:48	11:30	12:01	12:38	13:08	13:45	14:15	14:39	15:09	15:37	16:07	16:32	17:02	17:35	18:05

continues below

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 2039	Dun Laoghaire Stn	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00	21:30	22:00	22:30	23:00	23:30
stop 3073	Monkstown Road	17:07	17:36	18:06	18:36	19:06	19:36	20:06	20:36	21:05	21:35	22:05	22:35	23:05	23:35
stop 4355	Newtownpark Church	17:12	17:41	18:11	18:41	19:10	19:40	20:09	20:39	21:08	21:38	22:08	22:38	23:08	23:38
stop 3176	Leopardstown Rd	17:17	17:46	18:16	18:46	19:15	19:45	20:14	20:44	21:12	21:42	22:11	22:41	23:11	23:41
stop 3181	Carmanhall Road	17:24	17:53	18:22	18:52	19:21	19:51	20:19	20:49	21:17	21:47	22:15	22:45	23:15	23:45
stop 5142	Sandyford Luas	17:27	17:56	18:24	18:54	19:23	19:53	20:21	20:51	21:19	21:49	22:17	22:47	23:17	23:47
stop 2979	Marley Park	17:41	18:10	18:38	19:08	19:36	20:06	20:33	21:03	21:29	21:59	22:26	22:56	23:26	23:56
stop 2983	Pearse Brothers Pk	17:44	18:13	18:41	19:11	19:39	20:09	20:36	21:06	21:32	22:02	22:29	22:59	23:28	23:58
stop 10105	Scholarstown Park	17:47	18:16	18:44	19:14	19:42	20:12	20:39	21:09	21:35	22:05	22:32	23:02	23:31	00:01
stop 2532	Old Bawn Centre	17:55	18:24	18:52	19:22	19:49	20:19	20:46	21:16	21:42	22:12	22:38	23:08	23:37	00:07
stop 4347	Tallaght Luas	18:13	18:42	19:08	19:38	20:04	20:34	21:00	21:30	21:55	22:25	22:50	23:20	23:49	00:19
stop 7460	Citywest SC	18:23	18:52	19:18	19:47	20:13	20:43	21:08	21:38	22:03	22:33	22:58	23:28	23:57	00:27
stop 6022	Kingswood Avenue	18:30	18:59	19:24	19:53	20:18	20:48	21:13	21:43	22:08	22:38	23:02	23:32	00:01	00:31

from **21st April 2024**

Citywest - Dun Laoghaire via Sandyford — S8

Sundays & Bank Holiday Mondays

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 6001	Kingswood Avenue	07:00	07:30	08:00	08:30	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30
stop 7967	Citywest SC	07:03	07:33	08:06	08:36	09:06	09:36	10:06	10:36	11:07	11:37	12:07	12:37	13:08	13:38	14:07	14:37	15:07	15:37	16:07	16:37	17:07	17:37	18:07	18:36
stop 4348	Tallaght Luas	07:10	07:40	08:13	08:44	09:14	09:44	10:15	10:45	11:17	11:48	12:20	12:50	13:21	13:51	14:20	14:50	15:20	15:49	16:18	16:48	17:18	17:47	18:17	18:45
stop 2540	Old Bawn Centre	07:18	07:49	08:23	08:54	09:26	09:56	10:27	10:57	11:31	12:02	12:34	13:04	13:37	14:07	14:34	15:04	15:34	16:03	16:32	17:02	17:32	18:01	18:31	18:57
stop 10154	Scholarstown Park	07:22	07:53	08:27	08:59	09:31	10:01	10:34	11:04	11:38	12:09	12:42	13:12	13:45	14:15	14:42	15:12	15:42	16:11	16:40	17:10	17:39	18:08	18:38	19:04
stop 2950	Pearse Brothers Pk	07:25	07:56	08:30	09:02	09:34	10:04	10:37	11:07	11:41	12:12	12:45	13:15	13:49	14:19	14:45	15:15	15:45	16:14	16:43	17:13	17:42	18:11	18:41	19:07
stop 2969	Marley Park	07:27	07:58	08:32	09:04	09:36	10:06	10:39	11:09	11:43	12:14	12:48	13:18	13:52	14:22	14:48	15:18	15:48	16:17	16:45	17:15	17:44	18:13	18:43	19:09
stop 3181	Carmanhall Road	07:36	08:07	08:43	09:15	09:47	10:17	10:51	11:21	11:57	12:28	13:03	13:33	14:07	14:37	15:03	15:33	16:03	16:31	16:59	17:29	17:58	18:27	18:57	19:22
stop 5142	Sandyford Luas	07:37	08:08	08:44	09:16	09:48	10:18	10:53	11:23	11:59	12:30	13:05	13:35	14:09	14:39	15:05	15:35	16:05	16:33	17:01	17:31	18:00	18:29	18:59	19:24
stop 7970	Stillorgan Road	07:42	08:13	08:49	09:21	09:54	10:24	10:59	11:29	12:06	12:37	13:13	13:43	14:17	14:47	15:13	15:43	16:13	16:41	17:09	17:39	18:07	18:36	19:05	19:30
stop 7973	National School	07:45	08:16	08:52	09:24	09:57	10:27	11:03	11:33	12:10	12:41	13:17	13:47	14:21	14:51	15:17	15:47	16:17	16:45	17:13	17:43	18:11	18:40	19:09	19:34
stop 3040	Monkstown Crescent	07:50	08:21	08:58	09:30	10:03	10:33	11:09	11:40	12:17	12:48	13:25	13:55	14:29	14:59	15:25	15:55	16:25	16:53	17:21	17:51	18:18	18:47	19:16	19:41
stop 2039	Dun Laoghaire Stn	07:53	08:24	09:01	09:33	10:07	10:37	11:13	11:44	12:21	12:52	13:29	14:00	14:34	15:04	15:30	16:00	16:30	16:57	17:25	17:55	18:22	18:51	19:20	19:45

continues below

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 6001	Kingswood Avenue	19:00	19:30	20:00	20:30	21:00	21:30	22:00	22:30	23:00	23:30
stop 7967	Citywest SC	19:06	19:36	20:06	20:36	21:06	21:36	22:03	22:33	23:03	23:33
stop 4348	Tallaght Luas	19:15	19:45	20:14	20:44	21:14	21:44	22:10	22:40	23:10	23:40
stop 2540	Old Bawn Centre	19:27	19:57	20:26	20:54	21:24	21:54	22:19	22:49	23:19	23:49
stop 10154	Scholarstown Park	19:34	20:04	20:31	20:58	21:28	21:58	22:23	22:53	23:23	23:53
stop 2950	Pearse Brothers Pk	19:37	20:07	20:34	21:01	21:31	22:01	22:26	22:56	23:26	23:56
stop 2969	Marley Park	19:39	20:09	20:36	21:03	21:33	22:03	22:28	22:58	23:28	23:58
stop 3181	Carmanhall Road	19:50	20:20	20:47	21:14	21:44	22:14	22:37	23:07	23:37	00:07
stop 5142	Sandyford Luas	19:52	20:22	20:48	21:15	21:45	22:15	22:38	23:08	23:38	00:08
stop 7970	Stillorgan Road	19:58	20:28	20:53	21:20	21:50	22:20	22:43	23:13	23:43	00:13
stop 7973	National School	20:02	20:32	20:56	21:23	21:53	22:23	22:46	23:16	23:46	00:16
stop 3040	Monkstown Crescent	20:08	20:38	21:02	21:29	21:59	22:29	22:51	23:21	23:51	00:21
stop 2039	Dun Laoghaire Stn	20:12	20:42	21:05	21:32	22:02	22:32	22:54	23:24	23:54	00:24

