In Parliament – Session 2021 - 2022

HS2

High Speed Rail (Crewe – Manchester) Environmental Statement

Volume 5: Appendix TR-003-00006_Report 4

Traffic and transport

MA06: Hulseheath to Manchester Airport/
MA07: Davenport Green to Ardwick/
MA08: Manchester Piccadilly Station
Transport Assessment Part 3 - Report 4 of 4

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Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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MA07

18.5.228 The results for the MA07 area are presented from south to north through the MA07 area, firstly for junctions on the strategic road network, followed by junctions on other roads. The 2038 and 2046 future baseline results are included for comparison. The models developed to assess the existing and future baseline have been used, except where otherwise stated.

18.5.229 The junction assessed in the following section are:

- M56 junction 2/A560 Altrincham Road/B5168 Sharston Road;
- M60 junction 2/A560 Stockport Road/Heathside Park Road/Carrs Road/Cheadle Point;
- A560/Greenwood Road;
- M60 junction 3;
- M56 junction 3a/A560 Altrincham Road;
- A5103 Princess Parkway/B5167 Palatine Road;
- M60 junction 23/A6140 Moss Way;
- M60 junction 23/A635 Manchester Road;
- A555 Ringway Road/B5166 Styal Road;
- A555 Ringway Road West/Enterprise Way;
- Simonsway/Poundswick Lane;
- Greenbrow Road/Newall Road;
- Barnacre Avenue/Newall Road/Whitecarr Lane;
- B5166 Styal Road/Hollyhedge Road;
- Floats Road/Southmoor Road;
- Southmoor Road/Ledson Road;
- Greenwood Road/Royalthorn Road;
- A560 Altrincham Road/A560 Shaftesbury Avenue/B5165 Stockport Road/Brooklands Road;
- B5167 Wythenshawe Road/Moor Road;
- A6 Wellington Road South/Wellington Street/Station Road;
- A5103 Princess Road/Whitchurch Road;
- A5103 Princess Road/A6010 Wilbraham Road;
- A5181 Barton Road/A5145 Kingsway/B5213 Urmston Lane;
- A5103 Princess Road/Platt Lane/Parkway Access;
- Upper Lloyd Street/Claremont Road/Lloyd Street South;
- A57 Hyde Road/Lime Grove/Saxon Street;
- B5219 Moss Lane East/Upper Lloyd Street/Lloyd Street North;
- A34 Upper Brook Street/Hathersage Road;

- A57 Hyde Road/Tan Yard Brow/Willow Grove;
- A57 Hyde Road/Chapman Street;
- A57 Hyde Road/Wellington Street/Hengist Street;
- A57 Hyde Road/B6178 Hyde Road/B6178 Mount Road;
- Wellington Street/Cross Lane/Garratt Way;
- Chapman Street/Cross Lane;
- A57 Hyde Road/Clowes Street;
- A57 Hyde Road/Bennett Street;
- Stamford Road/Corporation Road;
- A665 Devonshire Street North/A57 Hyde Road/A665 Devonshire Street;
- Gorton Lane/Belle Vue Street;
- A6010 Pottery Lane/Gorton Lane/Wenlock Way;
- A665 Chancellor Lane/A665 Devonshire Street North/Higher Ardwick;
- A635 Ashton Old Road/Vine Street;
- A635 Ashton Old Road/Rondin Road;
- Millstream Lane/Edge Lane/Berry Brow; and
- Culcheth Lane/Briscoe Lane.

M56 junction 2/A560 Altrincham Road/B5168 Sharston Road

18.5.230 Table 18-301 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-301: M56 junction 2/A560 Altrincham Road/B5168 Sharston Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
B5168 Sharston Road	892	103%	9	890	103%	9	893	104%	9	889	104%	9
M56 off-slip	1,230	48%	9	1,269	50%	9	1,340	53%	10	1,358	53%	10
A560 Altrincham Road (south)	1,128	93%	10	1,125	93%	10	1,149	95%	10	1,158	96%	10
A560 Altrincham Road (west)	1,223	80%	9	1,220	79%	9	1,209	79%	9	1,215	79%	9
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
B5168 Sharston Road	724	86%	3	716	87%	3	720	91%	4	732	88%	3
M56 off-slip	933	48%	8	922	48%	8	1,055	54%	9	1,048	54%	9
A560 Altrincham Road (south)	885	84%	8	885	84%	8	899	86%	9	893	85%	8
A560 Altrincham Road (west)	1,263	74%	9	1,298	76%	10	1,322	78%	10	1,299	77%	10

18.5.231 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

18.5.232 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum from 91% in the 2046 future baseline to 88% with the Proposed Scheme in 2046 on the B5168 Sharston Road approach, with a corresponding change in queue length from four PCU in the future baseline to three PCU. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

M60 junction 2/A560 Stockport Road/Heathside Park Road/Carrs Road/Cheadle Point

18.5.233 Table 18-302 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. The Heathside Park Road, Carrs Road and Cheadle Point approaches are minor arms that are not included within the SATURN model.

Table 18-302: M60 junction 2/A560 Stockport Road/Heathside Park Road/Carrs Road/Cheadle Point junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
M60	865	52%	0	862	52%	0	837	52%	0	834	52%	0
Heathside Park Road	-	-	-	-	-	-	-	-	-	-	-	-
A560 Stockport Road (east)	828	49%	6	851	50%	6	962	56%	7	991	58%	7
Carrs Road	-	-	-	-	-	-	-	-	-	-	-	-
Cheadle Point	-	-	-	-	-	-	-	-	-	-	-	-
A560 Stockport Road (west)	1,258	81%	1	1,240	81%	1	1,227	81%	1	1,231	83%	2
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
M60	285	17%	0	272	16%	0	216	13%	0	216	13%	0
Heathside Park Road	-	-	-	-	-	-	-	-	-	-	-	-
A560 Stockport Road (east)	1,089	88%	10	1,121	90%	11	1,202	97%	11	1,215	98%	11
Carrs Road	-	-	-	-	-	-	-	-	-	-	-	-
Cheadle Point	-	-	-	-	-	-	-	-	-	-	-	-
A560 Stockport Road (west)	1,258	73%	1	1,274	75%	1	1,380	84%	1	1,384	84%	1

18.5.234 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the maximum VoC will increase from 88% in the 2038 future baseline to 90% with the Proposed Scheme in 2038 on the A560 Stockport Road (east) approach, with a corresponding change in queue length from 10 PCU in the future baseline to 11 PCU. The assessment shows that in the AM peak hour the junction operates within capacity in both the 2038 future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.235 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates within capacity in both the 2046 future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

A560/Greenwood Road

18.5.236 Table 18-303 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. Although this junction is a four-arm priority controlled (give way) roundabout, the A560 Altrincham Road (north-east) is a one-way exit arm from the junction and is therefore not reported in the results.

Table 18-303: A560/Greenwood Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A560 Altrincham Road (west)	1,267	60%	0	1,257	60%	0	1,299	61%	0	1,370	66%	0
A560 Altrincham Road (south-east)	1,133	56%	0	1,140	56%	0	1,149	59%	0	1,200	66%	0
Greenwood Road	486	47%	0	494	48%	0	509	49%	1	537	54%	1
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A560 Altrincham Road (west)	1,286	62%	0	1,301	65%	0	1,306	66%	0	1,288	65%	0
A560 Altrincham Road (south-east)	1,054	52%	0	1,050	52%	0	1,079	53%	0	1,077	54%	0
Greenwood Road	445	45%	0	478	48%	1	499	51%	1	490	50%	1

18.5.237 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hours, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.238 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hours, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

M60 junction 3

18.5.239 Table 18-304 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-304: M60 junction 3 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A34 Kingsway	785	104%	15	784	104%	15	773	103%	15	771	102%	15
M60 off-slip	2,405	82%	28	2,415	82%	28	2,506	85%	29	2,521	86%	29
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A34 Kingsway	1,020	61%	19	1,033	62%	19	1,051	63%	20	1,044	62%	19
M60 off-slip	2,460	95%	33	2,487	96%	34	2,513	97%	34	2,537	98%	34

18.5.240 The model shows that the change in traffic due to operation of the Proposed Scheme in 2038 will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.241 The model shows that the change in traffic due to operation of the Proposed Scheme in 2046 will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates over capacity both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

M56 junction 3a/A560 Altrincham Road

18.5.242 Table 18-305 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-305: M56 junction 3a/A560 Altrincham Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A5103 Princess Parkway	1,068	103%	9	1,056	103%	9	1,017	104%	9	1,016	104%	9
A560 Altrincham Road (east)	1,240	104%	9	1,232	104%	9	1,254	105%	9	1,307	105%	9
M56 Princess Parkway northbound off slip	932	86%	2	947	88%	3	1,086	97%	6	1,053	96%	5
A560 Altrincham Road (west)	1,444	97%	5	1,473	100%	10	1,446	101%	10	1,450	102%	10
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A5103 Princess Parkway	1,063	101%	9	1,056	101%	9	1,020	102%	9	1,022	102%	9
A560 Altrincham Road (east)	1,211	100%	9	1,212	99%	8	1,221	101%	9	1,212	101%	9
M56 Princess Parkway northbound off slip	723	66%	1	760	70%	1	776	70%	1	786	71%	1
A560 Altrincham Road (west)	1,437	89%	2	1,459	90%	2	1,504	92%	3	1,551	95%	3

18.5.243 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2038 future baseline and the Proposed Scheme in the AM or PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 97% in the 2038 future baseline to 100% with the Proposed Scheme in 2038 on the A560 Altrincham Road (west) approach in the AM peak hour. Queue length will increase from five PCU in the future baseline to 10 PCU with the Proposed Scheme. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

18.5.244 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM or PM peak hours. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 92% in the 2046 future baseline to 95% with the Proposed Scheme in 2046 on the A560 Altrincham Road (west) approach. There will be no change in queue lengths. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

A5103 Princess Parkway/B5167 Palatine Road

18.5.245 Table 18-306 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-306: A5103 Princess Parkway/B5167 Palatine Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A5103 Princess Parkway southbound off-slip	546	51%	10	558	53%	11	568	53%	11	546	51%	10
B5167 Palatine Road	1,004	60%	15	1,013	61%	15	1,040	62%	16	1,081	65%	17
A5103 Princess Parkway northbound off-slip	835	79%	16	822	78%	16	831	79%	16	809	77%	15
B5167 Wythenshawe Road	1,017	39%	16	1,067	41%	16	1,113	42%	17	1,156	44%	18
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A5103 Princess Parkway southbound off-slip	766	93%	16	765	93%	16	781	95%	16	778	95%	16
B5167 Palatine Road	882	47%	12	868	46%	12	961	51%	13	968	52%	13
A5103 Princess Parkway northbound off-slip	757	92%	16	763	93%	16	780	95%	16	780	95%	16
B5167 Wythenshawe Road	1,081	37%	15	1,074	37%	15	1,132	39%	16	1,126	39%	16

18.5.246 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.247 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

M60 junction 23/A6140 Moss Way

18.5.248 Table 18-307 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-307: M60 junction 23/A6140 Moss Way junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A6140 Moss Way (north)	518	35%	5	543	37%	5	536	36%	5	555	37%	6
A6140 Moss Way (south)	792	30%	3	829	32%	3	812	31%	3	842	32%	4
M60 northbound off-slip	1,346	75%	14	1,333	74%	14	1,389	77%	14	1,376	77%	14
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A6140 Moss Way (north)	730	43%	6	730	43%	6	749	45%	7	754	45%	7
A6140 Moss Way (south)	779	36%	5	784	36%	5	808	38%	5	815	38%	5
M60 northbound off-slip	1,444	94%	16	1,449	94%	16	1,468	95%	16	1,470	95%	16

18.5.249 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and well within capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.250 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

M60 junction 23/A635 Manchester Road

18.5.251 Table 18-308 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-308: M60 junction 23/A635 Manchester Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
M60 southbound off slip	1,684	78%	37	1,721	80%	38	1,830	85%	41	1,861	86%	41
A635 Manchester Road (east)	2,209	45%	18	2,194	45%	17	2,363	48%	18	2,356	48%	17
A635 Manchester Road (west)	1,602	37%	35	1,606	37%	35	1,668	38%	37	1,681	39%	37
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
M60 southbound off slip	1,478	104%	35	1,481	104%	35	1,508	106%	35	1,511	106%	35
A635 Manchester Road (east)	2,106	38%	14	2,100	38%	14	2,187	40%	14	2,182	40%	14
A635 Manchester Road (west)	1,693	49%	28	1,684	48%	28	1,756	51%	28	1,752	50%	28

18.5.252 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.253 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction which is, however, predicted to operate above its capacity in the future baseline.

A555 Ringway Road/B5166 Styal Road

18.5.254 Table 18-309 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-309: A555 Ringway Road/B5166 Styal Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
B5166 Styal Road (north)	1,102	77%	25	1,117	78%	25	1,280	90%	27	1,268	89%	27
A555 (east)	2,244	95%	36	2,304	98%	37	2,461	104%	40	2,485	105%	40
B5166 Styal Road (south)	805	94%	17	840	98%	17	864	102%	17	876	103%	17
A555 Ringway Road	1,975	78%	33	1,981	79%	33	1,849	73%	30	1,868	74%	31
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
B5166 Styal Road (north)	1,114	78%	24	1,164	82%	25	1,206	84%	25	1,245	87%	26
A555 (east)	1,569	66%	26	1,542	65%	26	1,583	67%	27	1,603	68%	28
B5166 Styal Road (south)	862	103%	17	862	103%	17	866	103%	17	866	103%	17
A555 Ringway Road	2,381	95%	39	2,419	96%	40	2,471	98%	40	2,495	99%	40

18.5.255 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 95% in the 2038 future baseline to 98% with the Proposed Scheme in 2038 on the A555 (east) approach in the AM peak hour, with a corresponding change in queue length from 36 PCU in the 2038 future baseline to 37 PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the 2038 future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the 2038 future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

18.5.256 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2046 future baseline and the Proposed Scheme. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 84% in the 2046 future baseline to 87% with the Proposed Scheme in 2046 on the B5166 Styal Road (north) approach. Queue length will increase from 25 PCU in the future baseline to 26 PCU with the Proposed Scheme. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

A555 Ringway Road West/Enterprise Way

18.5.257 Table 18-310 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-310: A555 Ringway Road West/Enterprise Way junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Enterprise Way	931	61%	12	942	62%	12	1,076	71%	13	1,033	68%	13
A555 Ringway Road West (east)	1,365	51%	16	1,369	51%	16	1,407	52%	16	1,403	52%	16
A555 Ringway Road West (west)	2,359	107%	28	2,367	107%	28	2,116	96%	25	2,174	98%	26
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Enterprise Way	1,562	103%	18	1,562	103%	18	1,543	102%	18	1,562	103%	18
A555 Ringway Road West (east)	1,023	38%	11	1,007	37%	11	1,045	39%	11	1,076	40%	12
A555 Ringway Road West (west)	1,928	87%	26	1,905	86%	26	2,124	96%	27	2,097	95%	27

18.5.258 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hours, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.259 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 96% in the 2046 future baseline to 98% with the Proposed Scheme in 2046 on the A555 Ringway Road West (west) approach in the AM peak hour, with a corresponding change in queue length from 25 PCU in the future baseline to 26 PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

Simonsway/Poundswick Lane

18.5.260 Table 18-311 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-311: Simonsway/Poundswick Lane junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Poundswick Lane	84	45%	2	91	49%	2	127	68%	3	118	63%	3
Simonsway (east)	768	49%	8	783	51%	8	864	59%	9	870	59%	9
Simonsway (west)	736	75%	10	756	77%	10	870	88%	12	846	86%	12
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Poundswick Lane	160	43%	3	161	43%	3	166	45%	4	184	50%	4
Simonsway (east)	888	72%	4	890	73%	4	917	76%	4	934	78%	4
Simonsway (west)	686	90%	11	707	93%	12	716	94%	12	734	96%	12

18.5.261 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the maximum VoC will increase from 90% in the 2038 future baseline to 93% with the Proposed Scheme in 2038 on the Simonsway (west) approach, with a corresponding change in queue length from 11 PCU in the future baseline to 12 PCU. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the assessment shows that this junction operates close to close to capacity in both future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.262 The change in traffic due to operation of the Proposed Scheme will decrease the maximum VoC from 88% in the 2046 future baseline to 86% with the Proposed Scheme in 2046 on the Simonsway (west) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 94% in the 2046 future baseline to 96% with the Proposed Scheme in 2046 on the Simonsway (west) approach, with no change in corresponding queue in queue length. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both future baseline and with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

Greenbrow Road/Newall Road

18.5.263 Table 18-312 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-312: Greenbrow Road/Newall Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Greenbrow Road (north)	200	70%	1	208	70%	1	175	73%	1	218	70%	1
Greenbrow Road (south)	885	51%	0	861	50%	0	997	58%	0	833	48%	0
Newall Road	598	101%	3	601	103%	3	619	103%	2	594	104%	3
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Greenbrow Road (north)	117	40%	0	121	43%	0	124	45%	0	124	47%	0
Greenbrow Road (south)	910	53%	0	924	53%	0	938	54%	0	962	56%	0
Newall Road	635	105%	2	646	108%	2	650	106%	2	664	109%	2

18.5.264 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 101% in the 2038 future baseline to 103% with the Proposed Scheme in 2038 on the Newall Road approach in the AM peak hour, with no change in queue lengths. In the PM peak hour, the maximum VoC will increase from 105% in the future baseline to 108% with the Proposed Scheme in 2038 on the Newall Road approach, with no change in queue lengths. The assessment shows that in the AM and PM peak hour this junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction which is, however, predicted to operate above its capacity in the future baseline.

18.5.265 The model shows that for this junction, the change in traffic due to the operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 106% in the future baseline to 109% with the Proposed Scheme in 2046 on the Newall Road approach, with no change in queue lengths. The assessment shows that in the AM and PM peak hour this junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

Barnacre Avenue/Newall Road/Whitecarr Lane

18.5.266 Table 18-313 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-313: Barnacre Avenue/Newall Road/Whitecarr Lane junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Barnacre Avenue	140	43%	0	91	21%	0	115	27%	0	19	5%	0
Newall Road	1,054	77%	0	1,038	72%	0	1,140	81%	0	1,020	63%	0
Whitecarr Lane	514	26%	0	542	27%	0	507	25%	0	575	29%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Barnacre Avenue	88	22%	0	0	0%	0	45	12%	0	0	0%	0
Newall Road	995	86%	0	1,014	89%	0	1,031	91%	0	1,055	91%	0
Whitecarr Lane	595	30%	0	700	35%	0	667	34%	0	733	37%	0

18.5.267 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 86% in the 2038 future baseline to 89% with the Proposed Scheme in 2038 on the Newall Road approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and well within capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.268 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and well within capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

B5166 Styal Road/Hollyhedge Road

18.5.269 Table 18-314 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. The West Drive approach is a minor arm that is not included within the SATURN model.

Table 18-314: B5166 Styal Road/Hollyhedge Road junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
B5166 Styal Road (north)	879	90%	1	895	92%	1	971	99%	1	933	101%	2
West Drive	-	-	-	-	-	-	-	-	-	-	-	-
B5166 Styal Road (south)	449	24%	0	470	25%	0	495	26%	0	527	28%	0
Hollyhedge Road	462	64%	3	461	64%	3	457	65%	4	466	67%	5
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
B5166 Styal Road (north)	807	72%	0	825	73%	0	901	84%	0	907	82%	0
West Drive	-	-	-	-	-	-	-	-	-	-	-	-
B5166 Styal Road (south)	459	24%	0	462	25%	0	535	28%	0	543	29%	0
Hollyhedge Road	507	68%	5	511	69%	5	514	75%	5	532	78%	5

18.5.270 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 90% in the 2038 future baseline to 92% with the Proposed Scheme in 2038 on the B5166 Styal Road (north) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.271 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 99% in the 2046 future baseline to 101% with the Proposed Scheme in 2046 on the B5166 Styal Road (north) approach in the AM peak hour, with a corresponding change in queue length from one PCU in the future baseline to two PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate over its capacity in the future baseline and a negligible impact on the operation of the junction in the PM peak hour.

Floats Road/Southmoor Road

18.5.272 Table 18-315 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-315: Floats Road/Southmoor Road junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Floats Road (north)	183	9%	0	181	9%	0	195	10%	0	199	10%	0
Southmoor Road	182	35%	0	183	36%	0	193	38%	0	189	39%	0
Floats Road (south)	667	70%	0	713	78%	0	717	77%	0	756	92%	1
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Floats Road (north)	213	11%	0	204	10%	0	221	11%	0	215	11%	0
Southmoor Road	240	47%	0	243	47%	0	257	50%	0	259	51%	0
Floats Road (south)	680	79%	0	765	67%	0	748	73%	0	803	72%	0

18.5.273 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates well within capacity in the future baseline and within capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and well within capacity with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.274 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 77% in the 2046 future baseline to 92% with the Proposed Scheme in 2046 on the Floats Road (south) approach in the AM peak hour, with a change in corresponding queue length from no queue in the future baseline to one PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

Southmoor Road/Ledson Road

18.5.275 Table 18-316 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-316: Southmoor Road/Ledson Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Southmoor Road (north)	295	12%	0	319	13%	0	363	14%	0	391	16%	0
Southmoor Road (south)	330	19%	0	360	20%	0	348	20%	0	428	24%	0
Ledson Road	147	29%	0	160	32%	0	169	36%	0	175	37%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Southmoor Road (north)	190	7%	0	381	15%	0	381	15%	0	412	16%	0
Southmoor Road (south)	261	14%	0	290	16%	0	294	16%	0	362	20%	0
Ledson Road	331	66%	0	369	85%	1	296	66%	0	383	96%	3

18.5.276 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 66% in the 2038 future baseline to 85% with the Proposed Scheme in 2038 on the Ledson Road approach, with a change in corresponding queue length from no queue in the future baseline to one PCU. The assessment shows that in the AM peak hour the junction operates well within capacity in both future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.277 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 66% in the 2046 future baseline to 96% with the Proposed Scheme in 2046 on the Ledson Road approach, with a change in corresponding queue length from no queue in the future baseline to three PCU. The assessment shows that in the AM peak hour the junction operates well within capacity in both future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

Greenwood Road/Royalthorn Road

18.5.278 Table 18-317 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-317: Greenwood Road/Royalthorn Road junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Greenwood Road (east)	423	22%	0	438	22%	0	494	25%	0	585	30%	0
Royalthorn Road	297	88%	2	290	88%	2	274	91%	2	240	93%	3
Greenwood Road (west)	209	12%	0	224	13%	0	255	14%	0	317	18%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Greenwood Road (east)	312	17%	0	320	17%	0	341	18%	0	343	18%	0
Royalthorn Road	143	39%	0	143	40%	0	149	43%	0	150	43%	0
Greenwood Road (west)	326	18%	0	359	19%	0	374	20%	0	364	20%	0

18.5.279 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.280 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 91% in the 2046 future baseline to 93% with the Proposed Scheme in 2046 on the Royalthorn Road approach in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to three PCU. In the PM peak hour, the model shows that the change in traffic due to the operation of the Proposed Scheme in 2046 will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A560 Altrincham Road/A560 Shaftesbury Avenue/B5165 Stockport Road/Brooklands Road

18.5.281 Table 18-318 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. The Brooks Drive approach is a minor arm that is not included within the SATURN model.

Table 18-318: A560 Altrincham Road/A560 Shaftesbury Avenue/B5165 Stockport Road/Brooklands Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Brooklands Road	838	107%	7	825	107%	7	827	108%	8	816	108%	8
A560 Altrincham Road	1,106	39%	0	1,136	40%	0	1,206	43%	0	1,240	43%	0
Brooks Drive	-	-	-	-	-	-	-	-	-	-	-	-
A560 Shaftesbury Avenue	1,359	71%	0	1,416	73%	1	1,385	72%	0	1,450	75%	1
B5165 Stockport Road	728	103%	7	708	103%	7	723	103%	7	699	103%	7
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Brooklands Road	843	103%	7	842	103%	7	838	104%	7	825	104%	7
A560 Altrincham Road	1,133	40%	0	1,143	40%	0	1,193	42%	0	1,217	43%	0
Brooks Drive	-	-	-	-	-	-	-	-	-	-	-	-
A560 Shaftesbury Avenue	1,177	64%	0	1,198	65%	0	1,214	66%	0	1,289	70%	1
B5165 Stockport Road	654	85%	2	653	86%	2	669	89%	2	663	91%	3

18.5.282 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM and PM peak hours. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.283 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. However, in the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the VoC from 89% in the 2046 future baseline to 91% with the Proposed Scheme in 2046 on the B5165 Stockport Road approach. Queue length will increase from two PCU in the future baseline to three PCU with the Proposed Scheme. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate over its capacity in the future baseline.

B5167 Wythenshawe Road/Moor Road

18.5.284 Table 18-319 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-319: B5167 Wythenshawe Road/Moor Road junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
B5167 Wythenshawe Road (east)	510	30%	8	529	31%	8	551	32%	8	562	33%	8
Moor Road	101	22%	2	108	23%	3	135	29%	3	137	30%	3
B5167 Wythenshawe Road (west)	558	70%	8	571	73%	8	636	86%	9	659	89%	10
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
B5167 Wythenshawe Road (east)	384	22%	6	363	21%	5	387	22%	6	385	22%	6
Moor Road	279	59%	6	295	62%	7	295	62%	7	299	63%	7
B5167 Wythenshawe Road (west)	429	46%	6	440	47%	7	490	57%	7	500	58%	7

18.5.285 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.286 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 86% in the 2046 future baseline to 89% with the Proposed Scheme in 2046 on the B5167 Wythenshawe Road (west) approach in the AM peak hour, with a change in corresponding queue length from nine PCU in the future baseline to 10 PCU. The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A6 Wellington Road South/Wellington Street/Station Road

18.5.287 Table 18-320 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. The Station Road approach is a minor arm that is not included within the SATURN model.

Table 18-320: A6 Wellington Road South/Wellington Street/Station Road junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 Wellington Road South (north)	1,156	45%	13	1,155	45%	13	1,162	45%	13	1,162	45%	13
Wellington Street	272	74%	6	272	74%	6	280	79%	6	283	80%	6
A6 Wellington Road South (south)	790	48%	11	794	48%	11	812	50%	12	815	50%	12
Station Road	-	-	-	-	-	-	-	-	-	-	-	-
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 Wellington Road South (north)	1,062	42%	12	1,065	42%	12	1,102	43%	13	1,102	43%	13
Wellington Street	284	82%	6	303	87%	6	306	89%	6	302	87%	6
A6 Wellington Road South (south)	905	55%	13	876	53%	13	852	52%	12	852	52%	12
Station Road	-	-	-	-	-	-	-	-	-	-	-	-

18.5.288 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 82% in the 2038 future baseline to 87% with the Proposed Scheme in 2038 on the Wellington Street approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.289 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 89% in the 2046 future baseline to 87% with the Proposed Scheme in 2046 on the Wellington Street approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

A5103 Princess Road/Whitchurch Road

18.5.290 Table 18-321 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-321: A5103 Princess Road/Whitchurch Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Princess Road (north)	1,926	48%	0	1,896	48%	0	2,046	51%	0	1,961	49%	0
Whitchurch Road	111	96%	5	115	97%	5	93	93%	4	109	99%	5
A5103 Princess Road (south)	2,660	65%	0	2,644	65%	0	2,726	67%	0	2,717	67%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Princess Road (north)	2,622	66%	0	2,619	66%	0	2,644	66%	0	2,651	67%	0
Whitchurch Road	7	12%	0	7	12%	0	9	15%	0	10	16%	0
A5103 Princess Road (south)	1,779	44%	0	1,781	44%	0	1,823	45%	0	1,820	45%	0

18.5.291 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the 2038 future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.292 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 93% in the 2046 future baseline to 99% with the Proposed Scheme in 2046 on the Whitchurch Road approach in the AM peak hour, with a corresponding change in queue length from four PCU in the future baseline to five PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A5103 Princess Road/A6010 Wilbraham Road

18.5.293 Table 18-322 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-322: A5103 Princess Road/A6010 Wilbraham Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Princess Road (north)	1,550	91%	24	1,546	91%	24	1,549	91%	25	1,570	93%	25
A6010 Wilbraham Road (east)	473	108%	10	471	105%	10	679	102%	15	476	106%	10
A5103 Princess Road (south)	2,597	98%	18	2,587	97%	18	2,628	99%	18	2,613	98%	18
A6010 Wilbraham Road (west)	470	102%	10	469	102%	10	470	102%	10	472	103%	10
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Princess Road (north)	2,205	89%	21	2,203	89%	21	2,218	90%	21	2,211	89%	21
A6010 Wilbraham Road (east)	524	100%	13	524	100%	13	525	100%	13	525	100%	13
A5103 Princess Road (south)	1,758	63%	27	1,766	64%	27	1,760	63%	28	1,765	64%	28
A6010 Wilbraham Road (west)	519	101%	12	516	100%	12	524	101%	12	520	101%	12

18.5.294 The change in traffic due to operation of the Proposed Scheme will decrease the maximum VoC from 108% in the 2038 future baseline to 105% with the Proposed Scheme in 2038 on the A6010 Wilbraham Road (east) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.295 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 102% in the 2046 future baseline to 106% with the Proposed Scheme in 2046 on the A6010 Wilbraham Road (east) approach in the AM peak hour, with a change in queue length from 15 PCU in the future baseline to 10 PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline, and a negligible impact on the operation of the junction in the PM peak hour.

A5181 Barton Road/A5145 Kingsway/B5213 Urmston Lane

18.5.296 Table 18-323 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-323: A5181 Barton Road/A5145 Kingsway/B5213 Urmston Lane junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5181 Barton Road (north)	718	41%	14	716	41%	14	748	43%	15	745	43%	15
A5145 Kingsway	845	59%	14	839	59%	14	824	59%	13	805	58%	13
A5181 Barton Road (south)	379	59%	9	372	58%	9	350	57%	9	338	55%	8
B5213 Urmston Lane	855	62%	19	863	62%	19	946	68%	21	954	69%	21
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5181 Barton Road (north)	1,008	47%	16	1,008	47%	16	1,073	50%	17	1,069	50%	17
A5145 Kingsway	1,021	79%	19	1,101	86%	21	1,031	82%	19	1,029	82%	19
A5181 Barton Road (south)	571	70%	13	597	74%	14	640	81%	15	649	82%	15
B5213 Urmston Lane	390	87%	10	403	90%	11	419	93%	11	419	93%	11

18.5.297 The model shows that the change in traffic due to the operation of the Proposed Scheme in 2038 will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 87% in the 2038 future baseline to 90% with the Proposed Scheme in 2038 on the B5213 Urmston Lane approach with a corresponding change in queue length from 10 PCU in the future baseline to 11 PCU. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.298 The model shows that the change in traffic due to the operation of the Proposed Scheme in 2046 will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

A5103 Princess Road/Platt Lane/Parkway Access

18.5.299 Table 18-324 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. The Parkway Access approach is a minor arm that is not included within the SATURN model.

Table 18-324: A5103 Princess Road/Platt Lane/Parkway Access junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Princess Road (north)	1,618	63%	15	1,600	62%	15	1,643	64%	15	1,640	64%	15
Platt Lane	276	96%	6	274	95%	6	270	94%	6	279	97%	6
A5103 Princess Road (south)	2,413	86%	13	2,422	86%	13	2,456	88%	13	2,460	88%	13
Parkway Access	-	-	-	-	-	-	-	-	-	-	-	-
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Princess Road (north)	2,086	86%	21	2,081	86%	21	2,109	87%	22	2,105	87%	22
Platt Lane	269	74%	6	270	75%	6	275	76%	6	274	76%	6
A5103 Princess Road (south)	1,665	65%	11	1,673	66%	11	1,666	65%	11	1,671	66%	11
Parkway Access	-	-	-	-	-	-	-	-	-	-	-	-

18.5.300 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.301 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 94% in the 2046 future baseline to 97% with the Proposed Scheme in 2046 on the Platt Lane approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that the change in traffic due to the operation of the Proposed Scheme in 2046 will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

Upper Lloyd Street/Claremont Road/Lloyd Street South

18.5.302 Table 18-325 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-325: Upper Lloyd Street/Claremont Road/Lloyd Street South junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Upper Lloyd Street	199	29%	3	192	28%	3	207	29%	3	213	31%	3
Claremont Road (east)	430	91%	7	430	91%	7	408	85%	7	427	92%	7
Lloyd Street South	701	93%	10	701	94%	10	682	87%	9	706	95%	10
Claremont Road (west)	203	87%	3	204	88%	3	265	89%	4	260	91%	4
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Upper Lloyd Street	617	70%	5	614	70%	5	638	73%	5	640	73%	5
Claremont Road (east)	223	45%	4	219	44%	4	229	46%	4	218	44%	4
Lloyd Street South	220	27%	3	215	26%	3	228	28%	3	223	27%	3
Claremont Road (west)	365	71%	6	364	71%	6	376	74%	6	378	74%	7

18.5.303 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.304 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 89% in the 2046 future baseline to 91% with the Proposed Scheme in 2046 on the Claremont Road (west) approach in the AM peak hour, with no change in corresponding queue length. The change in traffic due to operation of the Proposed Scheme will also increase the VoC from 85% in the 2046 future baseline to 92% with the Proposed Scheme in 2046 on the Claremont Road (east) approach in the AM peak hour, with no change in corresponding queue length. The change in traffic due to operation of the Proposed Scheme will also increase the VoC from 87% in the 2046 future baseline to 95% with the Proposed Scheme in 2046 on the Lloyd Street South approach in the AM peak hour, with a change in corresponding queue length from nine PCU in the future baseline to 10 PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A57 Hyde Road/Lime Grove/Saxon Street

18.5.305 Table 18-326 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. The Lime Grove approach is a minor arm that is not included within the SATURN model.

