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	-	-	-		-	-	-	-	-	-	91.8%	25	0	13	39.5	-	-
Great Howard St / Blackstone St / Boundary St	-	-	-		-	-	-	-	-	-	91.8%	25	0	13	39.5	-	-
1/1	Great Howard Street N/B Ahead Left	U	А		2	105	-	720	1957	872	82.5%	-	-	-	8.2	41.0	25.7
1/2+1/3	Great Howard Street N/B Ahead Right	U	ΑB		2	105:14	-	887	2105:1895	848+119	91.8 : 91.8%	-	-	-	13.3	53.9	34.7
2/1	Great Howard Street S/B Ahead Left	U	С		2	105	-	528	1964	876	60.3%	-	-	-	4.5	30.7	15.6
2/2+2/3	Great Howard Street S/B Ahead Right	U	CD		2	105:14	-	569	2105:1902	938+3	60.4 : 60.4%	-	-	-	4.8	30.4	16.7
3/1	Blackstone Street Left Ahead	U	E		2	36	-	46	1867	296	15.6%	-	-	-	0.7	51.1	1.5
3/2	Blackstone Street Right	ο	E		2	36	-	24	1897	68	35.3%	11	0	13	0.7	99.7	1.0
4/1	Blackstone Street Left Ahead	U	F		2	36	-	264	1859	294	89.7%	-	-	-	7.2	97.9	12.7
4/2	Blackstone Street Right	ο	F		2	36	-	14	1935	225	6.2%	14	0	0	0.2	54.1	0.5
5/2	Great Howard Street N/B Exit	U	-		-	-	-	0	2080	2080	0.0%	-	-	-	0.0	0.0	0.0
6/2	Great Howard Street S/B Exit	U	-		-	-	-	0	2080	2080	0.0%	-	-	-	0.0	0.0	0.0
C1 - Great Howard	St / Blackstone St /	Boundary	y St	PRC for PRC	Signalled La Over All Lan	anes (%): es (%):	-2.0 -2.0	Total	Delay for Signa Total Delay Ove	lled Lanes (po r All Lanes(po	uHr): uHr):	39.50 39.50	Cycle Time (s): 24	40			

Basic Results Summary Basic Results Summary

User and Project Details

Oser and ridject D	
Project:	
Title:	
Location:	
Additional detail:	
File name:	2219 Walter Street_MM.lsg3x
Author:	
Company:	
Address:	





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	-	-	-		-	-	-	-	-	-	73.6%	0	0	0	18.4	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	73.6%	0	0	0	18.4	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	40	-	531	1884	858	61.9%	-	-	-	3.5	24.0	10.8
1/2	Great Howard Street (N/B) Ahead	U	С		1	40	-	585	2080	948	61.7%	-	-	-	3.8	23.5	11.9
2/1	Walter Street Left Right	U	D		1	8	-	111	1587	159	69.9%	-	-	-	2.3	75.3	3.8
3/1	Great Howard Street (S/B) Ahead	U	A		1	55	-	868	1940	1207	71.9%	-	-	-	4.1	16.9	16.0
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	A B		1	55:7	-	961	2080:1689	1279+27	73.6 : 73.6%	-	-	-	4.7	17.4	17.8
		(C1	PRC P	for Signalle RC Over All	d Lanes (% Lanes (%):): 22.3 22.3	To	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	18.42 18.42	Cycle Time (s):	90			

Basic Results Summary Scenario 4: '2023 Base + Event AM' (FG3: '2023 B + E + L. W. + C. D. AM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	73.7%	0	0	0	19.0	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	73.7%	0	0	0	19.0	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	40	-	538	1867	851	63.3%	-	-	-	3.7	24.5	11.0
1/2	Great Howard Street (N/B) Ahead	U	с		1	40	-	620	2080	948	65.4%	-	-	-	4.2	24.5	12.8
2/1	Walter Street Left Right	U	D		1	8	-	112	1588	159	70.5%	-	-	-	2.4	75.9	3.8
3/1	Great Howard Street (S/B) Ahead	U	A		1	55	-	868	1940	1207	71.9%	-	-	-	4.1	16.9	16.0
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	ΑB		1	55:7	-	962	2080:1689	1279+27	73.7 : 73.7%	-	-	-	4.7	17.5	17.8
			C1	PRC P	for Signalle RC Over All	d Lanes (% Lanes (%):): 22.2 22.2	Т	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	18.97 18.97	Cycle Time (s):	90			

Basic Results Summary Scenario 5: '2023 Base + No Event AM' (FG4: '2023 B + NoE + L.W. + C. D. AM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	73.7%	0	0	0	18.6	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	73.7%	0	0	0	18.6	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	40	-	525	1880	856	61.3%	-	-	-	3.5	23.9	10.6
1/2	Great Howard Street (N/B) Ahead	U	С		1	40	-	599	2080	948	63.2%	-	-	-	4.0	23.9	12.2
2/1	Walter Street Left Right	U	D		1	8	-	112	1588	159	70.5%	-	-	-	2.4	75.9	3.8
3/1	Great Howard Street (S/B) Ahead	U	A		1	55	-	868	1940	1207	71.9%	-	-	-	4.1	16.9	16.0
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	A B		1	55:7	-	962	2080:1689	1279+27	73.7 : 73.7%	-	-	-	4.7	17.5	17.8
		(C1	PRC P	for Signalle RC Over All	d Lanes (% Lanes (%):): 22.2 22.2	Тс	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): s(pcuHr):	18.56 18.56	Cycle Time (s):	90			

Basic Results Summary Scenario 6: '2023 Base PM' (FG12: '2023 B + L.W. + C.D. PM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	83.1%	0	0	0	19.9	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	83.1%	0	0	0	19.9	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	41	-	733	1893	883	83.0%	-	-	-	6.6	32.5	18.2
1/2	Great Howard Street (N/B) Ahead	U	с		1	41	-	807	2080	971	83.1%	-	-	-	7.1	31.6	19.9
2/1	Walter Street Left Right	U	D		1	7	-	110	1657	147	74.7%	-	-	-	2.6	85.0	4.0
3/1	Great Howard Street (S/B) Ahead	U	A		1	56	-	536	1940	1229	43.6%	-	-	-	1.6	11.0	7.1
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	ΑB		1	56:7	-	611	2080:1689	1289+44	45.9 : 45.9%	-	-	-	2.0	11.9	8.0
			C1	PRC	for Signalle RC Over All	d Lanes (% Lanes (%):): 8.3 8.3	Т	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	19.95 19.95	Cycle Time (s):	90			

Basic Results Summary Scenario 7: '2023 Base + Event. PM' (FG5: '2023 B + E + L.W. + C.D. PM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	83.4%	0	0	0	20.7	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	83.4%	0	0	0	20.7	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	41	-	736	1891	882	83.4%	-	-	-	6.7	32.9	18.4
1/2	Great Howard Street (N/B) Ahead	U	С		1	41	-	810	2080	971	83.4%	-	-	-	7.2	31.8	20.0
2/1	Walter Street Left Right	U	D		1	7	-	118	1659	147	80.0%	-	-	-	3.1	94.7	4.7
3/1	Great Howard Street (S/B) Ahead	U	A		1	56	-	540	1940	1229	44.0%	-	-	-	1.6	11.0	7.1
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	A B		1	56:7	-	615	2080:1689	1289+43	46.2 : 46.2%	-	-	-	2.0	11.9	8.0
			C1	PRC	for Signalle RC Over All	d Lanes (% Lanes (%):): 7.9 7.9	Т	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	20.67 20.67	Cycle Time (s):	90			

Basic Results Summary Scenario 8: '2023 Base + No Event PM' (FG6: '2023 B + NoE + L.W. + C. D. PM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	83.6%	0	0	0	20.5	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	83.6%	0	0	0	20.5	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	41	-	736	1891	882	83.4%	-	-	-	6.7	32.9	18.4
1/2	Great Howard Street (N/B) Ahead	U	с		1	41	-	811	2080	971	83.6%	-	-	-	7.2	31.9	20.0
2/1	Walter Street Left Right	U	D		1	7	-	116	1659	147	78.7%	-	-	-	3.0	91.9	4.5
3/1	Great Howard Street (S/B) Ahead	U	A		1	56	-	538	1940	1229	43.8%	-	-	-	1.6	11.0	7.1
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	A B		1	56:7	-	615	2080:1689	1289+43	46.2 : 46.2%	-	-	-	2.0	11.9	8.0
		PRC P	for Signalle RC Over All	ed Lanes (% I Lanes (%):): 7.7 7.7	, т.	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): s(pcuHr):	20.55 20.55	Cycle Time (s):	90					

Basic Results Summary Scenario 9: '2028 Base AM' (FG13: '2028 B + L.W. + C.D. AM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	80.6%	0	0	0	21.8	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	80.6%	0	0	0	21.8	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	40	-	560	1886	859	65.2%	-	-	-	3.9	25.0	11.7
1/2	Great Howard Street (N/B) Ahead	U	С		1	40	-	617	2080	948	65.1%	-	-	-	4.2	24.4	12.8
2/1	Walter Street Left Right	U	D		1	8	-	117	1587	159	73.7%	-	-	-	2.6	80.0	4.1
3/1	Great Howard Street (S/B) Ahead	U	A		1	55	-	956	1940	1207	79.2%	-	-	-	5.2	19.7	19.7
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	ΑB		1	55:7	-	1052	2080:1689	1280+26	80.6 : 80.6%	-	-	-	5.9	20.2	21.4
			C1	PRC	for Signalle RC Over All	d Lanes (% Lanes (%):): 11.7 11.7	T	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	21.81 21.81	Cycle Time (s):	90			

Basic Results Summary Scenario 10: '2028 Base + Event AM' (FG7: '2028 B + E + L.W. + C.D. AM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	80.7%	0	0	0	22.4	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	80.7%	0	0	0	22.4	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	40	-	577	1871	852	67.7%	-	-	-	4.1	25.8	12.3
1/2	Great Howard Street (N/B) Ahead	U	С		1	40	-	642	2080	948	67.8%	-	-	-	4.5	25.1	13.5
2/1	Walter Street Left Right	U	D		1	8	-	118	1588	159	74.3%	-	-	-	2.6	80.8	4.2
3/1	Great Howard Street (S/B) Ahead	U	A		1	55	-	956	1940	1207	79.2%	-	-	-	5.2	19.7	19.7
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	ΑB		1	55:7	-	1053	2080:1689	1280+26	80.7 : 80.7%	-	-	-	5.9	20.3	21.4
			C1	PRC	for Signalle RC Over All	d Lanes (% Lanes (%):): 11.6 11.6	Т	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	22.43 22.43	Cycle Time (s):	90			

Basic Results Summary Scenario 11: '2028 Base + No Event AM' (FG8: '2028 B + NoE + L.W. + C.D. AM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	80.7%	0	0	0	22.0	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	80.7%	0	0	0	22.0	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	40	-	562	1883	858	65.5%	-	-	-	3.9	25.1	11.7
1/2	Great Howard Street (N/B) Ahead	U	С		1	40	-	623	2080	948	65.7%	-	-	-	4.2	24.6	12.9
2/1	Walter Street Left Right	U	D		1	8	-	118	1588	159	74.3%	-	-	-	2.6	80.8	4.2
3/1	Great Howard Street (S/B) Ahead	U	A		1	55	-	956	1940	1207	79.2%	-	-	-	5.2	19.7	19.7
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	A B		1	55:7	-	1053	2080:1689	1280+26	80.7 : 80.7%	-	-	-	5.9	20.3	21.4
C1 PRC for Signalled Lanes (%): 1 PRC Over All Lanes (%): 1									otal Delay for Sig Total Delay C	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	21.97 21.97	Cycle Time (s):	90			

Basic Results Summary Scenario 12: '2028 Base PM' (FG14: '2028 B + L.W. + C.D. PM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	88.5%	0	0	0	24.0	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	88.5%	0	0	0	24.0	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	с		1	41	-	781	1896	885	88.3%	-	-	-	8.2	38.0	21.1
1/2	Great Howard Street (N/B) Ahead	U	С		1	41	-	859	2080	971	88.5%	-	-	-	8.8	36.9	22.9
2/1	Walter Street Left Right	U	D		1	7	-	116	1656	147	78.8%	-	-	-	3.0	92.3	4.5
3/1	Great Howard Street (S/B) Ahead	U	A		1	56	-	572	1940	1229	46.6%	-	-	-	1.8	11.3	7.7
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	A B		1	56:7	-	650	2080:1689	1291+41	48.8 : 48.8%	-	-	-	2.2	12.2	8.7
			C1	PRC	for Signalle RC Over All	d Lanes (% Lanes (%):): 1.7 1.7	T.	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	24.04 24.04	Cycle Time (s):	90			