from **21st April 2024**

Dun Laoghaire - Citywest via Sandyford — S8

Sundays & Bank Holiday Mondays

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 2039	Dun Laoghaire Stn	07:00	07:30	08:00	08:30	09:00	09:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30
stop 3073	Monkstown Road	07:05	07:35	08:05	08:35	09:05	09:36	10:06	10:36	11:06	11:36	12:06	12:36	13:07	13:37	14:07	14:37	15:07	15:37	16:06	16:36	17:06	17:36	18:06	18:36
stop 4355	Newtownpark Church	07:07	07:38	08:08	08:38	09:08	09:39	10:10	10:40	11:11	11:41	12:11	12:41	13:12	13:42	14:12	14:42	15:12	15:42	16:11	16:41	17:11	17:41	18:11	18:40
stop 3176	Leopardstown Rd	07:10	07:41	08:11	08:41	09:13	09:44	10:15	10:45	11:16	11:46	12:16	12:46	13:17	13:47	14:17	14:47	15:17	15:47	16:16	16:46	17:16	17:46	18:16	18:45
stop 3181	Carmanhall Road	07:13	07:45	08:15	08:46	09:18	09:49	10:20	10:51	11:22	11:52	12:23	12:53	13:24	13:54	14:24	14:54	15:24	15:54	16:23	16:52	17:22	17:52	18:22	18:51
stop 5142	Sandyford Luas	07:15	07:47	08:17	08:48	09:20	09:51	10:22	10:53	11:24	11:54	12:26	12:56	13:27	13:57	14:27	14:57	15:27	15:57	16:26	16:55	17:25	17:55	18:24	18:53
stop 2979	Marley Park	07:24	07:56	08:26	08:57	09:31	10:02	10:34	11:06	11:38	12:08	12:40	13:10	13:41	14:11	14:41	15:11	15:41	16:11	16:40	17:09	17:39	18:09	18:38	19:06
stop 2983	Pearse Brothers Pk	07:26	07:58	08:28	09:00	09:34	10:05	10:37	11:09	11:41	12:11	12:43	13:13	13:44	14:14	14:44	15:14	15:44	16:14	16:43	17:12	17:42	18:12	18:41	19:09
stop 10105	Scholarstown Park	07:29	08:01	08:31	09:03	09:37	10:08	10:40	11:12	11:44	12:14	12:46	13:16	13:47	14:17	14:47	15:17	15:47	16:17	16:46	17:15	17:45	18:15	18:44	19:12
stop 2532	Old Bawn Centre	07:35	08:07	08:37	09:09	09:44	10:15	10:47	11:19	11:52	12:22	12:54	13:24	13:55	14:25	14:55	15:25	15:55	16:25	16:54	17:23	17:53	18:23	18:52	19:19
stop 4347	Tallaght Luas	07:47	08:19	08:49	09:21	09:58	10:29	11:01	11:34	12:08	12:38	13:12	13:42	14:13	14:43	15:13	15:43	16:13	16:43	17:12	17:41	18:11	18:39	19:08	19:33
stop 7460	Citywest SC	07:55	08:27	08:57	09:29	10:06	10:37	11:09	11:43	12:17	12:47	13:22	13:52	14:24	14:54	15:24	15:54	16:24	16:53	17:22	17:51	18:21	18:49	19:17	19:42
stop 6022	Kingswood Avenue	07:59	08:31	09:01	09:33	10:11	10:42	11:14	11:48	12:22	12:52	13:29	13:59	14:31	15:01	15:31	16:01	16:31	17:00	17:29	17:57	18:27	18:55	19:22	19:47

continues below

	Route Number	S8	S8	S8	S8	S8	S8	S8	S8	S8	S8
stop 2039	Dun Laoghaire Stn	19:00	19:30	20:00	20:30	21:00	21:30	22:00	22:30	23:00	23:30
stop 3073	Monkstown Road	19:06	19:35	20:05	20:35	21:05	21:35	22:05	22:35	23:05	23:35
stop 4355	Newtownpark Church	19:09	19:38	20:08	20:38	21:08	21:38	22:08	22:38	23:08	23:38
stop 3176	Leopardstown Rd	19:14	19:43	20:12	20:42	21:12	21:42	22:11	22:41	23:11	23:41
stop 3181	Carmanhall Road	19:19	19:48	20:17	20:47	21:17	21:47	22:15	22:45	23:15	23:45
stop 5142	Sandyford Luas	19:21	19:50	20:19	20:49	21:19	21:49	22:17	22:47	23:17	23:47
stop 2979	Marley Park	19:32	20:01	20:30	21:00	21:28	21:58	22:26	22:56	23:26	23:56
stop 2983	Pearse Brothers Pk	19:35	20:04	20:33	21:03	21:31	22:01	22:29	22:59	23:29	23:59
stop 10105	Scholarstown Park	19:38	20:07	20:36	21:06	21:34	22:04	22:32	23:02	23:32	00:02
stop 2532	Old Bawn Centre	19:45	20:14	20:43	21:13	21:40	22:10	22:38	23:08	23:38	00:08
stop 4347	Tallaght Luas	19:59	20:28	20:57	21:27	21:53	22:23	22:50	23:20	23:50	00:20
stop 7460	Citywest SC	20:07	20:36	21:05	21:35	22:01	22:31	22:58	23:28	23:58	00:28
stop 6022	Kingswood Avenue	20:12	20:41	21:10	21:40	22:05	22:35	23:02	23:32	00:02	00:32

APPENDIX O

Service & Operational Waste Management Plan

consulting engineers

NRB

SERVICE
&
OPERATIONAL WASTE MANAGEMENT PLAN
(Appendix O)

For

Proposed Large Scale Residential Development

At

Belgard Square East, Tallaght, Dublin 24.

SUBMISSION ISSUE

5th Floor, 40 Mespil Road, Dublin 4, D04 C2N4
Tel: +353 1 292 1941, E-mail: info@nrb.ie, Web: www.nrb.ie

Registered in Ireland No. 491679

Contents

1.0 INTRODUCTION

1.1 This Servicing & Operational Waste Management Plan (SOWMP) has been prepared by NRB Consulting Engineers Ltd and addresses the Traffic/Transportation issues associated with servicing & waste management for the proposal for a Large-Scale Residential Development (LRD) residential development on zoned development lands on Belgard Square East, Tallaght, Dublin 24. A Site Location Plan is included below as ***Figure 1.1***.

Figure 1.1; - Site Location Plan and Context

1.2 This report is prepared to outline how deliveries/collections & waste/refuse will be managed by the operators within the curtilage of the established development site when the scheme is occupied and operational.

1.3 Considering the delivery and servicing needs of a site from the outset can help to facilitate efficient deliveries by encouraging site occupiers and their suppliers to consider the actual need for delivery and servicing activity, in terms of timing when & how deliveries are made and improving overall access to goods and services.

1.4 This document provides an outline Delivery/Collection & Waste Management Plan for the planning stage and describes the operational regime that will be adopted at this

development. It sets out the framework necessary to progress the SOWMP into a fully operational document ready for implementation and it demonstrates how the development can be serviced in a manner which ensures minimal impacts.

1.5 The SOWMP has been prepared following discussions within the project team and site visits.

1.6 The site is served by the moderately trafficked Belgard Square East and Belgard Road. For the vast majority of servicing, the type of vehicle servicing a mixed-use scheme will be very much smaller service vehicles such as taxis, small vans, Transit Vans or Courier Bikes. These can be clearly accommodated within the site footprint with the provision of 3 no. drop-off / service spaces within the under-croft car park, which includes for loading / set down spaces for the mostly small service vehicles.

1.7 It is intended that both large delivery vehicles / refuse lorries will be accommodated to the south of the site, with a dedicated gated service lane, with access from Belgard Road and the exit on Belgard Square East and has been specifically designed to accommodate the swept path of these vehicles. This is illustrated on the enclosed TRACK drawing appended in ***Appendix A***.

Objectives

1.8 The primary objective of the SOWMP will be to manage deliveries/collections including waste/refuse to, from and within the development in order to ensure that all activity is undertaken successfully whilst minimising the potential for conflicts with pedestrians and other vehicles.

1.9 Typically, a SOWMP will help to:

- Achieve financial savings through improved efficiencies.
- Identify where safe and legal loading can take place, both generally and in exceptional circumstances.
- Improve vehicular access to a delivery / collection origin or destination.
- Avoid vehicles moving through a site and parking unnecessarily.
- Reduce noise, CO2 and air quality emissions, congestion, collisions and overall freight costs by reducing the number of delivery trips (particularly during peak hours).

2.0 SERVICING ARRANGEMENTS

2.1 The site historically operated as a busy commercial premises and generated significant associated commercial vehicular traffic. In these terms, it clearly had established associated servicing and day-to-day operational activities in its own right which are significantly greater than those associated with the now-proposed mixed-use development.

2.2 Notwithstanding the above, there will clearly be a requirement for deliveries and possibly e-shopping deliveries which can be accommodated with the 3 no. drop-off / service spaces within the under-croft car park as illustrated on the attached drawing.