Table 18-326: A57 Hyde Road/Lime Grove/Saxon Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Lime Grove	-	-	-	-	-	-	-	-	-	-	-	-
A57 Hyde Road (east)	685	53%	11	704	54%	11	720	55%	12	726	56%	12
Saxon Street	67	15%	2	81	18%	2	129	29%	3	133	29%	3
A57 Hyde Road (west)	644	79%	6	576	101%	6	673	82%	6	681	79%	6
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Lime Grove	-	-	-	-	-	-	-	-	-	-	-	-
A57 Hyde Road (east)	428	50%	8	429	50%	8	466	55%	9	465	54%	9
Saxon Street	159	35%	2	157	35%	2	177	39%	2	173	38%	2
A57 Hyde Road (west)	648	75%	4	646	75%	4	665	77%	4	663	77%	4

18.5.306 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 79% in the 2038 future baseline to 101% with the Proposed Scheme in 2038 on the A57 Hyde Road (west) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.307 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hours the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

B5219 Moss Lane East/Upper Lloyd Street/Lloyd Street North

18.5.308 Table 18-327 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-327: B5219 Moss Lane East/Upper Lloyd Street/Lloyd Street North junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Lloyd Street North	345	35%	4	344	36%	4	364	37%	4	380	39%	4
B5219 Moss Lane East (east)	346	51%	5	353	52%	6	340	49%	5	365	53%	6
Upper Lloyd Street	769	64%	4	772	65%	4	793	67%	4	799	68%	4
B5219 Moss Lane East (west)	500	83%	8	502	84%	8	508	86%	8	519	90%	8
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Lloyd Street North	775	65%	10	762	64%	10	806	68%	11	794	67%	11
B5219 Moss Lane East (east)	405	54%	6	409	55%	6	419	57%	7	404	54%	6
Upper Lloyd Street	313	30%	1	308	29%	1	328	32%	1	321	31%	1
B5219 Moss Lane East (west)	418	65%	7	417	64%	7	422	65%	7	421	65%	7

18.5.309 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.310 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 86% in the 2046 future baseline to 90% with the Proposed Scheme in 2046 on the B5219 Moss Lane East (west) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A34 Upper Brook Street/Hathersage Road

18.5.311 Table 18-328 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-328: A34 Upper Brook Street/Hathersage Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Hathersage Road (east)	392	87%	9	394	88%	9	399	91%	9	403	93%	9
A34 Upper Brook Street (south)	951	44%	4	962	44%	4	988	46%	5	1,001	46%	5
Hathersage Road (west)	186	22%	4	177	21%	3	199	24%	4	193	23%	4
A34 Upper Brook Street (north)	484	22%	6	447	21%	6	457	21%	6	405	19%	5
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Hathersage Road (east)	213	47%	5	222	49%	5	225	50%	5	239	53%	5
A34 Upper Brook Street (south)	762	48%	10	769	47%	10	812	56%	10	824	54%	11
Hathersage Road (west)	196	21%	4	206	23%	4	200	22%	4	218	24%	4
A34 Upper Brook Street (north)	822	38%	11	785	36%	10	849	39%	11	815	38%	10

18.5.312 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.313 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 91% in the 2046 future baseline to 93% with the Proposed Scheme in 2046 on the Hathersage Road (east) approach in the AM peak hour, with no change in corresponding queue length. The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline, and negligible impact on the operation of the junction in the PM peak hour.

A57 Hyde Road/Tan Yard Brow/Willow Grove

18.5.314 Table 18-329 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. The Willow Grove approach is a minor arm that is not included within the SATURN model.

Table 18-329: A57 Hyde Road/Tan Yard Brow/Willow Grove junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Tan Yard Brow	285	97%	4	245	101%	5	257	100%	6	187	101%	5
A57 Hyde Road (east)	2,188	88%	0	2,265	93%	0	2,271	90%	0	2,325	95%	0
Willow Grove	-	-	-	-	-	-	-	-	-	-	-	-
A57 Hyde Road (west)	911	30%	0	944	31%	0	1,008	34%	0	1,044	35%	0
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Tan Yard Brow	93	105%	4	95	106%	4	88	106%	3	88	106%	3
A57 Hyde Road (east)	1,127	71%	4	1,101	69%	4	1,164	73%	4	1,140	72%	4
Willow Grove	-	-	-	-	-	-	-	-	-	-	-	-
A57 Hyde Road (west)	2,128	71%	0	2,123	71%	0	2,163	72%	0	2,160	72%	0

18.5.315 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 97% in the 2038 future baseline to 101% with the Proposed Scheme in 2038 on the Tan Yard Brow approach in the AM peak hour. Queue lengths would increase from four PCU in the future baseline to five PCU with the Proposed Scheme in 2038. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 105% in the 2038 future baseline to 106% with the Proposed Scheme in 2038 on the Tan Yard Brow approach. There would be no change in queue lengths. The assessment shows that this junction operates over capacity in 2038 with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate over capacity in the future baseline.

18.5.316 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 100% in the 2046 future baseline to 101% with the Proposed Scheme in 2046 on the Tan Yard Brow approach in the AM peak hour. Queue lengths would decrease from six PCU in the future baseline to five PCU with the Proposed Scheme in 2046. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that this junction operates over capacity in 2046 with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction, which is, however, predicted to operate over capacity in the future baseline.

A57 Hyde Road/Chapman Street

18.5.317 Table 18-330 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-330: A57 Hyde Road/Chapman Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Chapman Street	182	93%	3	198	98%	4	215	97%	4	185	101%	5
A57 Hyde Road (east)	2,030	72%	0	2,089	73%	0	2,135	79%	0	2,174	81%	0
A57 Hyde Road (west)	763	20%	0	780	20%	0	821	21%	0	894	23%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Chapman Street	61	103%	3	62	103%	3	57	103%	3	57	103%	3
A57 Hyde Road (east)	1,029	51%	2	1,001	50%	3	1,072	54%	2	1,047	52%	3
A57 Hyde Road (west)	2,097	54%	0	2,116	55%	0	2,138	55%	0	2,148	56%	0

18.5.318 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 93% in the 2038 future baseline to 98% with the Proposed Scheme in 2038 on the Chapman Street approach in the AM peak hour, with a corresponding change in queue length from three PCU in the future baseline to four PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate over its capacity in the future baseline.

18.5.319 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 97% in the 2046 future baseline to 101% with the Proposed Scheme in 2046 on the Chapman Street approach in the AM peak hour, with a corresponding change in queue length from four PCU in the future baseline to five PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate over its capacity in the future baseline.

A57 Hyde Road/Wellington Street/Hengist Street

18.5.320 Table 18-331 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. The Hengist Street approach is a minor arm that is not included within the SATURN model.

Table 18-331: A57 Hyde Road/Wellington Street/Hengist Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Wellington Street	78	64%	2	84	70%	2	84	70%	2	66	55%	2
A57 Hyde Road (east)	1,863	80%	17	1,932	83%	17	1,945	84%	17	1,998	89%	18
Hengist Street	-	-	-	-	-	-	-	-	-	-	-	-
A57 Hyde Road (west)	685	46%	10	696	47%	10	737	50%	10	831	56%	11
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Wellington Street	117	96%	3	117	97%	3	119	98%	3	119	99%	3
A57 Hyde Road (east)	973	58%	9	940	56%	8	1,018	61%	9	989	60%	9
Hengist Street	-	-	-	-	-	-	-	-	-	-	-	-
A57 Hyde Road (west)	1,980	84%	25	1,999	84%	25	2,019	85%	25	2,029	86%	25

18.5.321 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or peak hours. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.322 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 84% in the 2046 future baseline to 89% with the Proposed Scheme in 2046 on the A57 Hyde Road (east) approach in the AM peak hour, with a corresponding change in queue length from 17 PCU in the future baseline to 18 PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A57 Hyde Road/B6178 Hyde Road/B6178 Mount Road

18.5.323 Table 18-332 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-332: A57 Hyde Road/B6178 Hyde Road/B6178 Mount Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
B6178 Hyde Road	85	17%	2	111	22%	3	95	19%	2	127	25%	3
A57 Hyde Road (east)	1,683	87%	22	1,774	92%	23	1,766	91%	23	1,825	94%	24
B6178 Mount Road	831	90%	15	825	90%	15	858	93%	16	845	92%	15
A57 Hyde Road (west)	463	23%	6	420	21%	5	486	24%	6	484	24%	6
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
B6178 Hyde Road	166	20%	4	175	21%	4	174	21%	4	181	22%	4
A57 Hyde Road (east)	850	56%	13	822	55%	13	903	60%	14	880	58%	14
B6178 Mount Road	687	57%	11	711	59%	11	715	59%	11	741	61%	11
A57 Hyde Road (west)	1,513	95%	22	1,519	95%	22	1,522	96%	23	1,531	96%	23

18.5.324 The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2038 future baseline and the Proposed Scheme in the AM or PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 87% in the 2038 future baseline to 92% with the Proposed Scheme in 2038 on the A57 Hyde Road (east) approach. Queue length will increase from 22 PCU in the future baseline to 23 PCU with the Proposed Scheme. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.325 The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM or PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 91% in the 2046 future baseline to 94% with the Proposed Scheme in 2046 on the A57 Hyde Road (east) approach. Queue length will increase from 23 PCU in the future baseline to 24 PCU with the Proposed Scheme. The assessment shows that in the AM and PM peak hour the junction operates close capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

Wellington Street/Cross Lane/Garratt Way

18.5.326 Table 18-333 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-333: Wellington Street/Cross Lane/Garratt Way junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Wellington Street (north)	107	12%	1	113	13%	1	114	13%	1	92	11%	1
Cross Lane	393	79%	5	421	86%	5	423	86%	5	453	95%	5
Wellington Street (south)	433	51%	4	440	52%	4	428	50%	4	447	53%	4
Garratt Way	242	44%	3	254	46%	3	228	42%	3	237	43%	3
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Wellington Street (north)	229	27%	2	289	34%	2	246	29%	2	297	35%	2
Cross Lane	370	58%	4	372	58%	4	391	61%	4	395	62%	4
Wellington Street (south)	357	41%	3	349	40%	3	340	39%	3	336	38%	3
Garratt Way	261	40%	3	249	39%	3	265	41%	3	266	41%	3

18.5.327 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 79% in the 2038 future baseline to 86% with the Proposed Scheme in 2038 on the Cross Lane approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the 2038 future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.328 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 86% in the 2046 future baseline to 95% with the Proposed Scheme in 2046 on the Cross Lane approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the 2046 future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

Chapman Street/Cross Lane

18.5.329 Table 18-334 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-334: Chapman Street/Cross Lane junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Chapman Street (north)	424	59%	5	454	61%	5	460	63%	5	462	66%	5
Cross Lane (east)	151	28%	2	166	31%	3	178	34%	3	175	33%	3
Chapman Street (south)	202	22%	2	191	21%	2	219	24%	3	210	23%	2
Cross Lane (west)	236	48%	4	253	52%	4	222	44%	3	231	47%	4
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Chapman Street (north)	335	48%	4	334	50%	4	349	50%	4	350	52%	4
Cross Lane (east)	97	17%	1	100	17%	2	100	17%	1	102	17%	2
Chapman Street (south)	84	10%	1	114	13%	1	83	10%	1	101	12%	1
Cross Lane (west)	425	96%	6	436	99%	7	424	96%	6	440	100%	7

18.5.330 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 96% in the 2038 future baseline to 99% with the Proposed Scheme in 2038 on the Cross Lane (west) approach, with a corresponding change in queue length from six PCU in the future baseline to seven PCU. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

18.5.331 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 96% in the 2046 future baseline to 100% with the Proposed Scheme in 2046 on the Cross Lane (west) approach, with a corresponding change in queue length will from six PCU in the future baseline to seven PCU. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

A57 Hyde Road/Clowes Street

18.5.332 Table 18-335 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-335: A57 Hyde Road/Clowes Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Clowes Street	66	100%	3	58	109%	3	58	102%	3	49	110%	3
A57 Hyde Road (east)	1,400	99%	0	1,511	98%	0	1,454	100%	0	1,552	100%	0
A57 Hyde Road (west)	672	18%	0	567	15%	0	688	18%	0	604	16%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Clowes Street	151	94%	3	150	96%	3	145	96%	3	138	96%	3
A57 Hyde Road (east)	597	59%	0	588	59%	0	662	64%	0	664	65%	0
A57 Hyde Road (west)	1,526	39%	0	1,560	40%	0	1,558	40%	0	1,610	41%	0

18.5.333 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 100% in the 2038 future baseline to 109% with the Proposed Scheme in 2038 on the Clowes Street approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 94% in the 2038 future baseline to 96% with the Proposed Scheme in 2038 on the Clowes Street approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline in the AM peak hour.

18.5.334 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 102% in the 2046 future baseline to 110% with the Proposed Scheme in 2046 on the Clowes Street approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that the change in traffic due to the operation of the Proposed Scheme in 2046 will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. The traffic flow will have a negligible impact on the operation of the junction in the PM peak hour.

A57 Hyde Road/Bennett Street

18.5.335 Table 18-336 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-336: A34 Kingsway/A34 Moseley Road/A5079 Kingsway junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Bennett Street	45	94%	2	41	107%	2	41	100%	2	35	108%	2
A57 Hyde Road (east)	1,314	68%	0	1,433	74%	0	1,367	70%	0	1,469	76%	0
A57 Hyde Road (west)	677	17%	0	572	15%	0	694	18%	0	610	16%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Bennett Street	7	12%	0	14	27%	0	9	19%	0	11	24%	0
A57 Hyde Road (east)	655	34%	0	649	33%	0	710	37%	0	709	37%	0
A57 Hyde Road (west)	1,533	40%	0	1,568	40%	0	1,566	40%	0	1,618	42%	0

18.5.336 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 94% in the 2038 future baseline to 107% with the Proposed Scheme in 2038 on the Bennett Street approach in the AM peak hour, with no change in queue lengths. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. The traffic flow will have a negligible impact on the operation of the junction in the PM peak hour.

18.5.337 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 100% in the 2046 future baseline to 108% with the Proposed Scheme in 2046 on the Bennett Street approach in the AM peak hour, with no change in queue lengths. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. The traffic flow will have a negligible impact on the operation of the junction in the PM peak hour.

Stamford Road/Corporation Road

18.5.338 Table 18-337 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-337: Stamford Road/Corporation Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Stamford Road (west)	312	44%	0	338	48%	0	343	49%	0	379	54%	0
Stamford Road (east)	496	55%	0	516	58%	0	554	63%	0	552	64%	0
Corporation Road	734	91%	1	727	90%	1	750	94%	2	760	95%	2
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Stamford Road (west)	733	91%	2	753	94%	2	765	95%	2	788	98%	3
Stamford Road (east)	391	56%	0	399	58%	0	422	62%	0	425	63%	1
Corporation Road	714	83%	1	724	84%	1	766	90%	1	764	90%	1

18.5.339 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 91% in the 2038 future baseline to 94% with the Proposed Scheme in 2038 on the Stamford Road (west) approach, with no change in corresponding queue length. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.340 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 95% in the 2046 future baseline to 98% with the Proposed Scheme in 2046 on the Stamford Road (west) approach, with a corresponding change in queue length from two PCU in the future baseline to three PCU. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

A665 Devonshire Street North/A57 Hyde Road/A665 Devonshire Street

18.5.341 Table 18-338 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-338: A665 Devonshire Street North/A57 Hyde Road/A665 Devonshire Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A665 Devonshire Street North	588	95%	9	558	89%	8	594	96%	9	561	90%	8
A57 Hyde Road (east)	1,385	48%	18	1,497	52%	19	1,434	50%	18	1,528	53%	20
A665 Devonshire Street	711	96%	11	723	93%	11	720	98%	11	737	95%	11
A57 Hyde Road (west)	489	84%	9	435	75%	8	506	87%	10	466	80%	9
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A665 Devonshire Street North	657	76%	9	547	63%	8	701	81%	10	580	67%	8
A57 Hyde Road (east)	688	30%	11	690	31%	11	745	33%	12	747	33%	12
A665 Devonshire Street	880	76%	12	813	64%	11	921	82%	13	841	68%	12
A57 Hyde Road (west)	1,174	80%	19	1,242	85%	20	1,197	82%	19	1,275	87%	21

18.5.342 The change in traffic due to operation of the Proposed Scheme will decrease the maximum VoC from 96% in the 2038 future baseline to 93% with the Proposed Scheme in 2038 on the A665 Devonshire Street approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 80% in the 2038 future baseline to 85% with the Proposed Scheme in 2038 on the A57 Hyde Road (west) approach, with a corresponding change in queue length from 19 PCU in the future baseline to 20 PCU. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.343 The change in traffic due to operation of the Proposed Scheme will decrease the maximum VoC from 98% in the 2046 future baseline to 95% with the Proposed Scheme in 2046 on the A665 Devonshire Street approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 82% in the 2046 future baseline to 87% with the Proposed Scheme in 2046 on the A57 Hyde Road (west) approach, with a corresponding change in queue length from 19 PCU in the future baseline to 21 PCU. The assessment shows that in the AM peak the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

Gorton Lane/Belle Vue Street

18.5.344 Table 18-339 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. The Gorton Lane (north) approach is a minor arm that is not included within the SATURN model.

Table 18-339: Gorton Lane/Belle Vue Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Gorton Lane (north)	-	-	-	-	-	-	-	-	-	-	-	-
Gorton Lane (east)	942	47%	0	950	48%	0	973	49%	0	985	50%	0
Belle Vue Street	72	19%	0	100	25%	0	112	31%	1	168	42%	1
Gorton Lane (west)	583	75%	0	591	96%	1	600	83%	0	498	101%	2
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Gorton Lane (north)	-	-	-	-	-	-	-	-	-	-	-	-
Gorton Lane (east)	402	20%	0	386	20%	0	406	21%	0	386	20%	0
Belle Vue Street	52	8%	0	73	11%	0	53	8%	0	76	11%	0
Gorton Lane (west)	745	74%	0	797	76%	0	780	76%	0	817	77%	0

18.5.345 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 75% in the 2038 future baseline to 96% with the Proposed Scheme in 2038 on the Gorton Lane (west) approach in the AM peak hour, with a corresponding change in queue length from no queue in the future baseline to one PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in the 2038 future baseline and within capacity in the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.346 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 83% in the 2046 future baseline to 101% with the Proposed Scheme in 2046 on the Gorton Lane (west) approach in the AM peak hour, with a corresponding change in queue length from no queue in the future baseline to two PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A6010 Pottery Lane/Gorton Lane/Wenlock Way

18.5.347 Table 18-340 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-340: A6010 Pottery Lane/Gorton Lane/Wenlock Way junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A6010 Pottery Lane (north)	1,290	87%	13	1,375	92%	14	1,307	90%	13	1,339	90%	14
Gorton Lane	955	77%	17	936	75%	17	1,015	81%	18	971	78%	17
A6010 Pottery Lane (south)	1,143	57%	20	1,101	52%	19	1,199	59%	21	1,149	54%	20
Wenlock Way	92	29%	2	99	31%	2	112	36%	3	94	31%	2
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
A6010 Pottery Lane (north)	1,354	49%	11	1,472	54%	13	1,373	50%	11	1,499	56%	13
Gorton Lane	408	55%	9	407	54%	9	406	55%	9	404	55%	9
A6010 Pottery Lane (south)	857	32%	12	921	34%	13	886	34%	12	979	36%	13
Wenlock Way	239	56%	6	241	57%	6	247	58%	6	251	59%	6

18.5.348 The change in traffic due to operation of the operation of the Proposed Scheme will increase the maximum VoC from 87% in the 2038 future baseline to 92% with the Proposed Scheme in 2038 on the A6010 Pottery Lane (north) approach in the AM peak hour, with a corresponding change in queue length from 13 PCU in the future baseline to 14 PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.349 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

A665 Chancellor Lane/A665 Devonshire Street North/Higher Ardwick

18.5.350 Table 18-341 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-341: A665 Chancellor Lane/A665 Devonshire Street North/Higher Ardwick junction 2038 and 2046 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Chancellor Lane (left, ahead and right)	1,675	130%	120	1,666	91%	17	1,680	139%	176	1,692	92%	17
Blind Lane (left, ahead and right)	3	1%	0	3	1%	0	3	1%	0	3	1%	0
Devonshire Street North (left, ahead and right)	980	52%	1	951	51%	1	996	53%	1	955	51%	1
Higher Ardwick (left, ahead and right)	235	48%	1	293	93%	11	267	57%	1	283	91%	10
Temperance Street (left, ahead and right)	3	1%	0	3	1%	0	3	1%	0	3	1%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Chancellor Lane (left, ahead and right)	892	34%	0	881	33%	0	972	42%	0	932	36%	0
Blind Lane (left, ahead and right)	7	1%	0	7	1%	0	7	1%	0	7	1%	0
Devonshire Street North (left, ahead and right)	1,227	65%	1	1,082	57%	1	1,275	67%	1	1,102	58%	1
Higher Ardwick (left, ahead and right)	383	93%	9	454	93%	11	376	93%	9	455	105%	45
Temperance Street (left, ahead and right)	7	1%	0	7	1%	0	7	1%	0	7	1%	0

18.5.351 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 130% in the future baseline to 91% with the Proposed Scheme in 2038 on the Chancellor Lane (left, ahead and right) approach in the AM peak hour, with a change in corresponding queue length from 120 PCU in the future baseline to 17 PCU. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 48% in the 2038 future baseline to 93% with the Proposed Scheme in 2038 on the Higher Ardwick (left, ahead and right) approach. Queue length will increase from one PCU in the future baseline to 11 PCU with the Proposed Scheme. The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in DoS and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.352 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 139% in the future baseline to 92% with the Proposed Scheme in 2046 on the Chancellor Lane (left, ahead and right) approach in the AM peak hour, with a corresponding change in queue length from 176 PCU in the future baseline to 17 PCU. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 57% in the 2046 future baseline to 91% with the Proposed Scheme in 2046 on the Higher Ardwick (left, ahead and right) approach in the AM peak hour, with a corresponding change in queue length from one PCU in the future baseline to 10 PCU with the Proposed Scheme. In the PM peak hour the maximum DoS will increase from 93% in the 2046 future baseline to 105% with the Proposed Scheme in 2046 on the Higher Ardwick (left, ahead and right) approach with a corresponding change in queue length from nine PCU in the future baseline to 45 PCU with the Proposed Scheme. The assessment shows that in the AM peak hour the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A635 Ashton Old Road/Vine Street

18.5.353 Table 18-342 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-342: A635 Ashton Old Road/Vine Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A635 Ashton Old Road (east)	1,597	80%	0	1,555	78%	0	1,628	81%	0	1,596	80%	0
Vine Street	44	91%	2	52	92%	2	39	93%	2	46	96%	2
A635 Ashton Old Road (west)	416	21%	0	436	22%	0	441	22%	0	489	25%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A635 Ashton Old Road (east)	779	39%	0	766	38%	0	833	42%	0	822	41%	0
Vine Street	70	68%	1	80	70%	1	58	76%	2	60	73%	1
A635 Ashton Old Road (west)	1,150	69%	0	1,076	65%	0	1,188	73%	0	1,140	69%	0

18.5.354 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.355 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 93% in the 2046 future baseline to 96% with the Proposed Scheme in 2046 on the Vine Street approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and well within capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A635 Ashton Old Road/Rondin Road

18.5.356 Table 18-343 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-343: Ashton Old Road/Rondin Road junction 2038 and 2046 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A635 Aston Old Road (west) (ahead and right)	797	38%	0	930	44%	19	827	39%	0	939	45%	19
A635 Aston Old Road (east) (left and ahead)	1,660	0%	0	1,479	0%	0	1,752	0%	0	1,537	0%	0
Rondin Road (left and right)	6	2%	0	6	2%	0	8	5%	0	8	2%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A635 Aston Old Road (west) (ahead and right)	762	33%	0	781	30%	0	772	33%	0	784	31%	0
A635 Aston Old Road (east) (left and ahead)	916	0%	0	824	0%	0	977	0%	0	842	0%	0
Rondin Road (left and right)	35	6%	0	36	6%	0	37	7%	0	37	6%	0

18.5.357 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hours the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.358 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hours the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

Millstream Lane/Edge Lane/Berry Brow

18.5.359 Table 18-344 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-344: Millstream Lane/Edge Lane/Berry Brow junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Berry Brow	923	46%	0	903	45%	0	952	48%	0	947	48%	0
Millstream Lane	240	104%	6	243	103%	6	225	105%	6	224	105%	6
Edge Lane	749	88%	0	761	90%	1	786	85%	0	786	91%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Berry Brow	847	43%	0	858	44%	0	984	50%	0	979	50%	0
Millstream Lane	286	98%	5	285	98%	5	241	98%	5	244	98%	5
Edge Lane	609	103%	2	635	102%	2	554	104%	2	557	103%	2

18.5.360 The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2038 future baseline and the Proposed Scheme in the AM or PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 88% in the 2038 future baseline to 90% with the Proposed Scheme in 2038 on the Edge Lane approach. Queue length will increase from no queue in the future baseline to one PCU with the Proposed Scheme. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline, and a negligible impact on the operation of the junction in the PM peak hour.

18.5.361 The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM or PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 85% in the 2046 future baseline to 91% with the Proposed Scheme in 2046 on the Edge Lane approach. There will be no change in corresponding queue length. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline, and a negligible impact on the operation of the junction in the PM peak hour.

Culcheth Lane/Briscoe Lane

18.5.362 Table 18-345 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-345: Culcheth Lane/Briscoe Lane junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Culcheth Lane (north)	468	80%	1	462	79%	1	445	78%	1	448	78%	1
Culcheth Lane (south)	286	15%	0	281	14%	0	307	16%	0	305	15%	0
Briscoe Lane	405	51%	0	399	50%	0	407	52%	1	401	51%	1
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Culcheth Lane (north)	736	87%	0	728	90%	0	781	91%	0	773	91%	0
Culcheth Lane (south)	80	4%	0	87	4%	0	82	4%	0	81	4%	0
Briscoe Lane	729	85%	1	691	82%	1	749	89%	2	729	87%	1

18.5.363 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 87% in the 2038 future baseline to 90% with the Proposed Scheme in 2038 on the Culcheth Lane (north) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.364 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will not increase the maximum VoC between the 2046 future baseline and the Proposed Scheme. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the VoC from 89% in the 2046 future baseline to 87% with the Proposed Scheme in 2046 on the Briscoe Lane approach. Queue length will decrease from two PCU in the future baseline to one PCU with the Proposed Scheme. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

MA08

18.5.365 The results for the MA08 area are presented from south to north through the MA08 area, firstly for junctions on the strategic road network, followed by junctions on other roads. The 2038 and 2046 future baseline results are included for comparison. The models developed to assess the existing and future baseline have been used, except where otherwise stated.

18.5.366 The junction assessed in the following section are:

- A57(M) Mancunian Way/A5067 Cambridge Street/Cambridge Street;
- A57(M) Mancunian Way/A5103 Princess Road/A5103 Medlock Street;
- A57(M) Mancunian Way/A56 Chester Road/A5067 Chorlton Road (Deansgate Interchange);
- A57(M) Mancunian Way/A6 London Road/A6 Downing Street;
- M602 junction 3/A57 Regent Road/A57 Eccles New Road/A5063 Albion Way/A5063 Trafford Road;
- A6 Stockport Road/A6 Ardwick Green South/A57 Hyde Road;
- A34 Princess Street/A34 Brook Street/Sackville Street;
- A5103 Albion Street/A5103 Medlock Street/City Road East;
- A665 Pin Mill Brow realignment/A635 Mancunian Way Northbound realignment;
- A665 Pin Mill Brow realignment/A635 Ashton Old Road realignment/A635 Mancunian Way southbound realignment;
- A635 Mancunian Way/A635 Fairfield Street diversion/B6469 Fairfield Street diversion;
- A665 Chancellor Lane/A665 Midland Street;
- A665 Chancellor Lane diversion/A635 Fairfield Street diversion;
- A34 Oxford Street/B6469 Whitworth Street West/B6469 Whitworth Street;
- A57 Regent Road/A57 Dawson Street/A6042 Trinity Way/Water Street;
- A665 Pin Mill Brow/A635 Ashton Old Road/A665 Chancellor Lane/A635 Fairfield Street;
- New Sheffield Street/B4649 Fairfield Street diversion;
- B6469 Fairfield Street/Travis Street;
- A665 Pin Mill Brow/A635 Mancunian Way;
- A34 Oxford Street/A5103 Portland Street/A5103 Chepstow Street;
- A6 London Road/B6469 Fairfield Street;
- A34 Princess Street/Bloom Street;
- New Sheffield Street/Helmet Street realignment;
- A665 Great Ancoats Street/A665 Pin Mill Brow/Helmet Street;

- New Sheffield Street/St. Andrew's Square;
- A665 Great Ancoats Street/Palmerston Street;
- New Sheffield Street/Adair Street realignment;
- A6 London Road/A6 Whitworth Street/Store Street/Tram Crossing;
- Adair Street realignment/St Andrew's Square;
- A665 Great Ancoats Street/Every Street;
- A5103 Portland Street/Sackville Street/Nicholas Street;
- New Sheffield Street/Chapeltown Street realignment;
- New Sheffield Street/Store Street realignment;
- A665 Great Ancoats Street/A662 Pollard Street/Adair Street/Chapeltown Street;
- A34 Quay Street/Lower Byrom Street/Gartside Street;
- A6 Piccadilly/A6 London Road/B6181 Ducie Street/Auburn Street;
- New Sheffield Street/Ducie Street realignment;
- A34 New Quay Street/A34 Quay Street/B5225 Quay Street/Gartside Street;
- B6181 Dale Street/B6181 Ducie Street;
- A5066 Oldfield Road/Liverpool Street/Middlewood Street;
- A34 Bridge Street/St Mary's Parsonage;
- A6 Dale Street/A62 Lever Street;
- A6 Crescent/A6 Chapel Street/A5066 Adelphi Street/A5066 Oldfield Road;
- A6 Chapel Street/St Stephen Street;
- A6042 Trinity Way/A6 Chapel Street/A34 Trinity Way;
- A6 Chapel Street/New Bailey Street;
- A6 Blackfriars Street/Parsonage;
- A6041 Chapel Street/A6 Blackfriars Street/A6 Chapel Street/A6041 Blackfriars Road;
- A56 Chapel Street/A56 Victoria Bridge Street;
- A6042 Trinity Way/A6041 Blackfriars Road;
- A665 Miller Street/A664 Corporation Street/Corporation Street;
- A6 Broad Street/B6186 Frederick Road;
- A576 Eccles Old Road/A5186 Langworthy Road;
- A56 Bury New Road/Sherborne Street;
- B6186 Frederick Road/Seaford Road/Broughton Road East;
- A56 Bury New Road/B6180 Waterloo Road;
- A56 New Bury Road/Waterloo Road/Broughton Lane;
- B6186 Camp Street/B6186 Fredrick Road/Lower Broughton Road;

- A5066 Great Clowes Street/B6186 Camp Street/B6187 Great Clowes Street/B6186 Upper Camp Street;
- A56 Bury Road/Fenney Street/Appian Way;
- A576 Great Cheetham Street West/A5066 Great Clowes Street/B6187 Great Clowest Street;
- A572 Worsley Road/B5231 Folly Lane; and
- Moor Lane/Littleton Road/Kersal Vale Road.