Basic Results Summary Scenario 13: '2028 Base + Event PM' (FG9: '2028 B + E + L.W. + C.D. PM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	88.8%	0	0	0	25.0	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	88.8%	0	0	0	25.0	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	41	-	784	1894	884	88.7%	-	-	-	8.4	38.6	21.3
1/2	Great Howard Street (N/B) Ahead	U	С		1	41	-	862	2080	971	88.8%	-	-	-	8.9	37.4	23.1
2/1	Walter Street Left Right	U	D		1	7	-	124	1658	147	84.1%	-	-	-	3.6	105.1	5.3
3/1	Great Howard Street (S/B) Ahead	U	A		1	56	-	576	1940	1229	46.9%	-	-	-	1.8	11.4	7.8
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	ΑB		1	56:7	-	654	2080:1689	1291+41	49.1 : 49.1%	-	-	-	2.2	12.2	8.8
			C1	PRC P	for Signalle RC Over All	d Lanes (% Lanes (%):): 1.3 1.3	T	otal Delay for Sig Total Delay (gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	25.02 25.02	Cycle Time (s):	90			

Basic Results Summary Scenario 14: '2028 Base + No Event PM' (FG10: '2028 B + NoE + L.W. + C.D. PM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	88.9%	0	0	0	24.9	-	-
Unnamed Junction	-	-	-		-	-	-	-	-	-	88.9%	0	0	0	24.9	-	-
1/1	Great Howard Street (N/B) Ahead Left	U	С		1	41	-	785	1894	884	88.8%	-	-	-	8.5	38.8	21.4
1/2	Great Howard Street (N/B) Ahead	U	С		1	41	-	863	2080	971	88.9%	-	-	-	9.0	37.5	23.4
2/1	Walter Street Left Right	U	D		1	7	-	122	1658	147	82.8%	-	-	-	3.4	101.3	5.0
3/1	Great Howard Street (S/B) Ahead	U	A		1	56	-	576	1940	1229	46.9%	-	-	-	1.8	11.4	7.8
3/2+3/3	Great Howard Street (S/B) Ahead Right	U	A B		1	56:7	-	652	2080:1689	1291+41	49.0 : 49.0%	-	-	-	2.2	12.2	8.7
C1 PRC for Signalled Lanes (%): 1.2 Total Delay for Signalled Lanes (pcuHr): PRC Over All Lanes (%): 1.2 Total Delay Over All Lanes (pcuHr):											24.92 24.92	Cycle Time (s):	90				

Basic Results Summary Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Boundary Street - Derby Road_MM.lsg3x
Author:	
Company:	
Address:	

Scenario 3: '2023 Base AM' (FG11: '2023 B + L. W. + C. D. AM', Plan 1: 'Single Cycle Plan 1')



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	-	-	-		-	-	-	-	-	-	72.4%	0	0	0	14.4	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	72.4%	0	0	0	14.4	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	499	1965	1228	40.6%	-	-	-	1.9	13.8	8.7
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	499	2105	1316	37.9%	-	-	-	1.8	13.3	8.3
1/3	Great Howard Street N/B Right	U	D		1	7	-	11	1895	126	8.7%	-	-	-	0.2	68.3	0.4
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	886	1958	1224	72.4%	-	-	-	5.1	20.7	21.5
2/2	Derby Road S/B Ahead	U	В		1	74	-	885	2105	1316	67.3%	-	-	-	4.6	18.7	20.0
2/3	Derby Road S/B Right	U	A		1	7	-	0	2080	139	0.0%	-	-	-	0.0	0.0	0.0
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	0	1915	128	0.0%	-	-	-	0.0	0.0	0.0
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	121	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	С		1	7	-	10	1752	117	8.6%	-	-	-	0.2	69.6	0.4
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	132	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	499	2080	2080	24.0%	-	-	-	0.2	1.1	3.7
6/2	Great Howard Street S/B Exit	U	-		-	-	-	890	2080	2080	42.8%	-	-	-	0.4	1.6	14.9
C1 - Great Howa	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	24.3 24.3	Tot	al Delay for Si Total Delay	ignalled Lanes Over All Lanes	(pcuHr): s(pcuHr):	13.85 14.40	Cycle Time (s):	120						

Basic Results Summary

Basic Results Summary Scenario 4: '2023 Base + Event AM' (FG3: '2023 B + E + L. W. + C. D. AM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	72.9%	0	0	0	15.1	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	72.9%	0	0	0	15.1	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	500	1965	1228	40.7%	-	-	-	1.9	13.8	8.7
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	499	2105	1316	37.9%	-	-	-	1.8	13.3	8.3
1/3	Great Howard Street N/B Right	U	D		1	7	-	11	1895	126	8.7%	-	-	-	0.2	68.3	0.4
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	892	1958	1224	72.9%	-	-	-	5.2	20.9	21.7
2/2	Derby Road S/B Ahead	U	В		1	74	-	892	2105	1316	67.8%	-	-	-	4.7	18.9	20.4
2/3	Derby Road S/B Right	U	A		1	7	-	25	1902	127	19.7%	-	-	-	0.5	70.7	0.9
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	2	1730	115	1.7%	-	-	-	0.0	68.6	0.1
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	129	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	10	1752	117	8.6%	-	-	-	0.2	69.6	0.4
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	138	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	500	2080	2080	24.0%	-	-	-	0.2	1.1	3.7
6/2	Great Howard Street S/B Exit	U	-		-	-	-	897	2080	2080	43.1%	-	-	-	0.4	1.6	15.4
C1 - Great Howa	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	23.5 23.5	Tota	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	14.53 15.09	Cycle Time (s):	120						

Basic Results Summary

Basic Results Summary Scenario 5: '2023 Base + No Event AM' (FG4: '2023 B + NoE + L.W. + C. D. AM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	72.5%	0	0	0	14.5	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	72.5%	0	0	0	14.5	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	500	1965	1228	40.7%	-	-	-	1.9	13.8	8.7
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	499	2105	1316	37.9%	-	-	-	1.8	13.3	8.3
1/3	Great Howard Street N/B Right	U	D		1	7	-	11	1895	126	8.7%	-	-	-	0.2	68.3	0.4
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	887	1958	1224	72.5%	-	-	-	5.1	20.7	21.5
2/2	Derby Road S/B Ahead	U	В		1	74	-	886	2105	1316	67.3%	-	-	-	4.6	18.7	20.0
2/3	Derby Road S/B Right	U	А		1	7	-	5	1902	127	3.9%	-	-	-	0.1	67.5	0.2
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	1	1730	115	0.9%	-	-	-	0.0	68.5	0.0
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	121	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	С		1	7	-	10	1752	117	8.6%	-	-	-	0.2	69.6	0.4
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	131	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	499	2080	2080	24.0%	-	-	-	0.2	1.1	3.7
6/2	Great Howard Street S/B Exit	U	-		-	-	-	891	2080	2080	42.8%	-	-	-	0.4	1.6	14.9
C1 - Great Howa	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	24.2 24.2	Tot	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): s(pcuHr):	13.99 14.54	Cycle Time (s):	120						

Basic Results Summary

Basic Results Summary Scenario 6: '2023 Base PM' (FG12: '2023 B + L.W. + C.D. PM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram


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	-	-	-		-	-	-	-	-	-	56.3%	0	0	0	11.2	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	56.3%	0	0	0	11.2	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	692	1965	1228	56.3%	-	-	-	3.1	16.4	13.9
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	692	2105	1316	52.6%	-	-	-	3.0	15.5	13.4
1/3	Great Howard Street N/B Right	U	D		1	7	-	14	1895	126	11.1%	-	-	-	0.3	68.7	0.5
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	498	1964	1228	40.6%	-	-	-	1.9	13.8	8.6
2/2	Derby Road S/B Ahead	U	В		1	74	-	497	2105	1316	37.8%	-	-	-	1.8	13.2	8.3
2/3	Derby Road S/B Right	U	A		1	7	-	0	2080	139	0.0%	-	-	-	0.0	0.0	0.0
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	0	1915	128	0.0%	-	-	-	0.0	0.0	0.0
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	94	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	33	1752	117	28.3%	-	-	-	0.7	74.7	1.2
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	132	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	692	2080	2080	33.3%	-	-	-	0.3	1.3	8.4
6/2	Great Howard Street S/B Exit	U	-		-	-	-	513	2080	2080	24.7%	-	-	-	0.2	1.2	3.6
C1 - Great Howa	ard St / Blackstone S	St / Bound	lary St	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	59.7 59.7	Tota	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	10.80 11.22	Cycle Time (s):	120			

Basic Results Summary Scenario 7: '2023 Base + Event PM' (FG5: '2023 B + E + L.W. + C.D. PM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	56.6%	0	0	0	11.6	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	56.6%	0	0	0	11.6	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	695	1965	1228	56.6%	-	-	-	3.2	16.4	14.0
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	695	2105	1316	52.8%	-	-	-	3.0	15.5	13.5
1/3	Great Howard Street N/B Right	U	D		1	7	-	14	1895	126	11.1%	-	-	-	0.3	68.7	0.5
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	499	1964	1228	40.7%	-	-	-	1.9	13.8	8.7
2/2	Derby Road S/B Ahead	U	В		1	74	-	499	2105	1316	37.9%	-	-	-	1.8	13.3	8.3
2/3	Derby Road S/B Right	U	А		1	7	-	5	1902	127	3.9%	-	-	-	0.1	67.5	0.2
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	11	1730	115	9.5%	-	-	-	0.2	70.0	0.4
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	94	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	С		1	7	-	33	1752	117	28.3%	-	-	-	0.7	74.7	1.2
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	120	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	700	2080	2080	33.7%	-	-	-	0.3	1.3	8.4
6/2	Great Howard Street S/B Exit	U	-		-	-	-	515	2080	2080	24.8%	-	-	-	0.2	1.2	3.7
C1 - Great Howa	ard St / Blackstone S	St / Bound	lary St	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	59.0 59.0	Tota	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	11.17 11.59	Cycle Time (s):	120			

Basic Results Summary Scenario 8: '2023 Base + No Event PM' (FG6: '2023 B + NoE + L.W. + C. D. PM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	56.5%	0	0	0	11.5	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	56.5%	0	0	0	11.5	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	694	1965	1228	56.5%	-	-	-	3.2	16.4	13.9
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	694	2105	1316	52.8%	-	-	-	3.0	15.5	13.5
1/3	Great Howard Street N/B Right	U	D		1	7	-	14	1895	126	11.1%	-	-	-	0.3	68.7	0.5
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	499	1964	1228	40.7%	-	-	-	1.9	13.8	8.7
2/2	Derby Road S/B Ahead	U	В		1	74	-	499	2105	1316	37.9%	-	-	-	1.8	13.3	8.3
2/3	Derby Road S/B Right	U	A		1	7	-	4	1902	127	3.2%	-	-	-	0.1	67.4	0.1
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	7	1730	115	6.1%	-	-	-	0.1	69.3	0.3
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	94	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	33	1752	117	28.3%	-	-	-	0.7	74.7	1.2
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	124	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	697	2080	2080	33.5%	-	-	-	0.3	1.3	8.4
6/2	Great Howard Street S/B Exit	U	-		-	-	-	515	2080	2080	24.8%	-	-	-	0.2	1.2	3.7
C1 - Great Howa	ard St / Blackstone S	St / Bound	lary St	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	59.3 59.3	Tota	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	11.06 11.48	Cycle Time (s):	120			

Basic Results Summary Scenario 9: '2028 Base AM' (FG13: '2028 B + L.W. + C.D. AM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	79.6%	0	0	0	17.2	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	79.6%	0	0	0	17.2	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	526	1965	1228	42.8%	-	-	-	2.1	14.1	9.3
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	525	2105	1316	39.9%	-	-	-	2.0	13.5	8.9
1/3	Great Howard Street N/B Right	U	D		1	7	-	12	1895	126	9.5%	-	-	-	0.2	68.5	0.4
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	974	1958	1224	79.6%	-	-	-	6.5	23.9	26.0
2/2	Derby Road S/B Ahead	U	В		1	74	-	974	2105	1316	74.0%	-	-	-	5.7	20.9	23.9
2/3	Derby Road S/B Right	U	A		1	7	-	0	2080	139	0.0%	-	-	-	0.0	0.0	0.0
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	0	1915	128	0.0%	-	-	-	0.0	0.0	0.0
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	120	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	11	1752	117	9.4%	-	-	-	0.2	69.7	0.4
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	132	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	525	2080	2080	25.2%	-	-	-	0.2	1.2	4.2
6/2	Great Howard Street S/B Exit	U	-		-	-	-	979	2080	2080	47.1%	-	-	-	0.5	1.7	19.0
C1 - Great Howa	ard St / Blackstone S	St / Bound	lary St	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	13.1 13.1	Tota	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	16.60 17.24	Cycle Time (s):	120			