2.3 The vast majority of deliveries to the development will be by small to medium sized vehicles, such as transit vans, with the rare and infrequent need for a larger vehicle such as a 7.5t box van or smaller rigid bodied truck, all of which can be accommodated at the 3 no. drop-off / service spaces within the under-croft car park.

2.4 Deliveries will be pre-booked where possible, and a delivery slot then allocated so as to minimise the potential for multiple vehicles arriving simultaneously and requiring use of the same loading facility. However, the frequency of deliveries anticipated means that multiple overlapping deliveries are very unlikely.

2.5 Whilst deliveries will be managed where possible to ensure that the potential for multiple vehicles arriving/departing at the same time is minimised, the gated service lane to the south of the scheme is able to cater for more than one waiting vehicle simultaneously if required.

2.6 The key issue will be management of refuse collection, and this is addressed herein.

2.7 Waste Management facilities for all residents, and for the retail units are provided in dedicated areas within the scheme design. For ease of reference, this is illustrated in the extract from the Architects Layout Plans included below as ***Figure 2.1*** and ***Figure 2.2***. The facilities provides for full separation and recycling.

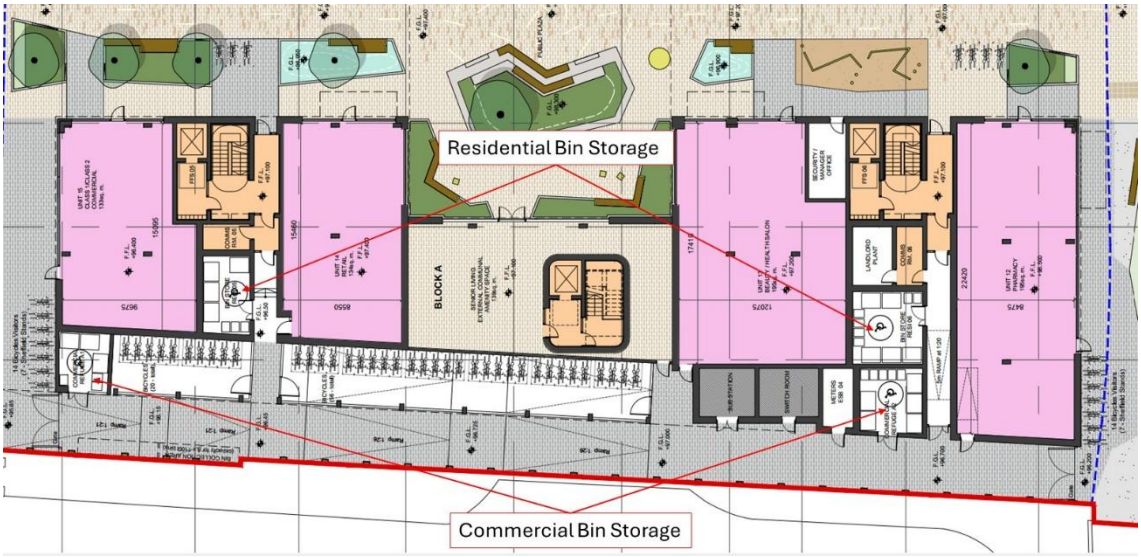

Figure 2.1; - Refuse Management Areas

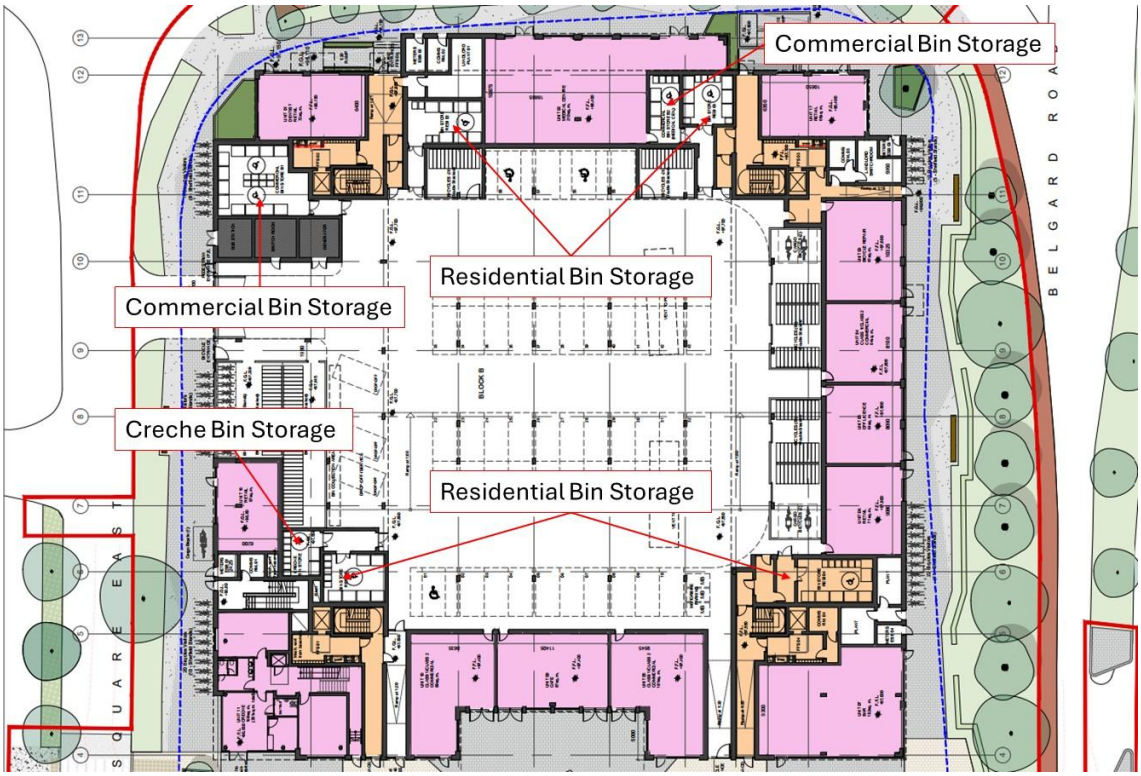

Figure 2.2; - Refuse Management Areas

2.8 In terms of adequacy of the facility, we understand that the quantity of bins has been provided at a rate of 1 No. 1,110L Bin per 15 No. Occupants, consistent with the SDCC Guidelines. We understand that this accords with the design considerations outlined in Section 4.8 & 4.9 of the Department of Housing, Planning & Local Government, Sustainable Urban Housing, design Standards for New Apartments, Guidelines for Planning Authorities (2020).

2.9 No on-street servicing on Belgard Square East or Belgard Road is proposed or envisaged for the development – however, the frequency of deliveries is such that multiple deliveries

are unlikely & there is no anticipated need or requirement for using Belgard Square East or Belgard Road for any waiting vehicles whatsoever.

2.10 South Dublin County Council strategies targets & supports a fundamental shift towards sustainable travel, reducing the dependency on the private car and taking action to make the city more accessible and connected, enhancing quality of life within the City for all. The general objectives include:

- Promoting sustainable transport
- Managing traffic in a way which maximises mobility and safe movement
- Maintaining and Developing/Upgrading Infrastructure

2.11 This SOWMP accords with these strategic aims as demonstrated in the measures proposed at Section 3 below.

3.0 INITIATIVES OF THE PLAN

3.1 The Management Company for the facility will manage the day-to-day operations of the overall development. Within this team, the job description will include goods management to oversee servicing activity and to ensure the smooth running of the Plan (referred to below as 'Goods-in-Manager').

3.2 These staff will therefore be aware of any forthcoming commercial servicing and refuse collection activity, particularly, if/when exceptional activity is planned/expected.