A57(M) Mancunian Way/A5067 Cambridge Street/Cambridge Street

18.5.367 Table 18-346 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-346: A57(M) Mancunian Way/A5067 Cambridge Street/Cambridge Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Cambridge Street	528	35%	0	642	43%	0	548	37%	0	663	44%	0
A57(M) Mancunian Way westbound off slip	1,095	104%	7	1,048	103%	7	1,095	104%	7	1,049	103%	7
A5067 Cambridge Street (south)	707	65%	1	700	66%	1	740	67%	1	708	66%	1
A5103 Mancunian Way	740	41%	0	723	40%	0	761	43%	0	724	40%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Cambridge Street	905	68%	1	901	65%	1	906	69%	1	919	67%	1
A57(M) Mancunian Way westbound off slip	1,059	102%	7	1,051	102%	7	1,056	102%	7	1,049	102%	7
A5067 Cambridge Street (south)	359	29%	0	376	30%	0	389	31%	0	395	31%	0
A5103 Mancunian Way	1,337	61%	0	1,244	58%	0	1,374	64%	0	1,296	59%	0

18.5.368 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction, which is, however, predicted to operate over its capacity in the future baseline.

18.5.369 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction, which is, however, predicted to operate over its capacity in the future baseline.

A57(M) Mancunian Way/A5103 Princess Road/A5103 Medlock Street

18.5.370 Table 18-347 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-347: A57 (M) Mancunian Way/A5103 Princess Road/A5103 Medlock Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Medlock Street	573	44%	0	582	44%	0	592	46%	0	601	46%	0
A5103 Mancunian Way	1,421	97%	6	1,439	100%	9	1,415	98%	7	1,428	100%	10
A5103 Princess Road	1,928	102%	12	1,843	102%	12	1,952	102%	12	1,859	102%	12
A57(M) Mancunian Way	650	106%	9	681	106%	9	636	106%	8	672	107%	9
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Medlock Street	1,080	86%	2	1,076	84%	2	1,094	89%	3	1,075	86%	2
A5103 Mancunian Way	1,391	97%	5	1,344	96%	5	1,388	97%	6	1,345	97%	6
A5103 Princess Road	2,210	89%	2	2,150	88%	2	2,254	90%	2	2,203	90%	2
A57(M) Mancunian Way	987	96%	6	1,044	97%	6	949	97%	6	1,004	98%	7

18.5.371 The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2038 future baseline and the Proposed Scheme in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 97% in the 2038 future baseline to 100% with the Proposed Scheme in 2038 on the A5103 Mancunian Way approach, with a corresponding change in queue length from six PCU in the future baseline to nine PCU. The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2038 future baseline and the Proposed Scheme in the PM peak hour. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the VoC from 86% in the 2038 future baseline to 84% with the Proposed Scheme in 2038 on the A5103 Medlock Street approach. There will be no change in queue lengths. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate over its capacity in the AM peak hour in the future baseline, and a beneficial impact on the operation of the junction in the PM peak hour.

18.5.372 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 98% in the 2046 future baseline to 100% with the Proposed Scheme in 2046 on the A5103 Mancunian Way approach. Queue length will increase from seven PCU in the future baseline to 10 PCU. The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the PM peak hour. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the VoC from 89% in the 2046 future baseline to 86% with the Proposed Scheme in 2046 on the A5103 Medlock Street approach. Queue length will decrease from three PCU in the future baseline to two PCU. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate over its capacity in the future baseline, and a beneficial impact on the operation of the junction in the PM peak hour.

A57(M) Mancunian Way/A56 Chester Road/A5067 Chorlton Road (Deansgate Interchange)

18.5.373 Table 18-348 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046 scenarios.

Table 18-348: A57(M) Mancunian Way/A56 Chester Road/A5067 Chorlton Road (Deansgate Interchange) junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Chester Road (east)	902	57%	14	914	58%	14	915	58%	14	940	60%	15
A57(M) Mancunian Way off-slip	994	58%	0	853	49%	0	1,092	64%	0	891	51%	0
A5067 Chorlton Road	980	103%	7	1,032	103%	7	929	105%	7	1,043	105%	7
A56 Chester Road (west)	1,791	77%	23	1,791	77%	23	1,791	77%	23	1,791	77%	23
A57 Egerton Street off-slip	641	52%	1	648	52%	1	636	52%	0	631	50%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Chester Road (east)	1,536	96%	24	1,541	100%	24	1,541	100%	24	1,536	96%	24
A57(M) Mancunian Way off-slip	845	69%	1	815	66%	1	888	73%	1	857	72%	1
A5067 Chorlton Road	643	47%	0	609	44%	0	692	51%	0	663	49%	0
A56 Chester Road (west)	1,728	75%	22	1,716	74%	22	1,745	76%	22	1,737	75%	22
A57 Egerton Street off-slip	519	42%	0	533	42%	0	594	50%	0	606	50%	0

18.5.374 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 96% in the 2038 future baseline to 100% with the Proposed Scheme in 2038 on the A56 Chester Road (east) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.375 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 100% in the 2046 future baseline to 96% with the Proposed Scheme in 2046 on the A56 Chester Road (east) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

A57(M) Mancunian Way/A6 London Road/A6 Downing Street

18.5.376 Table 18-349 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-349: A57(M) Mancunian Way/A6 London Road/A6 Downing Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 London Road (north)	1,039	48%	10	881	40%	9	1,085	50%	10	937	43%	9
A635 Mancunian Way westbound off-slip	1	0%	0	19	2%	0	0	0%	0	8	1%	0
A6 Downing Street	1,710	52%	11	1,927	59%	14	1,791	54%	12	2,004	61%	15
A57 (M) Mancunian Way eastbound off slip	658	54%	9	641	53%	9	675	56%	9	655	54%	9
A6 London Road southbound central link	1,505	61%	12	1,363	55%	12	1,548	62%	12	1,426	58%	12
A6 London Road northbound central link	678	54%	2	681	54%	3	690	55%	2	701	56%	3
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 London Road (north)	1,055	57%	12	915	50%	10	1,058	57%	12	917	50%	10
A635 Mancunian Way westbound off-slip	83	8%	1	90	9%	1	91	9%	1	97	9%	1
A6 Downing Street	809	34%	3	966	40%	3	878	37%	4	1,007	42%	3
A57 (M) Mancunian Way eastbound off slip	860	48%	13	889	50%	13	854	48%	13	892	50%	13
A6 London Road southbound central link	1,851	77%	19	1,713	72%	19	1,856	78%	19	1,715	72%	19
A6 London Road northbound central link	209	33%	1	210	33%	1	247	39%	1	231	37%	1

18.5.377 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.378 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

M602 junction 3/A57 Regent Road/A57 Eccles New Road/A5063 Albion Way/A5063 Trafford Road

18.5.379 Table 18-350 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-350: M602 junction 3/A57 Regent Road/A57 Eccles New Road/A5063 Albion Way/A5063 Trafford Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5063 Albion Way	1,198	62%	16	1,195	62%	16	1,211	62%	16	1,206	62%	16
A57 Regent Road	2,373	78%	33	2,376	78%	33	2,426	80%	33	2,423	80%	33
A5063 Trafford Road	690	42%	10	704	42%	10	701	42%	10	712	43%	10
A57 Eccles New Road	669	30%	9	705	31%	9	721	32%	9	758	34%	10
M602	3,195	102%	46	3,237	103%	46	3,279	105%	46	3,277	104%	46
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5063 Albion Way	1,248	52%	14	1,248	52%	14	1,248	52%	14	1,248	52%	14
A57 Regent Road	2,252	98%	33	2,260	98%	34	2,320	101%	34	2,326	101%	34
A5063 Trafford Road	1,554	61%	16	1,563	61%	16	1,633	64%	17	1,672	65%	17
A57 Eccles New Road	1,908	52%	15	1,930	53%	15	2,026	56%	16	2,083	67%	16
M602	2,240	71%	33	2,227	71%	33	2,317	74%	34	2,310	74%	34

18.5.380 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.381 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

A6 Stockport Road/A6 Ardwick Green South/A57 Hyde Road

18.5.382 Table 18-351 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-351: A6 Stockport Road/A6 Ardwick Green South/A57 Hyde Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Higher Ardwick	581	43%	0	482	34%	0	598	45%	0	484	35%	0
A57 Hyde Road	1,020	76%	1	1,151	79%	1	1,049	79%	1	1,178	81%	1
A6 Stockport Road	872	88%	3	877	91%	3	906	95%	4	902	96%	5
Brunswick Street	720	79%	2	677	82%	2	753	86%	3	716	90%	3
A6 Ardwick Green South	835	55%	0	773	48%	0	862	57%	0	793	50%	0
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme**		
Higher Ardwick	495	50%	0	514	53%	1	539	55%	1	545	57%	1
A57 Hyde Road	550	39%	0	559	40%	0	610	44%	0	614	44%	0
A6 Stockport Road	517	36%	0	527	37%	0	539	39%	0	545	40%	0
Brunswick Street	987	71%	1	978	73%	1	1,004	74%	1	1,006	78%	1
A6 Ardwick Green South	1,166	86%	2	1,143	82%	1	1,171	87%	2	1,148	84%	1

18.5.383 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 88% in the 2038 future baseline to 91% with the Proposed Scheme in 2038 on the A6 Stockport Road approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 86% in the 2038 future baseline to 82% with the Proposed Scheme in 2038 on the A6 Ardwick Green South approach, with a corresponding change in queue length from two PCU in the future baseline to one PCU. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in the future baseline and within capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

18.5.384 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 86% in the 2046 future baseline to 90% with the Proposed Scheme in 2046 on the Brunswick Street approach. There will be no change in queue lengths. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 87% in the 2046 future baseline to 84% with the Proposed Scheme in 2046 on the A6 Ardwick Green South approach, with a corresponding change in queue length from two PCU in the future baseline to one PCU. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in the future baseline and within capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

A34 Princess Street/A34 Brook Street/Sackville Street

18.5.385 Table 18-352 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-352: A34 Princess Street/A34 Brook Street/Sackville Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A34 Princess Street	295	16%	3	315	17%	3	303	16%	3	315	17%	3
Sackville Street	605	49%	9	608	49%	9	603	48%	8	610	49%	9
A34 Brook Street	562	32%	6	614	34%	6	595	33%	6	635	36%	7
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A34 Princess Street	905	46%	9	914	47%	9	917	47%	9	933	48%	10
Sackville Street	571	48%	8	578	48%	8	579	48%	8	588	49%	8
A34 Brook Street	545	30%	6	553	30%	6	589	32%	6	601	33%	6

18.5.386 The model shows that for this junction, the change in traffic due to the operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.387 The model shows that for this junction, the change in traffic due to the operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates within well capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

A5103 Albion Street/A5103 Medlock Street/City Road East

18.5.388 Table 18-353 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-353: A5103 Albion Street/A5103 Medlock Street/City Road East junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Albion Street	552	25%	0	569	26%	0	565	26%	0	582	27%	0
A5103 Medlock Street	1,470	37%	0	1,446	37%	0	1,469	37%	0	1,460	37%	0
City Road East	182	65%	3	183	64%	3	185	66%	3	185	66%	3
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Albion Street	995	44%	0	991	44%	0	993	44%	0	990	44%	0
A5103 Medlock Street	1,195	31%	0	1,189	31%	0	1,188	31%	0	1,199	31%	0
City Road East	358	86%	5	357	87%	5	366	88%	5	366	90%	5

18.5.389 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM and PM peak hour. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.390 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 88% in the 2046 future baseline to 90% with the Proposed Scheme in 2046 on the City Road East approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the assessment shows that the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

A635/A665 Pin Mill Brow gyratory

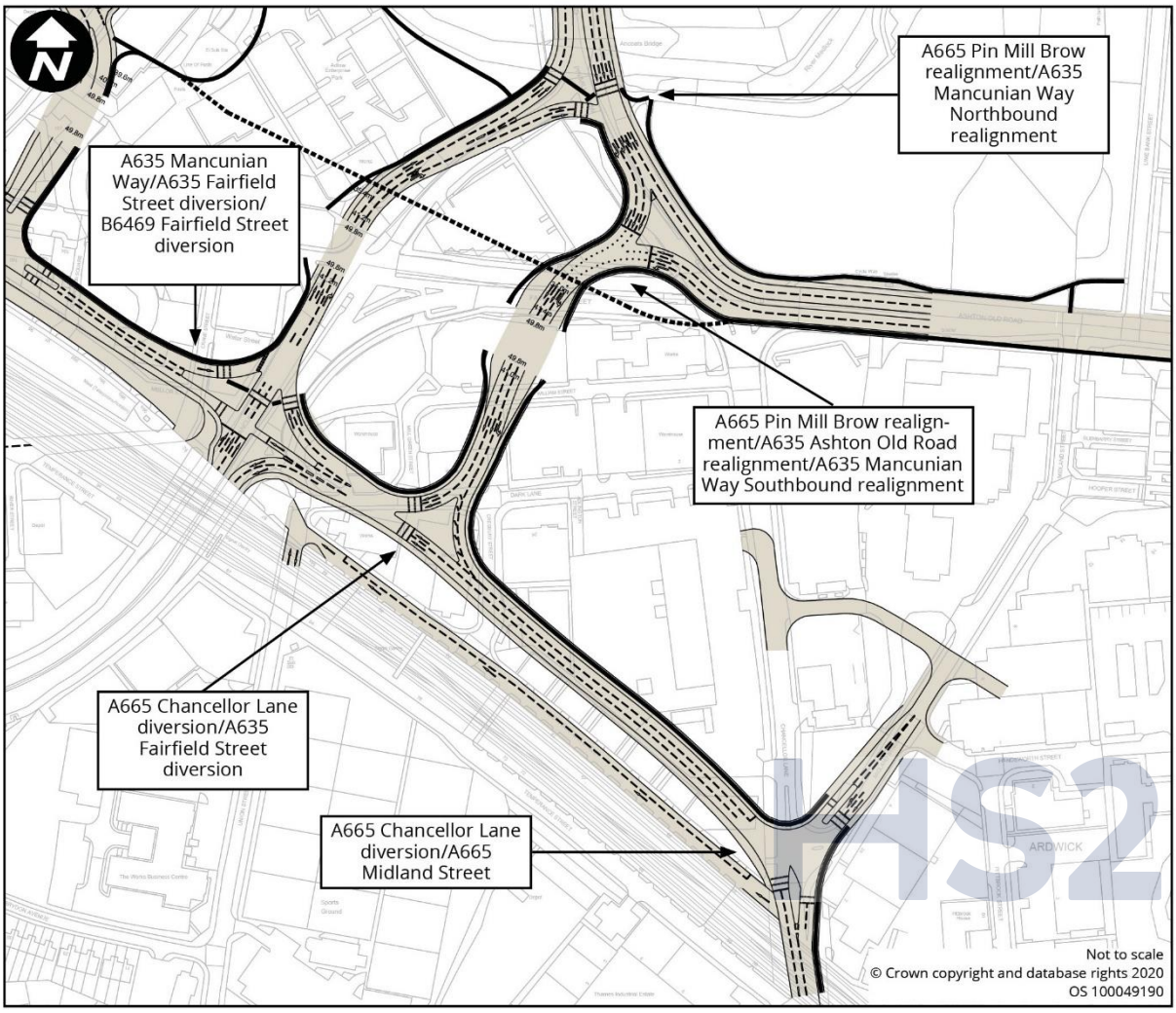
Permanent layout

18.5.391 The A635/A665 Pin Mill Brow network will be modified as part of the Proposed Scheme to facilitate access to Manchester Piccadilly High Speed Station. A new gyratory system will be introduced between the A635 Mancunian Way, the A635 Fairfield Street, the A665 Pin Mill Brow and the A665 Chancellor Lane, known as the A635/A665 Pin Mill Brow gyratory. The permanent gyratory layout includes the following five junctions:

- A665 Pin Mill Brow realignment/A635 Mancunian Way Northbound realignment;
- A665 Pin Mill Brow realignment/A635 Ashton Old Road realignment/A635 Mancunian Way southbound realignment;
- A635 Mancunian Way/A635 Fairfield Street diversion/B6469 Fairfield Street diversion;
- A665 Chancellor Lane/A665 Midland Street; and
- A665 Chancellor Lane diversion/A635 Fairfield Street diversion.

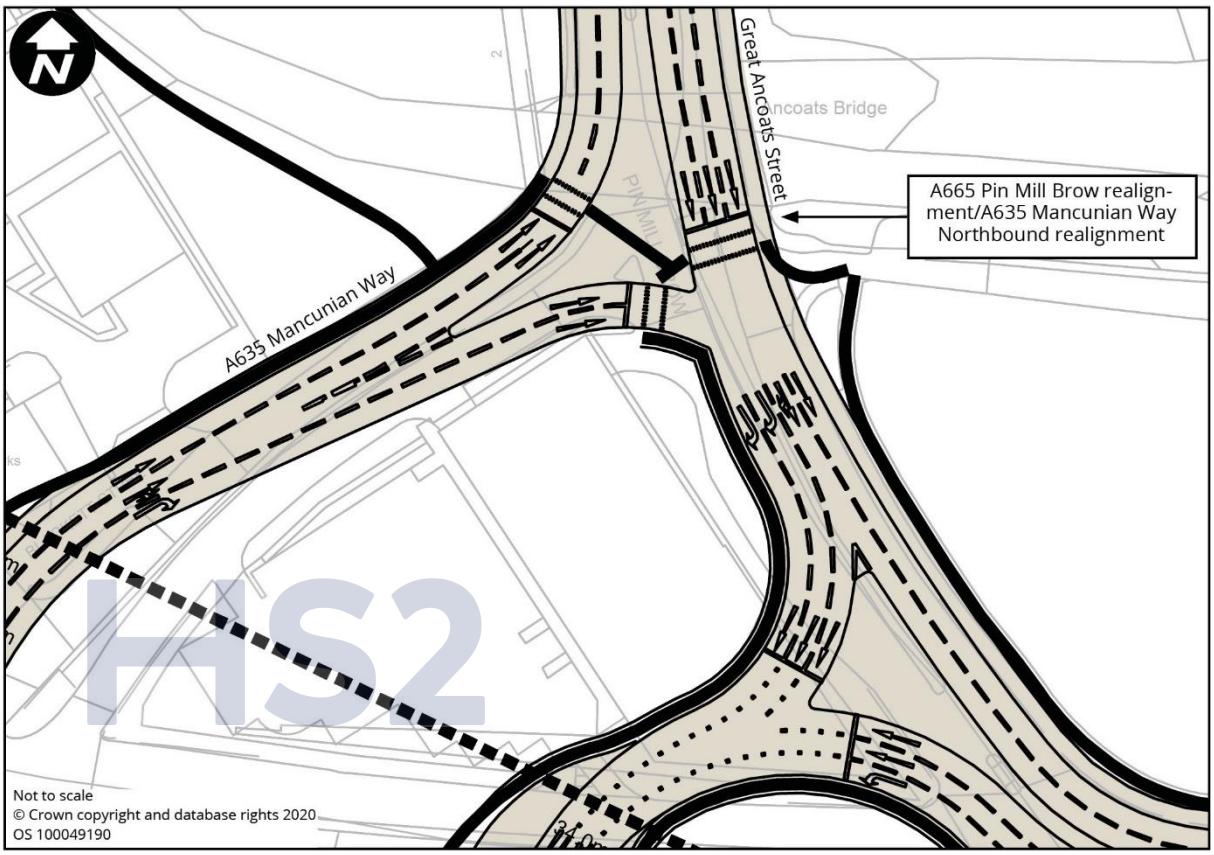
18.5.392 Figure 18-99 shows the permanent layout introduced as part of the Proposed Scheme.

Figure 18-99: Junction layout diagram (A635/A665 Pin Mill Brow gyratory permanent layout)



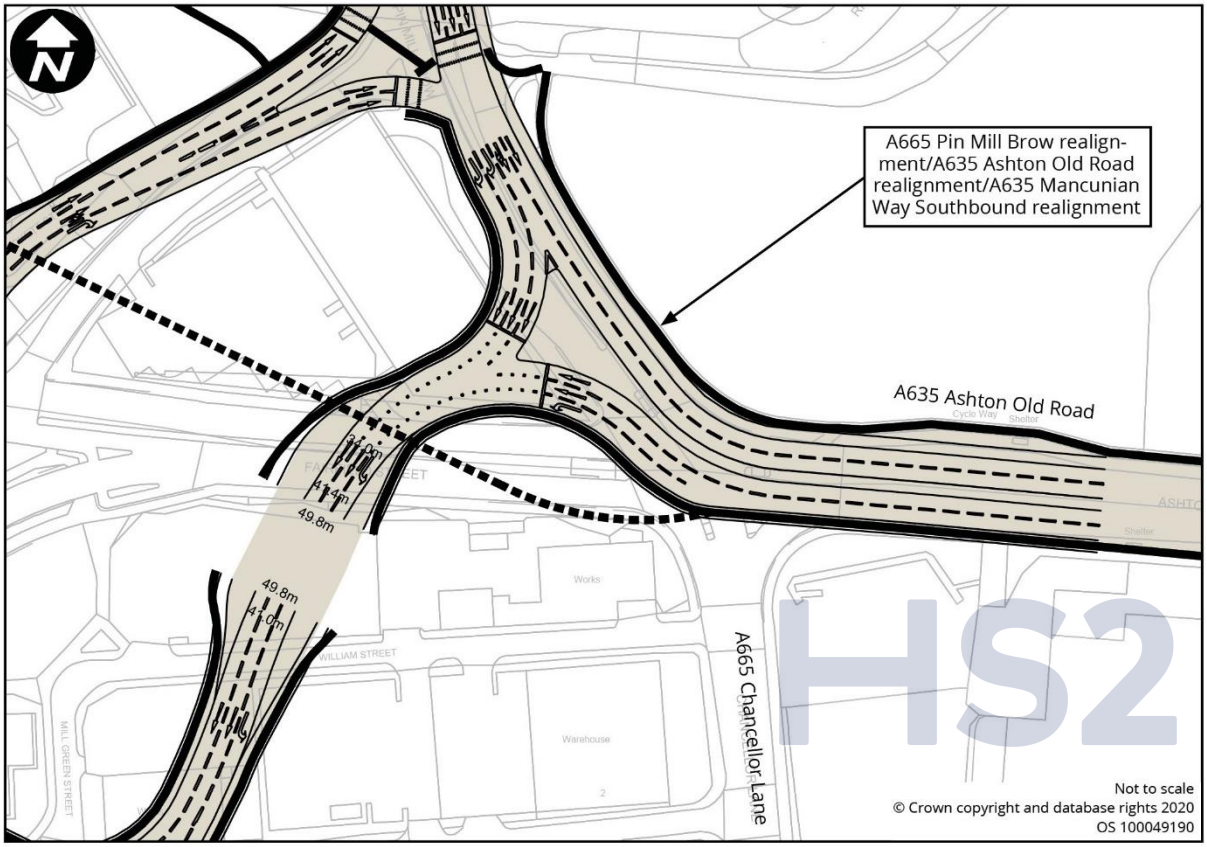
18.5.393 The A665 Pin Mill Brow realignment/A635 Mancunian Way northbound realignment is to be a modified junction as part of the Proposed Scheme. It will be a three-arm signal controlled T-junction with signal controlled pedestrian crossing facilities. The A635 Mancunian Way northbound realignment will be a one-way entry arm into the junction. The A665 Pin Mill Brow realignment (south) will be a one-way exit arm from the junction and is therefore not reported in the results. The permanent junction layout will be similar to the temporary layout with the exception of additional southbound exit lanes at the A665 Pin Mill Brow realignment. Figure 18-100 shows the permanent layout introduced as part of the Proposed Scheme.

Figure 18-100: Junction layout diagram (A635/A665 Pin Mill Brow realignment/A635 Mancunian Way northbound realignment, permanent layout)



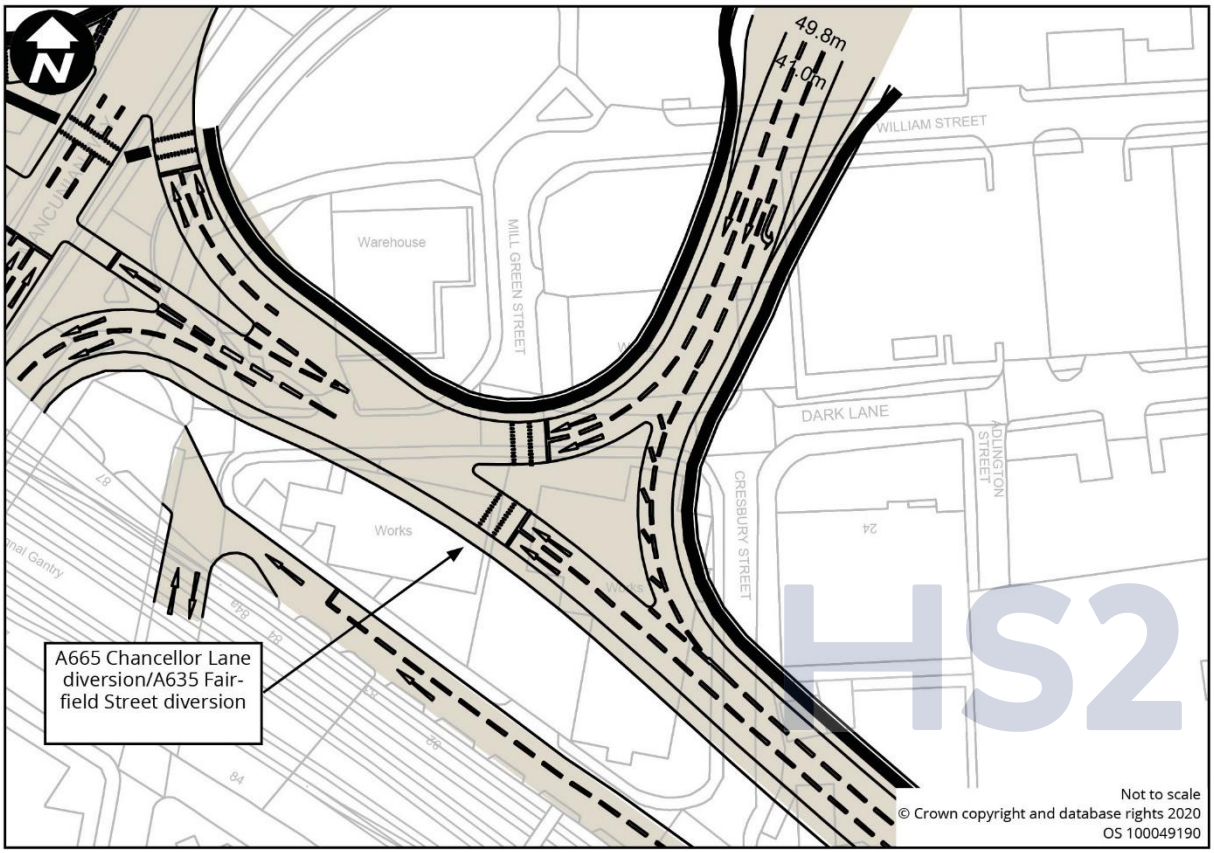
18.5.394 The A665 Pin Mill Brow realignment/A635 Ashton Old Road realignment/A635 Mancunian Way southbound realignment is to be a three-arm signal controlled T-junction with no pedestrian crossing facilities as a result of the Proposed Scheme. The junction is located approximately 50m to the north-west of the existing A665 Pin Mill Brow/A635 Ashton Old Road/A665 Chancellor Lane/A635 Fairfield Street junction. The A635 Mancunian Way southbound realignment will be a one-way exit arm from the junction and is therefore not reported in the results. There will no longer be access to the A665 Chancellor Lane at this junction. Figure 18-101 shows the permanent layout introduced as part of the Proposed Scheme.

Figure 18-101: Junction layout diagram (A665 Pin Mill Brow realignment/A635 Ashton Old Road realignment/A635 Mancunian Way southbound realignment, permanent layout)



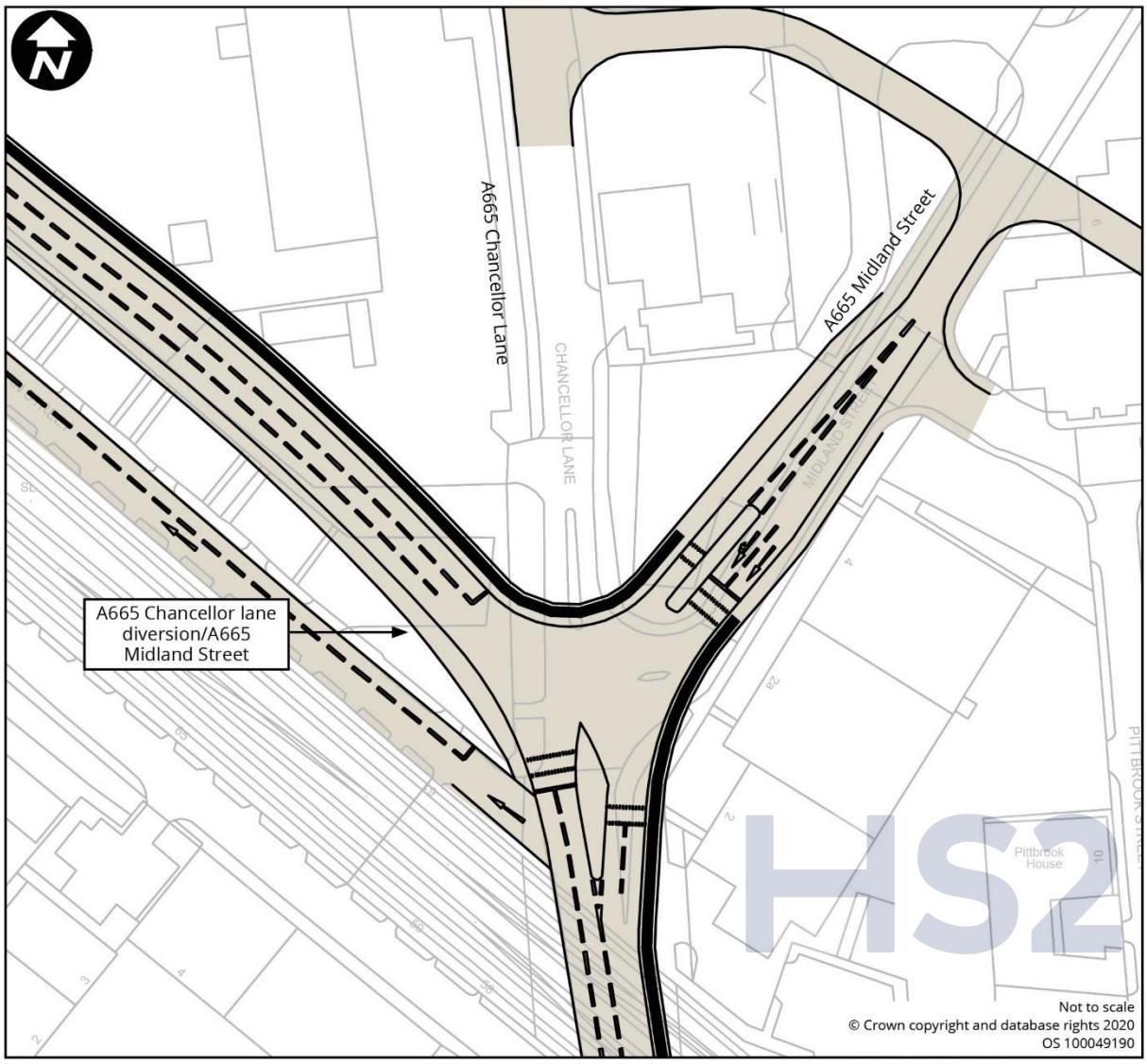
18.5.395 The A665 Chancellor Lane diversion/A635 Fairfield Street diversion is to be a new three-arm signal controlled T-junction with signal controlled pedestrian crossing facilities as a result of the Proposed Scheme. The A635 Fairfield Street diversion (west) will be a one-way entry arm into the junction. The A665 Chancellor Lane diversion will be two-way in the permanent layout. The existing North Western Street approach will be closed to enable demolition of buildings within the land required for the construction of the Proposed Scheme. This road will remain permanently closed on completion of construction. Figure 18-102 shows the permanent layout introduced as part of the Proposed Scheme.