Basic Results Summary Scenario 10: '2028 Base + Event AM' (FG7: '2028 B + E + L.W. + C.D. AM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	80.2%	0	0	0	18.0	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	80.2%	0	0	0	18.0	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	526	1965	1228	42.8%	-	-	-	2.1	14.1	9.3
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	526	2105	1316	40.0%	-	-	-	2.0	13.5	9.0
1/3	Great Howard Street N/B Right	U	D		1	7	-	12	1895	126	9.5%	-	-	-	0.2	68.5	0.4
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	981	1958	1224	80.2%	-	-	-	6.6	24.2	26.5
2/2	Derby Road S/B Ahead	U	В		1	74	-	980	2105	1316	74.5%	-	-	-	5.7	21.1	24.3
2/3	Derby Road S/B Right	U	A		1	7	-	25	1902	127	19.7%	-	-	-	0.5	70.7	0.9
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	2	1730	115	1.7%	-	-	-	0.0	68.6	0.1
3/2	Boundary Street EB Right	ο	F		1	7	-	0	2055	120	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	11	1752	117	9.4%	-	-	-	0.2	69.7	0.4
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	130	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	527	2080	2080	25.3%	-	-	-	0.2	1.2	4.3
6/2	Great Howard Street S/B Exit	U	-		-	-	-	985	2080	2080	47.4%	-	-	-	0.5	1.7	19.0
C1 - Great Howa	ard St / Blackstone S	St / Bound	lary St	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	12.3 12.3	Tot	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): s(pcuHr):	17.35 17.99	Cycle Time (s):	120			

Basic Results Summary Scenario 11: '2028 Base + No Event AM' (FG8: '2028 B + NoE + L.W. + C.D. AM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	79.7%	0	0	0	17.4	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	79.7%	0	0	0	17.4	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	526	1965	1228	42.8%	-	-	-	2.1	14.1	9.3
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	526	2105	1316	40.0%	-	-	-	2.0	13.5	9.0
1/3	Great Howard Street N/B Right	U	D		1	7	-	12	1895	126	9.5%	-	-	-	0.2	68.5	0.4
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	975	1958	1224	79.7%	-	-	-	6.5	23.9	26.0
2/2	Derby Road S/B Ahead	U	В		1	74	-	975	2105	1316	74.1%	-	-	-	5.7	21.0	23.9
2/3	Derby Road S/B Right	U	A		1	7	-	5	1902	127	3.9%	-	-	-	0.1	67.5	0.2
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	1	1730	115	0.9%	-	-	-	0.0	68.5	0.0
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	120	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	11	1752	117	9.4%	-	-	-	0.2	69.7	0.4
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	131	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	526	2080	2080	25.3%	-	-	-	0.2	1.2	4.2
6/2	Great Howard Street S/B Exit	U	-		-	-	-	980	2080	2080	47.1%	-	-	-	0.5	1.7	19.0
C1 - Great Howa	ard St / Blackstone S	St / Bound	lary St	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	13.0 13.0	Tot	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	16.75 17.39	Cycle Time (s):	120			

Basic Results Summary Scenario 12: '2028 Base PM' (FG14: '2028 B + L.W. + C.D. PM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	55.0%	0	0	0	11.3	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	55.0%	0	0	0	11.3	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	676	1965	1228	55.0%	-	-	-	3.0	16.1	13.4
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	676	2105	1316	51.4%	-	-	-	2.9	15.2	12.9
1/3	Great Howard Street N/B Right	U	D		1	7	-	13	1895	126	10.3%	-	-	-	0.2	68.6	0.5
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	532	1964	1228	43.3%	-	-	-	2.1	14.2	9.4
2/2	Derby Road S/B Ahead	U	В		1	74	-	532	2105	1316	40.4%	-	-	-	2.0	13.6	9.2
2/3	Derby Road S/B Right	U	A		1	7	-	0	2080	139	0.0%	-	-	-	0.0	0.0	0.0
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	0	1915	128	0.0%	-	-	-	0.0	0.0	0.0
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	94	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	32	1752	117	27.4%	-	-	-	0.7	74.4	1.2
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	132	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	676	2080	2080	32.5%	-	-	-	0.2	1.3	7.8
6/2	Great Howard Street S/B Exit	U	-		-	-	-	548	2080	2080	26.3%	-	-	-	0.2	1.2	4.3
C1 - Great Howa	ard St / Blackstone S	St / Bound	lary St	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	63.5 63.5	Tot	al Delay for Si Total Delay	ignalled Lanes Over All Lanes	(pcuHr): s(pcuHr):	10.90 11.32	Cycle Time (s):	120			

Basic Results Summary Scenario 13: '2028 Base + Event PM' (FG9: '2028 B + E + L.W. + C.D. PM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	55.3%	0	0	0	11.7	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	55.3%	0	0	0	11.7	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	679	1965	1228	55.3%	-	-	-	3.0	16.2	13.4
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	678	2105	1316	51.5%	-	-	-	2.9	15.3	13.0
1/3	Great Howard Street N/B Right	U	D		1	7	-	13	1895	126	10.3%	-	-	-	0.2	68.6	0.5
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	533	1964	1228	43.4%	-	-	-	2.1	14.2	9.4
2/2	Derby Road S/B Ahead	U	В		1	74	-	533	2105	1316	40.5%	-	-	-	2.0	13.6	9.2
2/3	Derby Road S/B Right	U	A		1	7	-	5	1902	127	3.9%	-	-	-	0.1	67.5	0.2
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	11	1730	115	9.5%	-	-	-	0.2	70.0	0.4
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	94	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	32	1752	117	27.4%	-	-	-	0.7	74.4	1.2
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	120	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	683	2080	2080	32.8%	-	-	-	0.2	1.3	7.8
6/2	Great Howard Street S/B Exit	U	-		-	-	-	549	2080	2080	26.4%	-	-	-	0.2	1.2	4.3
C1 - Great Howa	ard St / Blackstone S	St / Bound	lary St	PRC f	or Signalled C Over All L	Lanes (%): .anes (%):	62.8 62.8	Tota	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	11.25 11.68	Cycle Time (s):	120			

Basic Results Summary Scenario 14: '2028 Base + No Event PM' (FG10: '2028 B + NoE + L.W. + C.D. PM', Plan 1: 'Single Cycle Plan 1') Network Layout Diagram



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	-	-	-		-	-	-	-	-	-	55.2%	0	0	0	11.6	-	-
Derby Road / Boundary Street	-	-	-		-	-	-	-	-	-	55.2%	0	0	0	11.6	-	-
1/1	Great Howard Street N/B Ahead Left	U	E		1	74	-	678	1965	1228	55.2%	-	-	-	3.0	16.1	13.4
1/2	Great Howard Street N/B Ahead	U	E		1	74	-	677	2105	1316	51.5%	-	-	-	2.9	15.3	12.9
1/3	Great Howard Street N/B Right	U	D		1	7	-	13	1895	126	10.3%	-	-	-	0.2	68.6	0.5
2/1	Derby Road S/B Ahead Left	U	В		1	74	-	533	1964	1228	43.4%	-	-	-	2.1	14.2	9.4
2/2	Derby Road S/B Ahead	U	В		1	74	-	533	2105	1316	40.5%	-	-	-	2.0	13.6	9.2
2/3	Derby Road S/B Right	U	A		1	7	-	4	1902	127	3.2%	-	-	-	0.1	67.4	0.1
3/1	Boundary Street EB Left Ahead	U	F		1	7	-	7	1730	115	6.1%	-	-	-	0.1	69.3	0.3
3/2	Boundary Street EB Right	0	F		1	7	-	0	2055	94	0.0%	0	0	0	0.0	0.0	0.0
4/1	Boundary Street WB Left Ahead	U	с		1	7	-	32	1752	117	27.4%	-	-	-	0.7	74.4	1.2
4/2	Boundary Street WB Right	0	с		1	7	-	0	2080	124	0.0%	0	0	0	0.0	0.0	0.0
5/2	Derby Road N/B Exit	U	-		-	-	-	680	2080	2080	32.7%	-	-	-	0.2	1.3	7.8
6/2	Great Howard Street S/B Exit	U	-		-	-	-	549	2080	2080	26.4%	-	-	-	0.2	1.2	4.3
C1 - Great Howa	6/2 Street S/B Exit U -			63.0 63.0	Tota	al Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	11.14 11.57	Cycle Time (s):	120						

K. PICADY Output



Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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Filename: BMD Northern Access Junction.j9 Path: P:\Liverpool\ITD\Projects\385175 BMD\Modelling\Junctions 9\Aug 2020 Update Report generation date: 27/08/2020 09:37:03

»2028 Base + Event, AM »2028 Base + Event, PM

Summary of junction performance

						AM								РМ		
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
								2028 Bas	e + E	Event						
Stream B-AC	D1	0.0 0.00 A		0.94	Δ	72 %	D2	0.0	0.00	0.00	A	0.13	Δ	125 %		
Stream C-AB		0.7	4.79	0.24	А	0.94	~	[Stream C-AB]	02	0.1	5.18	0.05	А	0.13	~	[Stream C-AB]

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	BMD Northern Access Junction
Location	Bramley Moore Dock
Site number	
Date	18/12/2019
Version	1
Status	(new file)
Identifier	
Client	Everton Football Club
Jobnumber	385175
Enumerator	MOTTMAC\MCM80211
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





Flows show original traffic demand (PCU/hr) Streams (downstream end) show RFC ()

The junction diagram reflects the last run of Junctions.

Analysis Options

Calculate Queue	Calculate residual	Residual capacity criteria	RFC Threshold	Average Delay threshold	Queue threshold
Percentiles	capacity	type		(s)	(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 period length (min)	Time segment length (min)
D1	2028 Base + Event	AM	FLAT	00:00	01:30	90	15
D2	2028 Base + Event	PM	FLAT	00:00	01:30	90	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000



2028 Base + Event, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

l	Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
	1	BMD Northern Access Junction	T-Junction	Two-way		0.94	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	72	Stream C-AB

Arms

Arms

Arm	Name	Description	Arm type
Α	Regent Road S		Major
в	BMD Northern Access		Minor
С	Regent Road N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Regent Road N	7.07			250.0	~	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 - BMD Northern Access	One lane	5.00	20	15

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	590	0.102	0.259	0.163	0.370
B-C	760	0.111	0.281	-	-
C-B	719	0.266	0.266	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 period length (min)	Time segment length (min)
D1	2028 Base + Event	AM	FLAT	00:00	01:30	90	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 - Regent Road S		~	537	100.000
B - BMD Northern Access		✓	0	100.000
C - Regent Road N		✓	711	100.000

Origin-Destination Data

Demand (PCU/hr)

		1	Го	
		A - Regent Road S	B - BMD Northern Access	C - Regent Road N
F	A - Regent Road S	0	123	414
From	B - BMD Northern Access	0	0	0
	C - Regent Road N	619	92	0

Vehicle Mix

Heavy Vehicle Percentages

		1	Го	
From		A - Regent Road S	B - BMD Northern Access	C - Regent Road N
	A - Regent Road S	0	0	0
	B - BMD Northern Access	0	0	0
	C - Regent Road N	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.24	4.79	0.7	A
C-A				
A-B				
A-C				



Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	438	0.000	0	0.0	0.000	А
C-AB	243	997	0.243	240	0.6	4.756	A
C-A	468			468			
A-B	123			123			
A-C	414			414			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	437	0.000	0	0.0	0.000	А
C-AB	244	998	0.245	244	0.6	4.791	A
C-A	467			467			
A-B	123			123			
A-C	414			414			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	437	0.000	0	0.0	0.000	А
C-AB	244	998	0.245	244	0.6	4.794	А
C-A	467			467			
A-B	123			123			
A-C	414			414			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	437	0.000	0	0.0	0.000	A
C-AB	244	998	0.245	244	0.6	4.792	A
C-A	467			467			
A-B	123			123			
A-C	414			414			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	437	0.000	0	0.0	0.000	А
C-AB	244	998	0.245	244	0.6	4.794	А
C-A	467			467			
A-B	123			123			
A-C	414			414			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	437	0.000	0	0.0	0.000	A
C-AB	244	998	0.245	244	0.7	4.792	A
C-A	467			467			
ΑB	123			123			
A-C	414			414			



2028 Base + Event, PM

Data Errors and Warnings

Severity	Area	ltem	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	BMD Northern Access Junction	T-Junction	Two-way		0.13	А

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	125	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2028 Base + Event	PM	FLAT	00:00	01:30	90	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 - Regent Road S		✓	1027	100.000
B - BMD Northern Access		×	0	100.000
C - Regent Road N		✓	396	100.000

Origin-Destination Data

Demand (PCU/hr)

		-	Го	
		A - Regent Road S	B - BMD Northern Access	C - Regent Road N
F	A - Regent Road S	0	22	1005
From	B - BMD Northern Access	0	0	0
	C - Regent Road N	379	17	0

Vehicle Mix

Heavy Vehicle Percentages

	То								
		A - Regent Road S	B - BMD Northern Access	C - Regent Road N					
_	A - Regent Road S	0	0	0					
From	B - BMD Northern Access	0	0	0					
	C - Regent Road N	0	0	0					



Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.00	0.00	0.0	A
C-AB	0.05	5.18	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	336	0.000	0	0.0	0.000	A
C-AB	35	731	0.048	35	0.1	5.171	A
C-A	361			361			
ΑB	22			22			
A-C	1005			1005			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	336	0.000	0	0.0	0.000	А
C-AB	35	731	0.048	35	0.1	5.174	А
C-A	361			361			
ΑB	22			22			
A-C	1005			1005			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	336	0.000	0	0.0	0.000	А
C-AB	35	731	0.048	35	0.1	5.174	А
C-A	361			361			
A-B	22			22			
A-C	1005			1005			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	336	0.000	0	0.0	0.000	А
C-AB	35	731	0.048	35	0.1	5.174	А
C-A	361			361			
A-B	22			22			
A-C	1005			1005			



01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	336	0.000	0	0.0	0.000	А
C-AB	35	731	0.048	35	0.1	5.176	A
C-A	361			361			
ΑB	22			22			
A-C	1005			1005			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	336	0.000	0	0.0	0.000	А
C-AB	35	731	0.048	35	0.1	5.176	А
C-A	361			361			
A-B	22			22			
A-C	1005			1005			



Junctions 9
PICADY 9 - Priority Intersection Module
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Filename: BMD Southern Access Junction.j9 Path: P:\Liverpool\ITD\Projects\385175 BMD\Modelling\Junctions 9\Aug 2020 Update Report generation date: 27/08/2020 09:38:17

»2028 Base + Event, AM »2028 Base + Event, PM

Summary of junction performance

		АМ					РМ									
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
		2028 Base + Event														
Stream B-AC	D1	0.0	7.65	0.03	A	0.10		160 % [Stream B-AC]	D2	0.4	13.99	0.27	в	0.89	A	37 %
Stream C-AB	D1	0.0	0.00	0.00	А	0.10	~		D2	0.0	0.00	0.00	А			[Stream B-AC]

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. 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	BMD Southern Access Junction
Location	Bramley Moore Dock
Site number	
Date	18/12/2019
Version	1
Status	(new file)
Identifier	
Client	Everton Football Club
Jobnumber	385175
Enumerator	MOTTMAC\MCM80211
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





Flows show original traffic demand (PCU/hr) Streams (downstream end) show RFC ()

The junction diagram reflects the last run of Junctions.