Servicing

3.3 In order to meet the objectives of the SOWMP, the following initiatives are proposed:

- The Goods-In Manager will issue instructions to all residents or commercial tenants who book deliveries & collections setting out the delivery procedures to be adopted by them.
- The frequency of deliveries means that multiple deliveries are unlikely
- Residents and commercial tenants will be required to pre-book Half-hr or 1 hr slots including details of the type of vehicle that will be used to undertake the delivery / collection and the scale/nature of the requirement. For residents, this will apply on days of moving-in and moving-out. The timed slots would allow for the vagaries of Dublin traffic etc and any restrictions applicable at that time.
- Prior to moving in, Residential Accommodation Operators typically issue welcome packs which are distributed electronically to all residents. These packs include details of the site & how it is run, advice on moving in, public transport information, useful local information and usually require confirmation of a timeslot to move in. The preparation of this information enables a swift and largely trouble-free process enabling Operators to welcome residents and direct them to their rooms quickly and efficiently. Moving out mirrors this operation.
- Deliveries and collections will be programmed so as to avoid clashing with waste/recycling collections and will be off-peak to avoid the peak arrival and departure times for commuters.
- Delivery drivers will be encouraged to advise the Goods-In Manager of their impending arrival by telephone in reasonable time before arrival where possible.
- Drivers will be informed that vehicle engines must be switched off whilst goods are being loaded/unloaded (i.e. when their vehicle is stationary).
- Vehicles not associated with delivery of goods will not be permitted to park/wait at the development.

- The Goods-In Manager will ensure that goods are transported directly from the delivery vehicle to the dedicated parcel store. He/she will ensure that goods and/or storage cages are not stored within/in public areas or on any footways so as to keep the areas clear at all times.
- The Goods-In Manager will be responsible for the smooth and efficient operation of the 'Plan'.

Refuse

3.4 The development contains a dedicated self-contained & managed refuse collection areas at Ground Floor Level as illustrated. These area will be accessible by lock/fob or possibly by way of a keypad. The bin storage areas will contain dedicated colour coded bins for recyclables, normal waste, glass and organic waste – all in accordance with best practice.

3.5 The Goods-In Manager will also be designated to oversee the storage and collection of waste. The key objectives will be to:

- Minimise the risk of a potential conflict with users of the development when waste is being deposited, transferred or collected.
- Encourage the effective and environmentally friendly storage and disposal of refuse and recyclable material.
- Reduce the amount of waste produced, and
- Increase the proportion of waste that is recycled.

3.6 The collection of commercial waste, arising from the commercial units, will be agreed with the relevant operator and undertaken in accordance with the Council's requirements. Such refuse collections traditionally take place early in the morning or later in the evening, avoiding clashing with peak network times, as is normal practice. However, the number of small commercial units of this scale generates low volumes of waste.

Access Management

3.7 Vehicular access will be restricted to all but essential activity (with the assistance of signage, active management and CCTV control, as necessary).

3.8 Management staff will provide an active presence on-site, in order to actively discourage any unauthorised parking/waiting activity. In addition, security staff will maintain contact with colleagues who will be able to monitor CCTV footage, in order to assist in the management and control of parking activity.

3.9 Where possible, for residents and commercial tenants, larger vehicles will be discouraged from servicing the site, particularly between the hours of 8am and 6pm.

3.10 The timing of deliveries will avoid peak periods where possible (in particular 08:00-09:00 and 17:00-18:00) and peak commuter arrival & departure times. The Goods-In Manager will timetable deliveries for quieter times, when this is within their control. Timetabling will also reduce the risk that multiple delivery vehicles will arrive at the same time and therefore minimise the chances of congestion occurring as a result of the servicing strategy. Given the intended use, this is not expected to represent an issue of concern.

4.0 MANAGEMENT & MONITORING OF THE PLAN

Overview

4.1 Management, review and monitoring of the SOWMP will be important in ensuring that actions are carried out and remedial measures are taken where necessary. This will be undertaken by the Management Company.

Monitoring and Review

4.2 The SOWMP will have similar timescales to a Mobility Management Plan and be reviewed as required following occupation. Surveys can also be undertaken to coincide with the baseline monitoring survey for the Mobility Management Plan (typically undertaken within six months of occupancy) and annually thereafter.

4.3 Monitoring of the SOWMP will include:

- Survey of the number of vehicle movements throughout the survey days and timing of these.
- Recording of Warning Notices issued to those servicing the development as well as any complaints associated with servicing.
- Identification of any parking, access or loading issues on the site.

4.4 Where the monitoring process highlights that there is under-performance against the aims of the SOWMP, remedial action would be taken in consultation with the Local Authority if required. Following implementation of additional measures, the areas of weakness would be subject to regular review.

5.0 CONCLUSIONS

5.1 This Servicing & Operational Waste Management Plan (SOWMP) describes the proposed strategy to manage the delivery and servicing requirements of the proposed Large Scale Residential development on Belgard Square East, Tallaght, Dublin 24.

5.2 Overall, the SOWMP for the development will ensure the successful operation of delivery and collection activity within the site curtilage on a day-to-day basis. The frequency of deliveries anticipated means that multiple deliveries are unlikely

5.3 The SOWMP will ensure that the likelihood of conflicts with pedestrians and other vehicles will be minimised and that servicing activity will not affect the free flow or environmental condition of the local road network.

5.4 Measures have been proposed to ensure that the delivery and servicing that does take place has a limited impact upon other road users and neighbouring residents and commercial premises. It is evident that a reduction in servicing trips is likely as a result of the development proposals.

5.5 The Applicant is committed to the implementation of this SOWMP and this document will be fully updated on confirmation of the Residential profile and Commercial Leaseholders or end-users.

5.6 With the proposed SOWMP in place, it is considered that there are no significant Operational Traffic Safety or Road Capacity issues associated with Servicing or Waste Management which prevent a positive determination of the application by South Dublin County Council.

APPENDIX P

Outline Construction Traffic Management Plan

consulting engineers

NRB

Outline Construction Traffic Management Plan

For

Proposed Large Scale Residential Development

at

Belgard Square East, Tallaght, Dublin 24.

PLANNING STAGE

4th Floor, 40 Mespil Road, Dublin 4
Tel: +353 1 292 1941, E-mail: info@nrb.ie, Web: www.nrb.ie

Registered in Ireland No. 491679

1.0 INTRODUCTION

This Preliminary Construction Traffic Management Plan includes a description of the proposed construction works and how Traffic will be managed for the duration of the demolition and construction works on site. The methodology set out in this report, follows the methodology as will be set out in the Site Specific Construction Stage Management Plan which will be prepared and submitted when a Contractor is appointed for the works.

When the contractor is appointed to undertake all site clearance, they will prepare a detailed method statement having regard to their own operating procedures, the agreed construction programme, site conditions, and any relevant planning conditions that SDCC may apply in the event of a grant of planning permission.

In addition to the Contractors Construction Stage Management Plan, any works on the public road (e.g. for services connections) will require an application for a Road Opening Licence and will be submitted by the contractor to the Local Authority. Any such application will include a full detailed Construction Traffic Management Plan prepared in accordance with Chapter 8 of the Traffic Signs Manual for pre-approval by the Local Authority. This CTMP Report should be considered Preliminary in these terms.

It should be noted that the issues covered within this document are preliminary in nature and may be amended or added to by the appointed contractor for the works.

2.0 PROJECT DESCRIPTION

The subject proposal will consist of the construction of 199 no. residential apartment units and associated non-residential floorspace in 2 no. mixed-use blocks and ranging in height from 1 No. to 7 No. storeys (with mezzanine level) over basement, with 2,123 sqm of non-residential floor space.

3.0 CONSTRUCTION PROGRAMME & PHASING

It is anticipated that the proposed development will be constructed in one phase with a 20-24 month construction duration. There will also be excavation phases associated with excavating for site services, along with reprofiling spoil on site.

4.0 SERVICE DIVERSIONS & DEMOLITION

There will be waste materials generated from the demolition of the existing boundary walls and railings, as well as from the excavation of the existing asphalt on site as part of the subject proposal.

A ground penetrating radar survey will be carried out to establish the location of any potential services. Any existing piped or cabled underground services will be verified on site and will be made safe within the boundary of the site.

There is some demolition and removal of existing site contents and landscaping, and this work will be carried out in accordance with a programme and construction-stage Health/Safety Plan to be prepared by the successful Demolition contractor.

5.0 SITE ESTABLISHMENT

The site fronts directly onto Belgard Square East, Belgard Road and Old Blessington Road to the north. Construction access to the site will be from Belgard Square East located where is is proposed to provide the pedestrian and cycle link.

The first activity to be carried out at the site will be the establishment of site facilities and security. It is anticipated that site establishment works will take approximately four weeks. The site office and welfare facilities will be confirmed in advance of the commencement of site works and agreed with South Dublin County Council. ***Figure 5.1*** shows the proposed locations of the site compound and staff parking.

All of the sub-contractors as well as the main contractor and project managers will occupy offices within the construction compounds. The site parking for all staff, contractors and visitors will also be located in this area.