Figure 18-102: Junction layout diagram (A665 Chancellor Lane diversion/A635 Fairfield Street diversion, permanent layout)



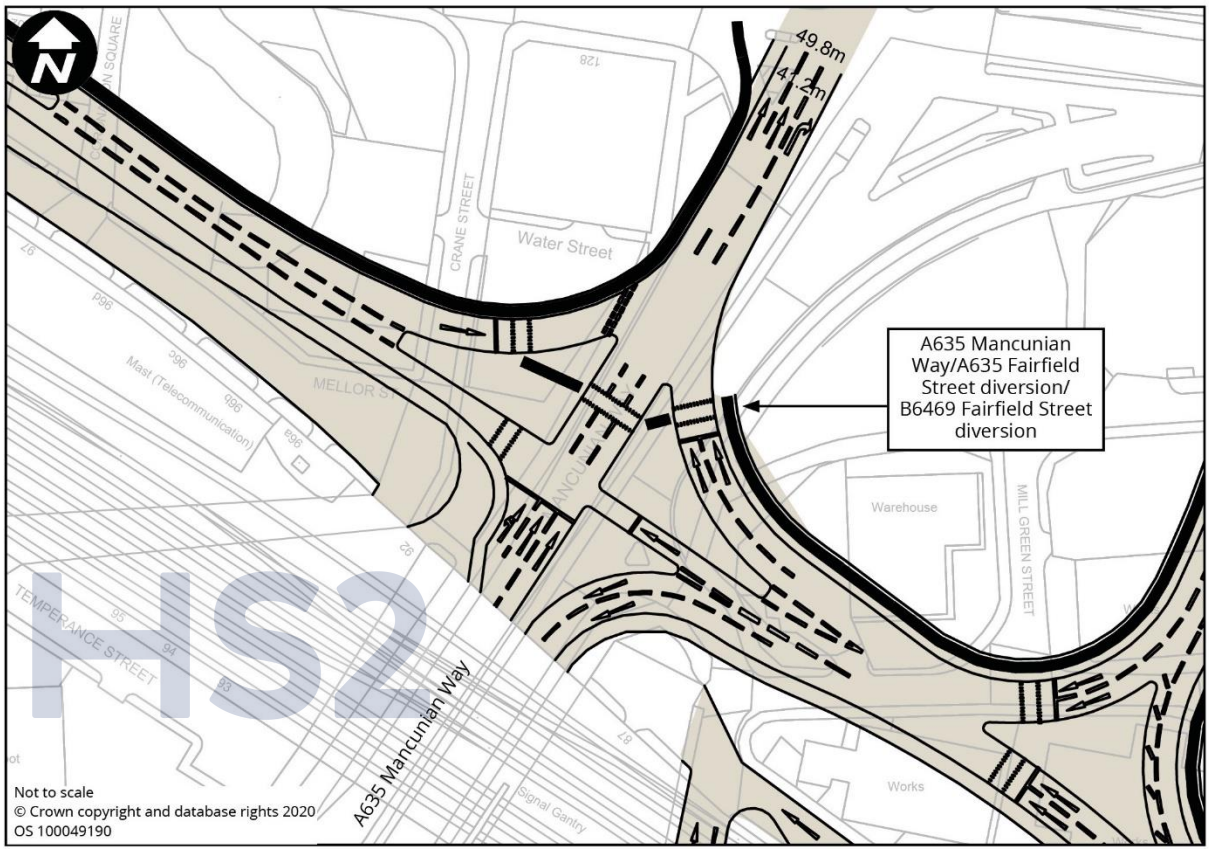
18.5.396 The A665 Chancellor Lane/A665 Midland Street junction will be a new three-arm signal controlled junction. The A665 Chancellor Lane north of Midland Street will be closed and replaced by the new A665 Chancellor Lane diversion. The permanent gyratory layout will require the closure of the A665 Chancellor Lane north of its junction with the A665 Midland Street. The A665 Chancellor Lane will be replaced by the A665 Chancellor Lane diversion, which will become two-way in the permanent layout. The A665 Chancellor Lane diversion/A665 Midland Street junction (to the south) will be modified in the permanent layout but will not be part of the gyratory. The existing North Western Street approach will be closed to enable demolition of buildings within the land required for the construction of the Proposed Scheme. This road will remain permanently closed on completion of construction. Figure 18-103 shows the permanent layout introduced as part of the Proposed Scheme.

Figure 18-103: Junction layout diagram (A665 Chancellor Lane/A665 Midland Street, permanent layout)



18.5.397 The A635 Mancunian Way/A635 Fairfield Street diversion/B6469 Fairfield Street diversion is to be a modified junction as part of the Proposed Scheme. It will be a four-arm signal controlled crossroads with signal controlled pedestrian crossing facilities. This junction will replace the existing A635 Mancunian Way/A635 Fairfield Street/B6469 Fairfield Street and will be relocated approximately 100m further south-west. The A635 Fairfield Street diversion will be a one-way entry arm into the junction. The A635 Mancunian Way northbound realignment will be a one-way exit arm from the junction and is therefore not reported in the results. Figure 18-104 shows the permanent layout introduced as part of the Proposed Scheme.

Figure 18-104: Junction layout diagram (A635 Mancunian Way/A635 Fairfield Street diversion/B6469 Fairfield Street diversion, permanent layout)



18.5.398 The operation of the junctions have been assessed for the 2038 and 2046 AM and PM peak hours with the Proposed Scheme using Linsig software. A summary of performance for the main approaches is shown in Table 18-354 and Table 18-355, while the results for each lane of the individual junctions are included in Table 18-356, Table 18-357, Table 18-358, Table 18-359 and Table 18-360.

Table 18-354: A635/A665 Pin Mill Brow gyratory key approaches 2038 and 2046 future baseline and with the Proposed Scheme junction capacity assessment (AM peak)

Junction/approach		Total Flow, PCU/hr	Max DoS	Total queue, PCU	Total Flow, PCU/hr	Max DoS	Total queue, PCU	Total Flow, PCU/hr	Max DoS	Total queue, PCU	Total Flow, PCU/hr	Max DoS	Total queue, PCU
08:00–09:00		**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme (permanent layout)**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A665 Pin Mill Brow/A665 Mancunian Way	A665 Pin Mill Brow (north)	2,250	62%	28	1,978	87%	38	2,297	70%	32	2,041	88%	41
	A665 Pin Mill Brow (south)	1,230	95%	34	-	-	-	1,258	83%	25	-	-	-
	A635 Mancunian Way	1,532	95%	47	3,509	77%	47	1,553	93%	47	3,485	79%	40
A665 Pin Mill Brow/A635 Ashton Old Road/A665 Chancellor Lane/A635 Fairfield Street	A665 Pin Mill Brow	1,386	66%	18	1,922	88%	16	1,407	74%	21	1,945	92%	23
	A635 Ashton Old Road	1,643	105%	59	1,458	96%	53	1,737	99%	44	1,518	98%	57
	A665 Chancellor Lane	1,102	122%	123	-	-	-	1,135	136%	173	-	-	-
	A635 Fairfield Street	782	96%	17	-	-	-	792	93%	13	-	-	-
A635 Fairfield Street diversion/A665 Chancellor Lane diversion	A635 Fairfield Street diversion	-	-	-	3,380	94%	40	-	-	-	3,463	90%	40
	A665 Chancellor Lane	-	-	-	1,076	64%	28	-	-	-	1,069	68%	29
A665 Chancellor Lane/A665 Midland Street	A665 Chancellor Lane	1,130	0%	0	1,774	112%	121	1,405	0%	0	1,800	115%	139
	A665 Midland Street	1	0%	0	4	2%	0	1	0%	0	4	2%	0
	A665 Chancellor Lane	1,186	59%	1	1,137	63%	10	1,229	61%	1	1,131	64%	10
A635 Mancunian Way/A635 Fairfield Street/B6469 Fairfield Street	A635 Mancunian Way (north)	864	114%	66	-	-	-	890	86%	28	-	-	-
	A635 Fairfield Street	1,098	70%	6	2,682	76%	62	1,195	47%	12	2,732	77%	65
	A635 Mancunian Way (south)	2,190	81%	49	2,329	147%	364	2,200	111%	131	2,342	148%	369
	B6469 Fairfield Street	233	101%	14	194	25%	1	240	70%	7	181	25%	1

Table 18-355: A635/A665 Pin Mill Brow gyratory key approaches 2038 and 2046 future baseline and with the Proposed Scheme junction capacity assessment (PM peak)

Junction/approach		Total Flow, PCU/ hr	Max DoS	Total queue, PCU	Total Flow, PCU/ hr	Max DoS	Total queue, PCU	Total Flow, PCU/ hr	Max DoS	Total queue, PCU	Total Flow, PCU/ hr	Max DoS	Total queue, PCU
17:00–18:00		**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme (permanent layout)**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A665 Pin Mill Brow/A665 Mancunian Way	A665 Pin Mill Brow (north)	2,281	101%	50	2,447	66%	30	2,344	104%	70	2,493	70%	34
	A665 Pin Mill Brow (south)	1,730	89%	31	-	-	-	1,770	89%	31	-	-	-
	A635 Mancunian Way	1,496	100%	42	2,936	94%	47	1,503	98%	48	2,956	90%	43
A665 Pin Mill Brow/A635 Ashton Old Road/A665 Chancellor Lane/A635 Fairfield Street	A665 Pin Mill Brow	1,225	64%	18	1,986	53%	20	1,276	62%	17	2,051	58%	33
	A635 Ashton Old Road	955	41%	4	853	67%	21	1,017	47%	14	871	62%	22
	A665 Chancellor Lane	1,478	135%	180	-	-	-	1,522	148%	247	-	-	-
	A635 Fairfield Street	183	12%	1	-	-	-	227	18%	2	-	-	-
A635 Fairfield Street diversion/A665 Chancellor Lane diversion	A635 Fairfield Street diversion	-	-	-	2,839	99%	76	-	-	-	2,922	97%	62
	A665 Chancellor Lane diversion	-	-	-	1,499	113%	106	-	-	-	1,510	106%	78
A665 Chancellor Lane/A665 Midland Street	A665 Chancellor Lane	660	0%	0	953	51%	9	734	0%	0	974	52%	9
	A665 Midland Street	8	5%	0	34	17%	1	9	6%	0	34	17%	1
	A665 Chancellor Lane	1,587	79%	2	1,500	59%	15	1,632	81%	2	1,515	54%	15
A635 Mancunian Way/A635 Fairfield	A635 Mancunian Way (north)	1,056	100%	48	-	-	-	1,068	97%	37	-	-	-
	A635 Fairfield Street	677	29%	4	3,385	98%	91	736	31%	6	3,438	90%	82

Junction/approach		Total Flow, PCU/ hr	Max DoS	Total queue, PCU	Total Flow, PCU/ hr	Max DoS	Total queue, PCU	Total Flow, PCU/ hr	Max DoS	Total queue, PCU	Total Flow, PCU/ hr	Max DoS	Total queue, PCU
Street/B6469 Fairfield Street	A635 Mancunian Way (south)	1,714	126%	147	1,401	111%	115	1,745	132%	186	1,404	116%	140
	B6469 Fairfield Street	281	91%	11	152	20%	1	287	79%	9	177	23%	1

18.5.399 For the A665 Pin Mill Brow/A635 Mancunian Way junction in 2038, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 95% in the 2038 future baseline to 77% with the Proposed Scheme in 2038 on the A635 Mancunian Way approach in the AM peak hour, with no change in corresponding queue length. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 62% in the 2038 future baseline to 87% with the Proposed Scheme in 2038 on the A665 Pin Mill Brow (north) approach. Queue length will increase from 28 PCU in the future baseline to 38 PCU with the Proposed Scheme. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 101% in the 2038 future baseline to 66% with the Proposed Scheme in 2038 on the A665 Pin Mill Brow (north) approach, with a corresponding change in queue length from 50 PCU in the future baseline to 30 PCU. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction.

18.5.400 For the A665 Pin Mill Brow/A635 Ashton Old Road/A665 Chancellor Lane/A635 Fairfield Street junction in 2038, the maximum DoS in the future baseline is on the A665 Chancellor Lane approach in the AM peak hour, however this movement will no longer exist in 2038 with the Proposed Scheme. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 66% in the 2038 future baseline to 88% with the Proposed Scheme in 2038 on the A665 Pin Mill Brow approach. Queue length will decrease from 18 PCU in the future baseline to 16 PCU with the Proposed Scheme. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in DoS and queue lengths. The assessment shows that in the AM peak hour the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in the future baseline and well within capacity with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction.

18.5.401 For the new A635 Fairfield Street diversion/A665 Chancellor Lane diversion junction in 2038, this junction operates close to capacity in 2038 with the Proposed Scheme with a maximum DoS of 94% on the A635 Fairfield Street diversion approach in the AM peak hour with an associated queue length of 40 PCU. In the PM peak hour, this junction operates over capacity in 2038 with the Proposed Scheme with a maximum DoS of 113% on the A665 Chancellor Lane diversion approach, with a queue length of 106 PCU.

18.5.402 For the A665 Chancellor Lane/A665 Midland Street junction in 2038, the change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum DoS between the 2038 future baseline and the Proposed Scheme in the AM or PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 0% in the future baseline to 112% with the Proposed Scheme in 2038 on the A665 Chancellor Lane (north) approach in the AM peak hour. Queue

length will increase from no queue in the future baseline to 121 PCU with the Proposed Scheme. The assessment shows that in the AM peak hour the junction operates well within capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and well within capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

18.5.403 For the A635 Mancunian Way/A635 Fairfield Street/B6469 Fairfield Street junction in 2038, the maximum DoS in the future baseline is on the A635 Mancunian Way (north) approach in the AM peak hour, however this movement will no longer exist in 2038 with the Proposed Scheme. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 81% in the 2038 future baseline to 147% with the Proposed Scheme in 2038 on the A635 Mancunian Way (south) approach. Queue length will increase from 49 PCU in the future baseline to 364 PCU with the Proposed Scheme. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 126% in the 2038 future baseline to 111% with the Proposed Scheme in 2038 on the A635 Mancunian Way (south) approach, with a corresponding change in queue length from 147 PCU in the future baseline to 115 PCU. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 29% in the 2038 future baseline to 98% with the Proposed Scheme in 2038 on the A635 Fairfield Street approach. Queue length will increase from four PCU in the future baseline to 91 PCU with the Proposed Scheme.

18.5.404 For the A665 Pin Mill Brow/A635 Mancunian Way junction in 2046, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 93% in the 2046 future baseline to 79% with the Proposed Scheme in 2046 on the A635 Mancunian Way approach in the AM peak hour, with a corresponding change in queue length from 47 PCU in the future baseline to 40 PCU. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 70% in the 2046 future baseline to 88% with the Proposed Scheme in 2046 on the A665 Pin Mill Brow (north) approach. Queue length will increase from 32 PCU in the future baseline to 41 PCU with the Proposed Scheme. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 104% in the 2046 future baseline to 70% with the Proposed Scheme in 2046 on the A665 Pin Mill Brow (north) approach, with a corresponding change in queue length from 70 PCU in the future baseline to 34 PCU. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction.

18.5.405 For the A665 Pin Mill Brow/A635 Ashton Old Road/A665 Chancellor Lane/A635 Fairfield Street junction in 2046, the maximum DoS in the future baseline is on the A665 Chancellor Lane approach in the AM peak hour, however this movement will no longer exist in 2046 with the Proposed Scheme. However, in the AM peak hour, the change in traffic due to

operation of the Proposed Scheme will increase the DoS from 74% in the 2046 future baseline to 92% with the Proposed Scheme in 2046 on the A665 Pin Mill Brow approach. Queue length will increase from 21 PCU in the future baseline to 23 PCU with the Proposed Scheme. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in DoS and queue lengths. The assessment shows that in the AM peak hour the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in the future baseline and well within capacity with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction.

18.5.406 For the new A635 Fairfield Street diversion/A665 Chancellor Lane diversion junction in 2046, this junction operates close to capacity in 2046 with the Proposed Scheme with a maximum DoS of 90% on the A635 Fairfield Street diversion approach in the AM peak hour with an associated queue length of 40 PCU. In the PM peak hour, this junction operates over capacity in 2046 with the Proposed Scheme with a maximum DoS of 106% on the A665 Chancellor Lane diversion approach, with a queue length of 78 PCU.

18.5.407 For the A665 Chancellor Lane/A665 Midland Street junction in 2046, the change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum DoS between the 2046 future baseline and the Proposed Scheme in the AM or PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 0% in the future baseline to 115% with the Proposed Scheme in 2046 on the A665 Chancellor Lane (north) approach in the AM peak hour. Queue length will increase from no queue in the future baseline to 139 PCU with the Proposed Scheme. The assessment shows that in the AM peak hour the junction operates well within capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and well within capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

18.5.408 For the A635 Mancunian Way/A635 Fairfield Street/B6469 Fairfield Street junction in 2046, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 111% in the 2046 future baseline to 148% with the Proposed Scheme in 2046 on the A635 Mancunian Way (south) approach, with a corresponding change in queue length from 131 PCU in the future baseline to 369 PCU. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 132% in the 2046 future baseline to 116% with the Proposed Scheme in 2046 on the A635 Mancunian Way (south) approach, with a corresponding change in queue length from 186 PCU in the future baseline to 140 PCU. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 31% in the 2046 future baseline to 90% with the Proposed Scheme in 2046 on the A635 Fairfield Street approach. Queue length will increase from six PCU in the future baseline to 82 PCU with the Proposed Scheme.

Table 18-356: A665 Pin Mill Brow realignment/A635 Mancunian Way northbound realignment junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A665 Pin Mill Brow realignment (nearside) (ahead)	1,367	87%	28	1,378	88%	29
A665 Pin Mill Brow realignment (centre) (ahead)	223	19%	3	189	16%	3
A665 Pin Mill Brow realignment (offside) (ahead)	388	33%	7	474	40%	9
A635 Mancunian Way northbound realignment (nearside) (left)	1,331	71%	11	1,344	72%	11
A635 Mancunian Way northbound realignment (centre 1) (left)	1,304	65%	11	1,298	64%	10
A635 Mancunian Way northbound realignment (centre 2) (right)	414	70%	11	372	63%	7
A635 Mancunian Way northbound realignment (offside) (right)	460	77%	14	471	79%	12
17:00–18:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A665 Pin Mill Brow realignment (nearside) (ahead)	1,404	66%	16	1,428	70%	19
A665 Pin Mill Brow realignment (centre) (ahead)	534	37%	7	545	39%	8
A665 Pin Mill Brow realignment (offside) (ahead)	509	35%	6	520	37%	7
A635 Mancunian Way northbound realignment (nearside) (left)	1,579	94%	29	1,508	90%	25
A635 Mancunian Way northbound realignment (centre 1) (left)	1,037	61%	8	1,106	63%	8
A635 Mancunian Way northbound realignment (centre 2) (right)	142	44%	4	157	41%	4
A635 Mancunian Way northbound realignment (offside) (right)	178	55%	6	185	49%	6

Table 18-357: A665 Pin Mill Brow realignment/A635 Ashton Old Road realignment/A635 Mancunian Way southbound realignment junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A665 Pin Mill Brow realignment (nearside) (ahead)	1,267	88%	9	1,259	92%	15
A665 Pin Mill Brow realignment (offside) (ahead)	251	23%	2	198	19%	1
A665 Pin Mill Brow realignment (centre) (ahead)	404	36%	4	488	46%	7
A635 Ashton Old Road realignment (nearside and centre) (ahead)	797	96%	28	768	92%	24
A635 Ashton Old Road realignment (offside) (ahead)	661	93%	25	750	98%	33
17:00–18:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A665 Pin Mill Brow realignment (nearside) (ahead)	869	53%	7	912	58%	9
A665 Pin Mill Brow realignment (offside) (ahead)	576	51%	2	589	54%	13
A665 Pin Mill Brow realignment (centre) (ahead)	541	47%	11	550	50%	11
A635 Ashton Old Road realignment (nearside and centre) (ahead)	393	54%	8	422	58%	10
A635 Ashton Old Road realignment (offside) (ahead)	460	67%	13	449	62%	12

Table 18-358: A665 Chancellor Lane diversion/A635 Fairfield Street diversion junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A635 Fairfield Street diversion (nearside) (left and ahead)	1,774	0%	0	1,800	0%	0
A635 Fairfield Street diversion (centre) (ahead)	717	76%	11	763	76%	13
A635 Fairfield Street diversion (offside) (ahead)	889	94%	29	900	90%	28
A665 Chancellor Lane diversion (nearside) (ahead)	528	64%	14	526	68%	14
A665 Chancellor Lane diversion (offside) (ahead)	548	62%	14	543	66%	15
17:00–18:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A635 Fairfield Street diversion (nearside) (left and ahead)	953	0%	0	974	0%	0
A635 Fairfield Street diversion (centre) (ahead)	908	92%	32	974	97%	30
A635 Fairfield Street diversion (offside) (ahead)	978	99%	44	974	97%	32
A665 Chancellor Lane diversion (nearside) (ahead)	897	113%	90	832	106%	57
A665 Chancellor Lane diversion (offside) (ahead)	602	71%	17	678	81%	20

Table 18-359: A665 Chancellor Lane diversion/A665 Midland Street junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A665 Chancellor Lane diversion (left and ahead)	1,774	112%	121	1,800	115%	139
A665 Midland Street (left and right)	4	2%	0	4	2%	0
A665 Chancellor Lane (south) (nearside) (ahead)	526	35%	4	524	35%	4
A665 Chancellor Lane (south) (offside) (ahead and right)	611	63%	6	607	64%	6
17:00–18:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A665 Chancellor Lane diversion (left and ahead)	953	51%	9	974	52%	9
A665 Midland Street (left and right)	34	17%	1	34	17%	1
A665 Chancellor Lane (south) (nearside) (ahead)	886	59%	10	810	54%	9
A665 Chancellor Lane (south) (offside) (ahead and right)	614	38%	5	705	43%	7

Table 18-360: A635 Mancunian Way/A635 Fairfield Street diversion/B6469 Fairfield Street diversion junction 2038 and 2046 with the Proposed Scheme junction capacity assessment results (Scenario 3 and 4)

Approach	Flow, PCU/hr	DoS	Queue, PCU	Flow, PCU/hr	DoS	Queue, PCU
08:00–09:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A635 Fairfield Street diversion (nearside) (left)	719	40%	14	768	43%	11
A635 Fairfield Street diversion (centre 1) (left)	635	33%	10	645	33%	12
A635 Fairfield Street diversion (centre 2) (ahead)	218	38%	5	228	41%	7
A635 Fairfield Street diversion (centre 3) (right)	554	76%	17	539	75%	17
A635 Fairfield Street diversion (offside) (right)	556	76%	17	552	77%	19
A635 Mancunian Way (nearside and centre) (left and ahead)	1,695	147%	351	1,729	148%	356
A635 Mancunian Way (offside) (ahead)	634	56%	14	613	54%	13
B6469 Fairfield Street diversion (left)	194	25%	1	181	25%	1
17:00–18:00	**2038 with the Proposed Scheme (permanent layout)**			**2046 with the Proposed Scheme (permanent layout)**		
A635 Fairfield Street diversion (nearside) (left)	916	51%	28	982	55%	30
A635 Fairfield Street diversion (centre 1) (left)	758	39%	6	764	39%	3
A635 Fairfield Street diversion (centre 2) (ahead)	327	54%	7	327	52%	7
A635 Fairfield Street diversion (centre 3) (right)	772	98%	30	697	88%	19
A635 Fairfield Street diversion (offside) (right)	612	86%	20	668	90%	24
A635 Mancunian Way (nearside and centre) (left and ahead)	1,299	111%	114	1,309	116%	139
A635 Mancunian Way (offside) (ahead)	102	9%	2	95	9%	2
B6469 Fairfield Street diversion (left)	152	20%	1	177	23%	1

A34 Oxford Street/B6469 Whitworth Street West/B6469 Whitworth Street

18.5.409 Table 18-361 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-361: A34 Oxford Street/B6469 Whitworth Street West/B6469 Whitworth Street junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A34 Oxford Road (north)	126	21%	2	145	24%	2	126	21%	2	157	26%	2
B6469 Whitworth Street	492	51%	8	505	53%	9	500	52%	8	510	53%	9
A34 Oxford Street (south)	416	69%	5	427	70%	5	427	70%	5	436	72%	5
B6469 Whitworth Street West	353	41%	5	337	39%	5	348	40%	5	333	38%	5
17:00–18:00	**2038 future baseline**			**2038 with Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A34 Oxford Road (north)	598	92%	9	598	92%	9	598	92%	9	605	93%	9
B6469 Whitworth Street	561	66%	10	594	70%	10	567	67%	10	606	71%	10
A34 Oxford Street (south)	244	131%	3	244	134%	3	244	137%	3	244	135%	3
B6469 Whitworth Street West	217	40%	4	214	40%	4	220	41%	4	228	42%	4

18.5.410 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 131% in the 2038 future baseline to 134% with the Proposed Scheme in 2038 on the A34 Oxford Street (south) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

18.5.411 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum VoC from 137% in the 2046 future baseline to 135% with the Proposed Scheme in 2046 on the A34 Oxford Street (south) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

A57 Regent Road/A57 Dawson Street/A6042 Trinity Way/Water Street

18.5.412 Table 18-362 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. The Water Street approach is a minor arm that is not included within the SATURN model.

Table 18-362: A57 Regent Road/A57 Dawson Street/A6042 Trinity Way/Water Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A642 Trinity Way	1,178	54%	23	1,203	55%	24	1,198	55%	24	1,211	55%	24
A57 Dawson Street	3,483	71%	41	3,405	69%	41	3,545	72%	42	3,470	71%	41
Water Street	-	-	-	-	-	-	-	-	-	-	-	-
A57 Regent Road	2,077	88%	34	2,050	87%	34	2,060	87%	34	2,052	87%	34
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A642 Trinity Way	1,782	92%	34	1,775	92%	33	1,823	94%	34	1,822	94%	34
A57 Dawson Street	2,747	95%	47	2,750	96%	47	2,790	97%	48	2,783	97%	48
Water Street	-	-	-	-	-	-	-	-	-	-	-	-
A57 Regent Road	1,882	74%	34	1,876	74%	34	1,894	74%	35	1,890	74%	34

18.5.413 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.414 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

New Sheffield Street/B6469 Fairfield Street diversion

18.5.415 New Sheffield Street/B6469 Fairfield Street diversion will be a new junction as part of the Proposed Scheme. It will be a three-arm priority controlled T-junction. Figure 18-105 shows the junction layout introduced as part of the Proposed Scheme. Table 18-363 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Figure 18-105: Junction layout diagram (New Sheffield Street/B6469 Fairfield Street diversion)

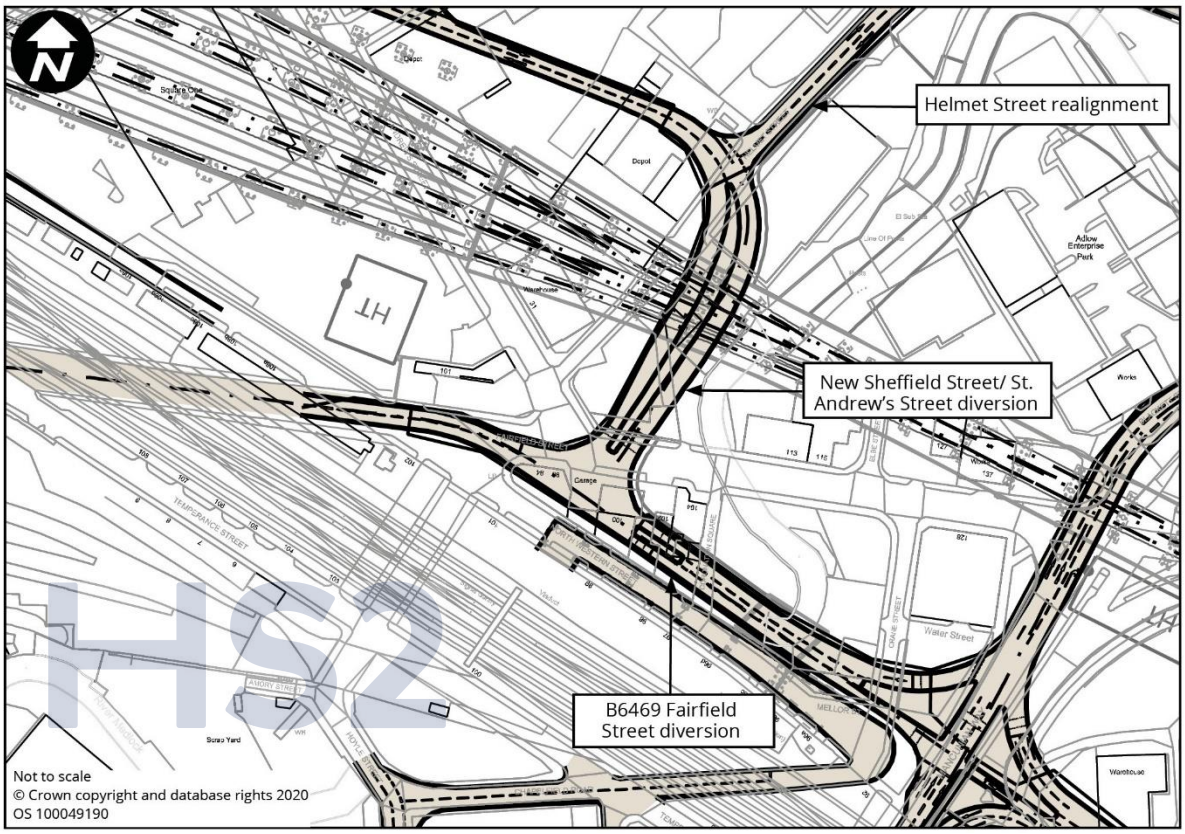


Table 18-363: New Sheffield Street/B6469 Fairfield Street diversion 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
New Sheffield Street	0	0.00	0	0	0.00	0
B6469 Fairfield Street diversion (east)	342	0.20	2	357	0.21	2
B6469 Fairfield Street diversion (west)	194	0.15	2	181	0.14	2
17:00–18:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
New Sheffield Street	0	0.00	0	0	0.00	0
B6469 Fairfield Street diversion (east)	328	0.20	2	337	0.21	2
B6469 Fairfield Street diversion (west)	152	0.12	1	178	0.14	2

18.5.416 The assessment shows that in 2038 and 2046 the junction operates within capacity with the Proposed Scheme in the AM and PM peak hours.

B6469 Fairfield Street/Travis Street

18.5.417 Table 18-364 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. The Neild Street approach is a minor arm that is not included within the SATURN model.

Table 18-364: B6469 Fairfield Street/Travis Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Travis Street (north) (left, ahead and right)	665	122%	79	225	36%	4	655	122%	79	244	39%	5
B6469 Fairfield Street (east) (nearside) (left and ahead)	291	43%	5	911	135%	145	293	43%	5	920	136%	150
B6469 Fairfield Street (east) (offside) (right)	39	15%	1	60	11%	1	39	16%	1	62	11%	1
Neild Street (left, ahead and right)	-	-	-	-	-	-	-	-	-	-	-	-
Travis Street (south) (left, ahead and right)	15	3%	0	15	4%	0	15	3%	0	15	4%	0
Fairfield Street (west) (left, ahead and right)	561	86%	9	421	351%	170	581	87%	10	441	353%	178
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Travis Street (north) (left, ahead and right)	497	86%	13	67	12%	1	538	95%	18	85	15%	1
B6469 Fairfield Street (east) (nearside) (left and ahead)	308	46%	6	712	106%	43	275	41%	5	737	109%	55
B6469 Fairfield Street (east) (offside) (right)	35	19%	1	58	10%	1	35	18%	1	62	11%	1
Neild Street (left, ahead and right)	-	-	-	-	-	-	-	-	-	-	-	-
Travis Street (south) (left, ahead and right)	37	10%	1	37	7%	1	37	9%	1	37	7%	1
Fairfield Street (west) (left, ahead and right)	543	70%	6	878	791%	434	550	69%	6	892	791%	441

18.5.418 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 122% in the 2038 future baseline to 36% with the Proposed Scheme in 2038 on the Travis Street (north) approach in the AM peak hour, with a corresponding change in queue length from 79 PCU in the future baseline to four PCU. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 86% in the 2038 future baseline to 351% with the Proposed Scheme in 2038 on the Fairfield Street (west) approach, with a corresponding change in queue length from nine PCU in the future baseline to 170 PCU. The change in traffic due to operation of the Proposed Scheme will also increase the DoS from 43% in the 2038 future baseline to 135% with the Proposed Scheme on the nearside lane of the B6469 Fairfield Street (east) approach, with a corresponding change in queue length from five PCU in the future baseline to 145 PCU.