Analysis Options

Calculate Queue	Calculate residual	Residual capacity criteria	RFC Threshold	Average Delay threshold	Queue threshold	
Percentiles	capacity	type		(s)	(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 period length (min)	Time segment length (min)
D1	2028 Base + Event	AM	FLAT	00:00	01:30	90	15
D2	2028 Base + Event	PM	FLAT	00:00	01:30	90	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000


2028 Base + Event, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	BMD Southern Access Junction	T-Junction	Two-way		0.10	А

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	160	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
Α	Regent Road S		Major
в	BMD Southern Access		Minor
С	Regent Road N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Regent Road N	8.47			250.0	~	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 - BMD Southern Access	One lane	5.00	20	16

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	590	0.096	0.243	0.153	0.347
B-C	761	0.104	0.263	-	-
C-B	719	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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 period length (min)	Time segment length (min)
D1	2028 Base + Event	AM	FLAT	00:00	01:30	90	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 - Regent Road S		~	414	100.000
B - BMD Southern Access		✓	13	100.000
C - Regent Road N		✓	619	100.000

Origin-Destination Data

Demand (PCU/hr)

	То					
		A - Regent Road S	B - BMD Southern Access	C - Regent Road N		
Francis	A - Regent Road S	0	0	414		
From	B - BMD Southern Access	7	0	6		
	C - Regent Road N	619	0	0		

Vehicle Mix

Heavy Vehicle Percentages

	То					
		A - Regent Road S	B - BMD Southern Access	C - Regent Road N		
F	A - Regent Road S	0	0	0		
From	B - BMD Southern Access	0	0	0		
	C - Regent Road N	0	0	0		

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	7.65	0.0	A
C-AB	0.00	0.00	0.0	А
C-A				
A-B				
A-C				



Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	483	0.027	13	0.0	7.650	A
C-AB	0	616	0.000	0	0.0	0.000	A
C-A	619			619			
A-B	0			0			
A-C	414			414			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	483	0.027	13	0.0	7.653	А
C-AB	0	616	0.000	0	0.0	0.000	A
C-A	619			619			
A-B	0			0			
A-C	414			414			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	483	0.027	13	0.0	7.653	A
C-AB	0	616	0.000	0	0.0	0.000	A
C-A	619			619			
A-B	0			0			
A-C	414			414			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	483	0.027	13	0.0	7.653	A
C-AB	0	616	0.000	0	0.0	0.000	A
C-A	619			619			
A-B	0			0			
A-C	414			414			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	483	0.027	13	0.0	7.653	А
C-AB	0	616	0.000	0	0.0	0.000	А
C-A	619			619			
A-B	0			0			
A-C	414			414			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	483	0.027	13	0.0	7.653	A
C-AB	0	616	0.000	0	0.0	0.000	А
C-A	619			619			
ΑB	0			0			
A-C	414			414			



2028 Base + Event, PM

Data Errors and Warnings

Severity	verity Area Item		Area Item Description			
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.			

Junction Network

Junctions

l	Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
	1	BMD Southern Access Junction	T-Junction	Two-way		0.89	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	37	Stream B-AC

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2028 Base + Event	PM	FLAT	00:00	01:30	90	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 - Regent Road S		 ✓ 	1005	100.000
B - BMD Southern Access		~	94	100.000
C - Regent Road N		✓	379	100.000

Origin-Destination Data

Demand (PCU/hr)

	То							
From		A - Regent Road S	B - BMD Southern Access	C - Regent Road N				
	A - Regent Road S	0	0	1005				
	B - BMD Southern Access	54	0	40				
	C - Regent Road N	379	0	0				

Vehicle Mix

Heavy Vehicle Percentages

	То							
		A - Regent Road S	B - BMD Southern Access	C - Regent Road N				
_	A - Regent Road S	0	0	0				
From	B - BMD Southern Access	0	0	0				
	C - Regent Road N	0	0	0				



Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.27	13.99	0.4	В
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	94	351	0.268	93	0.4	13.838	В
C-AB	0	469	0.000	0	0.0	0.000	A
C-A	379			379			
ΑB	0			0			
A-C	1005			1005			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	94	351	0.268	94	0.4	13.986	В
C-AB	0	469	0.000	0	0.0	0.000	А
C-A	379			379			
A-B	0			0			
A-C	1005			1005			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	94	351	0.268	94	0.4	13.988	В
C-AB	0	469	0.000	0	0.0	0.000	А
C-A	379			379			
A-B	0			0			
A-C	1005			1005			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	94	351	0.268	94	0.4	13.988	В
C-AB	0	469	0.000	0	0.0	0.000	А
C-A	379			379			
A-B	0			0			
A-C	1005			1005			



01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	94	351	0.268	94	0.4	13.988	В
C-AB	0	469	0.000	0	0.0	0.000	А
C-A	379			379			
ΑB	0			0			
A-C	1005			1005			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	94	351	0.268	94	0.4	13.988	В
C-AB	0	469	0.000	0	0.0	0.000	А
C-A	379			379			
A-B	0			0			
A-C	1005			1005			

L. Traffic Modelling Technical Note



The People's Project. Transport Assessment and Environmental Impact Assessment Scoping

Project:	The People's Project: Bramley – Moore Dock				
Our reference:	385175	Your reference: NA			
Prepared by:	Kevin Blakey	Date:	16/06/20		
Approved by:	Dave Drury	Checked by:	Duncan Crockett		
Subject:	Committed Development & Trip Generation Changes since December 2019 planning submission				

1 Introduction

In December 2019 Everton Stadium Development submitted a planning application for a new football stadium at Bramley - Moore Dock (ref: 20F/0001). The application was accompanied by an Environmental Statement (which contained a chapter on transport) as well as a Transport Assessment (forming a technical appendix to the ES).

Since the application was submitted a number of changes have been made to the stadium scheme. New details of the changes will be submitted to Liverpool City Council in due course to update the planning application. The main change to the application in transport terms for Match Days & Major Event Days will be the change in the number of parking spaces available within the stadium site. The work to take this into account in the Transport Strategy is currently in progress.

The People's Project Transport Assessment (TA) and Environmental Statement included traffic modelling and assessment of the Non-Match Day / Non- Event Day scenario. Since the planning application was submitted, changes have taken place in terms of planning applications in the local area which could affect baseline or cumulative traffic conditions. Furthermore, changes to the stadium design have taken place which could change the level of traffic it generates on non-match days & non- event days.

This technical note analyses these changes and concludes that the changes are not material in terms of the, baseline, cumulative development and 'with development' scenarios included in the TA and the transport chapter of the ES. Therefore, we consider that no change to the traffic modelling or assessments in the ES or TA will be required in the planning resubmission.

Firstly, the technical note provides a review of committed development (also referred to as cumulative development in ES). Secondly the note reviews the traffic generation of the site on non-match days & non-event days.

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2 Committed Development

2.1 Committed development in TA and EIA

The TA and ES chapter took account of the following committed developments as agreed with Liverpool City Council:

- Liverpool Waters (100/2424 & subsequent non-material amendments).
- Isle of Man Ferry Terminal (18L/3232).
- Romal Developments Plot C04 and C06 (17F/1628).
- Tobacco Warehouse (15F/2438).
- Cruise Liner Terminal (170/3230).
- Liverpool Cruise Liner Car Park (no planning application submitted at time of People's Project planning submission; site included at the request of Liverpool City Council)
- Ten Streets Spatial Regeneration Framework.

Any other wider planning consents further afield were accounted for by Tempro growth as agreed with LCC. Following planning submission Liverpool City Council have stated the Liverpool Cruise Liner Car Park is no longer proposed and no planning application has been or is intended to be submitted. In their consultation response to the People's Project planning application LCC highways stated that this development could be removed from any new traffic assessments that may be necessary.

A Transport Assessment prepared by Flinders Chase and issued to Mott MacDonald by Liverpool City Council provided details on the development, traffic flows from which were taken account of in the People's Project Transport Assessment.

It should be noted that although the Cruise Liner Car Park site is somewhat remote from Bramley-Moore Dock (around 650m walk) a significant amount of traffic from the Car Park would be distributed to Regent Road, Blackstone Street and Great Howard Street in the immediate vicinity of the stadium. This is on account of the limited turning movements possible at the Cruise Liner Car Park access. In the proposed scheme, only left turns in and left turn out would be possible at the site access. The Flinders Chase TA set out in detail that a signage strategy to be implemented should the Cruise Car Park come forward would sign northbound traffic headed to the Cruise Car Park to 'U' turn at Blackstone Street. Accordingly, a significant proportion of traffic from the Cruise Terminal Car park would route past the proposed stadium.

2.2 New Committed Development

CBRE has identified a new potential committed development directly opposite the stadium on Regent Road "20F/0217 – Land bounded by Blackstone Street, Fulton Street and Regent Road Liverpool".

The development consists of a 167-bedroom hotel with an 87-space car park. The TA which accompanies the application calculates the traffic generation and distribution of the development. It also takes account of the proposed new stadium at Bramley-Moore Dock.

"LCC have informed us that as part of the stadium's movement strategy during matchdays, LCC and EFC intend to discourage private car use on local roads in order to encourage bus and coach travel as well as walking and cycling trips. One of the methods LCC will employ to achieve this is through road closures. The applicant is respectful of this and recognises the complementary nature of the hotel and the stadium, with matchday experiences now becoming more of a full day/evening and weekend trip, and hotels therefore playing an important part of the experience for supporters. As such, the applicant is willing to prevent access and egress to the MSCP during the times that these road closures are in place".

Prime Transport Planning: Transport Assessment: December 2019

2.3 Change in committed development flow on account of Regent Road Hotel

Figures in **Appendix B** illustrates the traffic generation and distribution of development traffic in the immediate vicinity of the stadium site resulting from the formerly proposed cruise liner terminal car park and the proposed hotel.

The table below illustrates the total traffic at the three key junctions assessed in the People's Project Transport Assessment.

Table 2.1: Comparison of Cruise Liner Car Park and Regent Road Hotel Traffic near Bramley – Moore Dock

Junction	Development	Traffic AM Peak	Traffic PM Peak
Derby Rd / Blackstone St / Gt Howard St / Boundary St	Cruise CP	125	55
	Hotel	56	46
	Difference	-69	-9
Derby Road / Boundary	Cruise CP	89	19
Street	Hotel	12	11
	Difference	-77	-8
Gt Howard St / Lightbody St	Cruise CP	42	48
/ Walter St	Hotel	39	26
	Difference	-3	-22

It is clear from the table above that the Cruise Liner Car Park would add more development traffic to the road network than the proposed hotel. Accordingly we consider that our assessment of committed development (or cumulative development in the ES) is robust and that no changes to the traffic modelling included in the Transport Assessment or Transport Chapter of the ES are required to take account of the fact that the Cruise Liner Car Park is no longer a committed development will no longer come forwards and the Hotel will be a committed development.