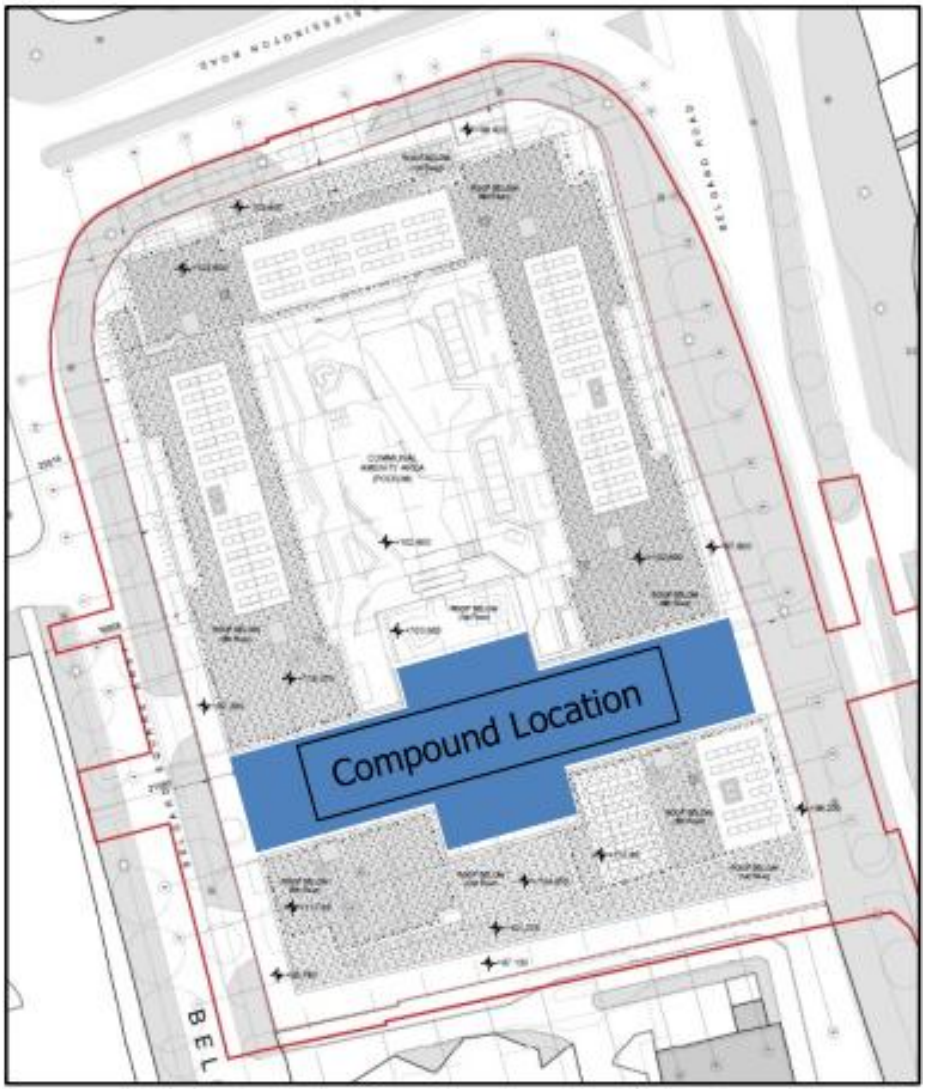

Figure 5.1 –Potential site construction compound locations

The above image shows the proposed site compound located to the middle of the site, which allows easy delivery of construction materials.

6.0 PERIMETER HOARDING

Perimeter hoarding will be provided around the entire site to provide a barrier against unauthorised access from public areas. All areas of construction will be fenced / hoarded off to prevent unauthorized access. This fencing shall remain closed at all times during construction works and closed and locked after construction work hours / break times.

This fencing shall be erected in accordance with good practice and the Construction Regulations 2013. Fencing arrangements shall be reviewed as the life of the project progresses.

Access/Egress to site for site operatives and visitors shall be via biometric gates. Site security fencing/ Hoarding up to a height of 2.4 M will be erected in line with the Construction Regulations 2013 that will clearly separate the work site from the surrounding public. It is not envisaged that the fencing will impinge upon the safe passage of pedestrians during the construction phase.

7.0 HOURS OF OPERATION

The site and building works required to implement the development shall only be carried out between the hours of:

- Mondays to Fridays - 7.00am to 7.00pm
- Saturday - 8.00 a.m. to 2.00pm
- Sundays and Public Holidays - No activity on site.

Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from SDCC. Such approval may be given subject to conditions pertaining to the particular circumstances being set by SDCC.

The construction shift times, will ensure that any construction traffic will have an insignificant impact upon the traditional peak commuter traffic periods as it is envisaged that most construction workers will be at work before 8am in the morning and will leave after 6pm.

8.0 CONTROL OF NOISE AND DUST

The main contractor will obtain the necessary construction noise limits from any associated contract documentation, and will adhere to any limitations imposed by way of normally applied planning condition. However, the noise from any demolition operations will be minimised. Noise levels will comply with BS5228-1; 2009 Code of Practice for Noise & vibration Control on Construction and Open Sites: Vibration; Environmental Protection Agency Act 1992 Sections 106-108, any specific Local Authority requirements and Safety, Health & Welfare at Work (Control of Noise at Work) Regulations 2006 SI 371 (2006).

With specific reference to fears that may arise in terms of rock breaking and associated noise, if rock were to be encountered, the rock can be broken out using what's called "chemical fracturing". This is a process by which holes are drilled in the rock and chemicals inserted which expand and fracture the rock. There is virtually no noise or vibration from the process apart from drilling the rock itself which is not a significant noise nuisance.

The main contractor will ensure that any dust caused by the construction activities will be kept to a minimum as required in accordance with normal and best practice for construction in urban areas. Dust generated from construction operations will be controlled by water spray where required. In order to control the dust on site, the Main Contractor will be required to ensure the following conditions are adhered to:

- Dust suppression equipment shall be used on drilling and cutting machines,
- All loaded vehicles will be adequately covered before entering/leaving the site,
- Use of off-site fabrication to minimise dust generation on site.

9.0 COMMUNICATON

The main contractor will engage with adjoining sites to keep them informed of proposals for site establishment & compound, start dates, timing for vehicular movements associated with the works and an outline programme. Contact details for a senior member of the Site Management will be provided to allow any queries or issues to be promptly addressed in a proactive manner.

10.0 TRAFFIC MANAGEMENT PLAN/CONSTRUCTION TRAFFIC

Site Access

Traffic management will be undertaken for the site works in accordance with the principles outlined below and shall comply at all times with the requirements of:

- Department of Transport Traffic Signs Manual 2010 – Chapter 8 Temporary Traffic Measures and Signs for Roadworks
- Department of Transport Guidance for the Control and Management of Traffic at Road Works (2010)
- Any additional requirements detailed in Design Manual for Urban Roads & Streets (DMURS)

All construction materials (incoming and outgoing) will arrive and depart to/from Belgard Square East. During and demolition / site clearance, and for the duration of construction, all traffic will enter and leave via the Belgard Square East. Advanced warning signs will be placed at sufficient distances to taper off the entry and exit points. Pedestrian marshals will be used as and when required.

Any long duration parking of delivery vehicles will not be permitted on the ajoining roads and in this regard, it is proposed that all deliveries and removals from the site will be off

peak, managed and marshalled to minimise the risk of conflicting with other traffic movements on the local streets.

Unfettered and unobstructed access will be maintained at all times to neighbouring properties adjacent the site, and no vehicle will be left unattended, meaning that they will be moved immediately upon request.

Access to the site will be controlled and a person in a high-visibility jacket will be designated to assist construction vehicles to enter/exit the site at busy times to avoid conflict between pedestrian movements, main road traffic on Belgard Square East, and construction activities.

Approved traffic mitigation measures requested by SDCC will be submitted with the updated CEMP, prior to the commencement of works.

Construction Traffic Routing

The proposed construction vehicle routes for the site will require a traffic management plan to be agreed upon with SDCC and TII prior to site workings beginning. Two-way traffic will be maintained throughout the project.

All construction traffic will be required to use the primary roads in the vicinity of the site.