18.5.419 In the PM peak hour, the maximum DoS will decrease from 86% in the 2038 future baseline to 12% with the Proposed Scheme in 2038 on the Travis Street (north) approach, with a corresponding change in queue length from 13 PCU in the future baseline to one PCU. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 70% in the 2038 future baseline to 791% with the Proposed Scheme in 2038 on the Fairfield Street (west) approach, with a corresponding change in queue length from six PCU in the future baseline to 434 PCU. The change in traffic due to operation of the Proposed Scheme will also increase the DoS from 46% in the 2038 future baseline to 106% with the Proposed Scheme on the nearside lane of the B6469 Fairfield Street (east) aoproach, with a corresponding change in queue length from six PCU in the future baseline to 43 PCU. The assessment shows that in the AM and PM peak hours the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

18.5.420 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 122% in the 2046 future baseline to 39% with the Proposed Scheme in 2046 on the Travis Street (north) approach in the AM peak hour, with a corresponding change in queue length from 79 PCU in the future baseline to five PCU. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 87% in the 2046 future baseline to 353% with the Proposed Scheme in 2046 on the Fairfield Street (west) approach, with a corresponding change in queue length from 10 PCU in the future baseline to 178 PCU. The change in traffic due to operation of the Proposed Scheme will also increase the DoS from 43% in the 2046 future baseline to 136% with the Proposed Scheme on the nearside lane of the B6469 Fairfield Street (east) approach, with a corresponding change in queue length from five PCU in the future baseline to 150 PCU.

18.5.421 In the PM peak hour the maximum DoS will decrease from 95% in the 2046 future baseline to 15% with the Proposed Scheme in 2046 on the Travis Street (north) approach, with a corresponding change in queue length from 18 PCU in the future baseline to one PCU. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 69% in the 2046 future baseline to 791% with the Proposed Scheme in 2046 on the Fairfield Street (west) approach, with a corresponding

change in queue length from six PCU in the future baseline to 441 PCU. The change in traffic due to operation of the Proposed Scheme will also increase the DoS from 41% in the 2046 future baseline to 109% with the Proposed Scheme on the nearside lane of the B6469 Fairfield Street (east) approach, with a corresponding change in queue length from five PCU in the future baseline to 55 PCU. The assessment shows that in the AM and PM peak hours the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

A34 Oxford Street/A5103 Portland Street/A5103 Chepstow Street

18.5.422 Table 18-365 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-365: A34 Oxford Street/A5103 Portland Street/A5103 Chepstow Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A34 Oxford Street (north)	293	38%	5	288	38%	5	290	38%	5	286	37%	5
A5103 Portland Street	722	61%	10	715	60%	10	701	60%	10	697	58%	10
A34 Oxford Street (south)	298	86%	5	297	88%	5	297	85%	5	296	88%	5
A5103 Chepstow Street	245	33%	4	218	30%	4	264	36%	5	231	31%	4
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A34 Oxford Street (north)	437	55%	8	443	56%	8	456	58%	8	455	57%	8
A5103 Portland Street	648	67%	9	624	64%	9	692	71%	10	649	67%	9
A34 Oxford Street (south)	200	146%	3	196	148%	3	192	149%	2	195	148%	3
Chepstow Street	485	66%	9	489	67%	9	501	68%	9	507	69%	9

18.5.423 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 86% in the 2038 future baseline to 88% with the Proposed Scheme in 2038 on the A34 Oxford Street (south) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 146% in the 2038 future baseline to 148% with the Proposed Scheme in 2038 on the A34 Oxford Street (south) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction which is, however, predicted to operate above its capacity in the future baseline.

18.5.424 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 85% in the 2046 future baseline to 88% with the Proposed Scheme in 2046 on the A34 Oxford Street (south) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial change in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

A6 London Road/B6469 Fairfield Street

18.5.425 Table 18-366 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-366: A6 London Road/B6469 Fairfield Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 London Road (north)	1,034	87%	14	799	68%	11	1,067	90%	15	812	69%	12
B6469 Fairfield Street (east)	713	102%	11	719	98%	12	712	104%	11	711	98%	12
A6 London Road (south)	869	83%	14	840	81%	14	902	86%	15	867	84%	14
B6469 Fairfield Street (west)	385	64%	6	330	55%	5	406	68%	7	339	57%	6
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 London Road (north)	996	58%	15	1,070	65%	16	999	59%	15	1,063	65%	16
B6469 Fairfield Street (east)	417	86%	7	400	81%	7	426	87%	7	418	85%	7
A6 London Road (south)	273	22%	4	294	24%	4	300	24%	5	313	25%	5
B6469 Fairfield Street (west)	526	100%	9	546	103%	9	529	101%	9	549	104%	9

18.5.426 The change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 102% in the 2038 future baseline to 98% with the Proposed Scheme in 2038 on the B6469 Fairfield Street (east) approach in the AM peak hour, with an increase in queue length from 11 PCU in the future baseline to 12 PCU. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 100% in the 2038 future baseline to 103% with the Proposed Scheme in 2038 on the B6469 Fairfield Street (west) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour which is, however, predicted to operate above its capacity in the future baseline.

18.5.427 The change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 104% in the 2046 future baseline to 98% with the Proposed Scheme in 2046 on the B6469 Fairfield Street (east) approach in the AM peak hour, with an increase in queue length from 11 PCU in the future baseline to 12 PCU. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 101% in the 2046 future baseline to 104% with the Proposed Scheme in 2046 on the B6469 Fairfield Street (west) approach, with no change in queue lengths. The assessment shows that in the AM peak hour the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour which is, however, predicted to operate above its capacity in the future baseline.

A34 Princess Street/Bloom Street

18.5.428 Table 18-367 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. Although this junction is a four-arm priority controlled (give way) crossroads, Bloom Street (west) is a one-way exit arm from the junction and is therefore not reported in the results.

Table 18-367: A34 Princess Street/Bloom Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A34 Princess Street (north)	302	16%	0	310	16%	0	307	16%	0	298	90%	0
Bloom Street (east)	117	22%	0	113	22%	0	124	24%	0	93	102%	2
A34 Princess Street (south)	389	68%	0	420	74%	1	373	66%	0	422	74%	1
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A34 Princess Street (north)	603	31%	0	587	30%	0	593	31%	0	584	30%	0
Bloom Street (east)	266	70%	1	277	71%	1	267	69%	1	279	72%	1
A34 Princess Street (south)	124	30%	0	162	39%	0	120	29%	0	173	41%	0

18.5.429 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial change in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.430 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 24% the 2046 future baseline to 102% with the Proposed Scheme in 2046 on the Bloom Street (east) approach. Queue length will increase from no queue in the future baseline to two PCU with the Proposed Scheme. The change in traffic due to operation of the Proposed Scheme will also increase the VoC from 16% in the 2046 future baseline to 90% with the Proposed Scheme in 2046 on the A34 Princess Street (north) approach. There will be no change in queue lengths. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2036 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates well within capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

New Sheffield Street/Helmet Street realignment

18.5.431 The New Sheffield Street/Helmet Street realignment junction will be a new junction as part of the Proposed Scheme. It will be a three-arm priority controlled (give way) T-junction. Figure 18-106 shows the junction layout introduced as part of the Proposed Scheme. Table 18-368 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Figure 18-106: Junction layout diagram (New Sheffield Street/Helmet Street realignment)

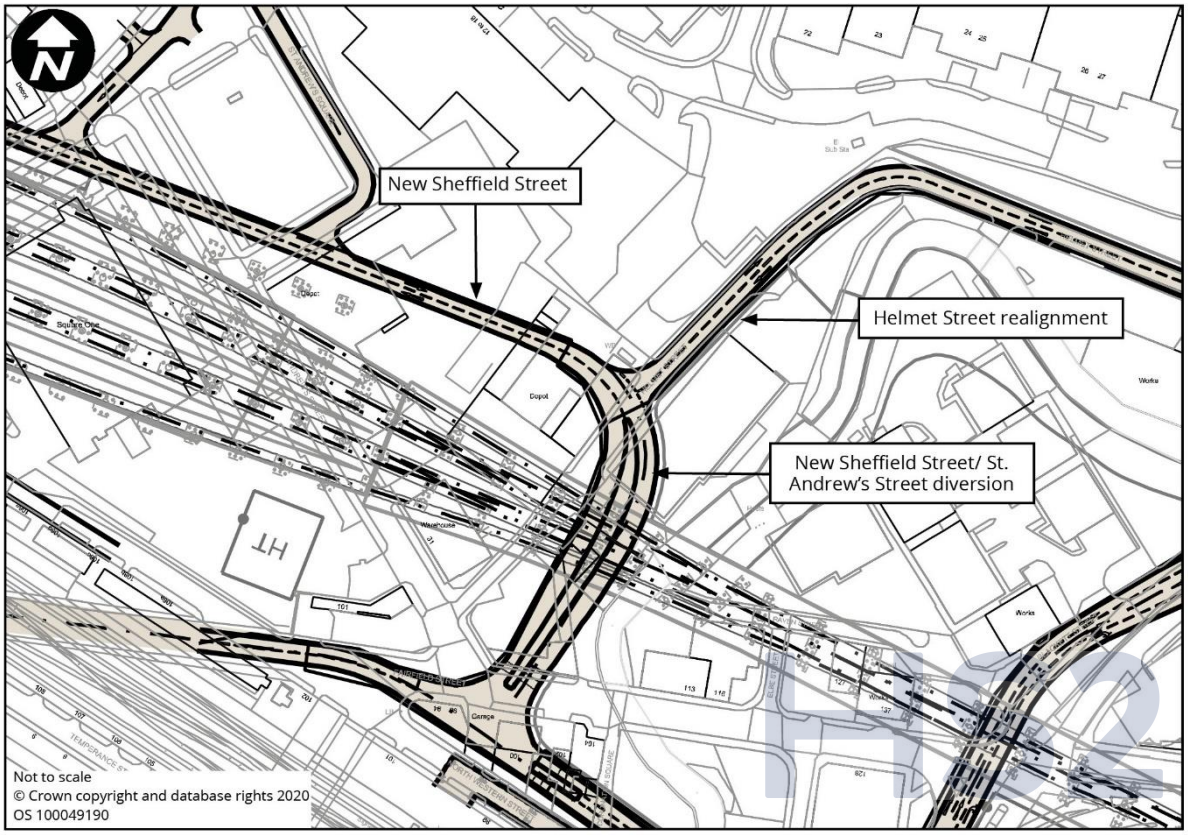


Table 18-368: New Sheffield Street/Helmet Street realignment junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
Helmet Street realignment (left and right)	0	0.00	0	0	0.00	0
New Sheffield Street (south) (ahead and right)	12	0.01	0	13	0.01	0
New Sheffield Street (north) (ahead and left)	112	0.00	0	113	0.00	0
17:00–18:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
Helmet Street realignment (left and right)	0	0.00	0.0	0	0.00	0
New Sheffield Street (south) (ahead and right)	3	0.00	0.0	13	0.01	0
New Sheffield Street (north) (ahead and left)	111	0.00	0.0	114	0.00	0

18.5.432 The assessment shows that this junction operates within capacity with the Proposed Scheme in 2038 and 2046, in both the AM and PM peak hour.

A665 Great Ancoats Street/A665 Pin Mill Brow/Helmet Street

18.5.433 Table 18-369 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. Although this junction is a three-arm priority controlled (give way) T-Junction, the A665 Great Ancoats Street (north) is a one-way exit arm from the junction and is therefore not reported in the results.

Table 18-369: A665 Great Ancoats Street/A665 Pin Mill Brow/Helmet Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A665 Great Ancoats Street (south) (left and ahead)	1,615	0%	0	1,082	0%	0	1,543	0%	0	1,084	0%	0
A665 Great Ancoats Street (south) (ahead)	983	0%	0	1,050	0%	0	907	0%	0	1,041	0%	0
Helmet Street (left)	1	0%	0	112	35%	2	2	1%	0	113	35%	1
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A665 Great Ancoats Street (south) (left and ahead)	1,615	0%	0	1,423	0%	0	1,543	0%	0	1,358	0%	0
A665 Great Ancoats Street (south) (ahead)	983	0%	0	987	0%	0	907	0%	0	1,032	0%	0
Helmet Street (left)	0	0%	0	111	40%	1	0	0%	0	115	41%	1

18.5.434 The model shows that for this junction, the change in traffic due to operation in 2038 and 2046 of the Proposed Scheme will not result in substantial changes in DoS and queue lengths in the AM and PM peak hours.

18.5.435 The assessment shows that in the AM and PM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction.

New Sheffield Street/St Andrew's Square

18.5.436 New Sheffield Street/St Andrew's Square will be a new junction as part of the Proposed Scheme. It will be a three-arm priority T-junction. It will form part of a one-way gyratory system that will provide access to the two multi-storey car parks located on Adair Street to the north of the Manchester Piccadilly High Speed Station. St Andrew's Square will be a one-way exit arm from the junction and is therefore not reported in the results. Figure 18-107 shows the junction layout introduced as part of the Proposed Scheme. The operation of the junction has been assessed for the 2038 and 2046 AM and PM peak hours with the Proposed Scheme using Junctions 9 software and is shown in Table 18-370.

Figure 18-107: Junction layout diagram (New Sheffield Street/St Andrew's Square)

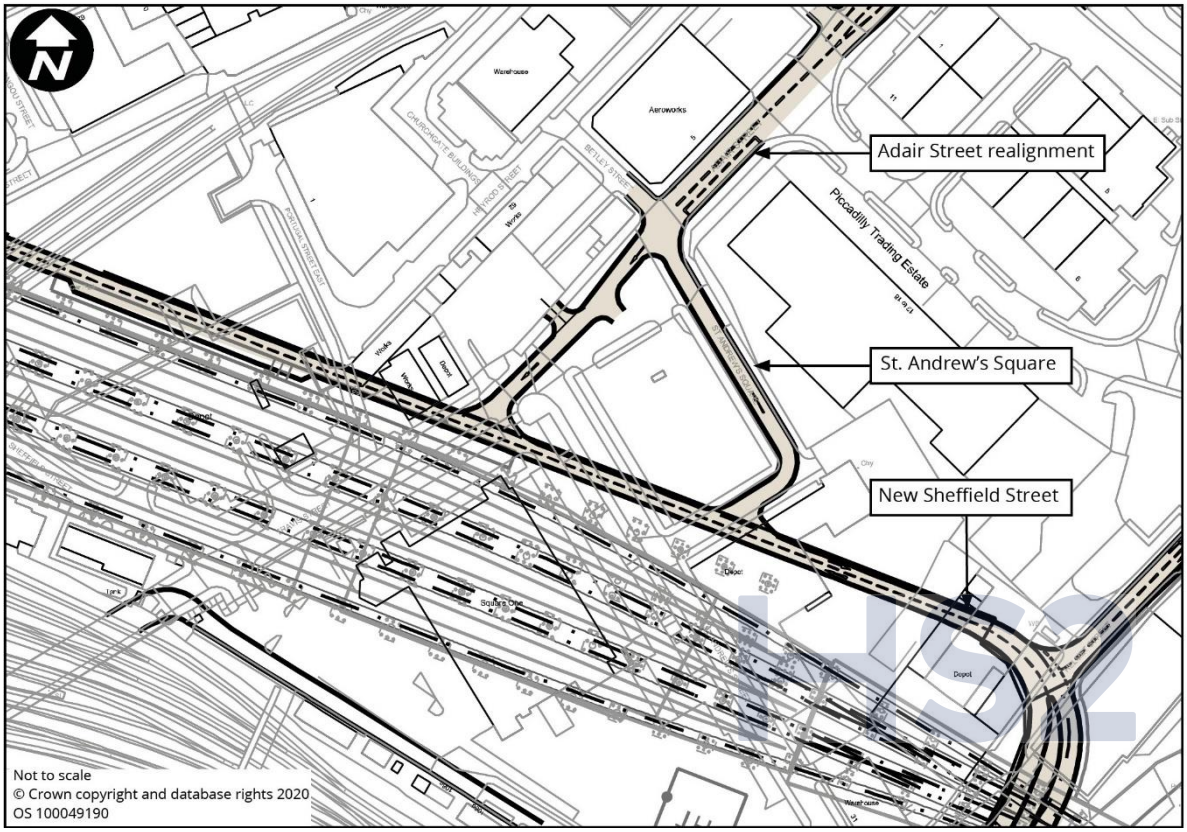


Table 18-370: New Sheffield Street/St Andrew's Square junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
New Sheffield Street (west) (ahead and left)	261	-	-	258	-	-
New Sheffield Street (east) (ahead and right)	373	0.43	1	193	0.45	1
17:00–18:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
New Sheffield Street (west) (ahead and left)	57	-	-	81	-	-
New Sheffield Street (east) (ahead and right)	534	0.29	1	445	0.27	1

18.5.437 The assessment shows that in 2038 and 2046 with the Proposed Scheme, the junction operates well within capacity in both the AM and PM peak hour.

A665 Great Ancoats Street/Palmerston Street

18.5.438 Table 18-371 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. Although this junction is a three-arm priority controlled (give way) T-junction, the A665 Great Ancoats Street (south) is a one-way exit arm from the junction and is therefore not reported in the results.

Table 18-371: A665 Great Ancoats Street/Palmerston Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A665 Great Ancoats Street (north) (left and ahead)	1,388	46%	0	1,388	48%	1	1,404	49%	1	1,395	49%	1
A665 Great Ancoats Street (north) (ahead)	864	41%	0	591	28%	8	890	42%	0	649	31%	9
Palmerston Street (left)	14	2%	0	36	6%	0	15	3%	0	29	5%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A665 Great Ancoats Street (north) (left and ahead)	1,405	48%	1	1,478	48%	1	1,459	51%	1	1,510	49%	1
A665 Great Ancoats Street (north) (ahead)	736	35%	0	759	36%	0	767	36%	0	787	37%	0
Palmerston Street (left)	338	59%	1	297	53%	1	334	59%	1	293	52%	1

18.5.439 The model shows that for this junction, the change in traffic due to operation in 2038 and 2046 of the Proposed Scheme will not result in substantial changes in DoS and queue lengths in the AM or PM peak hours. The assessment shows that in the AM and PM peak hour the junction operates within capacity in both the 2038 and 2046 future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

New Sheffield Street/Adair Street realignment

18.5.440 New Sheffield Street/Adair Street realignment will be a new junction as part of the Proposed Scheme. It will be a three-arm priority controlled T-junction. It will form part of a one-way gyratory system that will provide access to the two multi-storey car parks located on Adair Street to the north of the Manchester Piccadilly High Speed Station. Figure 18-108 shows the junction layout introduced as part of the Proposed Scheme. The operation of the junction has been assessed for the 2038 and 2046 AM and PM peak hours with the Proposed Scheme using Junctions 9 software and is shown in Table 18-372.

Figure 18-108: Junction layout diagram New Sheffield Street/Adair Street realignment

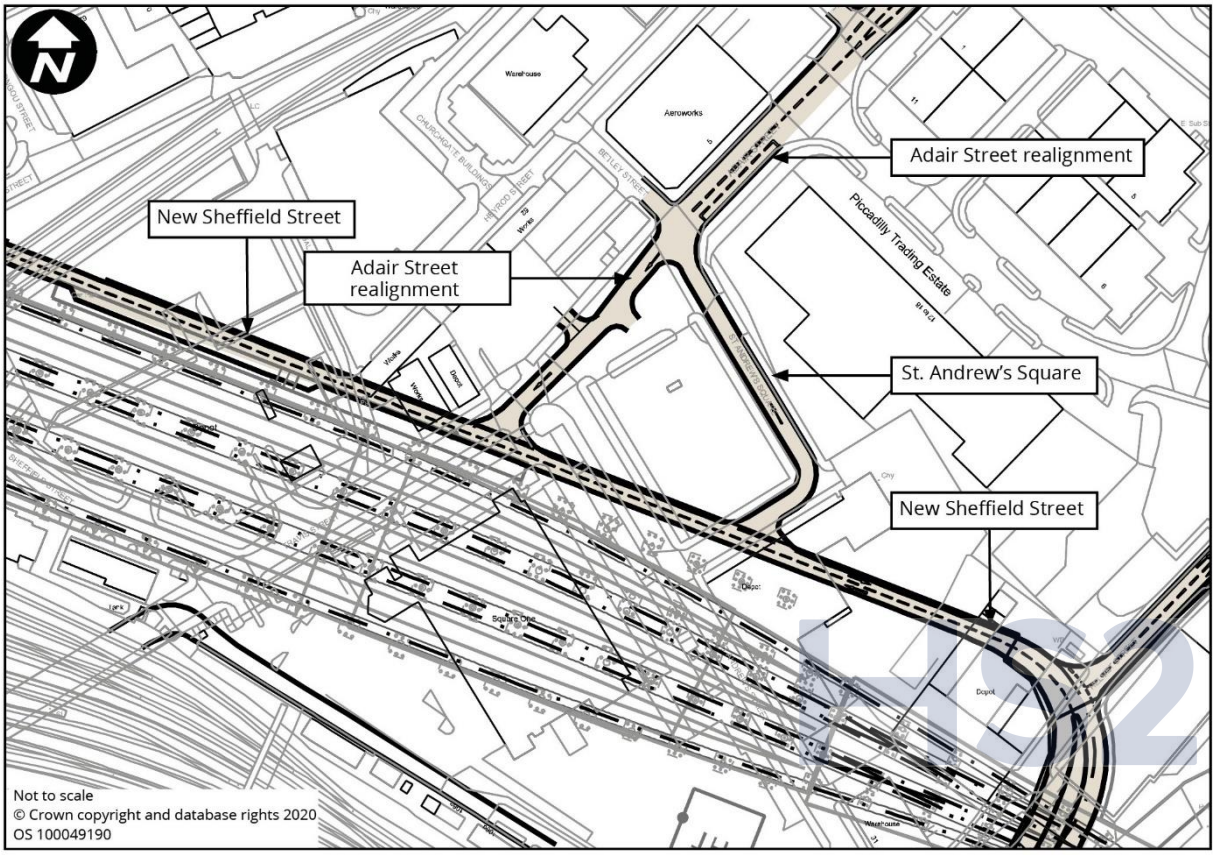


Table 18-372: New Sheffield Street/Adair Street realignment junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
Adair Street realignment (left)	575	0.96	12	588	0.99	16
Adair Street realignment (right)	44	0.94	0	49	0.99	4
New Sheffield Street (east) (ahead and right)	185	0.00	0	193	0.00	0
New Sheffield Street (west) (ahead and left)	261	0.00	0	259	0.00	0
17:00–18:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
Adair Street realignment (left)	719	1.13	54	779	1.26	102
Adair Street realignment (right)	73	1.13	7	79	1.18	12
New Sheffield Street (east) (ahead and right)	419	0.00	0	445	0.00	0
New Sheffield Street (west) (ahead and left)	57	0.00	0	82	0.00	0

18.5.441 The assessment shows that this junction operates close to capacity in 2038 with the Proposed Scheme with a maximum RFC of 0.96 on the Adair Street realignment (left) approach in the AM peak hour, with an associated queue length of 12 PCU. In the PM peak hour, this junction operates over capacity in 2038 with the Proposed Scheme with a maximum RFC of 1.13 on the Adair Street realignment (left) approach with an associated queue length of 54 PCU.

18.5.442 The assessment shows that this junction operates close to capacity in 2046 with the Proposed Scheme with a maximum RFC of 0.99 on the Adair Street realignment (left) approach in the AM peak hour, with an associated queue length of 16 PCU. In the PM peak hour, this junction operates over capacity in 2038 with the Proposed Scheme with a maximum RFC of 1.26 on the Adair Street realignment (left) approach with an associated queue length of 102 PCU.

A6 London Road/A6 Whitworth Street/Store Street/Tram Crossing

18.5.443 The A6 London Road/A6 Whitworth Street/Store Street junction is to be a modified five-arm partially signal controlled staggered junction. The Store Street approach to the junction will continue to be priority controlled (give-way), however the section of A6 London Road to the north of this approach will be signalised in order to accommodate the realignment of the tram line as a result of the Proposed Scheme. Figure 18-109 shows the junction layout introduced as part of the Proposed Scheme. Table 18-373 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046. Although this junction is a five-arm partially signal controlled staggered junction, Whitworth Street (west) is a one-way exit arm from the junction and is therefore not reported in the results. The Tram Signals approach is a minor arm which is not used by traffic and is also not reported in the results.

Figure 18-109: Junction layout diagram (A6 London Road/A6 Whitworth Street/Store Street/Tram Crossing)

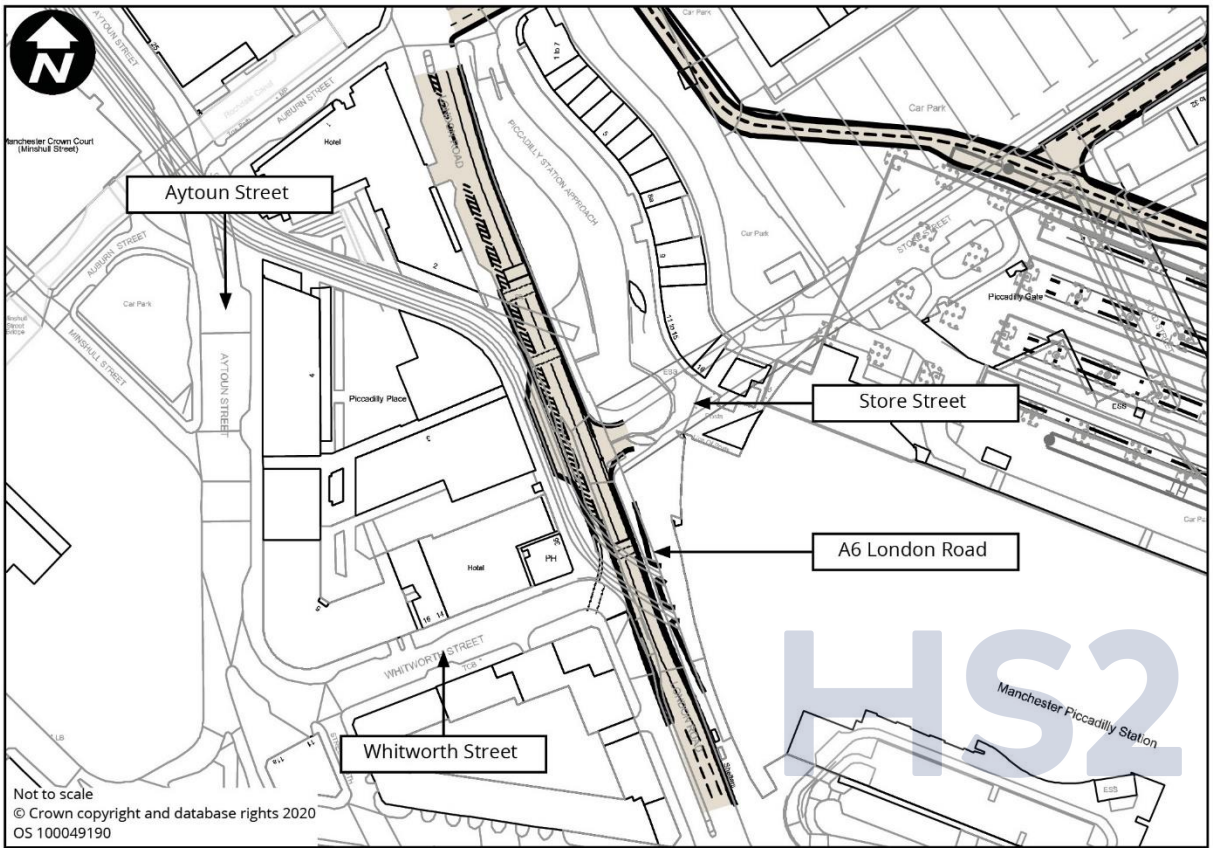


Table 18-373: A6 London Road/A6 Whitworth Street/Store Street/Tram Crossing junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/ hr	DoS	Q, PCU	Flow, PCU/ hr	DoS	Q, PCU	Flow, PCU/ hr	DoS	Q, PCU	Flow, PCU/ hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 London Road (north of Store Street) (nearside bus lane) (ahead)	-	-	-	0	0%	0	-	-	-	0	0%	0
A6 London Road (north of Store Street) (offside) (ahead)	-	-	-	996	79%	18	-	-	-	1,010	80%	19
Store Street (left)	433	76%	2	27	5%	0	439	77%	2	27	5%	0
A6 London Road (south of Store Street) (nearside) (ahead)	551	70%	11	497	32%	2	567	72%	12	504	33%	2
A6 London Road (south of Store Street) (offside) (ahead)	589	71%	12	499	33%	2	605	73%	13	506	33%	2
Whitworth Street (south) (nearside bus lane) (left)	0	0%	0	0	0%	0	0	0%	0	0	0%	0
Whitworth Street (south) (offside) (left)	892	68%	12	849	59%	8	902	69%	12	853	59%	8
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 London Road (north of Store Street) (nearside bus lane) (ahead)	-	-	-	0	0%	0	-	-	-	0	0%	0
A6 London Road (north of Store Street) (offside) (ahead)	-	-	-	1,229	97%	37	-	-	-	1,222	97%	36
Store Street (left)	352	61%	1	27	5%	0	358	62%	1	27	5%	0
A6 London Road (south of Store Street) (nearside) (ahead)	496	63%	10	613	40%	3	497	63%	10	610	40%	3
A6 London Road (south of Store Street) (offside) (ahead)	592	64%	10	616	40%	3	531	64%	10	612	40%	3
Whitworth Street (south) (nearside bus lane) (left)	0	0 %	0	0	0%	0	0	0%	0	0	0%	0
Whitworth Street (south) (offside) (left)	401	31 %	4	399	28%	3	435	33%	4	429	30%	3

18.5.444 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 76% in the 2038 future baseline to 5% with the Proposed Scheme in 2038 on the Store Street approach in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to no queue. However, the introduction of new signals to the north of Store Street, to accommodate the realigned tram line in the Proposed Scheme will result in the offside lane of the A6 London Road (north of Store Street) approach to operate at 79% in the AM peak hour, with an associated queue length of 18 PCU, whereas in the future baseline this movement was unopposed. In the PM peak hour, the maximum DoS will decrease from 64% in the 2038 future baseline to 40% with the Proposed Scheme in 2038 on offside lane of the A6 London Road (south of Store Street) approach, with a corresponding change in queue length from 10 PCU in the future baseline to three PCU. However, the offside lane of the A6 London Road (north of Store Street) approach will operate at 97% in the PM peak hour, with an associated queue length of 37 PCU, whereas in the future baseline this movement was unopposed. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction.

18.5.445 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 77% in the 2046 future baseline to 5% with the Proposed Scheme in 2046 on the Store Street approach in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to no queue. However, the introduction of new signals to the north of Store Street, to accommodate the realigned tram line in the Proposed Scheme will result in the offside lane of the A6 London Road (north of Store Street) approach to operate at 80% in the AM peak hour, with an associated queue length of 19 PCU, whereas in the future baseline this movement was unopposed. In the PM peak hour, the maximum DoS will decrease from 64% in the 2046 future baseline to 40% with the Proposed Scheme in 2046 on the offside lane of the A6 London Road (south of Store Street) approach, with a corresponding change in queue length from 10 PCU in the future baseline to three PCU. However, the offside lane of the A6 London Road (north of Store Street) approach will operate at 97% in the PM peak hour, with an associated queue length of 36 PCU, whereas in the future baseline this movement was unopposed. The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction.

Adair Street realignment/St Andrew's Square

18.5.446 The Adair Street realignment/St Andrew's Square junction is a new four-arm priority controlled (give way) crossroads located approximately 65m west of the existing Adair Street/Gidding Road junction. The Betley Street approach is a minor arm that is not included within the Junctions 9 model. The realigned Adair Street (south) approach will be a one-way exit arm from the junction and is therefore not reported in the results. Figure 18-110 shows the junction layout introduced as part of the Proposed Scheme. The operation of the junction has been assessed for the 2038 and 2046 AM and PM peak hours with the Proposed Scheme using Junctions 9 software and is shown in Table 18-374.