2.4 Other Changes to Committed Development

An updated list of the changes in consented and submitted planning applications in the city centre and north Liverpool area is included in **Appendix A**. The data has been produced by CBRE following consultation with LCC Planning. The new or changed schemes since the last planning submission are highlighted in yellow. In addition to the Regent Road Hotel the following schemes have been submitted:

2.4.1 20F/1203 Vacant Land, Plot A06 William Jessop Way Princes Dock Liverpool L3 1QP

The proposal is to erect a 278-unit residential tower with 20 car parking spaces. The development does not yet have planning permission however the Transport Statement which accompanies the planning application sets oust that the development could generate around 18-24 traffic movements in each peak hour. The development is located 1.8km from Bramley Moore Dock. Furthermore, the TA flows for the Peoples' Project planning application talks into account Liverpool Waters traffic. We consider therefore that no adjustment is required to the Peoples Project Trans[ort Assessment modelling to consider this development. This marginal level of traffic increase will be accounted for in the Tempro Growth.

2.4.2 19F/1038 Plot 11, Land Off Princes Road Princes Dock Liverpool

The proposal is for a 10 storey 'cruise liner 'hotel. The site was granted planning permission in November 2019. The Transport Statement which accompanies the planning application concluded that the site would generate less traffic that that already consented on the site as part of the Liverpool Waters planning approval. The People's Project modelling already includes traffic from Liverpool Waters and related planning consents at Princes Dock in the traffic flow assessment. We consider therefore that no adjustment is required to the Peoples Project Transport Assessment modelling to take into account this development

3 Proposed Development Trip Generation

Section 13 of the People's Project Transport Assessment set out in detail how traffic generation of the development on Non - Match Days and Non - Event Days was calculated. The re-design of the stadium has meant that some floor areas within the stadium, which were used as the basis of the trip generation calculations, have changed. Table 3.1 illustrates the changes.

Table 3.1: Comparison of Floor Areas in Peoples' Project Original Planning Application and Revised	k
Application	

Use	Original Area (m ²)	Revised Area	Difference
Retail (Club Shop)	930	1,055	+125
River View Restaurant (West Stand)	630	440	-190
Office (incl box office)	350	320	-30
Café East Stand	500	390	-110
Hydraulic Tower Cultural & Exhibition Space	630	630	0
Hospitality West Stand for meetings, banqueting, conferences, weddings and other events	7,380	6,400	-980

Based on these changes MM has undertaken a trip generation assessment to review how these changes could alter the morning and evening peak hour trip generation. The same trip rates and assumptions have been used here as in the TA in the original application.

It should be noted that the impact assessments for the TA and ES were both undertaken using a 'worst case' when the stadium would be hosting a conference. Accordingly, the table below shows the difference under this worst-case scenario.

Table 3.2: Comparison of Non-Match Day & Non-Major Event Day in the Original Planning Application and Revised Application

Use	AM Peak			PM Peak		
	Original	Revised	Difference	Original	Revised	Difference
Retail (Club Shop)	1	1	0	47	52	+5
Café East Stand	0	0	0	11	8	-3
Office (incl box office	7	6	-1	5	5	0
Goodison Survey	39	39	0	25	25	0
Hydraulic Tower Cultural & Exhibition Space	0	0	0	1	1	0
Conference	180	156	-24	44	38	-6
Total	227	202	-25	133	129	-4

It is clear that in the AM peak the revised stadium, although having a slightly greater retail floor area, is smaller in other aspects, notably some of the hospitality / conference areas. The combined effect of this is a slight reduction I trip generation of the development in its revised format of 25 car trips in the morning peak and 4 car trips in the evening peak.

4 Conclusions

This technical note assesses the changes in committed (cumulative) development traffic that could take place on account of the changed planning situation since the People's Project full planning application was submitted in December 2019.

Since the planning submission Liverpool City Council has indicated that the formerly proposed Liverpool Cruise Liner Car Park should no longer be treated as a committed development. Meanwhile a new hotel is proposed on Regent Road immediately outside the development site. An analysis of traffic data has been undertaken with the conclusion that the Cruise Liner Car Park would distribute more development traffic on the local roads outside the proposed stadium site than the proposed Hotel. Mott MacDonald concludes therefore that the level of committed (cumulative) development traffic included in the TA and EIA in the December 2019 Peoples Project planning application remains robust and that no change to the modelling will be required to take account of these changes .

The Technical Note assesses the potential change in non-matchday & non-event day traffic generation of the stadium which could take place on account of design changes since the People's Project Planning Application in December 2019. The review concludes that the proposed development in its revised form will generate less traffic than the development in the 2019 planning submission. Mott MacDonald concludes therefore that the level of development traffic included in the TA and EIA in the December 2019 Peoples Project planning application remains robust and that no change to the modelling will be required to take account of these changes .

A. Committed Development

BMD Cumulative Schemes 2020

NAME / ADDRESS / PLANNING REF	SCHEME DESCRIPTION	STAGE
16F/1370 & 17F/2056 - " The Lexington ", William Jessop Way	35 storey residential block with 325 private rented sector (PRS) apartments	On site for completion September 2020
17F/1628 - "Quay Central", Plot C04 and "Park Central" C06, land to west of Waterloo Road, Central Docks	To erect 2 residential blocks of 237 PRS apartments with office, restaurant/café and gym use, parking and cycle spaces	On site for completion March 2020
15L/2749 - Southern Warehouse, Stanley Dock, Regent Road	Conversion of warehouse to 256 bedroom hotel/apart- hotel, restaurants, assembly/leisure plus car parking associated with permission reference 14F/0249.	On site for completion Summer 2020
15F/2438 - Conversion of former Tobacco Warehouse, Stanley Dock	Conversion to create 538 apartments; new 13th floor level of single storey penthouse apartments, public exhibition space, offices & basement car parking	On site for completion Autumn 2021
16F/2252 - "Fox Street Student Village", Swainbanks Limited, 50 Fox Street	To convert Swainbanks building and redevelop remainder of site with 3 five to six-storey buildings to provide a total of 400 student bedrooms with gym, lounge, bistro and leisure facilities	Partly completed. Stalled. Completion date unknown.
17F/3525 - New Merseyside Police Headquarters, 30 Grosvenor Street	New 4 storey Police Headquarters and office development with associated 2 storey Annex building,	On site for completion Autumn 2021
16F/2755 - "Aura", Manfred Street/Erskine Street & 16F/2756 Corner of Prescot Street and Low Hill	To erect a building of up to 14 storeys with 1,007 student bedrooms, and an 11 storey residential development comprising 142 apartments for key workers.	On site for completion Winter 2020
13F/1599 - Royal	Redevelopment to provide a	On site for

NAME / ADDRESS / PLANNING REF	SCHEME DESCRIPTION	STAGE
Liverpool University Hospital, Prescot Street	hospital and related healthcare facilities comprising core hospital buildings, future healthcare buildings	completion February 2021
14F/0874 - "One Islington Plaza", Devon Street/Moss Street	To erect 8/10 storey block containing 317 student beds with ground floor commercial floorspace.	On site for completion September 2019
17F/1037 - "Devon House", 33 Devon Street	New part eight, part ten storey building with ground floor retail/commercial use and 208 apartments	On site for completion September 2020
18F/0347 - "Fabric Village", Gildart Street/ Devon Street	Three residential blocks between 7 and 10 storeys high comprising 419 residential apartments with ground floor retail.	On site for completion Summer 2021
19F/0294 - "Natex", Land at Norton Street/ Islington (former National Coach Station)	620 beds of student accommodation in two blocks of 10 and 16 storeys, including erection of cycle and bin store with ground floor commercial units.	Variation of condition application not yet determined
13F/2947 - " The Paramount", Pudsey Street/28 London Road	488 bedroom student accommodation in 7 to 11 storey building and retail unit	On site for completion September 2019
16F/1539 - "Horizon Heights", Land bounded by Skelhorne Street, Bolton Street, Hilbre Street	Mixed use development comprising 2 blocks for ground floor commercial uses with 1,085 student bedrooms on upper floors	On site for completion September 2019
18F/1410 - LJMU Campus, Copperas Hill/ Brownlow Hill	To erect 5 storey Student Life building and 2 storey sports building with retail and cafe uses	On site for completion September 2020
18F/2751 - Renshaw Hall, Benson Street	To erect a 12 storey hotel and 11 storey student accommodation with 404 student bedrooms	On site for completion December 2020

NAME / ADDRESS / PLANNING REF	SCHEME DESCRIPTION	STAGE
17F/1982 - "One Wolstenholme Square", 5 Parr Street & Wolstenholme Square	Four blocks of 7 - 10 storeys for ground floor commercial units and 448 units of residential accommodation on upper floors.	On site for completion August 2019
18F/0301 - "The Address at One Wolstenholme Square", 18 -24 Seel Street	11 storey block with 200 luxury apartments, spa, pool, and ground floor commercial space.	On site for completion March 2020
16F/1826 - "Strand House", 21 Strand Street	New 16storey mixed use development comprising 383 apartments with residents' gym, cinema, roof terrace, and two ground floor commercial units	On site for completion October 2020
16PO/0741 - Silkhouse Court, Tithebarn Street	Conversion from office tower to create 193 self-contained flats	On site for completion Spring 2020
17F/0340 & 19F/1611 - " Infinity", Leeds Street/Pall Mall	Three towers of 39, 33 and 27 floors to include 1,032 apartments with ground floor commercial uses	Variation of condition application pending determination
100/2424 - "Liverpool Waters"	The comprehensive redevelopment of up to 60 hectares of former dock land to provide a mixed use development of up to 1,691,100 sq m, comprising: up to 733,200 sq m residential (Class C3) (9,000 units), up to 314,500 sq m business (Class B1), up to 53,000 sq m of hotel and conference facilities (Class C1) (654 rooms), up to 19,100 sq m of comparison retailing (Class A1), up to 7,800 sq m of convenience retailing (Class A1), up to 8,600 sq m of financial and professional services (Class A2), up to	Outline permission granted June 2013. Several individual schemes have now commenced and subsequent Non- Material Amendments (18NM/2766 & 19NM/1121)

NAME / ADDRESS / PLANNING REF	SCHEME DESCRIPTION	stage
	27,100 sq m of restaurants and cafes (Class A3), up to 19,200 sq m of drinking establishments (Class A4), up to 8,900 sq m of community uses (Class D1), up to 33,300 sq m of assembly and leisure (Class D2) up to 17,600 sq m for a cruise liner facility and energy centre (Sui Generis), up to 36,000 sq m for servicing (Sui Generis), and up to 412,800 sq m for parking (Sui Generis) together with structural landscaping, means of access, formation of public spaces and associated infrastructure and public realm works.	
18RM/1554 - "William Jessop House", William Jessop Way, Princes Dock	To erect 6 storey office building	Permission granted June 2019
170/3230 and 19RM/1037 - Liverpool Cruise Liner Terminal, Princes Dock	New cruise liner terminal and a vehicular link span bridge and pedestrian bridge/ walkways	Permission granted April 2019. Completion April 2021 anticipated.
18F/3247 - Plot C02, Liverpool Waters	To erect residential development comprising 538 apartments with ground floor commercial space, in four blocks of 10 storeys in height, partial dock infill, parking, soft and hard landscaping/ public open space, including a floating timber jetty and dockside walkway.	Application submitted December 2018
19F/1290 - Site bounded by Waterloo Road/ Paisley Street/ Roberts Street/ Greenock Street	To demolish existing building and erect 17-storey building comprising 140 residential units with associated mezzanine, residents lounge and gym, basement car park, and	Application submitted May 2019

NAME / ADDRESS / PLANNING REF	SCHEME DESCRIPTION	STAGE
	ground/mezz floor commercial unit.	
18F/0216 - "The Metalworks", Vauxhall Road	Two linked 13/15 storey blocks with 319 apartments, ground floor commercial space, car parking, landscaping and external works.	Application awaiting signing of legal agreement since August 2018
17F/0874 - 9-27 Freemasons Row	11 to 15 storey blocks with 656 PRS apartments above ground floor commercial space.	Permission granted April 2019
18F/1035 - "Naylor Street – Phase 1", St Bartholomew Road/Paul Street/ Naylor Street	To erect 3 buildings from 6 to 11 storeys containing 240 residential apartments in a mix of studios, 1 and 2 bedrooms, car parking and lower ground/ground floor mixed commercial uses	Application approved November 2019
13RM/2633 - Land between Blackstock Street & Paul Street	New building of between five and eight storeys comprising 200 flats, together with associated parking and landscaping	Permission granted February 2014. Technically has started, but no progress in 3 years.
16F/3078 - "The Tannery", Bevington Bush/Gardners Row/ Edgar Street	To erect three blocks containing 381 residential units and ground floor commercial unit.	Permission granted November 2017
17F/1911 - "Bevington House", Bevington Bush/ Aldersey Street	To erect three 9-17 storey blocks containing 614 apartments with ground floor communal space, gym, commercial unit	Permission granted October 2017
18F/0417 - Land bounded by Whittle Street/Smith Street/ Kirkdale Road	Demolish existing building and erect mixed use part 6/part 5 storey building of 177 residential apartments, commercial space, residents gym, lounge and parking.	Awaiting signing of legal agreement since August 2018
16F/2797 - "Rose Place", Virgil Street/Great Homer Street	To demolish existing building, erect a 9 storey apartment blocks containing 277 residential units (C3 Use),	Permission granted July 2017