The route for any HGVs will depend on the location from where concrete & other materials will be sourced and the end destination for surplus demolition and excavation materials not reused on site. The locations of selected concrete batching plants and suitable waste recovery/waste disposal facilities have yet to be determined and will be identified when the contractor is appointed and when more detail on the material to be handled becomes available.

Although none are envisaged at this stage, the routes for any oversized construction vehicles required will be agreed with the Local Authority before commencement of works on site.

Construction Parking

Staff will be encouraged to walk, cycle and use public transport. All of the sub-contractors as well as the main contractor and project managers will occupy offices within the construction compounds. The site parking for all staff, contractors and visitors will also be located in this area.

Vehicle Movement During Construction

Excavated/demolished material will be removed off-site for recovery at an authorised facility in accordance with the waste hierarchy and relevant waste legislation. Transportation of the material will be by licensed hauliers. It is expected that there will be minimal and unnoticeable impact on the local roads.

11.0 MITIGATION MEASURES

Construction vehicle movements would be minimised through:

- Consolidation of delivery loads to/from the site and managing larger deliveries to occur outside peak periods,
- Use of precast/prefabricated materials where possible,
- Adequate storage space on site will be provided as set out above,
- A 'just in time' approach to deliveries to avoid potential conflicts and unnecessary storage & handling.

The Contractor will adhere to best practice mobility management measures for the site staff to encourage access to the site by means other than the private car. This will be considered by the Contractor prior to works commencing on site.

On-Site Accommodation

On site accommodation will consist of:

- Staff welfare facilities
- Adequate materials drop-off and storage area
- The site offices will have integrated welfare facilities including toilet and kitchen facilities for staff.

12.0 PUBLIC ROAD MAINTENANCE

The following measures will be implemented as required to ensure that surroundings are kept clean and tidy:

- It is proposed that a pre and post commencement condition survey and photographic record of the roads and footpaths will be undertaken in consultation between the appointed Contractor and Local Authority,
- A regular programme of site tidying will be established to ensure a safe and orderly site,
- Scaffolding will have debris netting attached to prevent materials and equipment being scattered by the wind,
- Food waste will be strictly controlled on all parts of the site,

- Any spillages on roads & footpaths outside the site will be cleaned regularly and not be allowed to accumulate,
- Wheel-checking and wheel-cleaning facilities will be provided for vehicles exiting the site,
- In the unlikely event of any solid waste being deposited on the public roads or road gullies any such waste will be removed and disposed of immediately.
- In the event of unintentional damage to road markings or road signage, these will be remediated to the satisfaction of the Local Authority.
- 'Site Entrance Ahead' Signage will be provided on the approaches to the site.

Any works on the public road will require an application for a Road Opening Licence submitted by the contractor to the Local Authority which will include a full detailed Traffic Management Plan prepared in accordance with Chapter 8 of the Traffic Signs Manual for approval by the Local Authority.

APPENDIX Q

Stage 1 Road Safety Audit
(& Designer Feedback Form)

Title: **STAGE 1 ROAD SAFETY AUDIT**

For;

Proposed Mixed use Retail/Commercial/ Residential Development, Belgard Square, Tallaght, Dublin 24.

Client: **NRB Consulting Engineers.**

Date: **September 2025**

Report reference: **2828R01**

VERSION: **FINAL (3-11-2025)**

Prepared By:

Bruton Consulting Engineers Ltd

Glaspistol
Clogherhead
Drogheda
Co. Louth.

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CONTENTS SHEET

Contents

1.0 Introduction

This report was prepared in response to a request from Brian Mc Mahon, NRB Consulting Engineers, for a Stage 1 Road Safety Audit of the proposed large mixed use development at Belgard Square in Tallaght, Dublin 24.

The Road Safety Audit Team comprised of;

Team Leader: **Norman Bruton**, BE CEng FIEI, Cert Comp RSA.

TII Auditor Approval no: NB 168446

Team Member: **Owen O'Reilly**, B.SC. Eng Dip Struct. Eng NCEA Civil Dip Civil. Eng CEng MIEI

TII Auditor Approval no. OO1291756

The Road Safety Audit comprised an examination of the drawings and other information provided and a site visit by the Audit Team, together, on the 18th of September 2025.

The weather at the time of the daytime site visit was dry and the road surface was also dry.

This Stage 1 Road Safety Audit has been carried out in accordance with the requirements of TII Publication Number GE-STY-01024, dated May 2025.

The scheme has been examined and this report compiled in respect of the consideration of those matters that have an adverse effect on road safety. It has not been examined or verified for compliance with any other standards or criteria.

The problems identified in this report are considered to require action in order to improve the safety of the scheme for road users.

If any of the recommendations within this safety audit report are not accepted, a written response is required, stating reasons for non-acceptance. Comments made within the report under the heading of Observation are intended to be for information only. Written responses to Observations are not required.

A location map showing where each problem occurs is provided in **Appendix A.**

A list of the documents provided to the Audit Team is provided in **Appendix B.**

The feedback form provided in **Appendix C.**

2.0 Background

It is proposed to construct a large mixed use development in the brownfield site between Belgard Road, Old Blessington Road and Belgard Square East in Tallaght. The site is north of the existing Mc Donalds site.

A vehicular access to the car park is proposed along Belgard Square East south of the Old Blessington Road signalised junction.

The drawings show the scheme with the current surround roads layout and also how it interacts with a future layout with a planned BusConnects scheme.

The site location is shown below.

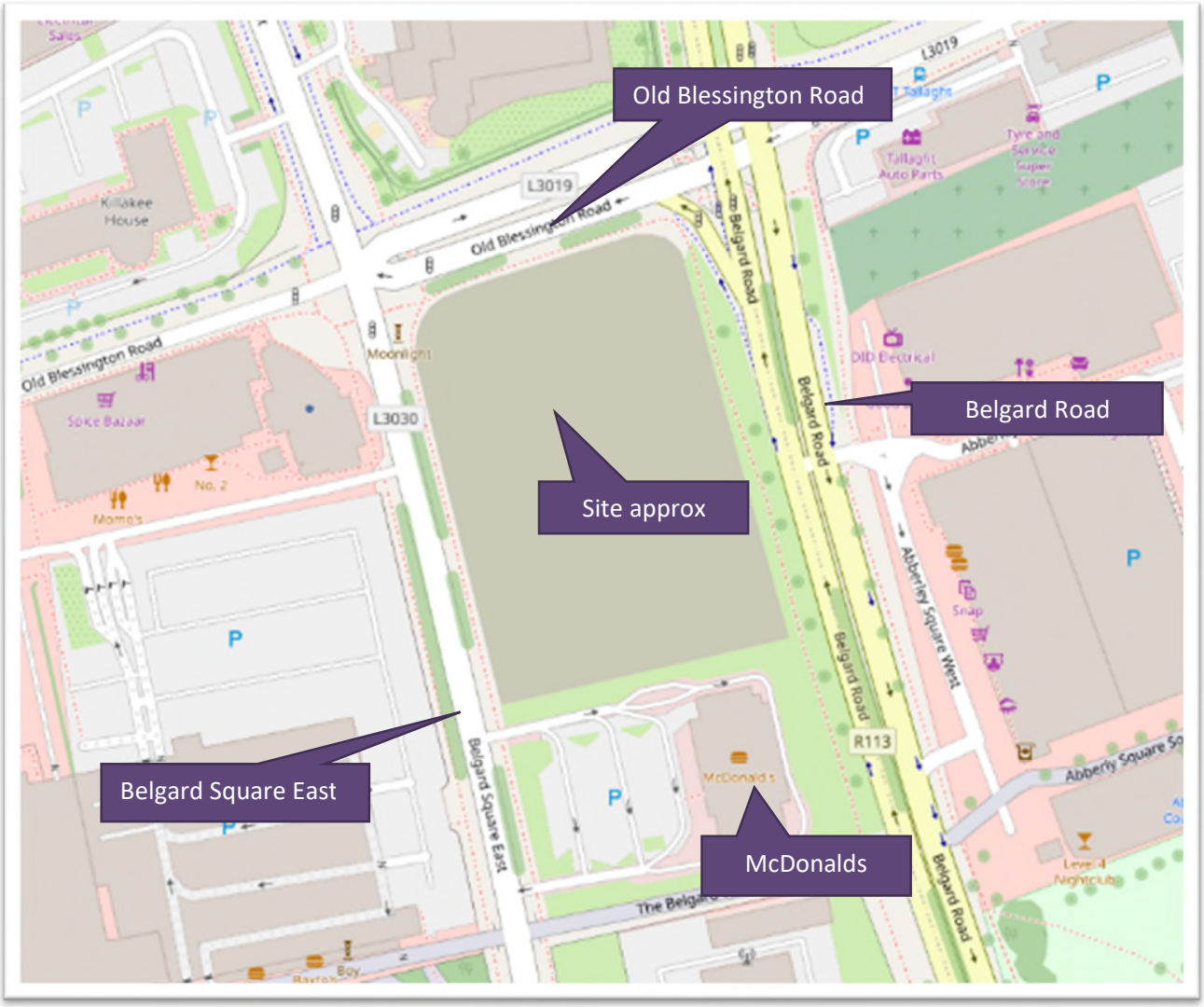


Image courtesy of openstreetmaps.org

3.0 Issues Raised in This Road Safety Audit.

3.1 Problem

LOCATION

Drawing NRB-TA-002, sightlines from the proposed vehicular access.