Figure 18-110: Junction layout diagram (Adair Street realignment/St Andrew's Square)

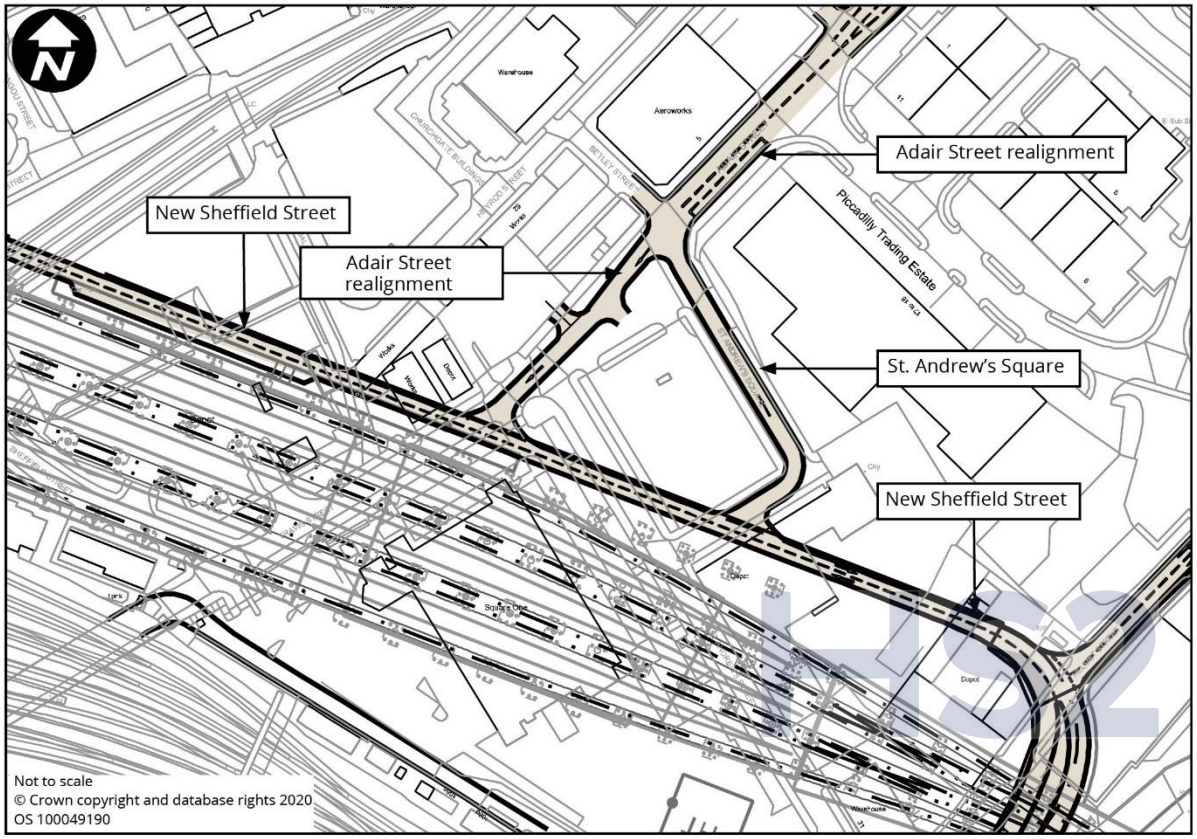


Table 18-374: Adair Street realignment /St Andrew's Street diversion junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2038 with Proposed Scheme (proposed layout)**			**2046 with Proposed Scheme (proposed layout)**		
Betley Street	-	-	-	-	-	-
Adair Street realignment (east) (ahead and right)	0	0.00	0	0	0.00	0
St Andrew's Square (left)	116	0.26	0	122	0.28	0
St Andrew's Square (right)	73	0.24	0	75	0.25	0
Adair Street realignment (west) (ahead)	-	-	-	-	-	-
17:00–18:00	**2038 with Proposed Scheme (proposed layout)**			**2046 with Proposed Scheme (proposed layout)**		
Betley Street	-	-	-	-	-	-
Adair Street realignment (east) (ahead and right)	0	0.00	0	0	0.00	0
St Andrew's Square (left)	7	0.02	0	8	0.02	0
St Andrew's Square (right)	107	0.24	0	95	0.22	0
Adair Street realignment (west) (ahead)	-	-	-	-	-	-

18.5.447 The assessment shows that this junction operates well within capacity in the 2038 and 2046 with the Proposed Scheme.

A665 Great Ancoats Street/Every Street

18.5.448 Table 18-375 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-375: A665 Great Ancoats Street/Every Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Every Street (left and right)	571	78%	8	431	86%	7	583	79%	9	457	89%	8
A665 Great Ancoats Street (east) (nearside) (ahead)	1,767	108%	110	1,331	73%	15	1,808	103%	75	1,344	73%	15
A665 Great Ancoats Street (east) (centre and offside) (ahead and right)	984	157%	226	1,416	201%	272	992	156%	207	1,411	202%	274
A665 Great Ancoats Street (west) (nearside) (left and ahead)	1,220	161%	274	1,261	149%	250	1,222	152%	252	1,257	149%	256
A665 Great Ancoats Street (west) (offside) (ahead)	629	77%	15	473	52%	9	659	76%	15	522	57%	10
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Every Street (left and right)	665	72%	13	621	73%	12	705	79%	15	656	78%	14
A665 Great Ancoats Street (east) (nearside) (ahead)	2,045	110%	120	1,580	96%	40	2,109	106%	92	1,512	92%	31
A665 Great Ancoats Street (east) (centre and offside) (ahead and right)	1,098	147%	223	1,147	157%	222	1,076	149%	204	1,217	154%	215
A665 Great Ancoats Street (west) (nearside) (left and ahead)	1,313	151%	268	1,436	157%	312	1,343	151%	273	1,444	158%	317
A665 Great Ancoats Street (west) (offside) (ahead)	270	29%	4	299	30%	5	283	30%	5	316	32%	5

18.5.449 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum DoS between the 2038 future baseline and the Proposed Scheme in the AM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 157% in the 2038 future baseline to 201% with the Proposed Scheme in 2038 on the centre and offside lanes of the A665 Great Ancoats Street (east) approach in the AM peak hour, with a corresponding change in queue length from 226 in the future baseline to 272. In the PM peak hour, the maximum DoS will increase from 151% in the 2038 future baseline to 157% with the Proposed Scheme in 2038 on the nearside lane of the A665 Great Ancoats Street (west) approach, with a corresponding change in queue lengths from 268 PCU in the future baseline to 312 PCU. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

18.5.450 The change in traffic due to operation of the Proposed Scheme will increase the maximum DoS from 156% in the 2046 future baseline to 202% with the Proposed Scheme in 2046 on the centre and offside lanes of the A665 Great Ancoats Street (east) approach in the AM peak hour, with a corresponding change in queue length from 207 PCU in the future baseline to 274 PCU. In the PM peak hour, the maximum DoS will increase from 151% in the 2046 future baseline to 158% with the Proposed Scheme in 2046 on the nearside lane of the A665 Great Ancoats Street (west) approach, with a corresponding change in queue length from 273 PCU in the future baseline to 317 PCU. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

A5103 Portland Street/Sackville Street/Nicholas Street

18.5.451 Table 18-376 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. Although this junction is a four-arm signal controlled staggered junction, Nicholas Street is a one-way exit arm from the junction and is therefore not reported in the results.

Table 18-376: A5103 Portland Street/Sackville Street/Nicholas Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Portland Street (north)	797	67%	12	763	62%	11	768	65%	12	732	60%	11
Sackville Street	483	100%	9	489	101%	9	488	100%	9	492	102%	9
A5103 Portland Street (south)	189	22%	2	179	21%	2	195	23%	2	171	20%	2
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5103 Portland Street (north)	534	39%	8	489	35%	7	587	43%	9	532	39%	8
Sackville Street	486	84%	9	469	81%	9	501	86%	9	489	84%	9
A5103 Portland Street (south)	364	37%	3	358	36%	3	362	38%	3	363	37%	3

18.5.452 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.453 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 100% in the 2046 future baseline to 102% with the Proposed Scheme in 2046 on the Sackville Street approach in the AM peak hour, with no change in corresponding queue length. There would be no substantial change in queue lengths as a result of the Proposed Scheme in 2046. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 86% in the 2046 future baseline to 84% with the Proposed Scheme in 2046 on the Sackville Street approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is however, predicted to operate over its capacity in the future baseline. The traffic flow will have a beneficial impact on the operation of the junction in the PM peak hour.

New Sheffield Street/Chapeltown Street realignment

18.5.454 New Sheffield Street/Chapeltown Street realignment will be a new junction as part of the Proposed Scheme. It will be a three-arm priority controlled T-junction. Chapeltown Street realignment will be a one-way entry arm into the junction. Figure 18-111 shows the junction layout introduced as part of the Proposed Scheme. The operation of the junction has been assessed for the 2038 and 2046 AM and PM peak hours with the Proposed Scheme using Junctions 9 software and is shown in Table 18-377.

Figure 18-111: Junction layout diagram (New Sheffield Street/Chapeltown Street realignment)

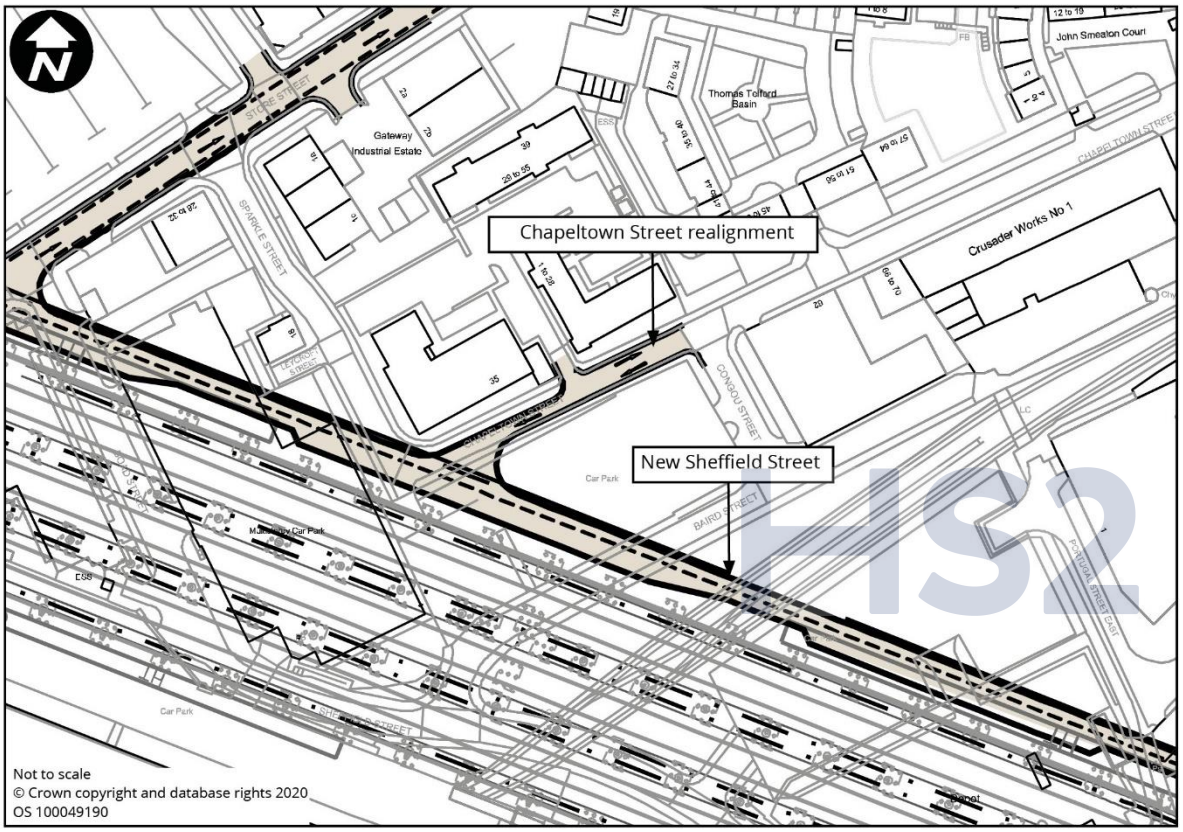


Table 18-377: New Sheffield Street/Chapeltown Street realignment junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
New Sheffield Street (west) (ahead and left)	60	-	-	59	-	-
Chapeltown Street realignment (left)	0	0.00	0	0	0.00	0
Chapeltown Street realignment (right)	5	0.01	0	15	0.03	0
New Sheffield Street (east) (ahead and right)	200	0.00	0	214	0.00	0
17:00–18:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
New Sheffield Street (west) (ahead and left)	63	-	-	90	-	-
Chapeltown Street realignment (left)	0	0.00	0	0	0.00	0
Chapeltown Street realignment (right)	5	0.01	0	6	0.01	0
New Sheffield Street (east) (ahead and right)	484	0.00	0	527	0.00	0

18.5.455 The assessment shows that in 2038 and 2046 with the Proposed Scheme, the junction operates well within capacity in both the AM and PM peak hour.

New Sheffield Street/Store Street realignment

18.5.456 New Sheffield Street/Store Street realignment will be a new junction as part of the Proposed Scheme. It will be a three-arm priority controlled T-junction. Store Street realignment will be a one-way exit arm from the junction and is therefore not reported in the results. Figure 18-112 shows the junction layout introduced as part of the Proposed Scheme. The operation of the junction has been assessed for the 2038 and 2046 AM and PM peak hours with the Proposed Scheme using Junctions 9 software and is shown in Table 18-378.

Figure 18-112: Junction layout diagram (New Sheffield Street/Store Street realignment)

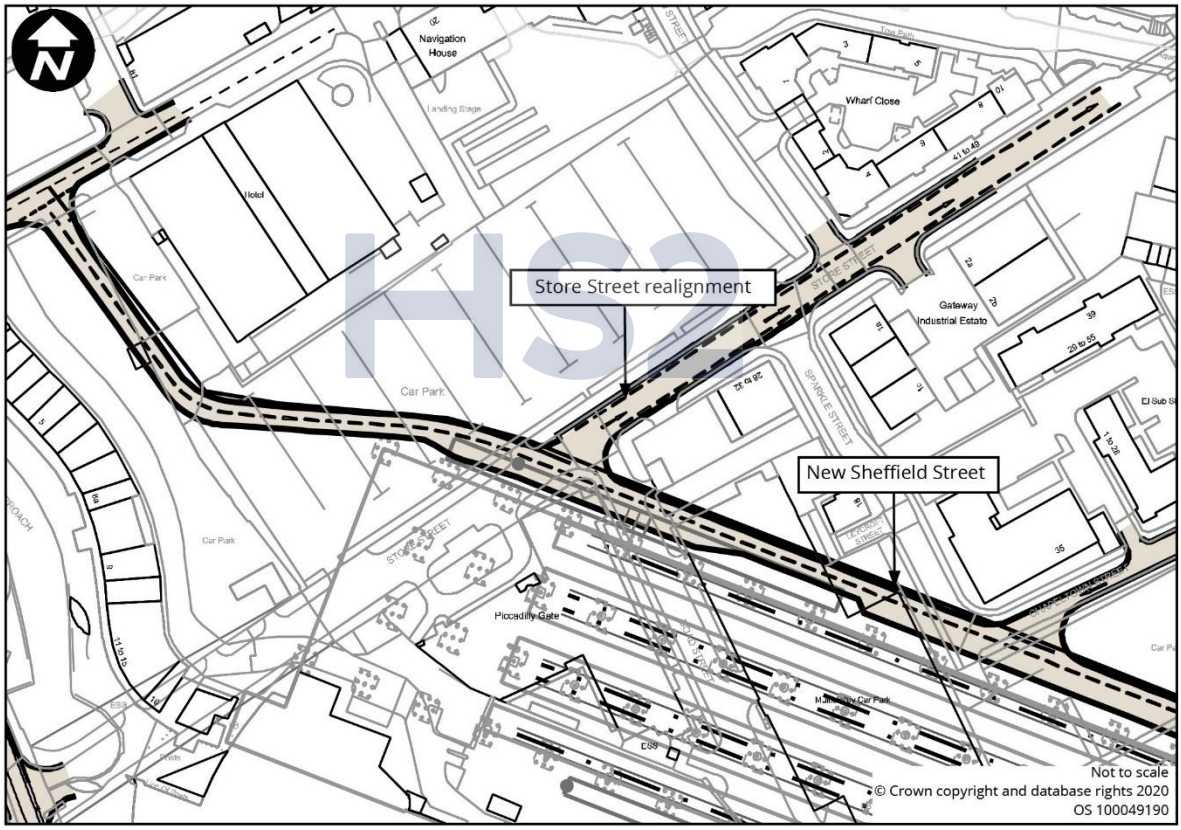


Table 18-378: New Sheffield Street/Store Street realignment junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
New Sheffield Street (east) (ahead and right)	205	0.16	0	229	0.23	0
New Sheffield Street (west) (ahead and left)	115	0.00	0	103	0.00	0
17:00–18:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
New Sheffield Street (east) (ahead and right)	490	0.40	0	533	0.47	0
New Sheffield Street (west) (ahead and left)	90	0.00	0	116	0.00	0

18.5.457 The assessment shows that the junction operates well within capacity in 2038 and 2046 with the Proposed Scheme, the AM and PM peak hour.

A665 Great Ancoats Street/A662 Pollard Street/Adair Street/Chapeltown Street

18.5.458 The A665 Great Ancoats Street/Adair Street is to be a modified three-arm signal controlled T-junction with signal controlled pedestrian crossing facilities. Figure 18-113 shows the junction layout introduced as part of the Proposed Scheme. Table 18-379 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Figure 18-113: Junction layout diagram (A665 Great Ancoats Street/A662 Pollard Street/Adair Street/Chapeltown Street)

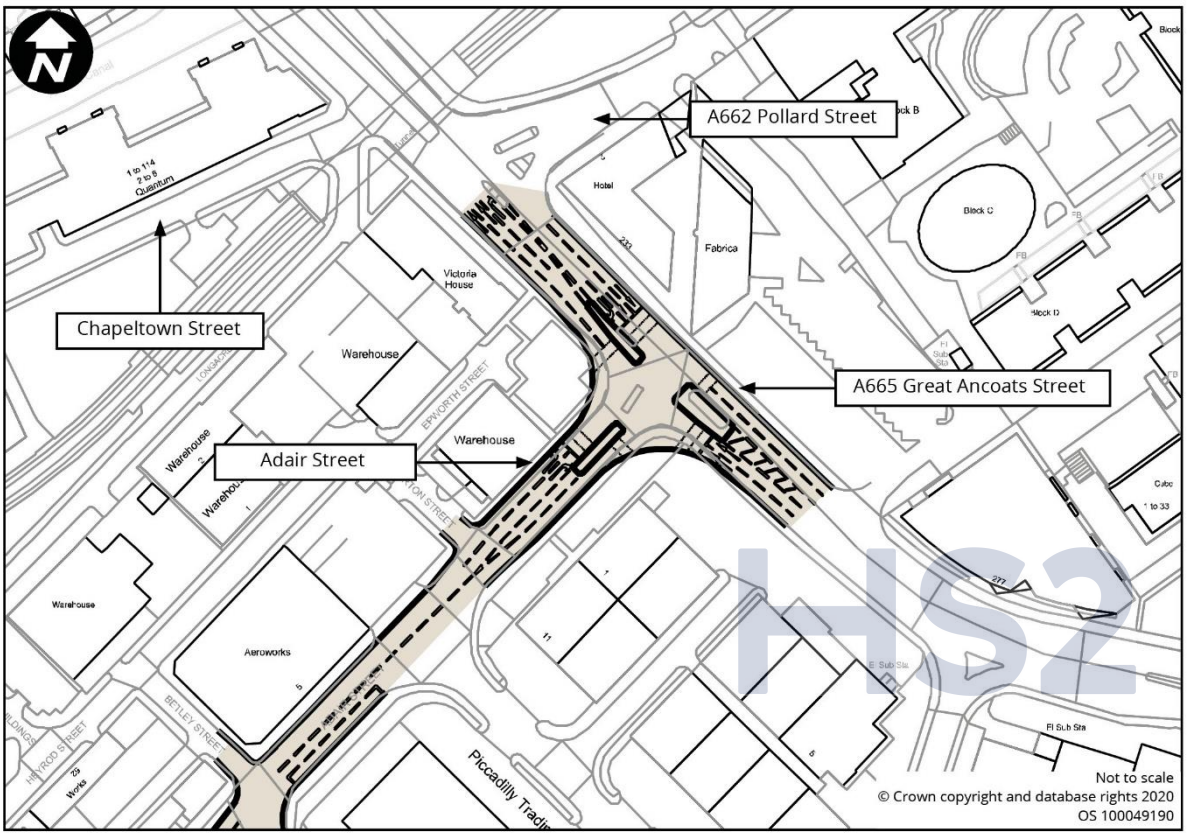


Table 18-379: A665 Great Ancoats Street/A662 Pollard Street/Adair Street/Chapeltown Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A665 Great Ancoats Street (west) (nearside) (left and ahead)	1,010	106%	61	894	106%	62	1,513	142%	273	913	122%	128
A665 Great Ancoats Street (west) (offside) (ahead)	761	73%	16	977	106%	67	297	26%	4	999	122%	140
A662 Pollard Street (left and right)	716	106%	43	584	135%	98	720	126%	99	609	122%	65
A665 Great Ancoats Street (east) (nearside) (left and ahead)	1,122	91%	29	569	63%	13	1,028	77%	18	570	71%	14
A665 Great Ancoats Street (east) (offside) (ahead)	184	14%	2	633	64%	15	300	21%	3	634	72%	16
Adair Street (left)	256	53%	6	148	22%	3	262	70%	7	150	20%	3
Adair Street (right)	-	-	-				-	-	-			
Chapeltown Street (left)	13	3%	0	711	134%	112	13	3%	0	728	119%	77
A665 Great Ancoats Street (internal eastbound) (nearside) (ahead)	901	45%	0	427	32%	0	1,425	53%	0	437	29%	0
A665 Great Ancoats Street (internal eastbound) (centre and offside) (ahead and right)	1,196	101%	22	933	65%	0	712	119%	24	968	60%	0
A665 Great Ancoats Street (internal westbound) (nearside) (ahead)	1,096	86%	3	553	44%	1	1,006	73%	3	547	46%	0
A665 Great Ancoats Street (internal westbound) (centre and offside) (ahead and right)	395	49%	4	673	53%	9	512	50%	4	679	55%	10

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A665 Great Ancoats Street (west) (nearside) (left and ahead)	804	91%	22	793	106%	53	1,020	104%	54	819	111%	74
A665 Great Ancoats Street (west) (offside) (ahead)	920	95%	29	887	106%	59	750	69%	15	920	111%	84
A662 Pollard Street (left and right)	713	96%	22	381	106%	29	363	61%	8	420	112%	41
A665 Great Ancoats Street (east) (nearside) (left and ahead)	1,068	92%	28	546	65%	13	1,026	80%	20	587	71%	14
A665 Great Ancoats Street (east) (offside) (ahead)	203	16%	2	598	66%	14	584	43%	7	563	63%	13
Adair Street (left)	251	45%	5	496	93%	15	465	105%	30	502	90%	14
Adair Street (right)	-	-	-				-	-	-			
Chapeltown Street (left)	13	3%	0	494	105%	32	74	21%	1	541	111%	45
A665 Great Ancoats Street (internal eastbound) (nearside) (ahead)	700	37%	0	300	24%	0	700	36%	0	332	26%	0
A665 Great Ancoats Street (internal eastbound) (centre and offside) (ahead and right)	1,354	99%	27	893	67%	20	1,072	94%	19	889	64%	0
A665 Great Ancoats Street (internal westbound) (nearside) (ahead)	1,044	87%	2	601	52%	1	1,113	80%	21	647	57%	1
A665 Great Ancoats Street (internal westbound) (centre and offside) (ahead and right)	410	48%	4	737	99%	12	936	77%	16	708	100%	12

18.5.459 The change in traffic due to operation of the Proposed Scheme will increase the maximum DoS from 106% in the 2038 future baseline to 135% with the Proposed Scheme in 2038 on the A662 Pollard Street approach in the AM peak hour, with a corresponding change in queue length from 43 PCU in the future baseline to 98 PCU. The change in traffic due to operation of the Proposed Scheme will also increase the DoS from 3% in the future baseline to 134% with the Proposed Scheme on the Chapeltown Street approach, with a corresponding change in queue length from no queue in the future baseline to 112 PCU. Finally, the change in traffic will increase the DoS from 73% in the future baseline to 106% with the Proposed Scheme on the offside lane of the A665 Great Ancoats Street (west) (ahead) approach, with a corresponding change in queue length from 16 PCU in the future baseline to 67 PCU.

18.5.460 In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 99% in the 2038 future baseline to 67% with the Proposed Scheme in 2038 on the centre and offside lanes of the A665 Great Ancoats Street (internal eastbound) approach, with a corresponding change in queue length from 27 PCU in the future baseline to 20 PCU. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 3% in the 2038 future baseline to 105% with the Proposed Scheme in 2038 on the Chapeltown Street approach. Queue length will increase from no queue in the future baseline to 32 PCU with the Proposed Scheme. The change in traffic will also increase the DoS from 91% in the 2038 future baseline to 106% with the Proposed scheme in 2038 on the nearside lane of the A665 Great Ancoats Street (west) approach, with a corresponding change in queue length from 22 PCU in the future baseline to 53 PCU. The change in traffic will also increase the DoS from 96% in the 2038 future baseline to 106% with the Proposed Scheme on the A662 Pollard Street approach, with a corresponding change in queue length from 22 PCU in the future baseline to 29 PCU. The change in traffic will also increase the DoS from 45% in the 2038 future baseline to 93% with the Proposed Scheme on the Adair Street approach, with a corresponding change in queue length from five PCU in the future baseline to 15 PCU.

18.5.461 In 2038 the assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the AM peak hour in the future baseline.

18.5.462 In 2046, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 142% in the 2046 future baseline to 122% with the Proposed Scheme in 2046 on the nearside lane of the A665 Great Ancoats Street (west) approach in the AM peak hour, with a corresponding change in queue length from 273 PCU in the future baseline to 128 PCU. However, in the AM peak hour the change in traffic due to operation

of the Proposed Scheme will increase the DoS from 3% in the 2046 future baseline to 119% with the Proposed Scheme in 2046 on the Chapeltown Street approach. Queue length will increase from no queue in the future baseline to 77 PCU with the Proposed Scheme. The change in traffic will also increase the DoS from 26% in the future baseline to 122% with the Proposed Scheme on the offside lane of the A665 Great Ancoats Street (west) approach, with a corresponding change in queue length from four PCU in the future baseline to 140 PCU.

18.5.463 In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 105% in the 2046 future baseline to 90% with the Proposed Scheme in 2046 on the Adair Street approach, with a corresponding change in queue length from 30 PCU in the future baseline to 14 PCU. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 21% in the 2046 future baseline to 111% with the Proposed Scheme in 2046 on the Chapeltown Street approach. Queue length will increase from one PCU in the future baseline to 45 PCU with the Proposed Scheme. The change in traffic will also increase the DoS from 69% in the 2046 future baseline to 111% with the Proposed scheme in 2046 on the offside lane of the A665 Great Ancoats Street (west) approach, with a corresponding change in queue length from 15 PCU in the future baseline to 84 PCU. The change in traffic will also increase the DoS from 61% in the 2046 future baseline to 112% with the Proposed Scheme on the A662 Pollard Street approach, with a corresponding change in queue length from eight PCU in the future baseline to 41 PCU.

18.5.464 In 2046 the assessment shows that in the AM and PM peak hours the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

A34 Quay Street/Lower Byrom Street/Gartside Street

18.5.465 Table 18-380 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. The Gartside Street approach is a minor that is not included within the SATURN model.