NAME / ADDRESS / PLANNING REF	SCHEME DES <u>CRIPTION</u>	STAGE
	ground floor communal space with associated access, servicing, car parking and landscaping.	
16F/0823 - Citipads, Land at Fox Street/St Anne Street	To demolish existing buildings and erect 3 residential blocks ranging from 5 to 8 storeys to accommodate 313 flats with associated parking and landscaping (amended plans).	Permission granted September 2016
19F/0454 - "Copperas House", Copperas Hill Police Station	To demolish former police station and erect 8/9 storey block for student accommodation comprising 34 clusters of 280 bedrooms	Approved November 2019
14F/1313 and 17F/2135 and 17F/3094 - "Baltic Square", Park Lane, Beckwith Street, Carpenters Row and Cornhill (former Heaps Rice Mill)	Conversion of former mill into 138 apartments; to redevelop adjacent land with three blocks, 10, 11 and 14 storeys with 194 PRS apartments and 200 serviced apartments, together with commercial floorspace.	Permission granted December 2017
14F/1305 and 17F/2768 - "One Park Lane", Land bounded by Park Lane, Pownall Street, Liver Street and Beckwith Street	Two new 10 to 20 storey buildings with 266 apartments); four commercial units, gymnasium, cafes, basement parking	Permission granted January 2018
16F/2634 - 30-36 Pall Mall	Part 10/part 22 storey tower of 336 apartments & ground floor commercial units	Application approved September 2017
19F/1789 - Pall Mall Exchange Phase 1	Hybrid application, including the demolition of disused building adjacent to Pall Mall, for development comprising: - Full application for the erection of an eight-storey office building with ground	Application approved November 2019

NAME / ADDRESS / PLANNING REE	SCHEME DESCRIPTION	STAGE
	floor commercial uses; public open space; and, - Outline application for new hotel and two office buildings also with commercial uses at ground floor; basement parking and public open space.	
OUT/09/06509- Wirral Waters (Wirral MBC)	Demolition of existing buildings and the creation of a new city neighbourhood at East Float, including a series of new urban quarters (Northbank West, Marina View & Four Bridges, Vittoria Studios and SkyCity & The Point), consisting of a maximum of 13,521 residential units (Class C3 Use), a maximum of 422,757sq m office and research and development floorspace (Class B1), a maximum of 60,000sq m retail uses (Classes A1-A5), a maximum of 38,000sq m hotel and conference facilities (Class C1) a maximum of 100,000 sq m of culture, education, leisure, community and amenity floorspace (Classes D1 and D2), together with the provision of car and cycle parking, structural landscaping, formation of public spaces and associated infrastructure and public realm works and including retention of and conversion works to Grade II Listed Hydraulic Tower. Within this overall maxima permission is now sought for flexible use under	Application approved May 2012

NAME / ADDRESS / PLANNING REF	SCHEME DESCRIPTION	stage
	the GPDO Part 3 Class E for 48,500 sq m of floorspace (reduced from 485,000 sq m) to be used for office and research and development floorspace (Class B1), retail uses (Class A1 retail, Class A2 Financial & Professional Services, Class A3 restaurants and cafes, Class A4 bars and Class A5 hot food takeaways), hotel and conference facilities (Class C1), culture, education, leisure, community and amenity floorspace (Classes D1 and D2). The application remains submitted in outline with all detailed matters reserved for subsequent approval. (amended description).	
20RM/0476	Reserved Matters application for hotel (284 bedrooms) following outline planning permission reference 19F/1789	Approved May 2020
Awaited - "The Northern Quarter", Leeds Street/Vauxhall Road/Pumpfields Road	Redevelopment with 5 blocks from 4 to 12 storeys containing 914 flats with ground floor commercial space	Application submitted March 2016 but scheme is understood to be being redesigned and a new application of similar scale to be submitted in its place
Awaited - "Ten Streets"	Comprehensive redevelopment with mixed uses including digital and creative industries as part of a Cultural Enterprise Hub, residential, hotels and leisure (9.84ha)	Development Framework document endorsed October 2016. Applications anticipated
Awaited - Mount	Potential mixed use	Site and £150m+

NAME / ADDRESS /		
PLANNING REF	SCHEME DESCRIPTION	STAGE
Pleasant car park site	development incorporating educational uses, leisure, public exhibition space, offices, digital and creative industries, medical research institutions, hotels, residential and student accommodation (1.2ha)	opportunity currently being marketed. Planning application awaited
Awaited - Former ABC Cinema, Lime Street	Conversion to 1,500 seat venue and TV studio	Planning application awaited
Awaited - "Ovatus 2", Leeds Street/ Back Old Hall St	New 48 storey residential tower with 530 apartments	Application anticipated
17F/0913 Vacant Land William Jessop Way Liverpool L3 1QW	Full application to erect 15 storey residential tower comprising 105 apartments (C3 Use) and two ground floor commercial units (A1/A3/A4 Use) with 26 external car parking spaces and landscaping works.	On site. Due for completion March 2020
17F/0456 - Vacant Land Princes Dock William Jessop Way Liverpool L3 1QP	Full application to erect 31 storey residential tower (Use Class C3) comprising 278 private rented sector apartments and 27 car parking spaces (2 disabled), 3 motorcycle bays, 90 cycle parking spaces in addition to a ground and top floor restaurant/cafe (Use Class A3) together with plant, storage, reception, residential amenity areas and hard and soft landscaping.	Permission granted January 2018
20F/1203 - Vacant Land, Plot A06 William Jessop Way Princes Dock Liverpool L3 1QP	To erect residential tower (C3) consisting of 278 apartments, ground floor commercial (A1/A3/A4), residential amenity areas, cycle and vehicle parking with associated hard and soft	Application submitted - Pending as of 18/05/2020

NAME / ADDRESS / PLANNING REF	SCHEME DESCRIPTION	stage
	Landscaping	
19F/1038 – Plot 11, Land Off Princes Road Princes Dock Liverpool	To erect 10 storey hotel (C1) including lobby, bar, cafe, restaurant, business suite at ground floor level, plant enclosure at roof level, visitor and coach parking, taxi pick- up and drop off point, hard and soft landscaping.	Planning approved 21 st November 2019
20F/0217 – Land bounded by Blackstone Street, Fulton Street and Regent Road Liverpool 5	Demolition and re- development of site to provide 9 storey hotel with 9 storey multi-storey car park with associated access and servicing.	Application submitted 23 rd January 2020. Pending determination
DEVELOPMENTS TO BE AWA	RE OF BUT NOT INCLUDED AS CUMULA	TIVE SCHEMES
18F/2843 – Hanson Collingwood Dock Regent Road Liverpool L3 0AH	To erect temporary concrete batching plant and ancillary plant and machinery (for a period of 3 years)	Still pending consideration as of 18/05/20
18F/0057; 19F/0457 (varied) – Collingwood Dock Regent Road Liverpool L3 0AH	To position eight former shipping containers and security hoardings on vacant brownfield land for a 12 month period to be used as Heritage Trail Visitor Centre (D1 Use).	An application to vary 2 conditions (1&2) was approved on 26.03.19 (19F/0457).
19F/0068 (full application) and 19L/0072 (LBC) – Vacant land within Clarence Dock Regent Road Liverpool L3 0AN	Application for temporary (2 year) on-side education facility (use class D1) consisting of 3 blocks of pre-finished cabins, covered external practical space, covered walkways, temporary servicing, the removal of the existing Clarence Dock gate attached to the listed Clarence Dock Gate Piers and replace with metal gate.	Approved on 20.02.2019
TBC	Temporary isolation structure proposed in Canada Dock required to undertake some	Further information required

NAME / ADDRESS /		
PLANNING REF	SCHEME DESCRIPTION	STAGE
	works in the dock.	

B. Traffic Flows

Cruise Liner MSCP AM Trip Generation Scenario 1









Jctn 5	А	В	С
Α		0	0
В			
С	107	0	



В

6

0

0

0

Hotel AM Trip Generation Scenario 1









Jctn 5	А	В	С
Α		0	0
В			
С	107	0	



Cruise Liner MSCP PM Trip Generation Scenario 1









Jctn 5	А	В	С
Α		0	0
В			
С	19	0	



Hotel PM Trip Generation Scenario 1













Jctn 1	Α	В	С	D
Α		0	0	0
В	0		0	0
С	0	0		0
D	0	0	0	



Jctn 3	Α	В	С	D
Α		0	0	5
В	0		0	3
С	0	0		16
D	6	6	10	

Jctn 10	А	В	С
Α		10	0
В	16		0
С	0	0	

Jctn 4	Α	В	С
Α		0	
В	0		0
С	0		



The People's Project. Blackstone Street Sensitivity Testing

Project:	The People's Project: Bramley – Moore Dock		
Our reference:	385175 Your reference: NA		
Prepared by:	Kevin Blakey	Date:	16/06/20
Approved by:	Dave Drury	Checked by:	Duncan Crockett
Subject:	Blackstone Street Junction Modelling- Sensitivity Testing		

1 Introduction

In December 2019 Everton Stadium Development submitted a planning application for a new football stadium at Bramley - Moore Dock (ref: 20F/0001). The application was accompanied by an Environmental Statement (which contained a chapter on transport) as well as a Transport Assessment (forming a technical appendix to the ES).

Since the application was submitted a number of changes have been made to the stadium scheme. New details of the changes will be submitted to Liverpool City Council in due course to update the planning application. The main change to the application in transport terms for Match Days & Major Event Days will be the change in the number of parking spaces available within the stadium site. The work to take this into account in the Transport Strategy is currently in progress.

The People's Project Transport Assessment (TA) and Environmental Statement included traffic modelling and assessment of the Non-Match Day / Non- Event Day scenario. Since the planning application was submitted, changes have taken place in terms of planning applications in the local area which could affect baseline or cumulative traffic conditions. Furthermore, changes to the stadium design have taken place which could change the level of traffic it generates on non-match days & non- event days.

Liverpool City Council has accepted the findings of Mott MacDonald's technical note of 16th June 2020 on these issues. The note concluded that the changes are not material in terms of the, baseline, cumulative development and 'with development' scenarios included in the TA and the transport chapter of the ES. LCC agreed that no change to the traffic modelling or assessments in the ES or TA will be required in the planning resubmission. This acceptance was confirmed in the LCC email of 16th June and subsequent meeting of 2nd July.

Notwithstanding this within the email LCC requested that a sensitivity analysis was undertaken to evaluate the performance of the Blackstone Street / Derby Road / Great Howard Street / Boundary Street signal junction. The junction is predicted to operate over its design capacity in the future baseline situation. LCC requested that sensitivity analysis should be undertaken using:

- the new trip generation of the site;
- revised committed development;
- an alternative staging sequence where the pedestrian stage is called every cycle.
- Testing only required for the morning peak hour when the junction in question operates over capacity.

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Testing has been provided for the 'worst case' scenario i.e. when there is a full-scale conference hosted at the stadium.

The results of the traffic modelling will allow LCC to make an informed judgement on whether or not there is a need for the signage strategy for the proposed development to direct traffic to access the site via other junctions such as Derby Road / Boundary Street and Walter Street / Great Howard Street where there is available capacity.

LCC has requested that the modelling is undertaken using two scenarios:

- 1. Using the same traffic distribution as the TA
- 2. Development traffic redirected to use Walter Street or Boundary Street

For the purpose of modelling we consider that Scenario 2 is the same as the 'base' situation. As no development traffic or at least a very small amount of development traffic would use the Blackstone Street junction.

2 Junction Modelling

2.1 Traffic Flows

The revised trip generation of the development as set out in the MM technical note of 16th June as well as revised committed development flows have been distributed on the network for the AM peak period. The revised base and base plus development traffic flows for the junction are included as **Appendix A** to this note.

2.2 Modelling Results

Taking into account the changes in traffic flow Table 2.1 shows modelling results based on the pedestrian stage being run every other cycle. Full LinSig outputs are included as Appendix B. This is the same signal staging sequence as modelled for the Transport Assessment. The Transport Assessment modelling results shown in Table 2.2 below for comparison.

Scenario	PRC (%)	Delay (pcuHr)
2023 Base AM	-9.3	61.23
2023 Base + Event AM	-13.7	76.79
2028 Base AM	-21.4	142.79
2028 Base + Event AM	-21.5	170.10

Source: Mott MacDonald

Table 2.2: Blackstone Street Transport Assessment Results – Pedestrians Every Other Cycle

Scenario	PRC (%)	Delay (pcuHr)
2023 Base AM	-10.6	67.59
2023 Base + Event AM	-12.9	84.78
2028 Base AM	-20.5	155.98
2028 Base + Event AM	-23.3	178.85

Source: Mott MacDonald

The sensitivity analysis results are very similar to the Transport Assessment results. The sensitivity test baseline and 'with development' modelling results are within 2% of PRC (Practical Reserve Capacity) of the Transport Assessment results. The difference in junction operation would be imperceptible to drivers, the difference in model outputs do not make a material difference to the conclusions of the Environmental Statement or the Transport Assessment.

Table 2.3 provides further sensitivity analysis, this time with the pedestrian stage of the signals operating every cycle.