PROBLEM

During the site visit drivers turning left from Old Blessington Road turned into Belgard Square East at relatively high speed. There is a risk that they could collide with drivers exiting the proposed development, Drivers may not have adequate visibility to such oncoming traffic due to the buildings, street furniture and the angle of approach.

RECOMMENDATION

It is recommended that traffic calming features be provided at the junction to ensure the speed matches the visibility available or that the junction location be modified.

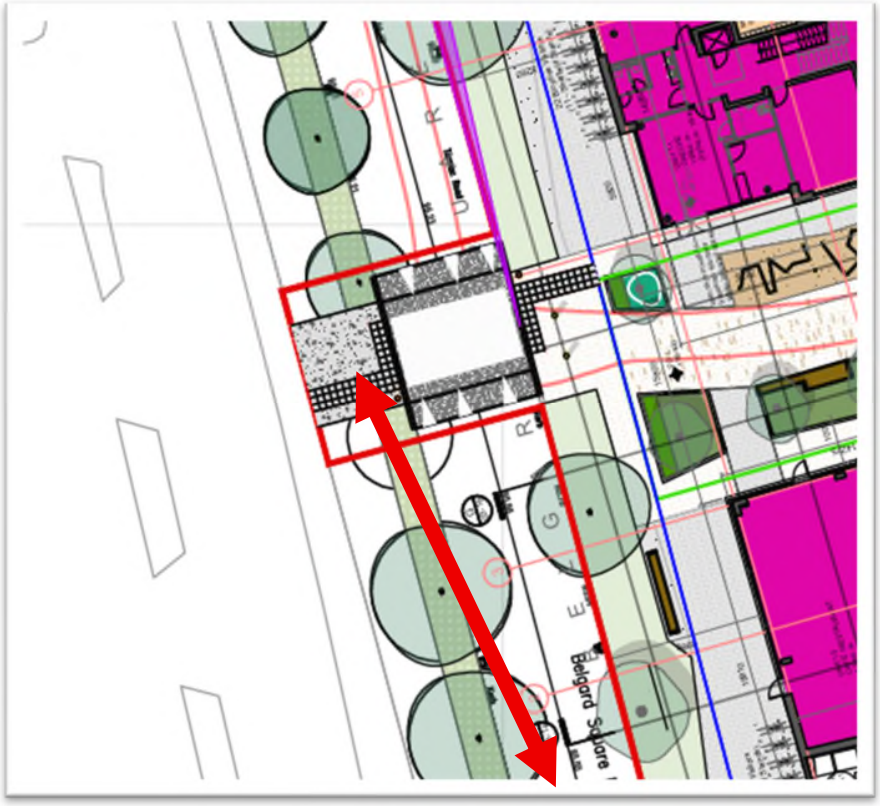
3.2 Problem

LOCATION

Drawing NRB-TA-002

PROBLEM

There are mature trees in the grass verges along Belgard Square East. The cumulative effect of these trees may lead to drivers not being able to see pedestrians that are about to cross at the proposed zebra crossing. This could lead to vehicle-pedestrian collisions.



RECOMMENDATION

It is recommended that adequate inter-visibility be provided between drivers and crossing pedestrians.

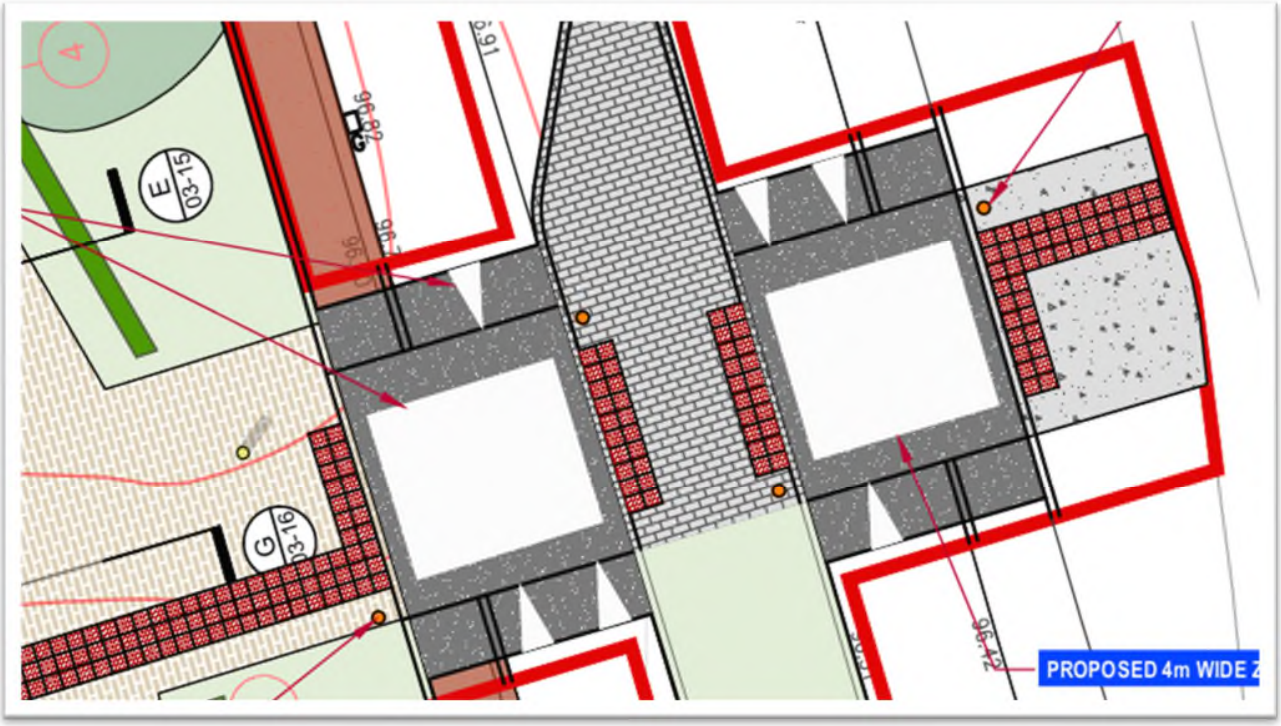
3.3 Problem

LOCATION

Raised Zebra crossings.

PROBLEM

Surface water ponding could occur upstream of the proposed zebra crossings on Belgard Square East and Belgard Road which could lead to loss of traction and loss of control.



RECOMMENDATION

It is recommended that gullies be provided at the base of the tapers on the upstream side of the raised tables.

3.4 Problem

LOCATION

Drawing NRB-Ta-006 Rev C, southern service access.

PROBLEM

There is a risk that the southern service road will be used as a ‘rat-run’ as it has only vehicular gates that would have to be left open for pedestrian and cyclist access. Rat running could lead to collisions with vulnerable road users.

RECOMMENDATION

It is recommended that separate pedestrian and cyclist gates be provided or a bollard system for access for refuse and service vehicles only.

3.5 Problem

LOCATION

Drawing NRB-TA-004 Rev C, Belgard Road right-turning lane.

PROBLEM

The length of the right turning lane into the Apperley Square retail/commercial area is being reduced. There is a risk that long deliver vehicles will protrude into the through lane on Belgard square when waiting to cross the southbound lane and will be struck by undertaking vehicles. In addition, there is a risk that such ling vehicles will overhand the proposed zebra crossing which could lead to collisions with crossing pedestrians.

RECOMMENDATION

Ensure that the right turning lane can accommodate delivery vehicles.