Table 18-380: A34 Quay Street/Lower Byrom Street/Gartside Street junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Gartside Street	-	-	-	-	-	-	-	-	-	-	-	-
A34 Quay Street (east)	460	24%	0	430	22%	0	509	26%	0	486	25%	0
Lower Byrom Street	338	96%	4	353	95%	3	313	97%	4	323	96%	4
A34 Quay Street (west)	942	73%	0	961	72%	0	940	70%	0	950	71%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Gartside Street	-	-	-	-	-	-	-	-	-	-	-	-
A34 Quay Street (east)	569	30%	0	586	30%	0	592	31%	0	600	31%	0
Lower Byrom Street	284	85%	2	293	89%	2	272	85%	2	294	91%	3
A34 Quay Street (west)	719	70%	0	732	72%	0	738	70%	0	758	73%	0

18.5.466 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 85% in the 2038 future baseline to 89% with the Proposed Scheme in 2038 on the Lower Byrom Street approach, with no change in corresponding queue length. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.467 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 85% in the 2046 future baseline to 91% with the Proposed Scheme in 2046 on the Lower Byrom Street approach, with a change in corresponding queue length from two PCU in the future baseline to three PCU. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

A6 Piccadilly/A6 London Road/B6181 Ducie Street/Auburn Street

18.5.468 The A6 Piccadilly/A6 London Road/B6181 Ducie Street/Auburn Street is to be a modified five-arm signal controlled crossroads junction associated with access to the Manchester Piccadilly High Speed Station. The western end of Ducie Street will be narrowed as part of the Proposed Scheme, which will remove the pocket lane and existing right-turn give-way arrangement for buses from Auburn Street that turn right into Station Approach. Buses will still be able to make this turn at the modified junction but will instead be controlled by a full traffic signal phase that is shared with the adjacent ahead and left-turn lane on Auburn Street. Auburn Street will remain as a one-way entry arm into the junction. Figure 18-114 shows the junction layout introduced as part of the Proposed Scheme. Table 18-381 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Figure 18-114: Junction layout diagram (A6 Piccadilly/A6 London Road/B6181 Ducie Street/Auburn Street)

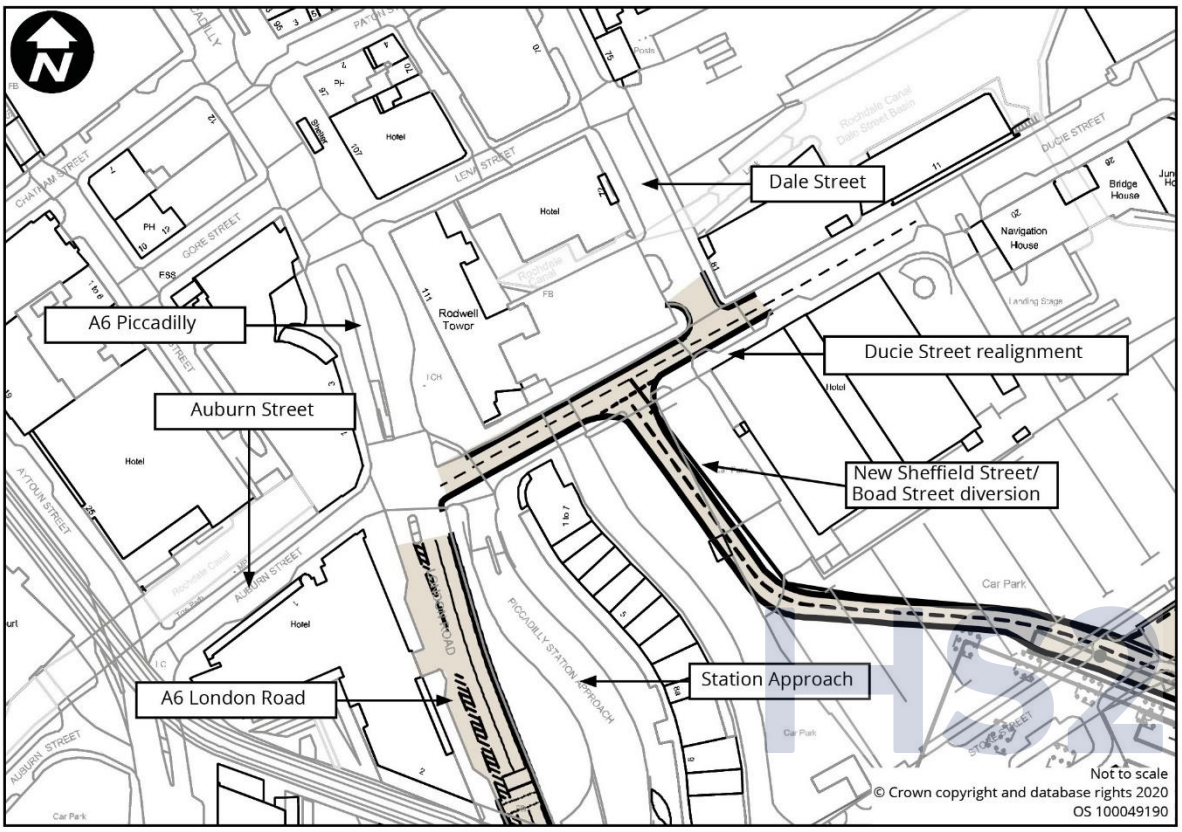


Table 18-381: A6 Piccadilly/A6 London Road/B6181 Ducie Street/Auburn Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment (Operational layout)

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme (proposed layout)**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme (proposed layout)**		
A6 Piccadilly (north) (nearside) (ahead)	140	33%	3	140	31%	3	140	33%	3	140	31%	3
A6 Piccadilly (north) (offside) (ahead)	326	79%	9	46	11%	1	371	89%	12	54	12%	1
B6181 Ducie Street (left)	218	120%	29	547	249%	210	220	121%	30	547	249%	210
Station Approach (left, ahead and right)	32	14%	1	32	28%	2	32	14%	1	32	28%	2
A6 London Road (ahead)	0	0%	0	0	0%	0	0	0%	0	0	0%	0
Auburn Street (nearside) (left and ahead)	318	91%	11	587	108%	45	327	94%	12	591	109%	47
Auburn Street (offside) (ahead)	221	125%	33	49	29%	1	229	129%	38	62	37%	2
A6 Piccadilly (north of A6 London Road) (ahead)	62	4%	0	28	2%	0	68	4%	0	34	2%	0
17:00–18:00	**2038 future baseline (existing layout)**			**2038 with the Proposed Scheme (proposed layout)**			**2046 future baseline (existing layout)**			**2046 with the Proposed Scheme (proposed layout)**		
A6 Piccadilly (north) (nearside) (ahead)	168	39%	4	168	37%	4	168	39%	4	168	37%	4
A6 Piccadilly (north) (offside) (ahead)	317	76%	8	175	40%	4	350	84%	10	177	40%	4
B6181 Ducie Street (left)	188	104%	13	380	173%	105	186	102%	13	383	174%	107
Station Approach (left, ahead and right)	31	14%	1	31	28%	2	32	14%	1	32	29%	2
A6 London Road (ahead)	3	1%	0	3	1%	0	4	1%	0	4	1%	0
Auburn Street (nearside) (left and ahead)	386	110%	34	462	85%	14	396	113%	39	462	85%	14
Auburn Street (offside) (ahead)	183	103%	13	301	179%	89	166	94%	8	294	175%	85
A6 Piccadilly (north of A6 London Road) (ahead)	47	3%	47	31	2%	0	52	3%	0	33	2%	0

18.5.469 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 125% in the 2038 future baseline to 29% with the Proposed Scheme in 2038 on the offside lane of the Auburn Street approach in the AM peak hour, with a corresponding change in queue length from 33 PCU in the future baseline to one PCU. The change in traffic will increase the DoS on the B6181 Ducie Street approach from 120% in the 2038 future baseline to 249% with the Proposed Scheme, with a corresponding change in queue length from 29 PCU to 210 PCU. In the PM peak hour the maximum DoS will decrease from 110% in the 2038 future baseline to 85% with the Proposed Scheme in 2038 on the nearside lane of the Auburn Street approach, with a corresponding change in queue length from 34 PCU in the future baseline to 14 PCU. The change in traffic will increase the DoS on the B6181 Ducie Street approach from 104% in the future baseline to 173% with the Proposed Scheme, with a corresponding change in queue length from 13 PCU to 105 PCU. The assessment shows that in the AM and PM peak hours the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

18.5.470 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 129% in the 2046 future baseline to 37% with the Proposed Scheme in 2046 on the offside lane of the Auburn Street approach in the AM peak hour, with a corresponding change in queue length from 38 PCU in the future baseline to two PCU. The change in traffic will increase the DoS on the B6181 Ducie Street approach from 121% in the 2046 future baseline to 249% with the Proposed Scheme, with a corresponding change in queue length from 30 PCU to 210 PCU. In the PM peak hour the maximum DoS will decrease from 113% in the 2046 future baseline to 85% with the Proposed Scheme in 2046 on the nearside lane of the Auburn Street approach, with a corresponding change in queue length from 39 PCU in the future baseline to 14 PCU. The change in traffic will increase the DoS on the B6181 Ducie Street approach from 102% in the future baseline to 174% with the Proposed Scheme, with a corresponding change in queue length from 13 PCU to 107 PCU. The assessment shows that in the AM and PM peak hours the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

New Sheffield Street/Ducie Street realignment

18.5.471 New Sheffield Street/Ducie Street realignment is to be a new three-arm priority T-junction that is located to the east of A6 Piccadilly/A6 London Road/B6181 Ducie Street/Auburn Street Junction. The new junction will provide access to the western entrances of the Manchester Piccadilly High Speed Station. Figure 18-115 shows the junction layout introduced as part of the Proposed Scheme. The operation of the junction has been assessed for the 2038 and 2046 AM and PM peak hours with the Proposed Scheme using Junctions 9 software and is shown in Table 18-382.

Figure 18-115: Junction layout diagram (New Sheffield Street/Ducie Street realignment)

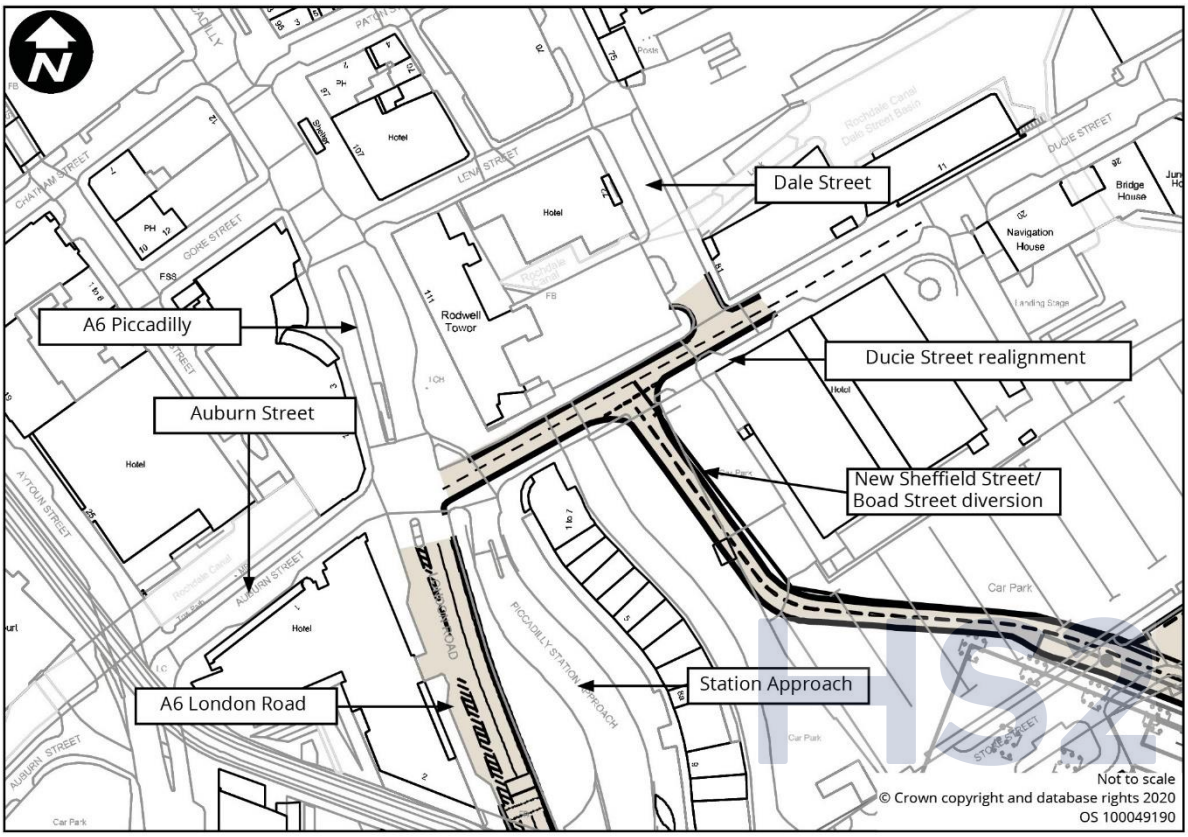


Table 18-382: New Sheffield Street/Ducie Street realignment junction 2038 and 2046 with the Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
Ducie Street realignment (west) (ahead and right)	532	0.14	0	533	0.13	0
Ducie Street realignment (east) (ahead and left)	520	-	-	501	-	-
New Sheffield Street (left)	92	0.19	0	103	0.21	0
New Sheffield Street (right)	34	0.11	0	12	0.04	0
17:00–18:00	**2038 with the Proposed Scheme (proposed layout)**			**2046 with the Proposed Scheme (proposed layout)**		
Ducie Street realignment (west) (ahead and right)	374	0.01	0	375	0.00	0
Ducie Street realignment (east) (ahead and left)	308	-	-	325	-	-
New Sheffield Street (left)	147	0.29	0	163	0.33	1
New Sheffield Street (right)	165	0.46	1	168	0.47	1

18.5.472 The assessment shows that in 2038 and 2046 with the Proposed Scheme, the junction operates well within capacity in both the AM and PM peak hour

A34 New Quay Street/A34 Quay Street/B5225 Quay Street/Gartside Street

18.5.473 Table 18-383 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-383: A34 New Quay Street/A34 Quay Street/B5225 Quay Street/Gartside Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Gartside Street	202	113%	4	207	116%	4	206	114%	4	208	116%	4
A34 Quay Street	731	50%	8	720	50%	8	754	52%	8	743	51%	8
B5225 Quay Street	156	86%	4	156	86%	4	155	86%	4	153	83%	3
A34 New Quay Street	834	54%	4	840	54%	4	833	55%	4	835	55%	3
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Gartside Street	367	121%	6	379	121%	7	363	122%	6	375	120%	7
A34 Quay Street	749	51%	9	776	53%	9	756	52%	9	785	54%	9
B5225 Quay Street	108	38%	2	105	38%	2	111	38%	2	109	40%	2
A34 New Quay Street	592	51%	3	583	52%	3	613	53%	3	601	53%	3

18.5.474 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 113% in the 2038 future baseline to 116% with the Proposed Scheme in 2038 on the Gartside Street approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

18.5.475 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 114% in the 2046 future baseline to 116% with the Proposed Scheme in 2046 on the Gartside Street approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

B6181 Dale Street/B6181 Ducie Street

18.5.476 Table 18-384 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-384: B6181 Dale Street/B6181 Ducie Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Ducie Street (east)	56	12%	0	338	36%	0	83	14%	0	411	62%	0
B6181 Ducie Street (west)	520	30%	0	521	30%	0	524	30%	0	502	29%	0
B6181 Dale Street	483	91%	0	228	102%	2	462	89%	0	139	104%	2
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Ducie Street (east)	274	47%	0	268	28%	0	288	50%	0	275	29%	0
B6181 Ducie Street (west)	372	21%	0	536	31%	0	372	21%	0	542	31%	0
B6181 Dale Street	315	68%	0	137	31%	0	320	70%	0	146	34%	0

18.5.477 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 91% in the 2038 future baseline to 102% with the Proposed Scheme in 2038 on the B6181 Dale Street approach in the AM peak hour, with a corresponding change in queue length from no queue in the future baseline to two PCU. In the PM peak hour, the maximum VoC will decrease from 68% in the 2038 future baseline to 31% with the Proposed Scheme in 2038 on the B6181 Dale Street approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

18.5.478 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 89% in the 2046 future baseline to 104% with the Proposed Scheme in 2046 on the B6181 Dale Street approach in the AM peak hour, with a corresponding change in queue length from no queue in the future baseline to two PCU. In the PM peak hour the maximum VoC will decrease from 70% in the 2046 future baseline to 34% with the Proposed Scheme in 2046 on the B6181 Dale Street approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

A5066 Oldfield Road/Liverpool Street/Middlewood Street

18.5.479 Table 18-385 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-385: A5066 Oldfield Road/Liverpool Street/Middlewood Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5066 Oldfield Road (north)	492	74%	9	548	84%	10	546	84%	10	575	89%	10
Middlewood Street	460	56%	5	405	49%	4	540	65%	7	491	60%	6
A5066 Oldfield Road (south)	699	90%	12	661	91%	12	681	95%	12	658	95%	12
Liverpool Street	909	88%	14	908	85%	14	873	90%	14	885	88%	14
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5066 Oldfield Road (north)	604	41%	7	599	41%	7	602	38%	7	604	39%	7
Middlewood Street	286	79%	6	294	82%	6	259	72%	5	257	71%	5
A5066 Oldfield Road (south)	553	42%	7	557	42%	7	511	38%	6	507	38%	6
Liverpool Street	412	108%	8	410	108%	8	453	105%	9	453	105%	9

18.5.480 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or peak hour. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.481 The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM and PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 84% in the 2046 future baseline to 89% with the Proposed Scheme in 2046 on the A5066 Oldfield Road (north) approach in the AM peak hour. There will be no change in queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A34 Bridge Street/St Mary's Parsonage

18.5.482 Table 18-386 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-386: A34 Bridge Street/St Mary's Parsonage junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
St Mary's Parsonage	149	89%	3	153	91%	3	145	86%	3	151	90%	3
A34 Bridge Street (east)	493	29%	8	488	29%	8	482	29%	7	466	28%	7
A34 Bridge Street (west)	538	43%	6	587	46%	7	591	47%	6	639	51%	7
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
St Mary's Parsonage	100	38%	2	103	39%	2	108	41%	2	108	42%	2
A34 Bridge Street (east)	472	31%	6	460	30%	6	485	32%	6	474	31%	6
A34 Bridge Street (west)	471	45%	8	524	50%	9	481	45%	8	522	49%	9

18.5.483 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 89% in the 2038 future baseline to 91% with the Proposed Scheme in 2038 on the St Mary's Parsonage approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.484 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 86% in the 2046 future baseline to 90% with the Proposed Scheme in 2046 on the St Mary's Parsonage approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A6 Dale Street/A62 Lever Street

18.5.485 Table 18-387 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. Although this junction is a four-arm signal controlled crossroads junction, Lever Street (north) and Dale Street (east) are one-way exit arms from the junction and therefore are not reported in the results.

Table 18-387: A6 Dale Street/A62 Lever Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A62 Lever Street (south)	214	19%	3	214	19%	3	213	19%	3	213	19%	3
A6 Dale Street (west)	534	84%	5	546	87%	5	538	85%	5	551	88%	5
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A62 Lever Street (south)	231	26%	3	230	26%	3	230	26%	3	229	26%	3
A6 Dale Street (west)	538	72%	3	529	71%	3	544	73%	3	530	71%	3

18.5.486 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 84% in the 2038 future baseline to 87% with the Proposed Scheme in 2038 on the A6 Dale Street (west) approach in the AM peak hour, with no change in corresponding queue length. The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.487 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 85% in the 2046 future baseline to 88% with the Proposed Scheme in 2046 on the A6 Dale Street (west) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 73% in the 2046 future baseline to 71% with the Proposed Scheme in 2046 on the A6 Dale Street (west) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

A6 Crescent/A6 Chapel Street/A5066 Adelphi Street/A5066 Oldfield Road

18.5.488 Table 18-388 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-388: A6 Crescent/A5066 Adelphi Street/A5066 Oldfield Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5066 Adelphi Street	260	81%	6	298	93%	7	295	92%	6	313	97%	7
A6 Crescent (east)	1,049	66%	15	1,053	67%	15	1,096	70%	16	1,085	69%	16
A5066 Oldfield Road	380	74%	8	384	75%	8	363	70%	8	342	66%	7
A6 Crescent (west)	1,404	86%	20	1,411	86%	20	1,399	86%	20	1,410	87%	20
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5066 Adelphi Street	268	82%	7	263	81%	7	285	88%	7	286	88%	7
A6 Crescent (east)	1,429	89%	22	1,429	89%	22	1,429	89%	22	1,429	89%	22
A5066 Oldfield Road	196	33%	4	217	36%	5	246	41%	6	251	42%	6
A6 Crescent (west)	1,129	69%	18	1,142	69%	18	1,165	71%	18	1,165	71%	18

18.5.489 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2038 future baseline and the Proposed Scheme in the PM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 81% in the 2038 future baseline to 93% with the Proposed Scheme in 2038 on the A5066 Adelphi Street approach. Queue length will increase from six PCU in the future baseline to seven PCU with the Proposed Scheme. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.490 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the PM peak hours. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 92% in the 2046 future baseline to 97% with the Proposed Scheme in 2046 on the A5066 Adelphi Street approach. Queue length will increase from six PCU in the future baseline to seven PCU with the Proposed Scheme. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A6 Chapel Street/St Stephen Street

18.5.491 Table 18-389 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-389: A6 Chapel Street/St Stephen Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
St Stephen Street	184	107%	3	79	107%	2	78	109%	2	80	112%	2
A6 Chapel Street (east)	881	22%	0	879	22%	0	885	22%	0	870	22%	0
A6 Chapel Street (west)	1,640	41%	0	1,628	96%	0	1,601	101%	0	1,560	102%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
St Stephen Street	48	72%	1	57	13%	0	58	86%	1	65	97%	2
A6 Chapel Street (east)	593	15%	0	579	14%	0	590	15%	0	588	15%	0
A6 Chapel Street (west)	950	100%	0	983	16%	0	968	102%	0	981	102%	0

18.5.492 The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2038 future baseline and the Proposed Scheme in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 41% in the 2038 future baseline to 96% with the Proposed Scheme in 2038 on the A6 Chapel Street (west) approach in the AM peak hour. There will be no change in queue lengths. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 100% in the 2038 future baseline to 16% with the Proposed Scheme in 2038 on the A6 Chapel Street (west) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in the future baseline and well within capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a beneficial impact on the operation of the junction.

18.5.493 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 109% in the 2046 future baseline to 112% with the Proposed Scheme in 2046 on the St Stephen Street approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will not increase the maximum VoC between the 2046 future baseline and the Proposed Scheme. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 86% in the 2046 future baseline to 97% with the Proposed Scheme in 2046 on the St Stephen Street approach. Queue length will increase from one PCU in the future baseline to two PCU with the Proposed Scheme. The assessment shows that in the AM and PM peak hour the junction operates over capacity in the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

A6042 Trinity Way/A6 Chapel Street/A34 Trinity Way

18.5.494 Table 18-390 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-390: A6042 Trinity Way/A6 Chapel Street/A34 Trinity Way junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6042 Trinity Way (north)	1,098	98%	21	1,171	105%	22	1,136	101%	22	1,201	107%	22
A6 Chapel Street (east)	362	106%	9	359	109%	8	354	108%	8	355	110%	8
A34 Trinity Way (south)	1,521	68%	26	1,533	69%	26	1,526	68%	26	1,514	68%	26
A6 Chapel Street (west)	1,811	79%	26	1,702	75%	25	1,660	73%	24	1,602	70%	23
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6042 Trinity Way (north)	800	69%	16	854	73%	17	789	68%	16	844	72%	17
A6 Chapel Street (east)	927	111%	14	852	112%	12	915	111%	13	885	111%	13
A34 Trinity Way (south)	1,326	67%	24	1,373	70%	25	1,411	72%	26	1,458	74%	27
A6 Chapel Street (west)	990	56%	15	1,016	58%	15	1,009	57%	15	1,029	58%	15

18.5.495 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 106% in the 2038 future baseline to 109% with the Proposed Scheme in 2038 on the A6 Chapel Street (east) approach in the AM peak hour, with a change in queue length from nine PCU in the future baseline to eight PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

18.5.496 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 108% in the 2046 future baseline to 110% with the Proposed Scheme in 2046 on the A6 Chapel Street (east) approach. There will be no change in queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial change in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

A6 Chapel Street/New Bailey Street

18.5.497 Table 18-391 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-391: A6 Chapel Street/New Bailey Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Bloom Street (left, ahead and right)	67	59%	2	56	48%	2	73	59%	2	56	44%	2
A6 Chapel Street (east) (nearside) (left and ahead)	137	66%	4	183	88%	8	204	98%	12	249	119%	31
A6 Chapel Street (east) (offside) (ahead and right)	131	54%	4	147	60%	4	131	54%	4	137	56%	4
New Bailey Street (left, ahead, and right)	291	72%	6	311	71%	6	322	72%	6	341	74%	6
A6 Chapel Street (west) (nearside) (left and ahead)	609	105%	39	573	98%	25	557	96%	22	519	89%	17
A6 Chapel Street (west) (offside) (ahead and right)	582	104%	36	548	98%	24	529	96%	21	533	96%	22
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Bloom Street (left, ahead and right)	49	42%	1	56	22%	1	55	46%	2	57	21%	1
A6 Chapel Street (east) (nearside) (left and ahead)	197	76%	7	181	74%	6	206	79%	7	191	78%	7
A6 Chapel Street (east) (offside) (ahead and right)	220	77%	7	218	77%	7	230	81%	8	228	80%	8
New Bailey Street (left, ahead, and right)	774	106%	43	409	59%	7	747	98%	22	404	57%	7
A6 Chapel Street (west) (nearside) (left and ahead)	183	57%	5	408	124%	55	191	60%	5	430	131%	67
A6 Chapel Street (west) (offside) (ahead and right)	180	57%	5	397	124%	53	191	60%	5	425	131%	66

18.5.498 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 105% in the 2038 future baseline to 98% with the Proposed Scheme in 2038 on the nearside lane of the A6 Chapel Street (west) approach in the AM peak hour, with a corresponding change in queue length from 39 PCU in the future baseline to 25 PCU. However, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 66% in the future baseline to 88% with the Proposed Scheme on the nearside lane of the A6 Chapel Street (east) approach. Queue length will increase from four PCU in the future baseline to eight PCU with the Proposed Scheme. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 106% in the 2038 future baseline to 59% with the Proposed Scheme in 2038 on the New Bailey Street approach, with a corresponding change in queue length from 43 PCU to seven PCU. However, the change in traffic due to operation of the Proposed Scheme will increase the DoS on the nearside lane of the A6 Chapel Street (west) approach from 57% in the future baseline to 124% with the Proposed Scheme. Queue lengths will increase from five PCU in the future baseline to 55 PCU. The assessment shows that in the AM peak hour the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

18.5.499 The change in traffic due to operation of the Proposed Scheme will increase the maximum DoS from 98% in the 2046 future baseline to 119% with the Proposed Scheme in 2046 on the nearside lane of the A6 Chapel Street (east) approach in the AM peak hour, with a corresponding change in queue length from 12 PCU in the future baseline to 31 PCU. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 98% in the 2046 future baseline to 57% with the Proposed Scheme in 2036 on the New Bailey Street approach, with a corresponding change in queue from 22 PCU in the future baseline to seven PCU. However, the change in traffic due to operation of the Proposed Scheme will increase the DoS on the nearside lane of the A6 Chapel Street (west) approach from 60% in the future baseline to 131% with the Proposed Scheme. Queue lengths will increase from five PCU in the future baseline to 67 PCU. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction.

A6 Blackfriars Street/Parsonage

18.5.500 Table 18-392 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-392: A6 Blackfriars Street/Parsonage junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 Blackfriars Street (east)	368	20%	0	379	20%	0	401	21%	0	411	22%	0
Parsonage	162	28%	0	214	37%	0	236	41%	0	270	47%	0
A6 Blackfriars Street (west)	553	95%	2	584	102%	4	570	101%	4	578	104%	5
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 Blackfriars Street (east)	285	16%	0	282	16%	0	318	17%	0	311	17%	0
Parsonage	314	49%	0	371	58%	0	333	54%	0	379	61%	0
A6 Blackfriars Street (west)	316	49%	0	321	50%	0	340	55%	0	344	55%	0

18.5.501 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 95% in the 2038 future baseline to 102% with the Proposed Scheme in 2038 on the A6 Blackfriars Street (west) approach in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to four PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate over its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

18.5.502 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 101% in the 2046 future baseline to 104% with the Proposed Scheme in 2046 on the A6 Blackfriars Street (west) approach in the AM peak hour, with a corresponding change in queue lengths from four PCU in the future baseline to five PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate over its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

A6041 Chapel Street/A6 Blackfriars Street/A6 Chapel Street/A6041 Blackfriars Road

18.5.503 Table 18-393 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-393: A6041 Chapel Street/A6 Blackfriars Street/A6 Chapel Street/A6041 Blackfriars Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU	Flow, PCU/hr	DoS	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Blackfriars Road (ahead, left and right)	543	71%	10	579	77%	12	528	70%	10	546	74%	11
Salford Approach (ahead, right and left)	3	2%	0	3	2%	0	3	2%	0	3	2%	0
Chapel Street East (ahead and right)	158	81%	3	157	78%	3	156	74%	2	155	72%	2
Blackfriars Street (ahead, left and right)	401	58%	7	463	66%	9	499	71%	10	526	74%	11
Chapel Street West (ahead, left and right)	461	101%	19	406	89%	9	430	95%	11	390	87%	8
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Blackfriars Road (ahead, left and right)	404	56%	6	589	82%	10	436	64%	6	616	93%	14
Salford Approach (ahead, right and left)	25	15%	1	3	2%	2	24	14%	1	3	2%	0
Chapel Street East (ahead and right)	135	43%	2	141	29%	2	135	38%	2	146	28%	2
Blackfriars Street (ahead, left and right)	348	55%	6	314	50%	6	390	62%	7	347	56%	7
Chapel Street West (ahead, left and right)	269	45%	4	172	31%	2	256	44%	3	170	36%	2

18.5.504 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 101% in the 2038 future baseline to 89% with the Proposed Scheme in 2038 on the Chapel Street West (ahead, left and right) approach in the AM peak hour, with a corresponding change in queue length from 19 PCU in the future baseline to nine PCU. In the PM peak hour the maximum DoS will increase from 56% in the 2038 future baseline to 82% with the Proposed Scheme in 2038 on the Blackfriars Road (ahead, left and right) approach, with a corresponding change in queue length from six PCU in the future baseline to 10 PCU. The assessment shows that in the AM peak hour the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in the future baseline and within with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.505 The change in traffic due to operation of the Proposed Scheme will decrease the maximum DoS from 95% in the 2046 future baseline to 87% with the Proposed Scheme in 2046 on the Chapel Street West (ahead, left and right) approach in the AM peak hour, with a corresponding change in queue length from 11 PCU in the future baseline to eight PCU. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the DoS from 64% in the 2046 future baseline to 93% with the Proposed Scheme in 2046 on the Blackfriars Road (ahead, left and right) approach in the PM peak hour, with a corresponding change in queue length from six PCU in the future baseline to 14 PCU. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

A56 Chapel Street/A56 Victoria Bridge Street

18.5.506 Table 18-394 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-394: A56 Chapel Street/A56 Victoria Bridge Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Chapel Street (east)	581	105%	9	604	109%	9	598	108%	9	618	112%	9
A56 Victoria Bridge Street	84	35%	2	83	34%	2	82	34%	2	81	33%	2
A56 Chapel Street (west)	178	103%	4	179	104%	4	185	107%	4	184	107%	4
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Chapel Street (east)	265	92%	5	261	91%	5	264	92%	5	277	97%	6
A56 Victoria Bridge Street	78	19%	0	77	19%	0	78	19%	0	77	19%	0
A56 Chapel Street (west)	338	121%	6	338	121%	6	338	121%	6	338	121%	6

18.5.507 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 105% in the 2038 future baseline to 109% with the Proposed Scheme in 2038 on the A56 Chapel Street (east) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a negligible impact on the operation of the junction.

18.5.508 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 108% in the 2046 future baseline to 112% with the Proposed Scheme in 2046 on the A56 Chapel Street (east) approach in the AM peak hour, with no change in corresponding queue length. The change in traffic due to operation of the Proposed Scheme will not increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the PM peak hours. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 92% in the 2046 future baseline to 97% with the Proposed Scheme in 2046 on the A56 Chapel Street (east) approach, with a change in corresponding queue length from five PCU in the future baseline to six PCU. The assessment shows that in the AM and PM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

A6042 Trinity Way/A6041 Blackfriars Road

18.5.509 Table 18-395 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-395: A6042 Trinity Way/A6041 Blackfriars Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6042 Trinity Way (north)	741	44%	10	902	54%	12	853	51%	12	974	58%	13
A6041 Blackfriars Road (east)	701	87%	11	684	86%	11	684	91%	11	657	86%	11
A6042 Trinity Way (south)	1,037	58%	14	1,029	57%	14	998	56%	13	999	56%	13
A6041 Blackfriars Road (west)	1,006	71%	17	1,122	79%	19	1,194	87%	20	1,208	86%	20
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6042 Trinity Way (north)	752	36%	11	778	38%	11	739	36%	11	764	37%	11
A6041 Blackfriars Road (east)	631	106%	11	629	106%	11	631	106%	11	630	106%	11
A6042 Trinity Way (south)	1,455	87%	22	1,511	91%	22	1,477	88%	22	1,544	93%	23
A6041 Blackfriars Road (west)	841	80%	15	868	82%	15	886	84%	15	909	86%	15

18.5.510 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will not change the maximum VoC between the 2038 future baseline and the Proposed Scheme in the PM peak hour. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 87% in the 2038 future baseline to 91% with the Proposed Scheme in 2038 on the A6042 Trinity Way (south) approach. There will be no change in queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.511 The change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 91% in the 2046 future baseline to 86% with the Proposed Scheme in 2046 on the A6041 Blackfriars Road (east) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to operation of the Proposed Scheme will not change the maximum VoC between 2046 future baseline and the Proposed Scheme in the PM peak hour. However, in the PM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 88% in the 2046 future baseline to 93% with the Proposed Scheme in 2046 on the A6042 Trinity Way (south) approach. Queue length will increase from 22 PCU in the future baseline to 23 PCU with the Proposed Scheme. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a beneficial impact on the operation of the junction in the AM peak hour and a adverse impact on the operation of the junction in the PM peak hour which is, however, predicted to operate above its capacity in the future baseline.

A665 Miller Street/A664 Corporation Street/Corporation Street

18.5.512 Table 18-396 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. Although this junction is a four-arm signal controlled crossroads, Corporation Street is a one-way exit arm from the junction and is therefore not reported in the resul

Table 18-396: A665 Miller Street/A664 Corporation Street/Corporation Street/Cheetham Hill Road junction 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A665 Miller Street	1,109	41%	13	1,213	44%	14	1,111	41%	13	1,163	43%	14
A6042 Corporation Street	102	17%	2	124	20%	3	110	18%	2	124	20%	3
A665 Cheetham Hill Road	1,336	60%	10	1,280	60%	10	1,378	62%	10	1,295	59%	10
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A665 Miller Street	1,365	62%	17	1,292	58%	16	1,372	62%	17	1,302	59%	16
A6042 Corporation Street	263	39%	6	273	41%	6	265	39%	6	281	42%	6
A665 Cheetham Hill Road	1,893	86%	15	1,860	89%	15	1,956	88%	16	1,918	93%	15

18.5.513 The model shows that the change in traffic due to the operation of the Proposed Scheme in 2038 will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 86% in the 2038 future baseline to 89% with the Proposed Scheme in 2038 on the A665 Cheetham Hill Road approach, with no change in corresponding queue lengths. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.514 The model shows that the change in traffic due to the operation of the Proposed Scheme in 2046 will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 88% in the 2046 future baseline to 93% with the Proposed Scheme in 2046 on the A665 Cheetham Hill Road approach, with a change in queue length from 16 PCU in the future baseline to 15 PCU. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

A6 Broad Street/B6186 Frederick Road

18.5.515 Table 18-397 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-397: A6 Broad Street/B6186 Frederick Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 Broad Street (north)	2,185	67%	31	2,183	67%	31	2,183	67%	31	2,191	67%	31
B6186 Frederick Road	803	71%	16	903	80%	18	935	82%	18	990	87%	19
A6 Broad Street (south)	1,106	35%	8	1,090	34%	7	1,147	36%	8	1,128	36%	8
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A6 Broad Street (north)	1,351	61%	23	1,353	62%	23	1,481	67%	25	1,482	67%	25
B6186 Frederick Road	892	54%	17	897	54%	17	931	56%	17	936	56%	17
A6 Broad Street (south)	2,326	75%	14	2,336	76%	14	2,394	77%	15	2,395	77%	15

18.5.516 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM or PM peak hours. The assessment shows that in the AM peak hour the junction operates well within capacity in the future baseline and within capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

18.5.517 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 82% in the 2046 future baseline to 87% with the Proposed Scheme in 2046 on the B6186 Frederick Road approach in the AM peak hour, with a corresponding change in queue length from 18 PCU in the future baseline to 19 PCU. In the PM peak hour, the model shows that the change in traffic due to the operation of the Proposed Scheme in 2046 will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A576 Eccles Old Road/A5186 Langworthy Road

18.5.518 Table 18-398 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-398: B5186 Langworthy Road/A576 Eccles Old Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5186 Langworthy Road (north)	546	53%	13	551	53%	13	633	61%	14	615	59%	14
A576 Eccles Old Road (east)	507	45%	11	508	45%	11	510	45%	11	510	45%	11
A5186 Langworthy Road (south)	302	85%	5	279	130%	7	340	84%	6	341	89%	6
A576 Eccles Old Road (west)	874	63%	14	872	63%	14	892	64%	15	882	63%	14
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5186 Langworthy Road (north)	463	42%	9	454	41%	9	462	42%	9	456	41%	9
A576 Eccles Old Road (east)	514	45%	11	522	45%	11	539	47%	11	539	47%	11
A5186 Langworthy Road (south)	172	85%	4	175	84%	5	177	88%	5	178	87%	5
A576 Eccles Old Road (west)	624	45%	9	627	45%	9	668	48%	10	681	49%	10

18.5.519 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 85% in the 2038 future baseline to 130% with the Proposed Scheme in 2038 on the A5186 Langworthy Road (south) approach in the AM peak hour, with a corresponding change in queue length from five PCU in the future baseline to seven PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to the operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in the future baseline and within capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.520 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 84% in the 2046 future baseline to 89% with the Proposed Scheme in 2046 on the A5186 Langworthy Road (south) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the model shows that for this junction, the change in traffic due to the operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A56 Bury New Road/Sherborne Street

18.5.521 Table 18-399 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. The Sherborne Street (east) approach is a minor arm that is not included within the SATURN model.