Scenario	PRC (%)	Delay (pcuHr)
2023 Base AM	-21.4	129.23
2023 Base + Event AM	-22.6	154.25
2028 Base AM	-30.9	231.98
2028 Base + Event AM	-34.3	259.16

Table 2.3: Blackstone Street Sensitivity Test – Pedestrians Every Cycle

Source: Mott MacDonald

The results of the modelling demonstrate that the addition of development traffic to the Blackstone Street / Derby Road / Great Howard Street would not have a material impact on the operation of the junction. In the base situation the junction operates over its design capacity albeit to a greater extent than compared to the results in Table 2.1.This is on account of the pedestrian stage being called every cycle.

With development traffic added the junction operation worsens by 1.2% PRC in 2023 and 3.4% in 2028. We do not consider that this level of worsening represents a material or severe impact on the operation of the junction.

It should be noted that we consider it unlikely that the stadium development in itself would result in the pedestrian stage at this junction being called every cycle over the entire course of the morning peak hour. Pedestrian activity in the local area is low at present. The stadium development by itself would not generate sufficient pedestrian activity at the junction on non-match days to trigger the pedestrian stage every time. We consider the majority of pedestrians headed to the development site would use Boundary Street (if headed from the north on Derby Road including Sandhills Station) or Walter Street (if headed from the south on Great Howard Street).

3 Conclusions

The modelling demonstrates that in line with the findings of the Transport Assessment and Environmental Statement, the development would not have a material impact on the operation of the Blackstone Street / Great Howard Street / Derby Road junction. The proposed development results in only a small percentage change in Practical Reserve Capacity at the junction.

One issue that the modelling has revealed is the potential change in PRC of the calling of the pedestrian stage of the traffic signals at the junction at an increased frequency. In the transport assessment, on account of low pedestrian activity in the area the modelling included the pedestrian stage every other cycle. The sensitivity test includes the pedestrian stage every cycle as requested by LCC. In the 2023 baseline situation this results in a change in PRC of 12.1% and 9.5% in the 2028 base situation. In the 'with development' scenario this results in a difference of 8.9% in 2023 and 12.8 in 2028.

We consider it highly unlikely that the increase in pedestrian activity in the area as a result of development would cause the pedestrian stage of the signals to be called every cycle throughout the peak hour, thereby creating a delay to traffic on the road network. Notwithstanding this it would be prudent that the signage

strategy for the development site should direct traffic to and from the site via Walter Street and Boundary Street rather than Blackstone Street. in this way although level of worsening in junction performance demonstrated by the modelling is not material the development traffic would not contribute to any marginal increase in delay at the junction which is predicted to operate over its design capacity in the future baseline situation.

A. Traffic Flows


<u>в</u> 0

2023 Base AM







Jctn 7 A B A 15 A B C 115 A 11		
A 10 B 10 C 350 12	о 8	<u> </u>
B 10 C 350 12	15 51	6 8'
C 350 12	14	4 55
	120	22
D 5 3	3	





2028 Base AM

<u>в</u> 0







2028 Base + Event AM 1.101

14 4

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B. Linsig Output

Basic Results Summary Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Blackstone Street Sensitivity Test - Ped Every Other.lsg3x
Author:	
Company:	
Address:	

Scenario 1: '2023 Base' (FG1: '2023 Base AM', Plan 1: 'Network Control Plan 1')



	041.00																
ltem	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	•	•	•		•	•	•			•	98.3%	56	0	23	61.2	•	•
Great Howard St / Blackstone St / Boundary St			1		ı	·	ı		ı		98.3%	56	0	23	61.2		,
1/1	Great Howard Street N/B Ahead Left	D	A		N	103	,	471	1908	835	56.4%	ı	1	ı	4.0	30.5	13.7
1/2+1/3	Great Howard Street N/B Ahead Right	D	AB		N	103:14		577	2105:1895	846+100	61.0 : 61.0%	ı	1	,	5.4	33.6	16.2
2/1	Great Howard Street S/B Ahead Left	D	O		N	103	ı	839	1961	858	97.8%	ı	1	ı	18.4	78.8	41.3
2/2+2/3	Great Howard Street S/B Ahead Right	D	СО		N	103:14	ı	606	2105:1902	920+7	98.0 : 98.0%	ı.	1	ı	19.7	78.0	44.7
3/1	Blackstone Street Left Ahead	D	ш		N	38	,	27	1870	312	8.7%	ı	1	ı	0.4	48.7	0.8
3/2	Blackstone Street Right	0	ш		N	38		26	1897	60	43.3%	т	0	23	0.8	112.5	1.1
4/1	Blackstone Street Left Ahead	D	ш		N	38	,	307	1873	312	98.3%	ı	1	ı	11.8	138.6	17.9
4/2	Blackstone Street Right	0	ш		0	38		53	1935	252	21.0%	53	0	0	0.8	53.8	1.7
5/2	Great Howard Street N/B Exit				ı		ı	0	2080	2080	%0.0	ı	1		0.0	0.0	0.0
6/2	Great Howard Street S/B Exit	∍			I			0	2080	2080	0.0%				0.0	0.0	0.0
C1 - Great Howard	St / Blackstone St /	Boundar	y St	PRC for PRC	Signalled La	nes (%): es (%):	-9.3 -9.3	Total	Delay for Signal Fotal Delay Ove	lled Lanes (po	uHr): uHr):	61.23 61.23	Cycle Time (s): 24	Oţ			

Basic Results Summary Network Results

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Basic Results Summary Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Blackstone Street Sensitivity Test - Ped Every Cycle.lsg3x
Author:	
Company:	
Address:	

Scenario 1: '2023 Base' (FG1: '2023 Base AM', Plan 2: 'Ped Every Cycle')



Basic Results Network Re	Summary sults																
ltem	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	•	•	•		•		•		•	•	109.3%	53	0	26	129.2		•
Great Howard St / Blackstone St / Boundary St			1								109.3%	23	0	26	129.2		
1/1	Great Howard Street N/B Ahead Left	C	A		~	47	I	472	1908	763	61.8%	,	1	ı	4.6	34.8	13.3
1/2+1/3	Great Howard Street N/B Ahead Right	D	AB		. 	47:7	ı	576	2105:1895	776+92	66.4 : 66.4%	,	,	ı	6.0	37.5	15.5
2/1	Great Howard Street S/B Ahead Left	D	U		.	47	ı	839	1961	784	107.0%	,	,	ı	45.0	192.9	63.3
2/2+2/3	Great Howard Street S/B Ahead Right		СО		-	47:7		606	2105:1902	842+7	107.1 : 107.1%	,	,	ı	48.9	193.6	70.0
3/1	Blackstone Street Left Ahead	D	ш		.	18	ı	27	1870	296	9.1%	,	,	ı	0.4	49.9	0.8
3/2	Blackstone Street Right	0	ш		-	18		26	1897	60	43.3%	0	0	26	0.8	112.7	1.1
4/1	Blackstone Street Left Ahead	C	Ľ		~	17	I	307	1873	281	109.3%	,	1	ı	22.8	267.4	28.5
4/2	Blackstone Street Right	0	ш		-	17		53	1935	240	22.1%	53	0	0	0.8	55.3	1.7
5/2	Great Howard Street N/B Exit	D	,		,		ı	0	2080	2080	%0.0	ı	ı	ı	0.0	0.0	0.0
6/2	Great Howard Street S/B Exit							0	2080	2080	%0.0		1		0.0	0.0	0.0
C1 - Great Howard	I St / Blackstone St /	Boundar	y St	PRC for 5 PRC 0	Signalled La Dver All Lan	:nes (%): es (%):	-21.4 -21.4	Total	Delay for Sign Total Delay Ov	alled Lanes (p er All Lanes(p	cuHr): 12 cuHr): 12	29.23 29.23	Cycle Time (s): 12	50			

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M. Consultation Responses



				Planning Condition		
No	Doc / Reviewer	Section	Comment	Suggested by Reviewer	Action Suggested by Reviewer	Outcome
	Liverpool (City Council	: Planning Application Comments Tracker			
1	Policy Review					
	Transport Assessment / Flinders Chase	3. Policy Review	The review of Policy documentation lacks the following existing policy documentation, which do have significance in terms of the Transport Assessment: •LCRCA Transport Plan (2019) – replaces the LCR Transport Plan for Growth (2015); •Ten Streets SRF •LCRCA Local Cycling and Walking Infrastructure Plan (2020) – Note that this was prepared after the submission of the planning application.		Include in any revised version of the documents	The Ten Streets SRF is included in the TA within 6.3. The remaining requests are included in Section 3
2	Contribution to	Parking Enforce	ement Costs	1		
	Match Day Transport Strategy / Flinders Chase	3. Match Day Transport Strategy	Discussion on contributions towards parking enforcement is recommended			Discussion with LCC Parking Services has taken place post submission: Contribution is not required, no contribution is made by the Club or LFC for existing matches.
3	Geographical A	rea for Parking F	Restrictions			
	Transport Assessment / LCC Parking Services	11. Transport Strategy	The area marked 'Industrial Area' in the TA should become part of the proposed controlled parking zone. Without parking controls here there is a risk of adverse impact on businesses in terms of parking and congestion. The FMPZ may be secured via planning condition.		Include this area within the proposed controlled parking zone in operation on match days and event days	This area is now included within the proposed controlled parking area. See Section 11.5. Implementation of parking controls is included in Section 106 Heads of Terms. The requirement to agree these items in full will be secured under the Section 106 agreement or otherwise conditioned to any approval granted
4	Urban Traffic Co	ontrol			I	
	Transport Assessment / Flinders Chase	11 Transport Strategy	It is noted in the TA that the GHS/ Leeds St Junction is not a concern as it is proposed to ask UTC to take control of the junction on match days. It is presumed this is to introduce an "all red to traffic" phase periodically. However, it is not indicated that EFC will cover the cost of this UTC work, and it is not clear if marshals are proposed at the junction. Is it anticipated this will be under active UTC Control, and if so, how will the cost of the personnel in the UTC Control Room be covered.	None	Condition – EFC to fund a Match Day and Event Day programme of UTC Control. Costs for UTC to be covered.	Discussion on cost of UTC monitoring and control of the junction to be met by the Club is ongoing. The requirement to agree these items in full will be secured under the Section 106 agreement or otherwise conditioned to any approval granted. It should be noted that the junction should not be treated in isolation. The area of Derby Road and Great Howard Street corridors will also need to be monitored and a UTC plan created for the corridor.
	Transport Assessment / Flinders Chase	11. Match Day Transport Strategy	Section 1.12.13 indicates that the GHS/ Leeds St Junction will be reviewed by LCC post-planning submission, to assess if removing guardrail would assist with the movement of pedestrians.		Suggestion – ask MM to review the layout of the junction for pedestrian movement and safety enhancements; possible RSA.	Post submission discussion with LCC UTC and Highways. Parties agreed that monitoring of the junction in the early games post stadium opening would reveal whether physical changes should be made to the junction. The junction will be under UTC control on match days. LCC indicated that monitoring should inform any potential changes.
5	Street Lighting	& Pedestrian Fa	cilities Audit			
	Transport Assessment / Flinders Chase	4. Existing Conditions	Section 4.5.10 discusses street lighting. Has any independent assessment been undertaken on key routes which have not fallen within the NLKC scheme. Furthermore an audit of pedestrian facilities and current condition of Blackstone Street should be considered. In additional review of pedestrian facilities where taxi ranks and bus stops are proposed should be undertaken.		Undertake pedestrian and lighting audits to determine ahny additional highway works.	Pedestrian and lighting audit may be undertaken following planning submission to review the areas specified by LCC to inform a review of whether improvements are necessary. This is noted in Section 11.18
6	Regent Road Cy	cleway and site	access			
	Transport Assessment / Flinders Chase	5. Proposed Development	Section 5 deals I with the proposed changes to the new segregated cycleway installed under the NLKC Scheme, on Regent Road, as it passes the stadium site. Appendix I also includes a drawing of the proposed changes to this cycleway. The proposals are not adequately developed to allow an assessment of mitigation to be made. The cycleway must be continuous as it passes the stadium, in segregated format, but must also be designed in such a way that it can accept high quantities of pedestrian movements "across it" on Match Days.	Condition – Highway Works	Suggestion – seek clarity from Mott MacDonald and ask them to review their Highway Works drawing in Appendix I, to show a workable solution that retains continuity of the cycle route along Regent Road, and ensures it can operate safely as it passes the stadium. The proposal needs to be suitable for match days and non-match days. Further comments will be required on the proposed layout from the Walking and Cycling Officer, and the Access Officer, at LCC.	Post submission discussions and workshop with LCC cycle officer, inclusivity officer, planning and highways officer revealed a preferred scheme. Plan in Appendix I is tbased on the agreed principles.
	Transport Assessment / Flinders Chase	5. Proposed Development	Section 5.7.2 indicates that for large vehicles to access the stadium, they would be required to drive over the footways on Regent Road. This will not be acceptable, and proposals to amend the highway layout to ensure all vehicle movements can be accommodated on-carriageway are essential.		Suggestion – review swept path analyses and develop an amended highway layout that accommodates all required swept paths, without the need to drive over the footway on the eastern side of Regent Road	New swept path analysis is provided taking into account comments and new Regent Road Scheme. Included as Appendix H. Changes to the Regent Road Scheme mean that now vehicles do not overrun the footway.
7	Highway Signag	je Scheme				
	Transport Assessment / Flinders Chase		VMS, Pedestrian & vehicle signage	Condition – Highway Works		Discussion with LCC reveals •LCC are content with the 2 VMS signs proposed; •LCC are happy to condition other vehicle signage and agree this does not need to be extensive. No requirement for signage form a wide area- restrict to a handful of local signs; •Pedestrian signage LCC agree this be minimal and potentially restricted to signage from 2-3 city centre locations: •Any banner signage on Regent Road or Great Howard Street would be subject to more detailed discussion potentially post approval; •Signage included in Section 106 Heads of Terms •The requirement to agree these items in full will be secured under the Section 106 agreement or otherwise conditioned to any approval granted
8	Highway Works	3				
	Transport Assessment / Flinders Chase		In addition to the highway works already identified, LCC requests: • Taxi-ranks on Boundary Street, consider making this match day only, with marshals • Dublin Street Taxi Rank • A scheme of works on Sandhills Lane to redesignate kerbside space to taxis and buses, whilst retaining use of much of the kerbside space for general parking on non-match days; • Remove deterrent paving on GHS and improve footway at junction with Blackstone St; • General kerbside parking and loading restrictions, outlined in Appendix I of TA, for the industrial area to the north of the stadium, exact details to be reviewed and submitted separately; • Kerb and layby changes at site access points	Condition – Highway Works		Scheme drawings for these items included in the planning application. Those not included are subject to results of any pedestrian / lighting audit and concept design. Detail of these schemes to be agreed post planning resubmission and agreed Works to be conditioned to any approval granted
9	Cycle Parking &	Car Parking		I	l	1