4.0 Observations

4.1 Observation

The yellow box on Belgard Square East may need to cover both lanes.

4.2 Observation

Vehicles exiting the side road opposite the development on Belgard Square East must turn left. It is not clear to the Audit Team why this is and if there is a safety or capacity reason downstream for this.

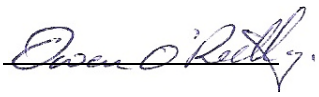
5.0 Audit Statement

We certify that we have examined the site. The examination has been carried out with the sole purpose of identifying any aspects of the design which could be added, removed or modified in order to improve the safety of the scheme.

The problems identified have been noted in this report together with associated safety improvement suggestions which we would recommend should be studied for implementation. The audit has been carried out by the persons named below who have not been involved in any design work on this scheme as a member of the Design Team.

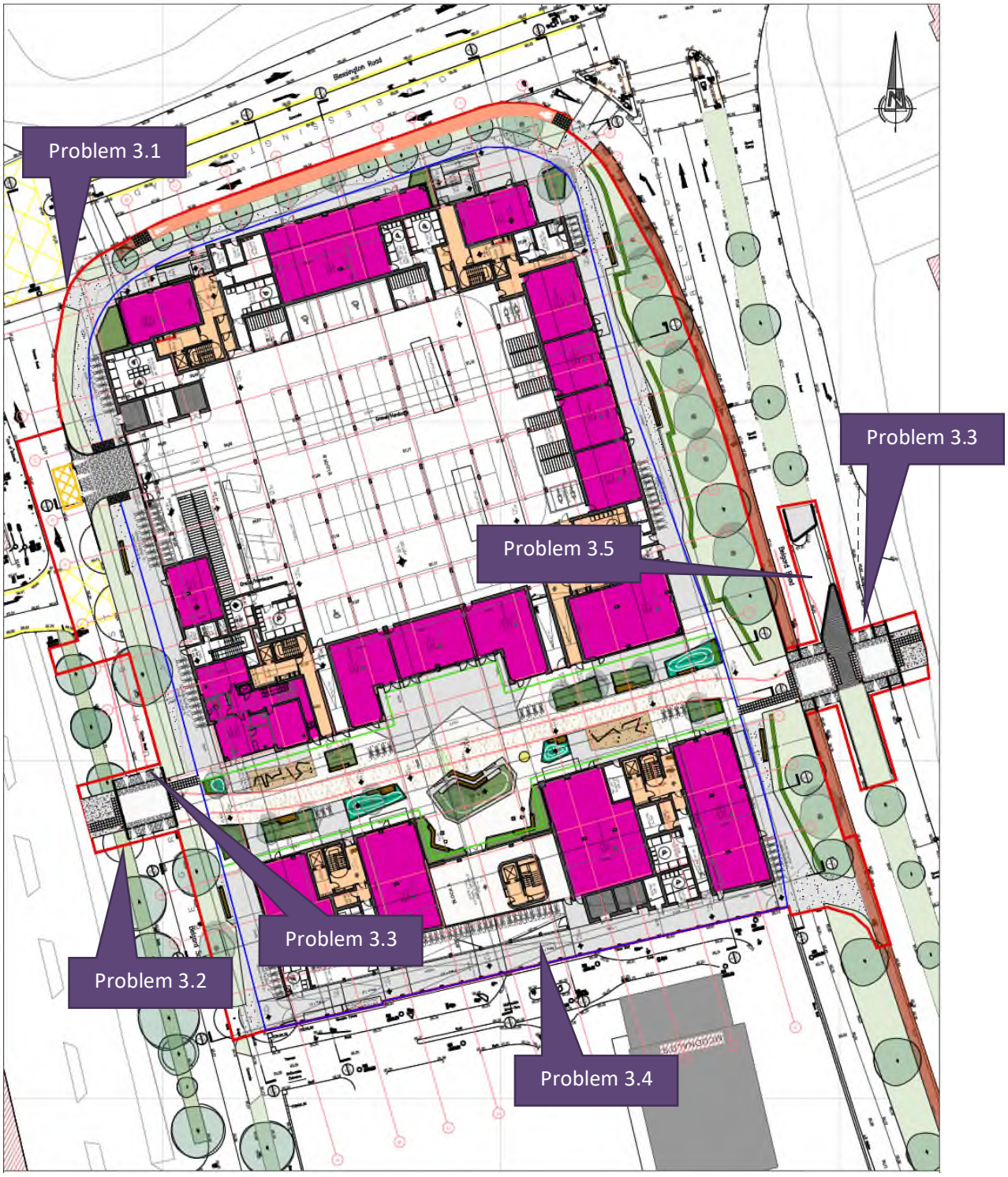
Norman Bruton **Signed:** 

(Audit Team Leader) **Dated: 3-11-2025**

Owen O'Reilly **Signed:** 

(Audit Team Member) **Dated: 3-11-2025**

Appendix A


Problem 3.1
Problem 3.3
Problem 3.5
Problem 3.3
Problem 3.2
Problem 3.4

Appendix B

Information Supplied to the Audit Team

- Drawing NTB-TA-001 Rev C
- Drawing NTB-TA-002 Rev C
- Drawing NTB-TA-003 Rev C
- Drawing NTB-TA-004 Rev C
- Drawing NTB-TA-005 Rev C
- Drawing NTB-TA-006 Rev C
- Drawing NTB-TA-007 Rev C
- Drawing NTB-TA-008 Rev C

Appendix C

Feedback Form

SAFETY AUDIT FORM – FEEDBACK ON AUDIT REPORT

Scheme: Belgard Square East

Stage: 1 Road Safety Audit

Date Audit (Site Visit) Completed: 18-9-2025

Paragraph No. in Safety Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.1	Yes	Yes- the visibility available matches the vehicle speeds at the junction.		
3.2	Yes	Yes- adequate inter-visibility will be provided between drivers and crossing pedestrians.		
3.3	Yes	Yes- gullies will be provided.		
3.4	No	Yes – A pedestrian / cycle route is provided through the main plaza. The service lane will be managed by the site's management team to ensure smooth and efficient operation. Access will be controlled, with staff on hand to allow service vehicles into the yard as required, with access also provided to drivers via code passes or fob access.		Yes
3.5	Yes	Yes- Tracking has shown that the right turn lane can accommodate delivery vehicles.		

Signed…… **Date**…30-10-2025…

Design Team Leader

Signed… …… **Date**…30-10-2025…

Audit Team Leader

PP Signed…… **Date**…30-10-2025…

Developer/Employer

Signed 'pp' by NRB Director with consent/agreement of Employer

APPENDIX R

SDCC Correspondence

Brian McMahon

From: Graham Murphy <gmurphy@sdublincoco.ie>
Sent: Monday 28 July 2025 08:40
To: Brian McMahon
Cc: Aisling Kelly; Paul Burke; NRB Accounts Dept
Subject: RE: Proposed large-scale residential development at Belgard Square East

Hi Brian,

I spoke to the NTA on the proposals for the LRD at Belgard. They are happy to remove the condition that the slip lane needs to be removed. The applicant should supply a layout showing the BusConnects and the LRD works and southern cycle lane link on the same drawing, to ensure no gaps in the works proposed.

Thanks,
Graham

From: Brian McMahon <brian.mcmahon@nrb.ie>
Sent: Friday 18 July 2025 11:30
To: Graham Murphy <gmurphy@sdublincoco.ie>
Cc: Paul Burke <paul.burke@nrb.ie>; NRB Accounts Dept <accounts@nrb.ie>
Subject: RE: Proposed large-scale residential development at Belgard Square East

Hi Graham,

Thanks for taking the call.

If you could provide an update following the meeting with SDCC Planning regarding the junction upgrade and confirm whether the applicant would be eligible for a development contribution offset. Paul Burke who is copied on this email, will advise our client accordingly.

Alternatively, if the proposed left-slip junction upgrade is no longer considered appropriate at this stage in light of BusConnects progress, we are open to agreeing with SDCC and the NTA not to proceed with these works as part of this application.

Regards,

Brian McMahon

Please Note, the NRB office will be shut for 2 weeks from close of business on Friday 18th July until start of business Tuesday 5th August 2025. Emails and phone calls will not be monitored, reviewed or responded to during this time. We will get back to any queries in due course upon our return.

NRB Consulting Engineers Ltd
5th Floor