Table 18-399: A56 Bury New Road/Sherborne Street/A56 Great Ducie Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VOC	Q, PCU	Flow, PCU/hr	VOC	Q, PCU	Flow, PCU/hr	VOC	Q, PCU	Flow, PCU/hr	VOC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Bury New Road	1,327	85%	0	1,289	85%	0	1,395	89%	0	1,315	85%	0
Sherborne Street (east)	-	-	-	-	-	-	-	-	-	-	-	-
A56 Great Ducie Street	692	35%	0	747	38%	0	720	36%	0	711	36%	0
Sherborne Street (west)	42	80%	2	45	85%	2	37	88%	2	50	96%	2
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Bury New Road	873	44%	0	838	52%	0	906	45%	0	870	44%	0
Sherborne Street (east)	-	-	-	-	-	-	-	-	-	-	-	-
A56 Great Ducie Street	1,542	79%	0	1,468	75%	0	1,587	81%	0	1,525	78%	0
Sherborne Street (west)	34	104%	2	46	108%	3	32	106%	2	36	109%	2

18.5.522 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 104% in the 2038 future baseline to 108% with the Proposed Scheme in 2038 on the Sherborne Street (west) approach, with a corresponding increase in queue length from two PCU in the future baseline to three PCU. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour. In the PM peak hour, the traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the future baseline.

18.5.523 The change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 89% VoC in the 2046 future baseline to 85% with the Proposed Scheme in 2046 on the A56 Bury New Road approach in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 88% in the 2046 future baseline to 96% with the Proposed Scheme in 2046 on the Sherborne Street (west) approach in the AM peak hour. There will be no change in queue lengths. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 106% in the 2046 future baseline to 109% with the Proposed Scheme in 2046 on the Sherborne Street (west) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction which is, however, predicted to operate above its capacity in the PM peak hour in the future baseline.

B6186 Frederick Road/Seaford Road/Broughton Road East

18.5.524 Table 18-400 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-400: B6186 Frederick Road/Seaford Road/Broughton Road East junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Seaford Road	187	90%	4	187	91%	4	189	92%	4	190	92%	4
B6186 Fredrick Road (east)	719	81%	9	763	82%	9	771	84%	9	810	87%	10
B6186 Frederick Road (west)	676	85%	10	707	89%	10	722	91%	11	730	92%	11
Broughton Road East	267	42%	6	289	45%	6	295	46%	6	302	47%	6
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Seaford Road	62	81%	1	64	83%	1	65	85%	1	65	85%	1
B6186 Fredrick Road (east)	844	100%	7	831	99%	7	852	100%	7	844	101%	7
B6186 Frederick Road (west)	721	93%	8	727	94%	8	745	96%	8	751	97%	8
Broughton Road East	43	14%	1	41	13%	1	48	15%	1	56	17%	1

18.5.525 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2038 future baseline and the Proposed Scheme in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 85% in the future baseline to 89% with the Proposed Scheme on the B6186 Frederick Road (west) approach, with no change in corresponding queue length. The model shows that the change in traffic due to the operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.526 The change in traffic due to operation of the Proposed Scheme will not substantially increase the maximum VoC between the 2046 future baseline and the Proposed Scheme in the AM peak hour. However, in the AM peak hour, the change in traffic due to operation of the Proposed Scheme will increase the VoC from 84% in the future baseline to 87% with the Proposed Scheme on the B6186 Frederick Road (east) approach. Queue length will increase from nine PCU in the future baseline to 10 PCU with the Proposed Scheme. The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

A56 Bury New Road/B6180 Waterloo Road

18.5.527 Table 18-401 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-401: A56 Bury New Road/B6180 Waterloo Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU	Flow, PCU/hr	VoC	Queue, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Bury Road (north)	1,033	26%	0	959	24%	0	1,140	29%	0	1,029	26%	0
B6180 Waterloo Road	297	90%	2	331	93%	3	263	89%	2	299	93%	3
A56 Bury Road (south)	659	28%	0	710	30%	0	698	30%	0	685	29%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Bury Road (north)	568	14%	0	563	14%	0	603	15%	0	588	15%	0
B6180 Waterloo Road	339	88%	2	321	87%	2	339	92%	2	322	88%	2
A56 Bury Road (south)	1,349	52%	0	1,268	50%	0	1,412	53%	0	1,351	51%	0

18.5.528 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 90% in the 2038 future baseline to 93% with the Proposed Scheme in 2038 on the B6180 Waterloo Road approach in the AM peak hour, with a change in corresponding queue length from two PCU in the future baseline to three PCU. In the PM peak hour, the model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths. The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.529 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 89% in the 2046 future baseline to 93% with the Proposed Scheme in 2046 on the B6180 Waterloo Road approach in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to three PCU. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 92% in the 2046 future baseline to 88% with the Proposed Scheme in 2046 on the B6180 Waterloo Road approach, with no change in corresponding queue length. The assessment shows that in the AM and PM peak hour this junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a beneficial impact on the operation of the junction in the PM peak hour.

A56 Bury New Road/Waterloo Road/Broughton Lane

18.5.530 Table 18-402 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-402: A56 Bury New Road/Waterloo Road/Broughton Lane junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Bury New Road (north)	1,153	36%	10	1,078	34%	9	1,254	39%	11	1,140	36%	10
Waterloo Road	335	66%	7	310	63%	7	333	72%	7	368	78%	8
A56 Bury New Road (south)	511	14%	4	578	16%	5	572	16%	5	573	16%	5
Broughton Lane	206	89%	5	213	92%	5	226	97%	5	229	98%	5
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Bury New Road (north)	642	24%	6	646	24%	6	680	26%	7	671	25%	7
Waterloo Road	158	39%	3	141	35%	3	190	47%	4	190	47%	4
A56 Bury New Road (south)	1,128	33%	11	1,060	31%	10	1,208	35%	12	1,154	34%	11
Broughton Lane	346	107%	7	354	110%	7	354	110%	7	364	113%	7

18.5.531 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 89% in the 2038 future baseline to 92% with the Proposed Scheme in 2038 on the Broughton Lane approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 107% in the 2038 future baseline to 110% with the Proposed Scheme in 2038 on the Broughton Lane approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour this junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, this junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction, which is, however, predicted to operate above its capacity in the PM peak hour in the future baseline.

18.5.532 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 110% in the 2046 future baseline to 113% with the Proposed Scheme in 2046 on the Broughton Lane approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour this junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, this junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

B6186 Camp Street/B6186 Fredrick Road/Lower Broughton Road

18.5.533 Table 18-403 summarises the results of the changes to the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-403: B6186 Camp Street/B6186 Fredrick Road/Lower Broughton Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Lower Broughton Road (north)	271	28%	5	203	21%	4	245	25%	4	239	25%	4
B6186 Camp Street	487	63%	7	535	69%	8	555	71%	8	591	76%	9
Lower Broughton Road (south)	412	90%	7	425	94%	7	420	92%	7	424	93%	7
B6186 Frederick Road	645	36%	6	653	37%	6	683	39%	7	666	39%	7
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Lower Broughton Road (north)	131	7%	2	128	7%	2	151	8%	2	144	7%	2
B6186 Camp Street	326	60%	7	317	58%	6	345	63%	7	344	63%	7
Lower Broughton Road (south)	947	98%	13	948	98%	13	958	102%	13	961	100%	13
B6186 Frederick Road	487	46%	8	499	46%	8	510	48%	9	528	50%	9

18.5.534 The change in traffic due to operation of the Proposed Scheme will increase the maximum VoC from 90% in the 2038 future baseline to 94% with the Proposed Scheme in 2038 on the Lower Broughton Road (south) approach in the AM peak hour, with no change in corresponding queue length. The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.535 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM and PM peak hours. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

A5066 Great Clowes Street/B6186 Camp Street/B6187 Great Clowes Street/B6186 Upper Camp Street

18.5.536 Table 18-404 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-404: A5066 Great Clowes Street/B6186 Camp Street/B6187 Great Clowes Street/B6186 Upper Camp Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5066 Great Clowes Street (north)	870	53%	12	891	54%	12	892	55%	12	918	57%	13
B6186 Upper Camp Street	266	47%	5	274	48%	6	273	47%	6	289	47%	6
A5066 Great Clowes Street (south)	111	18%	3	110	18%	3	127	21%	3	156	26%	4
B6186 Camp Street	175	37%	4	168	36%	3	153	33%	3	136	30%	3
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A5066 Great Clowes Street (north)	462	38%	6	485	40%	7	480	39%	7	499	41%	7
B6186 Upper Camp Street	133	29%	3	141	31%	3	157	34%	3	179	39%	4
A5066 Great Clowes Street (south)	707	110%	12	712	112%	12	731	112%	13	735	114%	13
B6186 Camp Street	258	57%	5	254	58%	5	272	62%	5	267	65%	5

18.5.537 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 110% in the 2038 future baseline to 112% with the Proposed Scheme in 2038 on the A5066 Great Clowes Street (south) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour this junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, this junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the future baseline.

18.5.538 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 112% in the 2046 future baseline to 114% with the Proposed Scheme in 2046 on the A5066 Great Clowes Street (south) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, this junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour, which is, however, predicted to operate above its capacity in the PM peak hour in the future baseline.

A56 Bury Road/Fenney Street/Appian Way

18.5.539 Table 18-405 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046. The Appian Way approach is a minor arm that is not included within the SATURN model.

Table 18-405: A56 Bury Road/Fenney Street/Appian Way junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Bury Road (north)	1,168	29%	0	1,066	27%	0	1,260	32%	0	1,102	28%	0
Appian Way	-	-	-	-	-	-	-	-	-	-	-	-
A56 Bury Road (south)	450	11%	0	476	12%	0	469	12%	0	463	12%	0
Fenney Street (west)	191	89%	2	203	90%	3	183	88%	2	223	92%	3
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A56 Bury Road (north)	511	13%	0	511	13%	0	541	14%	0	534	13%	0
Appian Way	-	-	-	-	-	-	-	-	-	-	-	-
A56 Bury Road (south)	1,057	26%	0	981	25%	0	1,103	28%	0	1,039	26%	0
Fenney Street (west)	181	84%	2	196	86%	2	166	82%	2	181	85%	2

18.5.540 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 84% in the 2038 future baseline to 86% with the Proposed Scheme in 2038 on the Fenney Street (west) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.541 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 88% in the 2046 future baseline to 92% with the Proposed Scheme in 2046 on the Fenney Street (west) approach in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to three PCU. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 82% in the 2046 future baseline to 85% with the Proposed Scheme in 2046 on the Fenney Street (west) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction.

A576 Great Cheetham Street West/A5066 Great Clowes Street/B6187 Great Clowes Street

18.5.542 Table 18-406 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-406: A576 Great Cheetham Street West/A5066 Great Clowes Street/B6187 Great Clowes Street junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
B6187 Great Clowes Street	610	76%	12	614	76%	12	622	78%	12	623	78%	12
A576 Great Cheetham Street West (east)	731	51%	11	741	52%	11	726	51%	11	767	54%	11
A5066 Great Clowes Street	10	1%	0	10	1%	0	11	1%	0	29	3%	0
A576 Great Cheetham Street West (west)	795	84%	14	728	94%	13	689	99%	12	682	101%	12
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
B6187 Great Clowes Street	193	59%	4	194	59%	4	206	63%	5	207	63%	5
A576 Great Cheetham Street West (east)	717	58%	11	730	59%	11	717	58%	11	735	59%	11
A5066 Great Clowes Street	459	26%	6	454	26%	6	482	27%	6	481	27%	6
A576 Great Cheetham Street West (west)	376	120%	7	370	119%	7	372	118%	7	370	106%	7

18.5.543 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 84% in the 2038 future baseline to 94% with the Proposed Scheme in 2038 on the A576 Great Cheetham Street West (west) approach in the AM peak hour, with a corresponding change in queue length from 14 PCU in the future baseline to 13 PCU. The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.544 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 99% in the 2046 future baseline to 101% with the Proposed Scheme in 2046 on the A576 Great Cheetham Street West (west) approach in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will decrease the maximum VoC from 118% in the 2046 future baseline to 106% with the Proposed Scheme in 2046 on the A576 Great Cheetham Street West (west) approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour, which is, however, predicted to operate above its capacity in the future baseline. In the PM peak hour, the traffic flow will have a beneficial impact on the operation of the junction.

A572 Worsley Road/B5231 Folly Lane

18.5.545 Table 18-407 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-407: A572 Worsley Road/B5231 Folly Lane junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A572 Worsley Road(east)	1,011	27%	0	1,021	27%	0	1,074	29%	0	1,080	29%	0
B5231 Folly Lane	476	72%	2	483	73%	2	493	74%	2	496	74%	2
A572 Worsley Road (west)	975	92%	1	982	95%	1	1,002	100%	1	1,002	100%	1
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
A572 Worsley Road (east)	1,010	27%	0	1,010	27%	0	1,037	28%	0	1,040	28%	0
B5231 Folly Lane	597	79%	4	597	79%	4	627	83%	5	626	83%	4
A572 Worsley Road (west)	730	26%	0	733	26%	0	777	29%	0	775	29%	0

18.5.546 The change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 92% in the 2038 future baseline to 95% with the Proposed Scheme in 2038 on the A572 Worsley Road (west) approach in the AM peak hour, with no change in corresponding queue length. The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the PM peak hour. The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the assessment shows that this junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have an adverse impact on the operation of the junction in the AM peak hour and a negligible impact on the operation of the junction in the PM peak hour.

18.5.547 The model shows that the change in traffic due to the operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM and PM peak hour. The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction.

Moor Lane/Littleton Road/Kersal Vale Road

18.5.548 Table 18-408 summarises the performance of the junction as a result of the Proposed Scheme in both 2038 and 2046.

Table 18-408: Moor Lane/Littleton Road/Kersal Vale Road junction 2038 and 2046 future baseline and Proposed Scheme junction capacity assessment

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Kersal Vale Road	352	34%	0	346	33%	0	294	29%	0	293	29%	0
Moor Lane	268	30%	0	273	31%	0	300	33%	0	314	34%	0
Littleton Road	330	34%	0	345	35%	0	364	37%	0	372	38%	0
17:00–18:00	**2038 future baseline**			**2038 with the Proposed Scheme**			**2046 future baseline**			**2046 with the Proposed Scheme**		
Kersal Vale Road	382	39%	0	378	39%	0	391	41%	0	373	40%	0
Moor Lane	176	20%	0	181	20%	0	224	25%	0	257	28%	0
Littleton Road	837	87%	1	854	89%	1	873	92%	1	889	94%	1

18.5.549 The model shows that for this junction, the change in traffic due to operation in 2038 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 87% in the 2038 future baseline to 89% with the Proposed Scheme in 2038 on the Littleton Road approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

18.5.550 The model shows that for this junction, the change in traffic due to operation in 2046 of the Proposed Scheme will not result in substantial changes in VoC and queue lengths in the AM peak hour. In the PM peak hour, the change in traffic due to the operation of the Proposed Scheme will increase the maximum VoC from 92% in the 2046 future baseline to 94% with the Proposed Scheme in 2046 on the Littleton Road approach, with no change in corresponding queue length. The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme. The traffic flow will have a negligible impact on the operation of the junction in the AM peak hour and an adverse impact on the operation of the junction in the PM peak hour.

Accidents and safety

18.5.551 The baseline safety analysis identified no locations which had experienced an accident cluster over a three-year period in the MA06 area. In the MA07 area, the baseline safety analysis identified 15 locations which had experienced an accident cluster over a three-year period, while 12 locations were identified in the MA08 area.

18.5.552 Whilst there are locations in the MA06, MA07 or MA08 areas where there are substantial forecast increases in traffic flows due to the operation of the Proposed Scheme, these will not affect known safety concerns and, consequently, no unacceptable impacts on accident and safety risks are expected.

Parking and loading

MA06

18.5.553 There are no committed changes in the car parks or parking restrictions in MA06. It is not expected that the Proposed Scheme will have any substantial impacts on car parking or parking restrictions in MA06, in terms of either the 2038 or 2046 operational assessments.

18.5.554 Long-stay and short-stay car parking will be provided for the Manchester Airport High Speed Station in two new multi-storey car parks, with 3,818 private vehicle car parking bays including 40 private vehicle bays for staff.

MA07

18.5.555 There will be a permanent loss of off-street parking in the MA07 area. This requires the permanent loss of 123 off-street spaces including six Blue Badge bays at the Fallowfield Retail Park, located off the A34 Birchfields Road.

18.5.556 In addition, there will be a loss of 135 off-street spaces including 30 Blue Badge bays at The Christie Hospital (Car Park D), located off the B5093 Wilmslow Road.

MA08

18.5.557 There will be a permanent loss of off-street parking in the MA08 area. This will include the permanent loss of 160 off-street spaces at NCP Car Park Manchester on Sheffield Street (Sheffield Street North), 140 off-street spaces including 15 Blue Badge bays at parking under Gateway House, and 100 off-street spaces at Baird Street car park. There will also be a permanent loss of nine on-street parking spaces on Baird Street.

18.5.558 In addition, there will be a loss of 93 off-street spaces at Travis Street car park and 406 off-street spaces at the NCP car park on Store Street. However, as these car parks only have temporary consents, it is assumed that these car parks will have closed by the time the Proposed Scheme is under construction.

18.5.559 Parking for the existing Manchester Piccadilly Station at the Manchester Piccadilly Station multi-storey car park (694 off-street spaces), Gateway House car park (56 off-street spaces), Boad Street car park (56 off-street spaces), the Network Rail Ramp (179 off-street spaces) and the Network Rail undercroft (243 off-street spaces) will be removed and replaced by two new multi-storey car parks on Adair Street.

18.5.560 The Proposed Scheme will result in a reduction in general parking in the MA08 area but with an increase in station parking. As part of the Proposed Scheme a total 2,029 short and long stay car park spaces will be provided to serve Manchester Piccadilly Station and the Manchester Piccadilly High Speed Station. This will comprise 1,068 parking spaces (including 39 blue badge bays) to replace the existing parking for Manchester Piccadilly Station and Gateway House that will be removed by the Proposed Scheme and 961 additional parking spaces for Manchester Piccadilly High Speed Station.

18.5.561 The relocation of spaces to the new multi-storey car parks on Adair Street will result in an increase in journey length of up to 650m between the new car parks and the existing Manchester Piccadilly Station. This will particularly impact users of the Blue Badge bays that are currently located on the Network Rail Ramp adjacent to the Manchester Piccadilly Station concourse.

Pedestrians, cyclists and equestrians

18.5.562 The operational scheme will affect PRoW used by pedestrians, cyclists and equestrians that cross the route of the Proposed Scheme, where the operation of the Proposed Scheme results in changes to PRoW or roadside footways.

MA06

18.5.563 Locations in MA06 where roads used by pedestrians, cyclists and equestrians are permanently diverted, realigned or reinstated are shown in Table 18-409 and Table 18-410 below. The tables summarise the permanent diversions, realignments and extensions required to PRoW and roads to accommodate the Proposed Scheme.

Table 18-409: MA06 permanent changes to PRoW for non-motorised users

PRoW name	Change in length	Comments
Footpath Millington 3/3	Closure where it crosses the route of the Proposed Scheme. Users will be diverted along Footpath Millington 4/2 and Footpath Millington 4/1 to cross the route of the Proposed Scheme under the Agden Brook Viaduct, increasing journey length by up to 405m.	Viaduct
Footpath Millington 3/1	Diversion of Footpath Millington 3/1, up to 320m north-east of its current alignment for 790m. The footpath will connect with Footpath Millington 4/1 to cross the route of the Proposed Scheme under Agden Brook Viaduct, increasing journey length by up to 405m.	Viaduct
Footpath Millington 5/2	Closure where it crosses the route of the Proposed Scheme. Users will be diverted along Footpath	Viaduct

PRoW name	Change in length	Comments
	Millington 4/1, to cross the route of the Proposed Scheme under the Agden Brook Viaduct, increasing journey length by up to 325m.	
Footpath Millington 8/1	Closure of Millington Footpath 8/1 where it crosses the route of the Proposed Scheme. Users will be diverted along Footpath Millington 6/2 and Footpath Millington 7/4 realignment to cross the Proposed Scheme on the Footpath Millington 7/4 overbridge, increasing journey length by up to 364m.	New overbridge
Footpath Millington 7/4	Diversion of Footpath Millington 7/4. Users will be diverted along Footpath Millington 7/4 realignment for 306m, crossing the route of the Proposed Scheme via Footpath Millington 7/4 overbridge, increasing journey length by up to 48m.	New overbridge
Footpath Rostherne 4/1	Diversion of Footpath Rostherne 4/1, up to 350m north-west of the current alignment, to cross the route of the Proposed Scheme on the Yarwood Heath Farm accommodation access overbridge, increasing journey length by up to 615m.	New overbridge
Footpath Rostherne 5/1	Realignment of a section of Footpath Rostherne 5/1, up to 130m east of its current alignment for 360m, crossing the route of the Proposed Scheme under Blackburn's Brook North Viaduct, increasing journey length by up to 244m.	Viaduct
Footpath Ashley 3/1	Diversion to connect with the realigned Footpath Rostherne 5/1 to cross the route of the Proposed Scheme beneath the Blackburn's Brook North viaduct, increasing journey length by up to 624m.	Viaduct
Footpath Ashley 7/1	Diversion 125m north-east of its current alignment to join the diverted Ashley Road, resulting in no change in journey length.	None
Footpath Ashley 6/5	Users will be diverted up to 440m east of its existing alignment for 1.3km, to join the new PRoW and crossing the route of the Proposed Scheme under the Mid-Cheshire (Railway) and Mobberley Road viaduct, increasing journey length by up to 921m.	Viaduct
Footpath Ashley 8/2	Diversion of Footpath Ashley 8/2, up to 30m south of its current alignment for 100m, to continue onto the diverted Footpath Ashley 8/1 with no change in journey length.	None
Footpath Ashley 6/4	Diversion of a section of Footpath Ashley 6/4, up to 30m south of its current alignment for 30m, to continue onto the diverted Footpath Ashley 8/1 and diverted Footpath Ashley 8/2. The overall journey length will decrease by 30m.	None
Footpath Ashley 8/1	Users will be diverted up to 60m south of its existing alignment for 320m, resulting in a change in journey length of less than 10m.	None

PRoW name	Change in length	Comments
Footpath Ashley 10/1	Footpath Ashley 10/1 will be realigned up to 75m north-west of its current alignment, increasing journey length by up to 114m.	None
Footpath Ashley 20/1	Diversion of a section of Footpath Ashley 20/1, up to 15m west of its current alignment to join the realigned Mobberley Road, increasing journey length by 15m.	None
Footpath Ringway 12	Users will be diverted up to 55m east of its current alignment, increasing journey length by up to 142m.	None
Footpath Ringway 11	Users will be diverted up to 230m south-east of its current alignment, increasing journey length by up to 303m.	New overbridge
Footpath Ringway 9	Users will be diverted up to 150m north-west of its current alignment, increasing journey length by up to 43m.	None
Footpath Ringway 7	Closure of Footpath Ringway 7 where it crosses the route of the Proposed Scheme. Users will be diverted along Brooks Drive, the realigned Thorley Lane, and diverted Hasty Lane, increasing journey length by 640m.	None
Footpath Hale 16	Closure of Footpath Hale 16 where it crosses the route of the Proposed Scheme. Users will be diverted along Brooks Drive, the realigned Thorley Lane, and diverted Hasty Lane, increasing journey length by 676m.	None

Table 18-410: MA06 permanent changes to roads for non-motorised users

PRoW name	Change in length	Comments
Millington Lane	Realignment of Millington Lane, up to 4m above its current alignment for 294m, crossing the route of the Proposed Scheme on Millington Lane overbridge, with no change in journey length.	New overbridge
Ashley Road	Closure of Ashley Road where it crosses the route of the Proposed Scheme, with users diverted via the diverted Ashley Road and along a new PRoW which will run parallel to the Mid Cheshire Line. Journey length will increase by up to 1.9km.	None
Lamb Lane	Closure of Lamb Lane where it crosses the route of the Proposed Scheme, with users diverted via the diverted Ashley Road and along a new PRoW which will run parallel to the Mid Cheshire Line. Journey length will increase by 1.5km.	None
Castle Mill Lane	Realignment of Castle Mill Lane, up to 50m north of its current alignment for 440m, crossing the route of the Proposed Scheme on the Castle Mill Lane overbridge, resulting in a change in journey length of less than 10m.	New overbridge
Brickhill Lane	Closure of Brickhill Lane where it crosses the route of the Proposed Scheme. Users will be diverted along Back Lane, realigned Castle Mill Lane, and diverted Brickhill Lane, crossing the route of the Proposed Scheme on the Castle Mill Lane overbridge. Journey length will increase by up to 849m.	New overbridge

PRoW name	Change in length	Comments
Sunbank Lane	Realignment of Sunbank Lane, up to 20m west of its current alignment for 316m, crossing the route of the Proposed Scheme on the Sunbank Lane overbridge. This results in a change in journey length of less than 10m.	New overbridge
Thorley Lane	Realignment of Thorley Lane, 55m to the south of its current alignment for 456m, crossing the route of the Proposed Scheme over the Thorley Lane overbridge. Journey length will decrease by up to 41m.	New overbridge
Hasty Lane	Users will be diverted via the M56 Hasty Lane underpass extension, increasing journey length by up to 59m.	None

18.5.564 Within these permanent diversions, closures and realignments, six of the routes affected experience no change or a change in journey length of less than 10m. Journey length on one roadside footway route (Thorley Lane) and one PRoW (Footpath Ashley 6/4) will decrease in length. A further eight changes result in diversions which increase route length up to 250m on PRoW and roadside footways.

18.5.565 Other routes experience larger changes in length of diversion, including Ashley Road and Lamb Lane, where journey lengths increase by up to 1.9km and 1.5km respectively.

MA07

18.5.566 Locations in MA07 where roads used by pedestrians, cyclists and equestrians are permanently diverted, realigned or reinstated are shown in Table 18-411 below. The table summarises the permanent diversions, realignments and extensions required to roads to accommodate the Proposed Scheme.

Table 18-411: MA07 permanent changes to roads for non-motorised users

Road name	Change in length	Comments
A665 Midland Street	Closure of A665 Midland Street at its northern end where it crosses the Proposed Scheme. Users will be diverted via a realigned section of the A665 Midland Street and the A665 Chancellor Lane diversion, increasing journey length by up to 860m.	None

18.5.567 There will be impacts on one roadside footway in the MA07 area as a result of the permanent diversion of the A665 Midland Street. This will result in an increase in journey length of up to 860m.

MA08

18.5.568 Locations in MA08 where roads used by pedestrians and cyclists are permanently diverted, realigned or reinstated are shown in Table 18-412 below. The table summarises the permanent diversions, realignments and extensions required to roads to accommodate the Proposed Scheme.

Table 18-412: MA08 permanent changes to roads for non-motorised users

PRoW name	Change in length	Comments
A665 Chancellor Lane	Permanent diversion of A665 Chancellor Lane, 230m west of its existing alignment for 230m. Users will be diverted via the new gyratory and the A665 Chancellor Lane diversion, increasing journey length by up to 208m	None
A635 Ashton Old Road	Permanent realignment of a section of the A635 Ashton Old Road due to the construction of the diverted A665 Chancellor Lane and the diverted A635 Fairfield Street, resulting in a change in journey length of less than 10m.	None
A635 Fairfield Street and B6469 Fairfield Street	Permanent realignment of the A635 Fairfield Street and the B6469 Fairfield Street, increasing journey length by up to 104m.	None
A665 Pin Mill Brow	Permanent realignment of the southern extent of the A665 Pin Mill Brow for 300m. The realigned A665 Pin Mill Brow will be within the existing carriageway and will tie in with the diverted A635 Fairfield Street, the realigned A635 Ashton Old Road and the realigned A635 Mancunian Way. There will be no change in journey length.	None
A635 Mancunian Way (northbound)	Permanent realignment within the existing footprint, resulting in no change in journey length.	None
A635 Mancunian Way (southbound)	Permanent realignment of the A635 Mancunian Way southbound, resulting in an increase in journey length of 220m.	None
Sparkle Street	Permanent closure of Sparkle Street where it crosses the route of the Proposed Scheme. Users will be diverted via the Store Street diversion and Chapeltown Street, resulting in an increase in journey length by up to 74m.	None
Helmet Street	Permanent closure of a section of Helmet Street for 100m at the southern extent between New Sheffield Street and St. Andrew's Street. A short section of Helmet Street will be realigned to form a new junction with New Sheffield Street, resulting in a change in journey length of less than 10m.	None
Store Street	Permanent diversion of Store Street from the junction with the Boad Street diversion toward its southern end. Store Street diversion will run parallel and north of the Manchester Piccadilly High Speed Station between Ducie Street and Boad Street diversion. Users will be diverted via the A6 London Road, the Ducie Street realignment and the Store Street diversion, increasing travel distance by up to 217m. Alternatively, pedestrian users will be able to travel through Manchester Piccadilly High Speed Station.	None
Travis Street	Permanent closure of a section of Travis Street between the junction with the diverted B6469 Fairfield Street and New Sheffield Street. Users will be diverted via the B649 Fairfield Street and the St. Andrew's Street diversion, increasing travel distance by up to 457m. Alternatively,	None

PRoW name	Change in length	Comments
	pedestrian users will be able to travel through Manchester Piccadilly High Speed Station.	
Boad Street	Diversion of Boad Street to run parallel and north of the proposed Piccadilly Station between the Store Street and New Sheffield Street. This results in a change in journey length of less than 10m.	None
Baird Street	Permanent closure of a 105m section of Baird Street at the southern end between the junction with Sheffield Street to where it is crossed by New Sheffield Street. Access to the northern section of Baird Street will be retained via Congou Street, resulting in a change in journey length of less than 10m.	None
St. Andrew's Square	Permanent closure of a 26m section of St. Andrew's Square. St. Andrew's Square will join onto New Sheffield Street, resulting in a change in journey length of less than 10m.	None
Chapeltown Street	Permanent realignment at the junction with New Sheffield Street to enable access between the two streets. Users will be diverted via New Sheffield Street and the diverted Store Street, increasing journey length by 101m.	None

18.5.569 Within these diversions and reinstatements, around seven of the routes affected experience no change, or a change in journey length of less than 10m. A further six changes result in diversions which increase route length up to 250m on roadside footways.

18.5.570 Other routes experience larger changes in length of diversion, including Travis Street, where journey length increases by up to 457m.

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