				Planning		
				Suggested by		
No	Doc / Reviewer	Section	Comment	Reviewer	Action Suggested by Reviewer	Outcome
	Transport Assessment / Flinders Chase	5. Proposed Development	It is not clear how the proposed number of cycle parking spaces has been arrived at. Furthermore, the layout and location of the proposed cycle parking is not included in any detail. There is also no mention of motorcycle parking being provided.			More Detail now provided in Section 5.3 & 5.6
	Transprt Assessment & Car Parking		It is proposed that some car parking spces are not formally marked out on site. A Parking management strategy will be required so that how these spaces will be managed can be fully understood.		Planning condition requiring agreement of a Parking Strategy attached to any permission granted	The spaces are not marked out for urban design reasons and the need for some areas of the stadium to remin flexible. The Parking Management Strategy can be agred as a condition following any planning approval.
10	Construction N	lanagement Plar	1			
	Transport Assessment / Flinders Chase	5. Proposed Development	It is likely that a system of temporary signage will be required during the Construction stage of the project, to ensure construction vehicles follow the accepted routes.	review and update CMP prior to commencemen t. Usual CMP requirements in standard condition		Agree the construction management plan can be agreed via planning conditions subject to any approval granted
11	Traffic Modellin	ng				
	Transport Assessment / Flinders Chase	13. Transport Demand on NMDs and NEDs	We now know the Cruise Terminal MSCP will not go ahead in the previously proposed location. Can the modelling work be reviewed and updated with this traffic taken out, to see what the effect is? Would it be feasible to sign the traffic approaching from the north, to turn right at the junction previous to Blackstone Street to reduce pressure on it?		Suggestion – ask MM to review and update their modelling at GHS/ Blackstone St.	A Technical note has been prepared on modelling which addresses these issues. This is now included as Appendix L.
12	Time Limit Con	dition				
	Match Day Transport Strategy / Flinders Chase	2. Proposed Development	In the section on car parking, it is indicated that entry to and exit from the MSCP within the stadium grounds will be "restricted" close to kick-off and immediately post-match. The movement of cars within the stadium grounds should be prohibited well before kick-off and for a period after the match has ended. It is suggested that the Strategy, or an associated planning condition, specifically deals with prohibiting cars being allowed to move around within the stadium grounds for specific periods of time on match days.	Condition – no vehicle movements within the stadium grounds on Match Days from 1 hour before kick-off,		No reason why suggest arbitrary time limits should be conditioned . Whilst 1 hour before kick off appears reasonable, the post match exit time set at 45 minutes could potentially delay traffic exiting when it is actually safe for them to do so. This impacts on the long term flexibility of the site. We suggest this does not require its own planning condition. Can be included in Event Management Plans. An alternative suggested wording in the EMP transport would be 'no vehicles shall enter or exit until the site security officer & Police agree it is safe to '.
13	Hard Road Clos	ure				
	Transport Assessment / Flinders Chase	3. Match Day Transport Strategy	Do the 'hard closures' require the installation of a mountable/demountable HMV system such as "surface-guard"? The detail of the TM plan showing the detail of the lane closures etc needs to be agreed.		Condition – detail of traffic management proposals submitted in Appendix C of TA to be refined and subject to LCC Agreement. Hard Road Closure system to be submitted and approved by LCC prior to implementation.	Agree, means of road closure can be subject to planning condition.
14	Event Traffic M	anagement Plan	IS			
	Transport Assessment / Flinders Chase	Event Transport Strategy	The document is proposed to be used as a guide, as the basis for bespoke Event Traffic Management Plans (ETMPs) which it suggests are written specifically for each event. This is a reasonable approach.		Condition – ETMPs to be developed (using the FETS as the basis) for all Events proposed to be held at the stadium, and to be approved by LCC, Merseytravel and Merseyside Police at least 12 weeks before the date of the event.	This is agreed and will also likely form part of the licencing process
15	Transport Worl	king Group				
	Transport Assessment / Flinders Chase	7. Transport Strategy Methodology	This section is also generally OK, but it would seem appropriate to ask EFC to undertake Annual Supporter Travel Surveys, and to set up and maintain the Transport Working Group.	Condition – set up and maintain the TWG, (with LCC, MT, MP as a minimum on invitee list) and undertake Annual		We accept the need for a condition relating to the Transport Working Group. This can be agreed post planning submission
16	Inclusive Acces	s Issues				
	LCC Inclusivity		Requests for: Coach parking and taxi ranks closer to stadium and ability for coaches to drop off close to stadium Increased allocation of disabled parking (based on initial revised scheme of 37 spaces) Identification of where disabled supporters may park their vehicles if unable to access the stadium's car park? Parking Management Strategy			For security and pedestrian movement reasons we cannot provide coach parking or taxi ranks closer to the stadium. following consultation with LCC Inclusivity and EDSA the Club is now proposing: Free shuttle services from Sandhills Station and Stanley Park car park (to be secured by planning condition); Priority parking for coaches with high proportion of disabled supporters closer to the stadium that other coaches: Increased stadium parking provision of 54 accessible bays Parking Management Strategy to be provided as planning condition
17	Travel Plan					
	Interim Staff Travel Plan / Flinders Chase	1. Introduction	it is suggested that a period of 5 years be allowed for the Travel Plan to be fully embedded and any benefits associated with reduced reliance on the Private Cars by staff are realised. The Travel Plan should therefore be reviewed annually and amended accordingly; with Travel Surveys undertaken each year and monitoring			Agreed this can form a planning condition to any approval granted

			of sustainable transport uptake undertaken on an ongoing basis.		
	Interim Staff Travel Plan / Flinders Chase	General	The document should: Name an appropriate Travel Plan Coordinator Include travel survey information on staff travel at Goodison Park Access on foot should be separated from access by bicycle in the baseline section		TPC now named and document contains travel survey information. Baseline information now separates pedestrian access and access on foot.
	Interim Staff Travel Plan / Flinders Chase	General	More detail on the staff shuttle bus. Figure 6 seems to indicate there are "key bus stops" on Great Howard Street, which are not served by any buses – this is perhaps an oversight, but the routes need to be included such that their usage can be considered by staff.		Staff shuttle bus frequency and operation will be more clearly defined following any planning approval. At present the demand for the service is not known. This will be monitored follwing planning approval. Bus stops on Great Howard Street may be used by any new future service so it is appropriate to keep these in Figure 6.
	Interim Staff Travel Plan / Flinders Chase	2. Policy Review	The review of Policy documentation omits the following existing policy documentation, which do have significance in terms of the Staff Travel Plan: •LCRCA Transport Plan (2019) – replaces the LCR Transport Plan for Growth (2015); •LCRCA Local Journeys Strategy (2017) •Ten Streets SRF •LCRCA Local Cycling and Walking Infrastructure Plan (2020) – Note that this was prepared after the submission of the planning application.		Policy Review updated.
18	November Pos	t - Submission C	lueries		



No	Doc / Reviewer	Section	Comment	Planning Condition Suggested by	Action Suggested by Reviewer	Outcome
NO	Doc / Reviewer	3001011	Comment	Reviewei	Action suggested by reviewer	
	Tramsport Assessment / Flinders Chase	General	Further Information requested on •When Event Transport Strategy will be triggered; •Whether entire extent of Boundary Street taxi rank will be required; •Specification of materials for Regent Road changes; •Requirement for marshals at the Leeds Street junction;			Changes • Detail on when Event Management Plan is required included in Section 7 • Boundary Street taxi rank shortened in line with LCC request • Specification of Regent Road cycleway changed in line with LCC reccomendations • Marshals included at Leeds Street junction
	Sefton Cou	uncil: Plann	ing Application Comments Tracker			
18	Assessment of	traffic impact in	Bootle			
10						
	Sefton Council		Request that a strategy be put in place so that impact in Bootle from traffic parking there to access shuttle buses is put in place.			Meeting with Sefton Council: • Agreed that detailed impact assessment was not necessary. • Sefton Council requested details on how travel planning information would be shared with supporters thereby mitigating impact in Sefton. • This information now included in TA.
	Mersevtra	vel: Plannir	ng Application Comments Tracker			
10	Guarantee of s	huttle bus servi				
19	Guarantee or s				1	
	No Document Specified / Merseytravel	NA	Merseytravel would wish to request that Liverpool City Council require the developer and operator of the proposed stadium, to fund and procure in full, the provision of appropriate shuttle bus services, between the proposed stadium and Liverpool City Centre, and between the proposed stadium and Bootle Town Centre, in the event of these services not being provided on a commercial basis.			This requirement is included in the Section 106 Heads of Terms. The requirement to agree these items in full will be secured under the Section 106 agreement or otherwise conditioned to any approval granted.
20	Corralling Facil	ity	1	-	T	1
	No Document Specified / Merseytravel	NA	The Club should fund the creation of an appropriate queue management 'corralling' system and passenger holding area, at Sandhills Merseyrail Station, to be employed on football match days and dates when other significant events are held within the proposed stadium. This facility at all other times needs to be suitable for use as a bus-rail interchange area, a function that would also play an important role in providing public transport links to the proposed new stadium on non-match (or major event) days.	S106		Discussion with Merseytravel: • Dialogue ongoing on the design of the facility and final cost.; included in application Section 106 Heads of Terms • Both parties agree in principle the need for the facility • Dialogue to continue following planning resubmission • The requirement to agree these items in full will be secured under the Section 106 agreement or otherwise conditioned to any approval granted
21	City Centre Ter	minal			1	
	No Document Specified / Merseytravel	NA	The securing of the provision of an appropriate City Centre terminal facility for all match day, and major event day, bus services. The Liverpool City Council 'Connectivity Plan', will need to be taken into consideration in satisfying this requirement. T	Unknown		Generally agreed in meeting with Merseytravel and Liverpool City Council that there is no obligation on the Club to provide this facility. A new facility is in process of being trialled by LCC at Commutation Row. This issue will likely be resolved years before the stadium opens. The facility is needed to serve Goodison Park & Anfield.
22	Future Collabo	ration				
			It is the view Merseyrail Electrics Ltd, Network Rail and Merseytravel, that further enhancements to Sandhills Station, and other associated key elements of the rail network, subsequent to 2023, could be made which would result in greater use of rail travel to be made, for the efficient movement of match day (and other major event day) passenger traffic. Consequently Merseytravel would wish to request that Liverpool City Council require the applicant and developer to continue appropriate collaboration with the Rail Industry and Merseytravel, on suitable means for enhancing potential rail travel to and from the proposed stadium, beyond the provisions currently set out for delivery for 2023, for a period of no less than five years thereafter.			In pre application and post application dialogue the Club has confirmed that it would continue to engage in dialogue with the rail industry on Sandhills Station.
	United Uti	lities				
23	Match Day Acc	ess				
			We would be grateful if the applicant can confirm what plan exists to ensure that 24 hour access can be maintained to all our assets especially during event days. This should include consideration of appropriate provision within event day traffic management plans in order to ensure that access to our assets can be maintained.			MM has discussed this post planning submission with UU •UU site access is outside hard closure area; •UU staff and vehicles will be allowed access though the soft closure area by permit; •UU will have direct line to the EFC match day control centre (with police, security, traffic management etc); •Traffic and transport situation outside of the site to be monitored following stadium opening through the Transport Working Group.



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